

FISCAL POLICY, TAXATION AND THE FINANCIAL SYSTEM
IN AN INCREASINGLY INTEGRATED EUROPE

FINANCIAL AND MONETARY POLICY STUDIES

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Fiscal Policy, Taxation and the Financial System in an Increasingly Integrated Europe

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Preface

The papers collected in this volume are those presented at the sixteenth Colloquium arranged by the Société Universitaire Européenne de Recherches Financières (SUERF), which took place in Lisbon in May 1991.

The Society is supported by a large number of central banks and commercial banks, by other financial and business institutions, and by personal subscriptions from academics and others interested in monetary and financial problems. Since its establishment in 1963, it has developed as a forum for the exchange of information, research results and ideas among academics and practitioners in these fields, including central bank officials and civil servants responsible for formulating and applying monetary and financial policies, national and international.

A major activity of SUERF is to organise and conduct Colloquia on subjects of topical interest to its members. The titles, places and dates of previous Colloquia for which volumes of the collected papers were published are noted on the last page of this volume. Volumes were not produced for Colloquia held at Tarragona, Spain in October 1970 under the title 'Monetary Policy and New Developments in Banking' and at Strasbourg, France in January 1972 under the title 'Aspects of European Monetary Union'.

In choosing 'Fiscal Policy, Taxation and the Financial System in an Increasingly Integrated Europe' as the general theme for the Lisbon Colloquium, the SUERF Council was concerned with three major challenges now confronting European policy-makers and financial systems: first, to preserve and strengthen policy coordination between the countries participating in the European Monetary System through successful operation of Stage One in the progress towards Economic and Monetary Union (EMU); secondly, to design the future structure of the EMU for which preparations began with the Intergovernmental Conference in December 1990; and, thirdly, to implement constructive economic and financial responses to the major economic and political reforms in Eastern Europe.

The Colloquium was attended by 170 participants, representing a wide range of financial activities and academic teaching and research in the financial field. The Chairman of the Colloquium as a whole was the President of

SUERF, Professor Niels Thygesen. After his introductory remarks, opening addresses were given by Mr José A. Tavares Moreira, Governor of the Bank of Portugal, Mr Giovanni Ravasio, Director General for Economic and Financial Affairs, Commission of the European Communities and by Professor Mervyn A. King, Executive Director, Bank of England. These contributions appear in Part A of this volume, Chapters I–IV.

The contributed papers that followed had been distributed beforehand and were discussed in four separate Commission meeting simultaneously. The themes of the Commissions were: ‘Private Savings and the Taxation of Income From Capital’, chaired by Professor Christian de Boissieu and Professor Dr. Wietze Eizenga (Part B, Chapters V–VIII); ‘Imbalances in Public Sector Budgets and their Impact on Financial Systems’ chaired by Mr José Perez Fernandez and Professor J. S. G. Wilson (Part C, Chapters IX–XIII); ‘International Resource Transfers and the Respective Roles of Governments and Private Capital Flows’ chaired by Professor Dr. Hans Bosman and Professor Dr. Georg Winckler (Part D, Chapters XIV–XVIII); and ‘The Policy Mix, Monetary Policy, and Financial Stability in the Transition to Economic and Monetary Union’ chaired by Professor Franco Bruni and Dr Alois Schwietert (Part E, Chapters XIX–XXIII).

The Colloquium reassembled for a final plenary session to which Dr. Manfred Wegner gave his reflections on the Colloquium as a whole (Part F, Chapter XXIV).

In some cases, minor changes have been made to the papers before publication.

The Colloquium was supported by the local financial community – a generous donation was made by the Portuguese Banks Association and the Bank of Portugal.

The Colloquium was most successful, not only in the quality of the papers presented but also in the opportunity it provided for contacts and discussions between experts from many different countries and financial institutions. Particular thanks were given to Professor Hans Bosman, the Secretary-General, and to Miss Annelies Vugs, the Executive Secretary, for their excellent organisation and every-ready assistance.

14 July 91

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Part A
Opening Addresses

I. Introduction

NIELS THYGESEN

On behalf of the Council of Management of SUERF, I welcome participants to our sixteenth Colloquium in Lisbon, which has brought together 170 participants. This implies that about half of our personal and corporate members are present or represented. In view of the tightness of budgets in universities and financial institutions, the perceived risks of international travel when the decision to participate had to be taken and the ever-growing competition from both purely academic conferences and the more commercially organized events aimed at professionals in the financial sector, participation in the Lisbon Colloquium must be regarded as very satisfactory. The Council is particularly pleased to welcome six participants from Eastern Europe, where we have made special efforts to enlarge our membership and make participation financially manageable, and a number of participants from outside Europe, coming from as far as Japan and South Africa.

SUERF aims for a profile different from those of our competitors. Our colloquia provide a forum for the exchange of the results of recent research and ideas among economists in universities, research institutions, banks and other private financial institutions, central banks and treasuries and international institutions. Our Council of sixteen members reflects that balance. Fortunately, in the area of monetary and financial economics, it is not too difficult to bridge the interests of the more theoretically inclined and those of bankers and others impatient to see relevant applications of economic analysis. Academics coming to SUERF Colloquia are interested in policy and institutions, while banks and official institutions are often themselves leading contributors to research.

The themes of SUEF colloquia alternate between macroeconomic policy and developments in financial markets; particular attention is usually given to the interaction between public policy and financial market responses. This is well illustrated by the title 'Fiscal Policy, Taxation and the Financial System in an Increasingly Integrated Europe' for this year's Colloquium. Indeed, that title may seem so wide that some explanation of the ideas that motivated the Council's choice of papers and authors may be called for.

In preparing the Colloquium, our main effort was to provide four sets of

sub-themes for the Commissions which are to meet in parallel over the next two days. Central to all of them is the role of the financial system in allocating savings and investment and the extent to which it is becoming relevant to see that role in a European – or possibly a global – context.

The four papers presented in Commission I look at saving behaviour in the private sector and the means of influencing its total volume and composition. In recent years, there has been a perception in many industrial countries that savings have constrained investment, with historically high real interest rates tending to keep additions to physical capital below a longer-run optimal rate. The papers report on recent research into the determinants of saving behaviour, offering elements for a comparative assessment of national experience. Erkki Koskela and Matti Viren survey the evidence from their major econometric study of household saving behaviour in 17 OECD countries in the 1980s. They find a negative effect on the household savings ratio from higher real interest rates and from changes in real income. They also report interesting, less conclusive results on the impact of variables which reflect liquidity constraints on households, notably the wedge between the borrowing and deposit rate; the higher this wedge, the higher is the household savings ratio. The authors provide some weak evidence for the hypothesis that the marginal income tax affects savings negatively.

Barry Bosworth's paper on tax policy and private saving in the 1980s in the United States focuses on the latter point. The US experience is particularly interesting because of the two major tax reforms of 1981 and 1986, largely motivated by the purpose of inducing a faster rate of capital formation. There is no evidence that private saving was sensitive to the increase in the after-tax return of the 1980s; the paper offers a careful analysis of other factors that may have swamped the effects of the tax reforms, but it concludes on the cautious note that the decline in the private savings rate remains a puzzle.

The two remaining papers in Commission I examine how taxes affect financial intermediation. Julian Alworth and Claudio Borio find an important impact in most European countries, the United States, Canada, and Japan in several respects: the growth of pension funds and insurance companies has been favoured by tax changes, but it is not clear whether there has been any increase in aggregate savings. The removal of capital controls and liberalization of domestic financial markets have implied downward pressure on tax rates on capital income and have greatly complicated the task of identifying the marginal tax rate on savings. They have also made it difficult to use tax or subsidy incentives for supporting financial intermediation. These issues are studied in more detail in a paper by Pierre Llau on the basis of the French experience of tax favours for particular instruments of household savings and changes in wealth and capital gains taxes.

Commission II focuses on the remaining part of national savings. Given the historically low saving rates in many industrial countries what are the prospects that public sector deficits in Europe can be contained or further consolidated in countries that have large deficits and/or debt relative to income? Can financial markets cope with continuing large flows of public borrowing and will markets in turn exercise some disciplinary influence on budgetary policies?

From the viewpoint of a market practitioner, Graham Bishop addresses these issues in a cross-country perspective with an analysis of evidence of credit-risk related spreads between borrowing costs for different European governments. He finds little evidence to suggest that markets have paid any systematic attention to available indicators of credit risk and he makes a number of suggestions – some of which are under consideration in the Intergovernmental Conference on Economic and Monetary Union (EMU) – to improve the informational content in public debt offerings in analogy to what is required of private issuers.

Four country studies review in more detail the position of public sector deficits and debt. Simon Kuipers discusses why the large Dutch deficit arose and the prospects for its correction. He criticizes the slowness with which stabilization of the debt/income is being achieved, and devotes particular attention to Dutch convergence to the position of public finances in Germany, recently greatly facilitated by the sharp rise in the German deficit. Luigi Spaventa argues that the Italian public debt problem is sufficiently serious to warrant early and substantial adjustment as has earlier been implemented in other European countries (Belgium, Denmark, and Ireland). Failure to make a major adjustment might make Italy unacceptable as an early participant in EMU; Spaventa makes the case that exchange-rate and market discipline are likely to prove insufficient as constraints. Rafael Repullo discusses the public finance positions in Spain and Portugal with special reference to the gradual phasing-out of implicit taxation through seigniorage – the inflation tax on outstanding primary money balance – for which he presents new estimates for the 1980s. He concludes that the reduction in seigniorage revenues implied by lowering of reserve requirements on bank deposits and a reduction of inflation will be relatively small for Spain, but substantial for Portugal. Finally, Stuart Wilson in a short note on the United Kingdom evaluates the experience in UK financial markets of a rapid swing into a public sector surplus.

The papers in Commission III look at the balance between public transfers and private capital flows in helping the peripheral economies in the European Community to catch up and the East European countries in their transition to market economies.

Jorge Braga de Macedo's paper, based on the author's experience as an EC

Commission official and his more academic work on structural adjustment, examines the efforts to improve physical and human capital in the southern member states under conditions of increased labour mobility. Hans-Peter Fröhlich takes up the process of German unification. The former Federal Republic has had to assume initial responsibility through its public finances for most of the transfers, but the assumption when unification was proposed in early 1990 was that moving rapidly to a single currency area would remove a major uncertainty for potential investors and trigger large private inflows into the former East Germany. This process now appears to be somewhat delayed; the paper provides estimates of the total capital transfers required and of the capacity of the German economy to handle them by a mixture of public and private efforts.

The three other papers look further east. Egon Hlavatý reports on bold financial reforms in Czechoslovakia and their contribution as a trigger of private capital flows into his country, better placed than other East European countries to attract foreign investors. Conrad Reuss's paper covers several of these countries and examines the proper balance between multilateral and bilateral efforts in assuring adequate transfers and more specifically at the role of commercial banks. He draws on the early post-war experience in Western Europe in his recommendations. Finally, Helen Junz of the IMF examines economic policy reforms more broadly and stresses the importance of generating through such reforms private savings in the form of financial assets that are efficiently employed within the economy.

Commission IV turns to Western European integration and the need for evolving not only a single monetary policy, but also coordination of national budgetary policies. Two papers address the present practice and ongoing negotiations on EMU, while the other three look at issues relevant in a longer time perspective.

Jean-Claude Chouraqui reviews analytical work at the OECD on monetary policy coordination and the diminishing role of monetary aggregates in that process. Jean-Jacques Rey, currently chairman of the alternates for the EC central bank governors, reviews what is happening in stage one of the evolution towards EMU. Significant changes have already been brought about by the adoption in March 1990 of a new Council Decision on central bank cooperation.

Jürgen von Hagen analyses fiscal arrangements in a monetary union by means of evidence from the United States. He focuses on two issues, both central to discussion of the fiscal elements in EMU: how redistributive are the fiscal transfer mechanisms in the United States and how efficiently do they absorb shocks to the US economy which are differentiated by region or state? How do rules – self-imposed in the case of US States – on budget deficits and or debt operate? On both points he brings out evidence which

may make Europeans less wary of moving to monetary unification without an elaborate system of federal transfers and mandatory budgetary rules for the participating member states. The two final papers by Dick Wolfson and by Beate Reszat address the need for policy coordination in the fiscal area and for a proper policy mix more generally in the light of recent developments in macroeconomic theory and of the weakening constraints which are set by national political structures.

This is an extremely wide-ranging agenda and this introduction can provide at best an appetizer. More substantive surveys of the main themes of the Colloquium are provided by our three speakers in the opening session in the first chapters of the book: Governor Jose A. Tavares Moreira on policy-making and adjustment in a small, rapidly integrating economy, Giovanni Ravasio on the ongoing Intergovernmental Conference on EMU in which he represents the EC Commission, and Mervyn King on taxes, saving and economic growth. As will be evident, the three opening presentations cover much of the ground of the four Commissions which are to follow. It is high time that I leave the floor to them.

Before doing that let me close by justifying the choice by the SUERF Council of Lisbon as the venue for the Colloquium – if any such justification is at all necessary. From the time of our Secretary-General's visit here in 1989 SUERF has received splendid support from Banco da Portugal and the Portuguese banking community. The Governor gave us much encouragement and Mrs. Teodora Cardoso of the Bank was most helpful in the preparation of the Colloquium, including the provision of secretaries to our Commissions from the Bank's staff. The Portuguese Banks' Association through its chairman, Dr. Vaz Pinto, provided generous financial support and is organizing splendid hospitality for our participants. SUERF is deeply grateful for the reception we have met in Lisbon.

II. Monetary and fiscal policy in Portugal: a new approach to an old challenge

JOSE A. TAVARES MOREIRA

Portugal has been pointed out as a case of success regarding its experience of EC membership since January 1986.

Indeed, figures for the five-year period that followed EC accession are impressive:

- 4.5 per cent GDP growth on average;
- external current account posting a slight surplus, and the balance of payments a huge surplus, on average;
- total external debt dropping from 80 per cent of GDP by the end of 1985 to less than 30 per cent at the end of 1990;
- substantial progress in the reduction of fiscal deficits (from 15 per cent of GDP to less than 7 per cent);
- improved stability as inflation (measured by the CPI) fell from over 20 per cent in the years before accession to an average between 11 and 12 per cent in the aforesaid five-year period.

Before all this, however, there was a relatively long period (more than 10 years) of serious macroeconomic imbalances and of some painful adjustment process which, while still posing some constraints to the policy choices of today, at the same time provided us with an invaluable experience of the risks involved when the right policies are forgotten.

It is a short review of this experience with a brief reference to the macroeconomic targets and policy options currently pursued, that I intend to present in this opening session. I hope this will adjust well to the more theoretically elaborated approaches of the subsequent addresses.

In the aftermath of the first oil crisis and of the period of political upheaval following the 1974 revolution, the Portuguese economy was affected by major imbalances on both the domestic and external fronts.

The government budget shifted from long-standing virtual balance to a sharp deficit, as public expenditure increased rapidly and tax revenue was severely hit by the recession in economic activity. The prevailing instability

made the monetary financing of these deficits inevitable, which would prove a strain on monetary policy for many years to come.

Unemployment was boosted by a steep downturn in investment and the return of Portuguese nationals from former colonies.

Inflation, which had been rising since the late 1960s, accelerated sharply above 20 per cent.

The current account, after nearly a decade of surpluses, deteriorated rapidly due to the oil price increase, the retreat from the former colonies, and the sharp upturn in unit labour costs brought about by the radical change in labour relations.

Until 1977, monetary policy remained fully accommodating. As mentioned above, *the budget deficit was financed via money creation*, offset at the time by the erosion of the central bank's foreign reserves, used to finance the broadening current account deficit, which reached nearly 10 per cent of GDP in 1977. *The nominal effective exchange rate remained virtually unchanged* throughout this period. Despite some upward adjustments, interest rates (which were all administratively fixed), stayed *significantly negative* in real terms.

The year 1977 witnessed the first important turning point in monetary policy, brought about by a severe deterioration of the balance of payments. While a lower priority was attached to price stability, the chief targets of the monetary and exchange rate policies became the narrowing of the current account deficit and the control of capital outflows. The main instruments used were:

- (i) a crawling-peg exchange rate system whereby a monthly rate of depreciation of the escudo was announced and firmly supported by the Central Bank;
- (ii) the rise in both lending and time deposit rates, consistent *ex ante* with the international interest rate level and with the announced depreciation rate of the escudo; it must be said however that, in spite of this adjustment, real interest rates remained negative *ex post*;
- (iii) a system of ceilings on the expansion of domestic bank credit, made necessary by the relatively low level of interest rates, the lack of competition prevailing in the banking system (nearly 98 per cent of the market was shared by state-owned banks) and the extreme narrowness of the capital market (which resulted in continuing financing of government deficits by the Central Bank).

A number of other technical measures, designed to widen the range of policy tools, were also adopted in 1977, including the creation of an interbank money market to improve the distribution of reserves among banks.

With adjustments, some of these monetary (and exchange rate) policy

tools continued to be effectively used until 1989. In 1978, the conclusion and successful implementation of a stand-by agreement with the IMF, making proper use of the instruments previously created, quickly brought the current account back into balance: in 1979 its deficit narrowed to just 0.2 per cent of GDP.

This was a clear sign that the high degree of centralization and consistency of the set of policy tools just described had rendered them very effective in rapidly restoring balance-of-payments equilibrium. However, the low priority attached to price stability, together with the virtually full reliance of the system on administered mechanisms, determined its inherent instability. As new pressures materialized, mainly in the wake of the second oil shock, it became apparent that the authorities were not sufficiently motivated to introduce the required changes in the policy stance, at least as long as the current account financing continued to appear feasible.

In the early 1980s, the public sector deficit increased sharply, boosted by spiralling price subsidies. It was mainly financed by foreign borrowing by the government and public enterprises, while domestic bank credit also accelerated rapidly, being mostly absorbed by the private sector. The adverse cost conditions of foreign borrowing (mostly in US dollars), to which the public sector proved largely insensitive in the short run, contributed to the abrupt deterioration of its deficit.

As a result of these developments, the economy was again faced with unsustainable imbalances: in 1982 the current account deficit rose to 13.5 per cent of GDP and in 1983 a new stand-by agreement with the IMF had to be concluded.

The economic policy programme that was part of this agreement was of a more structural nature than the previous one and laid more emphasis on correction of public sector imbalances. Once again the strategy adopted proved most effective as it brought the current account back into balance, sharply reduced the public sector deficit, and lowered the inflation rate to more amenable levels: 17 per cent by end of 1985, after a peak of 34 per cent in 1983 (Figure 1). However, this was achieved at the cost of a drop in GDP in 1983/84, with a steep decline in investment: 24 per cent in that couple of years (Figure 2).

When Portugal joined the EC at the beginning of 1986, the old challenges of a low income level, high inflation, and long-standing rigidities in most sectors of the economy had still to be faced. The balance of payments had ceased to be a pressing problem, though previous experience showed that it would remain fragile until more significant structural changes could be expected to operate on the medium run. These changes were crucial to ensure the sustained competitiveness of the economy and the control of inflation, which then became a primary concern. Indeed, after 1986, it replaced the

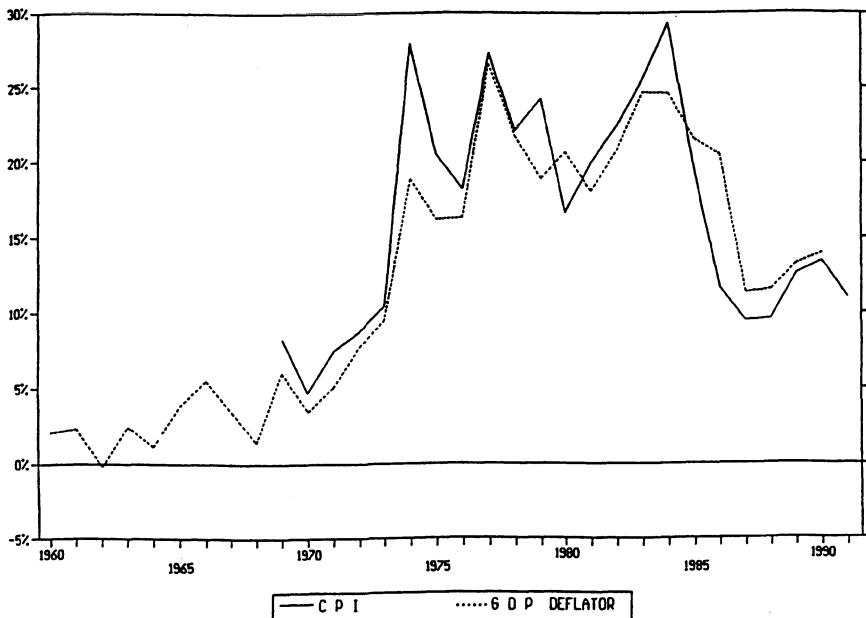


Figure 1. Inflation, annual averages.

balance of payments as the top priority of economic policy. The powerful boost to confidence provided by EC accession and other domestic political developments, coupled with the decline in the oil price, the opening up of new markets and the renewed interest of foreign investors, all contributed to strengthen the external position of the economy.

In spite of the new environment, monetary policy continued to face some old dilemmas. On the one hand, the inflation differentials still required some downward adjustment of the exchange rate in order to compensate for the structural vulnerabilities of the traded goods sector. On the other hand, the need to allow investment to recover, together with the burden of interest payments in the government deficit, remained a strong hurdle to the rise in real interest rates. In a nutshell, the economy had just undergone a painful form of shock treatment, aimed at correcting critical imbalances, and was hardly prepared to face a new dose of such treatment as a means of bringing about further adjustment.

A more gradualistic approach to the design of monetary policy was therefore chosen. Its main gradients consisted of:

- (i) reducing the depreciation rate of the escudo, within the crawling-peg system, so as to allow the currency to gradually appreciate in real terms;

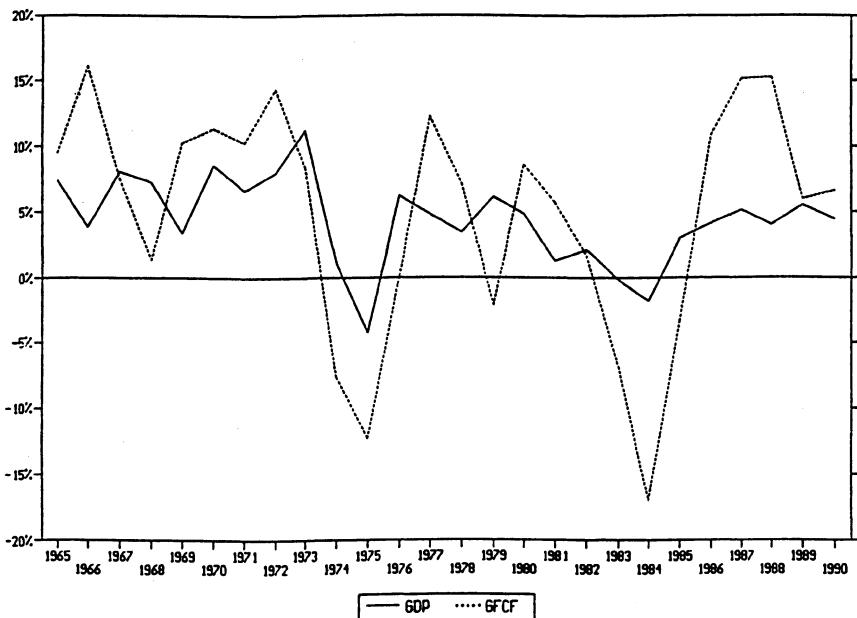


Figure 2. GDP and investment growth, annual growth rates in real terms.

- (ii) progressively liberalizing interest rates, particularly lending rates, allowing them to better adjust to market conditions;
- (iii) maintaining credit ceilings, while the banking system and the financial system were gradually deregulated and new, more competitive, institutions and markets were developed, which would eventually set the conditions for a fully market-oriented system of monetary control.

From the outset, the management of this transformation in monetary policy methods and instruments faced two major obstacles. *Firstly*, the maintenance of a credit rationing system retained at least part of what is usually pointed out as its major inefficiency: the inability to allow interest rates to adequately reflect the utility of funds borrowed. *Secondly*, the deregulation of the financial system soon led to a surge of innovation, very often directed at circumventing the direct controls still in existence.

These two difficulties not only reduced the effectiveness of the monetary control system, but raised also several problems for the formulation of monetary policy. Monetary and credit aggregates gradually became poorer indicators of the monetary policy stance, as new forms of financing constantly developed that fell outside their definition.

A further difficulty, in the form of extremely large capital inflows, emerged

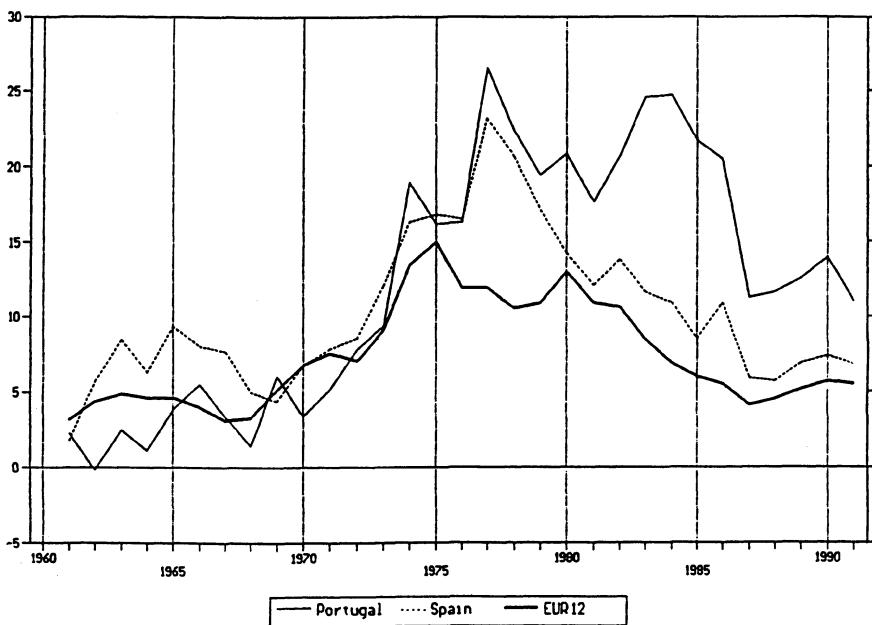


Figure 3. GDP deflator, annual percentage changes.

in the same period as a combined result of the progressive liberalization of capital movements and of the wide nominal interest rate differential *vis-à-vis* most EC countries. These inflows took place under many forms, ranging from direct and portfolio investment and investment in real estate, to short-term flows driven by interest rate differentials. In the two year period 1989–90, capital inflows reached US\$8 billion (about 7 to 8 per cent of GDP per annum), leading to a bulky increase in the central bank's foreign currency reserves which totalled US\$12.7 billion at the end of 1990, despite considerable prepayments of external debt in the fourth quarter of 1990.

No wonder, therefore, that despite the strict imposition of credit ceilings until 1989, the ultimate objective of controlling nominal demand and, hence, inflation, has been hard to achieve. After a rapid fall through 1987, the rate of inflation proved very resilient and the differential with respect to the European average did not decline until the end of 1990 (Figure 3).

Although several measures taken in the second half of 1990 to halt short-term capital movements proved fairly successful, economic developments in that year stressed the need to quicken the pace of monetary reform in Portugal, if conditions for full integration in the European market – and particularly in the ERM of the EMS – are to be met in the near future. A different policy mix, based on a harder currency approach to exchange

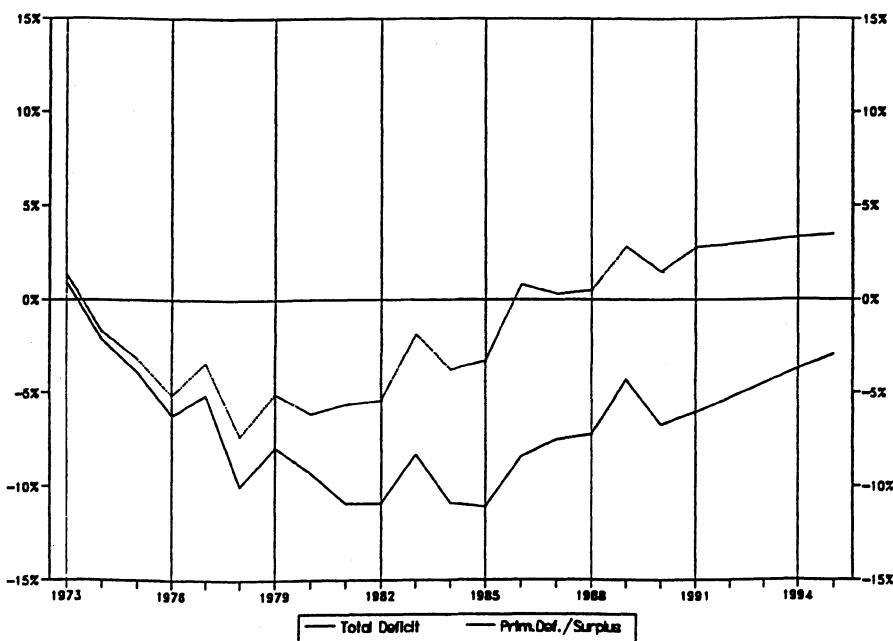


Figure 4. General government balances in per cent of GDP.

rate policy and a more determined public sector adjustment, also appeared necessary.

With the budget for 1991, the government presented their views on the path of convergence required by full integration in EMU, including the reduction of the general government deficit to 3 per cent of GDP by 1995, from 6 per cent in 1991 (Figure 4). This appears a feasible development if full advantage is taken of the expansion of economic activity and income, as well as of the beneficial effect of the expected decline in inflation on expenditures. This should be especially relevant for interest payments, as all deficit financing now relies exclusively on the markets. According to a new law of the Central Bank, published last October, financing of the public sector by the Banco de Portugal has been rigorously restricted, a principle that enshrines a practice followed since 1987.

Recent years have indeed witnessed profound changes in the methods of financing budget deficits. Increasing reliance has been placed on domestic marketable debt, while all forms of monetary financing have been sharply reduced (Figure 5). This has been accompanied by the explicit taking over by the state of debt incurred by public enterprises or other public bodies, thereby increasing the transparency of public sector accounts. Of course, it

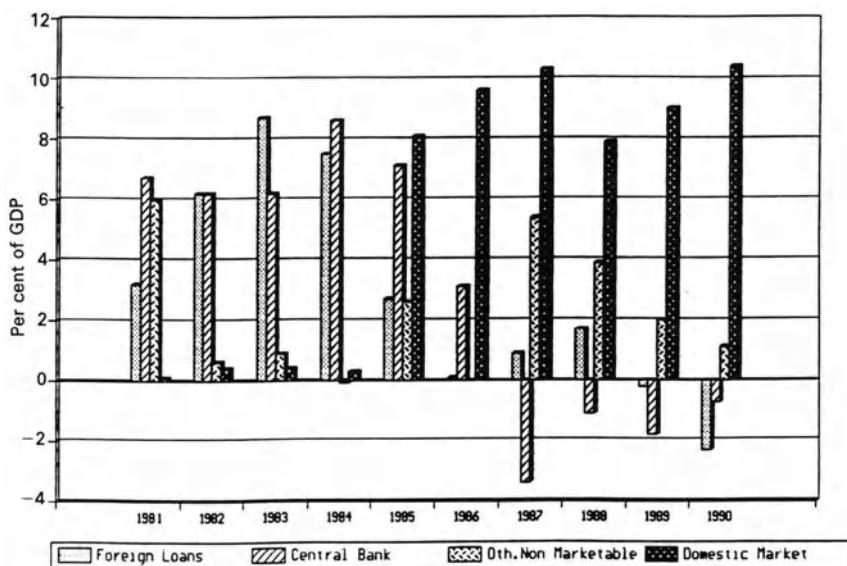


Figure 5. Government financing analysed by debt instrument.

also increased the burden of interest payments on public expenditure, which accounts for the fact that, despite the comparatively high government deficits, the budget has shown a primary surplus since 1986. In 1991, the budget forecasts a total deficit equivalent to 6 per cent of GDP and a primary surplus of 2.75 per cent. It can therefore be said that the public sector imbalances have already undergone a significant adjustment, which must be continued in the interests of further convergence with Europe.

As far as monetary policy is concerned, several important stages in the reform of its methods have already been completed. Besides the restriction of monetary financing of the government, they include

- the reorganization of the money and capital markets;
- the abolition of credit ceilings and redefinition of minimum reserve requirements;
- and the improvement of prudential supervisory principles and methods.

Credit ceilings had allowed the sterilization of excessive creation of high-powered money at the cost of maintaining a large liquidity overhang in the banks. In order to ensure that the lifting of credit ceilings would not generate an excessive credit expansion, two conditions had to be met before their actual elimination in the beginning of this year:

- (A) the draining out of the excess liquidity held by banks; and

(B) the Central Bank regaining effective control of monetary base creation.

A set of far-reaching mopping-up operations was devised and implemented at the end of 1990 and early this year, in the form of a massive sale to the banks of new (marketable) public debt issued by the government, the proceeds of which were used to prepay both the Banco de Portugal's portfolio of MLT public debt (this debt had been placed with the Banco de Portugal until 1986) and a large amount of state and other public-bodies foreign debt (amounting to US\$2 bn).

Together with the continuing reduction of the public sector deficit, the new approach to monetary control should bring about the desired decline in inflationary expectations and, in due course, the reduction of nominal interest rates.

In the meantime, some progress has been achieved, as inflation (measured by the CPI), after peaking in October 1990 at 14.4 per cent (year-on-year terms), started to decelerate and fell to 11.8 per cent in April 1991. However, this will have to be a gradual process and, in order to succeed, restrictions on short-term capital inflows will have to be maintained, in parallel with a new type of exchange-rate management, adopted in October 1990 and intended to make room for adjustment to the new external environment and to pave the way for accession to the ERM no later than 1994 or, hopefully, earlier. According to the new rules, the PTE effective exchange rate is set against a basket of five ERM currencies (DM, FF, GBP, ITL, PTA) and is allowed to float within a relatively wide band.

Under these rules, the market is given a far greater role in the fixing of the exchange rate. Central bank interventions are much less frequent and take place only to prevent the exchange rate from stepping out of the band.

The need to reduce the inflation differential, *vis-à-vis* the ERM countries, by at least 4 to 5 percentage points over the next two years, given the prevailing 'policy mix', is likely to require a stronger real appreciation of the PTE than the one allowed until the end of last year.

A harder exchange rate policy would be strongly supported by the remarkable external performance of the Portuguese economy, namely in the past two years, with the current account virtually in balance in spite of the booming domestic demand. It must, however, also be supported by an appropriate stance of both fiscal and monetary policies, aimed at reducing the risks of maintaining too high interest rate differentials, and of significant losses in competitiveness as a result of excessive wage increases. An appropriate mix of monetary and fiscal policies will therefore play a crucial role in the control of domestic inflation in the years ahead.

III. Quelques réflexions sur le processus de transition vers l'union économique et monétaire

GIOVANNI RAVASIO

Monsieur Henning Christophersen aurait du être aujourd'hui avec vous à Lisbonne pour vous présenter ses vues sur l'état des négociations dans la Conférence intergouvernementale consacrée à l'Union économique et monétaire.

Des obligations incontournables le retiennent cependant à Bruxelles. J'ai donc la lourde tâche de le remplacer dans cet exercice.

Mon point de vue spécifique sera celui de représentant personnel au sein du Comité qui prépare les réunions ministrielles de la Conférence.

Avant d'entrer dans le sujet proprement dit, je voudrais vous dire, Monsieur le Président, qu'en parcourant les contributions écrites déjà disponibles j'ai pu constater combien les sujets abordés reflétaient bien l'agenda économique et monétaire et des prochains mois, et ceci tant dans la Communauté que dans le reste du monde.

Ainsi, de nombreuses contributions portent sur les questions budgétaires (Rafael Repello, Jurgen von Hagen, Riszat, Wolfson) notamment dans leurs relations avec l'intégration monétaire. Ceci constitue un des sujets les plus intégrés dans la négociation actuelle.

De même, un certain nombre d'analyses sont présentées sur le cheminement vers l'étape finale de l'Union économique et monétaire, en particulier sur les difficultés soulevées pendant la première phase.

J. J. Rey notamment, illustre en particulier les questions liées à la mesure du degré de convergence économique considéré comme souhaitable.

Enfin, les travaux sur la fiscalité, l'épargne des ménages et le marché des capitaux, tels que ceux fournis par P. Llau, abordent un des thèmes de discussion du prochain Sommet Occidental qui sera l'insuffisance (vraie ou présumée) d'épargne au plan mondial y compris la liaison que certains établissent avec le niveau historiquement très élevé des taux d'intérêt réels.

J'ai voulu rapidement passer en revue quelques-uns des thèmes évoqués dans les travaux de vos commissions pour vous indiquer combiens les analystes peuvent aujourd'hui aider les politiques sur des questions fondamentales et immédiates.

LE PROCESSUS VERS L'UEM

L'UEM sera bâtie sur un socle solide qui est celui du marché unique. Nous ne sommes plus très loin de l'achèvement du programme législatif nécessaire à la réalisation du marché intérieur. Un point important nous manque encore, celui de la fiscalité indirecte, mais qui pourrait être atteint au cours des prochaines semaines, du moins nous l'espérons.

Les progrès réalisés dans la mise en oeuvre du programme, et surtout la façon positive dont il a été reçu, anticipé et à bien des égards "internalisé" par les agents économiques, ont rapidement montré combien la Communauté pouvait gagner en termes d'efficacité et de croissance économique grâce au marché unique. Cette attitude fut particulièrement visible au niveau des entreprises. Si on observe les performances des investissements privés de 1986 à 1990 dans l'Europe des douze, ou constate qu'ils se sont accrus de plus de 6% par an en termes réels contribuant ainsi de façon décisive à la dynamique de l'économie européenne.

Mais la stabilité de ce marché unique n'est pas assurée. En fait, la libération complète des mouvements des capitaux peut engendrer l'instabilité sur les marchés des changes; et nous savons tous que libérer les mouvements de capitaux implique nécessairement d'abandonner soit la fixité des taux de change (ou la quasi-fixité, c'est-à-dire le SME) soit l'autonomie complète de la politique monétaire nationale.

La réalisation d'une union monétaire s'impose dès lors comme accompagnement nécessaire du marché unique. La fixation définitive des taux de change, en supprimant toute incertitude dans les transactions à l'intérieur de la Communauté, permettra de bénéficier complètement de tous les avantages du marché intérieur. C'est en ce sens que la réalisation de l'UEM est le prolongement de l'Acte Unique Européen. En outre, l'union monétaire à réaliser ne sera complète qu'avec l'introduction d'une monnaie unique, l'écu. En fait, cette forme d'union monétaire présente plus d'avantages économiques que celle de la simple fixation définitive des taux de change, que ce soit en termes d'élimination totale des coûts de transaction, de transparence des prix, d'économies d'échelle et de crédibilité. Cette crédibilité accrue apportée par la monnaie unique provient du message d'irréversibilité du processus que la monnaie unique donne au marché. La dimension extérieure est aussi très importante: seule une monnaie unique permettra à la Communauté de participer à une redistribution des rôles des monnaies internationales et à un système monétaire international plus équilibré. Finalement, du point de vue politique, la monnaie unique apparaît plus clairement comme le couronnement du processus d'intégration européenne.

L'ÉTAT DE LA NÉGOCIATION

Je voudrais à ce point vous retracer brièvement l'état de négociation dans la CIG-UEM.

Un mot d'abord sur le contexte politique qui est particulièrement important pour l'avancement des travaux. Je rappellerai que, depuis la publication du rapport du Comité Delors, chaque réunion du Conseil Européen a imprimé une nouvelle impulsion à la marche vers l'UEM: à Madrid en juin 1989, fixation de la date du début de la première étape de l'UEM; à Strasbourg et Dublin, détermination du calendrier pour la Conférence Inter-gouvernementale et la ratification de ses résultats; à Rome en octobre 1990, fixation de la date du début de la deuxième étape et accord de onze Etats membres sur une conception d'ensemble de l'UEM qui découle étroitement de celle du rapport du Comité Delors. Nous nous situons donc dans un courant très porteur sur le plan politique.

L'UNION MONÉTAIRE D'ABORD

Selon cette conception d'ensemble, l'Union monétaire n'est achevée et complète qu'avec l'adoption d'une monnaie unique: l'écu. Une monnaie unique implique une politique monétaire unique, laquelle ne peut être définie et conduite que par une nouvelle institution, la Banque centrale européenne ou BCE dont les caractéristiques seraient les suivantes:

- Elle aura pour objectif prioritaire la stabilité des prix; sans préjudice de cet objectif, elle soutiendra la politique économique générale arrêtée au niveau communautaire;
- elle aura une structure fédérale, pour tenir compte de la nature de la Communauté, mais ses décisions seront centralisées;
- elle sera indépendante vis-à-vis des gouvernements nationaux et des autorités communautaires, ce qui implique la liberté de ne pas prendre de mesures susceptibles de compromettre l'objectif fondamental de stabilité;
- elle sera démocratiquement responsable; son président sera nommé par le Conseil Européen, après consultation du Parlement européen et il sera chargé de présenter la politique du SEBC au public et aux institutions communautaires; des rapports périodiques seront publiés.

Ces caractéristiques sont énoncées dans le projet de statuts que le Comité des gouverneurs a préparé. La BCE comprendra une nouvelle institution

centrale et les banques centrales existantes. Elle sera dirigée par un Conseil, responsable de la définition de la politique monétaire communautaire, et un Directoire, responsable de sa mise en oeuvre. Les membres du Directoire seront nommés pour leurs compétences professionnelles; leur mandat sera de longue durée et irrévocable.

Les éléments que je viens d'évoquer font d'ores et déjà l'objet d'un accord politique de fond, parfois même déjà reflété dans le langage juridique du Traité. Mais il reste à préciser beaucoup de points importants, comme par exemple les relations, le dialogue entre le pôle monétaire et le pôle économique.

L'UNION ÉCONOMIQUE

L'accord sur le versant monétaire de l'UEM est donc très large, beaucoup plus large que sur le versant économique. Venons-y.

Dans l'UEM, les politiques économiques resteront très largement décentralisées. Elles devront cependant être cohérentes entre elles et avec la politique monétaire communautaire. S'agissant de la politique budgétaire, qui constitue un élément fondamental de la politique économique, surtout du point de vue de la stabilité, je dirais que tous les pays sont d'accord pour introduire dans le traité deux règles contraignantes:

- pas de financement monétaire des déficits publics ni d'accès privilégié des autorités publiques au marché pour le placement de leur dette;
- pas de renflouement automatique ("bailing out") d'Etats membres en difficulté budgétaire.

Il y a aussi accord pour que soient évités des déficits budgétaires excessifs de nature à compromettre la stabilité monétaire de l'Union. Cependant, les modalités d'application de ce principe sont encore débattues: certains pays membres souhaitent la mise en oeuvre de règles contraignantes basées sur des critères précis définis au préalable. La Commission estime que des règles imposées de l'extérieur seraient politiquement difficiles à accepter; il serait préférable, selon elle, que chaque Etat membre définisse ses propres orientations, qui seraient évaluées, puis entérinées au plan communautaire; cette approche privilégie le renforcement de la coopération et le jeu des pressions exercées par les pairs; elle s'inscrit dans une conception plus large de la coordination des politiques économiques, qui repose sur la mise en oeuvre d'un dispositif comprenant:

- des orientations pluriannuelles de politique économique, définies à l'échelon communautaire;

- une surveillance multilatérale transparente et préventive, portant sur une large gamme d'indicateurs;
- un mécanisme de soutien financier spécifique, qui serait activé en cas de difficultés économiques majeures survenant dans un ou plusieurs pays membres, dans une optique de conditionnalité “positive”.

En fait, c'est de cette question de la discipline budgétaire que nous discutons actuellement, dans la conférence intergouvernementale. Nous sommes en train de définir des critères, à partir desquels un déficit budgétaire pourra être considéré comme excessif, et nous discutons des sanctions qui pourraient être prises à l'encontre d'un pays dont le déficit budgétaire serait reconnu comme tel. Je dois reconnaître mon étonnement quant à la disponibilité d'un très grand nombre pour accepter des règles contraignantes et même de sanctions en cas de non-respect de la discipline budgétaire.

Il est sans doute prématuré de tenter aujourd'hui de décrire ce que sera l'accord final sur ce point. Ce n'est d'ailleurs pas le seul point de divergence; comme vous le savez, le calendrier, le contenu et la durée de la deuxième étape, ainsi que le rôle de l'écu sont également au cœur des discussions.

Mais il est important de noter que sur aucun de ces points de divergence n'est apparu de véritable blocage de la négociation; sur chacun d'entre eux, une formule de compromis a été avancée, une formule qui est apparue susceptible de réunir le consensus nécessaire.

C'est ainsi que la conférence a pu progresser rapidement – elle a complété en moins de six mois une première lecture du projet de traité que nous avions soumis – et c'est ainsi, aussi j'espère, qu'elle pourra s'achever rapidement.

L'UEM ET LA COHÉSION ÉCONOMIQUE ET SOCIALE

Finalement je voudrais aborder la question de la cohésion économique et sociale. Tout d'abord pour vous dire qu'il ne s'agit pas d'un thème spécifique au dossier UEM. Au contraire, c'est le dossier UEM qui doit s'inscrire dans le cadre général de la cohésion économique et sociale dans la Communauté. Je m'explique: le thème de la cohésion économique et sociale, ou en d'autres termes, les préoccupations liées à la distribution des gains de l'intégration européenne apparaît déjà dans le Traité de Rome lui-même. Avec l'Acte unique européen le principe de la cohésion a été explicitement inclus dans le Traité (Article 130A). Depuis lors, l'objectif de la cohésion est, pour ainsi dire, une “contrainte positive” pour l'action communautaire: l'évolution de la Communauté doit se faire dans le respect de la cohésion économique et sociale. Mais je dois rappeler que le Traité est clair quant à la répartition des responsabilités dans ce domaine: il appartient aux Etats membres, à tous

les Etats membres, dans le respect du principe de subsidiarité, de mener des politiques orientées vers l'objectif de la cohésion, le rôle de la Communauté étant d'appuyer ces politiques, en particulier à travers les Fonds structurels.

Ceci étant, la question de la cohésion précède celle de l'UEM et, dans ce sens, elles sont distinctes l'une de l'autre. Cela ne veut pas dire, naturellement, qu'on ne doive pas analyser les effets potentiels de l'UEM sur la cohésion, comme on l'a fait dans le passé lors des "grands pas en avant" de l'intégration européenne.

Et que pouvons-nous en dire ? D'une façon synthétique, je dirais ceci:

- l'UEM offre des opportunités et des risques pour toutes les régions sans que, a priori, anciens ou nouveaux membres de la Communauté ne bénéficient d'un avantage relatif. Les régions les moins favorisées ont une réelle chance de rattrapage rapide.
- l'UEM va imposer une discipline budgétaire à chaque Etat membre, comme nous l'avons vu, tout en lui laissant une marge d'autonomie. Et, dans les pays les moins avancés de la Communauté cette discipline budgétaire ne devrait pas se traduire par une diminution de l'offre (présente et future) de biens publics. C'est-à-dire, l'achèvement de la convergence nominale ne devrait pas se faire aux dépens de l'offre de biens publics.

Les politiques structurelles communautaires contribuent déjà à cet objectif. Les Fonds structurels existants visent à renforcer la capacité d'ajustement au marché intérieur de 1993 des régions moins développées, ce qui signifie que les Fonds structurels contribuent à la réalisation de l'union économique.

Permettez-moi de souligner ce point car il s'agit d'un exercice de grande envergure pour la Communauté: les Fonds structurels représentent un volume de 60 milliards d'Ecus aux prix de 1988 pour la période 1989-93 (plus de 25% du budget communautaire pour 1992) et, dans les pays qui en sont les plus grands bénéficiaires ils peuvent atteindre 3-4% ou même plus du PIB.

- l'UEM implique l'abandon de l'instrument du taux de change nominal, ce qui peut réduire la capacité d'absorption de chocs pour des économies qui réalisent un profond changement structurel, surtout si le marché du travail présente de fortes rigidités, notamment en matière de salaires.
- le renforcement de la cohésion dans la Communauté dépend dans une large mesure de l'adéquation des politiques économiques nationales et des synergies que l'on peut établir avec les politiques structurelles communautaires. La disponibilité de ressources financières additionnelles n'est pas en soi une garantie de renforcement de la cohésion. Sans un changement de régime dans les pays et régions en cause, l'augmentation

des transferts des Fonds peut même induire une augmentation de la divergence.

A la lumière de ces quelques points développés avec sans doute trop de concision, je ferais, pour conclure, quelques remarques sur les politiques structurelles d'abord, sur l'ensemble du processus ensuite.

Une première remarque vise la continuation (avec adaptation bien sûr), après 1993, des politiques structurelles existantes. L'enveloppe financière pour les politiques structurelles post-1993 ne devrait être décidée qu'après une évaluation de l'utilisation des Fonds existants. Cette évaluation devra prendre en considération aussi les politiques nationales et la façon dont elles ont été menées au regard de l'objectif de cohésion.

Ma deuxième remarque concerne la nécessité de créer un nouvel instrument qui pourrait fonctionner comme un mécanisme d'assurance qui serait activé en cas de problèmes économiques majeurs imprévus ou quand il s'avère nécessaire de renforcer la convergence d'un état membre. Naturellement, la définition de ce mécanisme devrait être telle qu'il ne puisse pas être utilisé comme réponse à des politiques nationales peu responsables et qu'il soit fortement conditionnel: le recours à ce mécanisme devrait être subordonné à la mise en oeuvre de programmes nationaux d'ajustement. L'opportunité de créer un tel instrument est en discussion dans la CIG, et comme j'ai déjà mentionné, il m'apparaît indispensable qu'il soit mis en place.

Sur le processus d'UEM, enfin, je voudrais insister sur deux points:

- une partie des gains de l'UEM, notamment en termes de stabilité des changes et de convergence, peut être recueillie dès aujourd'hui si les pays membres s'engagent de façon crédible dans le processus d'union. Les conclusions du Conseil Européen de Rome, qui a explicitement désigné un écu "fort et stable" comme la future monnaie unique et défini un calendrier, vont dans ce sens;
- il y a une asymétrie des coûts et avantages dans le temps. La Communauté supporte aujourd'hui les coûts d'ajustement, ceux liés à l'incertitude de change; il n'y a plus de réelle souveraineté monétaire nationale et l'ajustement par les taux de change a montré ses limites. A l'opposé, les avantages de l'UEM ne seront recueillis, pour l'essentiel, qu'à la 3ème étape avec la monnaie unique. Ces considérations militent pour une transition la plus courte possible.

CONCLUSIONS

La première concerne la *portée* du processus UEM pour le bien-être et l'intégration des peuples qui composent la Communauté ainsi que pour leur

capacité d'être présents dans les affaires du monde. Nous sous-estimons les conséquences de ce processus. Ceci est vrai même pour le " cercle des initiés ". Mais il l'est encore plus par l'opinion publique au sens plus large (c'est-à-dire milieux économiques, syndicaux et politiques nationaux).

Ceci est regrettable à deux points de vue:

- d'abord parce que nous pourrions bénéficier d'une poussée politique plus forte pour aller plus vite et plus loin
- ensuite, parce qu'une adhésion plus ferme de l'opinion publique au moment des décisions fondamentales nous permettrait de mieux surmonter les coûts inévitables d'ajustement, que nous aurons à supporter.

La deuxième concerne les préoccupations excessives sur le contenu et le degré d'avancement des travaux sur l'U.P. Il est vrai que certains pays conditionnent l'accord sur un dossier à un résultat satisfaisant sur l'autre. Le destin politique immédiat des deux CIG est lié en effet. Deux considérations doivent être faites:

- (a) A terme, l'UEM poussera à un nouveau progrès vers l'Union politique. Il n'y a pas aujourd'hui une politique étrangère – même de sécurité – qui n'ait une forte composante économique et monétaire.

Comment avons-nous agi pour insérer les pays d'Europe Centrale et Orientale dans le monde occidental sinon par l'aide économique, des prêts de balance des paiements et une ouverture des marchés?

Comment un certain nombre de pays proches manifestent-ils en premier lieu leur volonté d'ancrage à la Communauté, sinon par l'établissement de relations monétaires particulières? Sans doute demain, avec l'Union Soviétique, suivrons-nous à peu près les mêmes lignes.

Etant donné la communautarisation de plus en plus forte de l'économique et du monétaire, je serais très étonné si les Etats membres ne ressentaient pas le besoin de porter le politique au même niveau.

- (b) Une des difficultés de l'actuelle négociation est qu'elle prend souvent l'allure d'une défense excessive des symboles nationaux. Chaque pays a ses valeurs et ses préférences en matière économique et monétaire. Lorsqu'elles sont brandies comme des drapeaux sur un champ de bataille, elles en deviennent des symboles.

Ceci n'aide pas à la négociation et c'est d'autant moins justifié que, à y regarder de plus près, on se rend compte que nos options, préférences et systèmes économiques sont beaucoup moins différents qu'il n'y paraît à première vue.

Mais tout se passe comme si chaque négociateur voulait rentrer chez lui, à la fin de la négociation en affirmant que les symboles nationaux ont été entièrement sauvagardés. Pour les uns, c'est l'indépendance

de la B.C., pour les autres la primauté du pouvoir politique ou encore la solidarité, la légitimité démocratique.

Je crois qu'une de nos tâches est de montrer qu'il y a parfois un grand écart entre la réalité affichée et la réalité constatée. C'est sur cette dernière base et sur cette base seule que nous progresserons le plus efficacement.

IV. On policies toward saving

MERVYN KING

INTRODUCTION

In a keynote address it is traditional to look forward, and anticipate the problems of the future. There is little doubt that a major task in the 1990s will be to invest in the capital stock that is needed not only to maintain growth in the prosperous regions of Europe, but also to rescue the economies of Eastern Europe and the Soviet Union from the disastrous state to which a failed economic system has brought them. Some commentators are concerned that there will be inadequate saving to finance this investment. But with an increasingly integrated world capital market, this is likely to be far less of a problem than was the financing of reconstruction following the Second World War. And it should be remembered that one of the early contributions of growth theory was to show that positive real interest rates are a symptom of a healthy growing economy.

I want, however, to focus on the *past* decade, because there are, I think, some important lessons to be learned from the experience of the 1980s that are directly relevant to the issues facing us in the 1990s. In particular, I want to focus on the relationship between saving, the rate of economic growth and the liberalisation of financial markets. I shall argue that a combination of financial liberalisation and supply-side reform that raises the underlying rate of economic growth will lead to rapid expansion of domestic demand. In our traditional models such policies are unambiguously welfare-improving. But in practice the impact on inflation at home and/or a sharp deterioration in the external deficit may be observationally equivalent to an unsustainable demand expansion resulting from inappropriate macroeconomic policies. Because potential lenders may be unable to distinguish between these two different situations in which households and firms wish to borrow, there are costs to moving rapidly to the levels of consumption and investment that are implied by the natural response of agents to a positive supply-side shock. In both cases the collateral for borrowing is likely to consist of growth opportunities, and the issue is whether these are real or apparent. When there is uncertainty over the true nature of the supply-side shock, lenders – especially

Table 1. Net national savings ratios (as per cent of net national product)

	1960–70	1971–80	1981–88	1988
US	10.6	8.9	3.7	3.3
Japan	25.6	24.6	20.4	22.0
Germany	19.9	14.3	11.1	13.7
UK	11.1	7.7	5.6	5.2
OECD Average ^a	14.6	13.5	8.7	9.3

^a Excludes Italy, Iceland, and Turkey.

Source: 'Saving trends and behaviour in OECD countries', A. Dean, *et al.* (eds), *OECD Economic Studies* No. 14, Spring 1990.

foreign investors – will be wary lest borrowers – whether public or private – are offering a false prospectus, or, in Akerlof's (1970) terminology, will turn out to be 'lemons'. In such a world, 'bad' policies can drive out 'good' policies.

THE SAVINGS SHORTAGE

Low saving rates have long been a matter of concern in the Anglo-Saxon world, although this interest has recently resurfaced in the rather bizarre call in some quarters for a concerted *reduction* in interest rates in order to *raise* the world supply of saving. Nevertheless, there is no doubt that saving rates have fallen. In the context of the alleged 'savings shortage', the appropriate concept of saving to examine is the net *national* saving rate. And it is clear that in the 1980s net *national* saving rates did fall sharply. Table 1 shows the trend over three decades in the net national saving rate in the G3 countries, the UK, and for the OECD area as a whole. The fall in national saving rates in the 1980s is marked. Moreover, national saving rates have fallen by similar proportions of national income in all of the major countries – roughly 6 percentage points. It is not easy, therefore, to blame the emergence of trade deficits upon a fall in saving rates of the debtor countries. The saving rate in Japan, for example, has also fallen. I shall turn in a moment to the question of why this may have happened. But, first, I want to tackle the question of why the saving rate might be a matter of policy concern. After all, we do not normally expect the government to intervene to encourage particular patterns of consumption, so why should we expect it to take up the cause of the promotion of the habit of thrift?

In answer to the question of why policy-makers are so concerned with the level of saving, there are *three* reasons that are worth mentioning here.

First, an examination of data for many countries, such as statistics for the OECD area or the large cross-section sample of countries compiled by

Summers and Heston (1988), suggests that there is a positive correlation between saving rates and growth rates. Of course, such a correlation does not imply that an increase in the saving rate would raise the long-term growth rate. The causation may run the other way, or there may be joint dependence upon a third factor. In the one-sector neoclassical growth model of Solow, an increase in saving would raise the level of output per head but not – in the long-run – the underlying growth rate. But that model would have a hard time explaining the observed correlation between saving and growth rates – the long-run natural rate of growth is independent of the saving rate and the transitional dynamics are insufficient to generate the correlation that is observed in practice. As I shall show later, a model with endogenous saving can explain the correlation between saving and growth rates. But the causation runs from growth to saving, rather than the reverse. When the growth rate itself is endogenous, then it is the rate of investment that is central to the determination of the rate of productivity growth, and in an open economy saving and investment rates can differ. So there is little reason here to favour incentives to raise the level of saving, as opposed to investment.

Second, there is an old argument, associated with the names of Frank Ramsey and Amartya Sen, that households are myopic and do not adequately take into account the interests of either themselves or future generations when making their saving plans. Hence, the government must ensure that sufficient resources are devoted to accumulating wealth to support future consumption. There is a long tradition of paternalism in British economics which is laudable if a little unworldly. And I have to say that the proposition that in a democracy the government has a longer time horizon than most of the electors, does not appear wildly convincing.

Third, a more persuasive case can, I think, be based on heterogeneity among the population. Surveys of household wealth show striking differences in the level and composition of portfolios that are not easy to explain in terms of income and wealth (King and Leape, 1987). The existence of significant costs of obtaining information about saving, as opposed to consumption, opportunities mean that there may be a case – on both efficiency and distributional grounds – for trying to help first-time investors by offering an attractive route into the savings market that overcomes the informational costs, perhaps by providing tax incentives that persuade the suppliers of saving schemes with the motive to advertise widely the merits and means of saving.

My principal objective today is to offer a *fourth* reason for thinking that governments might be concerned about the level of domestic saving. It is based on the idea that, in a regime of liberal financial markets, there are costs to a policy of raising the growth rate, unless additional measures are

taken to cope with the demand expansion that results from the optimal response of agents to a positive supply-side shock to the future growth rate.

THE IMPLICATIONS OF SUPPLY-SIDE REFORM

The economic fashion of the 1980s was supply-side reform. Over a wide range of areas, from privatization to the labour market and from tax reform to education, the 1980s witnessed, in a number of countries, a movement aimed not only at improving the efficiency with which existing resources were being used but also at raising the trend rate of economic growth. Another related and important trend in the 1980s was the move to open up financial markets to competition with a combination of deregulation and the abolition of controls on capital movements. The combination of the two sets of reforms was powerful. Was it beneficial? I believe that it was. But it is easy to see why there has been scepticism, in particular over the effects of financial liberalisation. Since there are important lessons here, not only for the European Community but also for the newly liberalised economies of Eastern Europe and the former Soviet republics, it is worth analysing this issue in more detail. The traditional tools of growth theory offer help – if looked at in a new light.

In my own country, academic conferences and television programmes alike have, in recent years, posed the question ‘has there been a Thatcher miracle?’ – and some were foolhardy enough to try to answer it on the basis of inadequate data. Despite the fascination shown in the question of whether there had been an increase in the rate of productivity growth, much less attention was paid to the likely economic consequences of an upward shift in the growth rate if such could be engineered. The renewed academic interest in economic growth, and especially the study of endogenous growth models, makes this neglect all the more surprising. By looking briefly at the implications of simple growth models, I want to offer the following sobering thought. Any successful attempt to raise the rate of growth in a small open economy will, in a world of integrated liberal financial markets, lead to a rise in investment, a stepjump in consumption that will have the appearance of a consumption boom, and, inevitably therefore, a sharp deterioration in the balance of payments. Of course, in the long-run matters come right and everyone is better off. But the short-term symptoms of a policy of successful supply-side reform look very similar to those of an unsustainable short-term demand expansion. I shall argue later that if the international capital market has difficulty in distinguishing between the two scenarios, then there may be a case for government encouragement of saving in order to handle the transition to the new growth path.

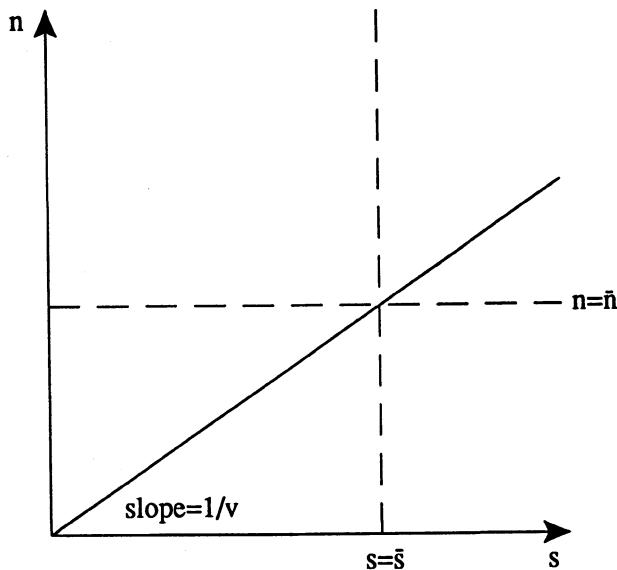


Figure 1. Equilibrium growth in a neoclassical model.

THE QUESTION

If there is an unanticipated shock to the 'natural' rate of growth, what is the response of consumption, investment, the external deficit, and inflation? Growth models of different types provide answers to this question in respect of the real variables but not for inflation. Consider only the former variables for the time being.

Neoclassical growth model

It is helpful to start with the Harrod-Domar condition for the existence of steady-state growth in a closed economy. This condition is illustrated in Figure 1 which plots the 'natural' rate of growth – given exogenously by supply-side factors – against the net national rate of saving. For a steady-state rate of growth to exist the natural rate of growth must equal the 'warranted' rate of growth, which is defined as the rate of increase of demand that is consistent with the expectations of those investing in fixed capital. We would probably call this concept the rational expectations growth rate today. Denoting the natural rate by n , the saving rate by s , and the capital-

output ratio by v , the Harrod–Domar condition is

$$n = \frac{s}{v}. \quad (1)$$

If all three variables are determined independently, then there is no economic mechanism by which an equilibrium can be assured to exist. This was the dilemma posed by Harrod and Domar. Robert Solow showed that if output is described by a neoclassical production function there exists a price – the interest rate in the economy – such that a level of capital intensity will be chosen by profit-maximising firms that permits an equilibrium growth rate to exist. This capital-output ratio is given by the slope of the line OE in Figure 1.

The Solow model has been used to study the effect of an increase in the saving rate, following which the growth rate rises temporarily before returning to the unchanged natural rate but at a higher level of output per head, and in the rate of population growth, which leads to lower capital intensity and consumption per head (Solow, 1970, chapter 3). But it can also be used to analyse a shock to the rate of growth of technical progress.

Consider now a Solow neoclassical model in which there is no population growth, and the natural rate corresponds to the exogenous rate of technological progress. Suppose that there is an unanticipated supply-side shock that raises the natural growth rate. How does the economy respond to such a shock? The production function relating output per head at date t , y_t , to capital per head, k_t , is

$$y_t = e^{(1-\alpha)n} k_t^\alpha. \quad (2)$$

From this equation, it is clear that at any moment the growth in output, g_y , is given by

$$g_y = \alpha \left(\frac{s}{v} \right) + (1 + \alpha)n. \quad (3)$$

Following a positive shock to the growth rate, the initial value of s/v is below the new higher level of n . The dynamic response of the economy to this shock is shown in Figure 2. The rate of growth of both output and consumption slowly rises from the initial to the new value of the natural rate of technical progress.

The Solow growth model has proved extremely useful in the analysis of a range of questions, but it also has a number of inadequacies. Of these, perhaps the most serious in the present context is the assumption of a closed economy. In a small open economy, the world interest rate determines the degree of capital intensity. The Harrod–Domar condition becomes $n = i/v$,

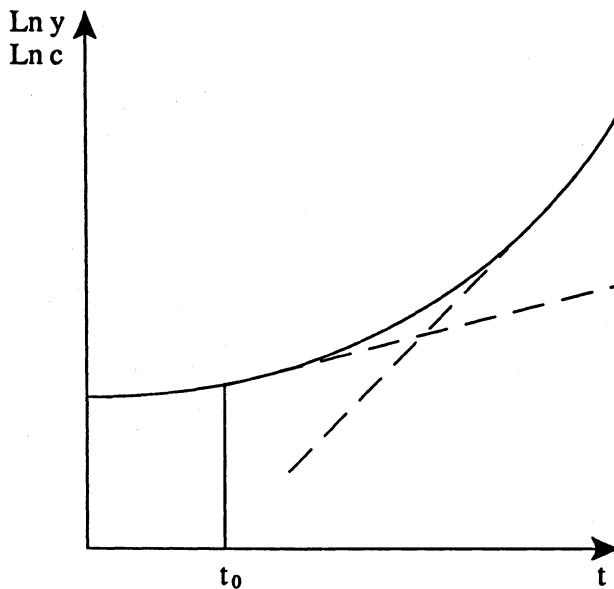


Figure 2. Response to positive shock to natural growth rate.

where i is the national investment rate. The difference between i and s reflects the trade deficit as a share of national output. If n and v are determined outside the model, then the value of i that is necessary for equilibrium steady-state growth at the natural rate is given. If the saving rate is also determined exogenously, then so is the equilibrium trade surplus, and this can be financed only by a particular value of initial net overseas assets. In general, no equilibrium exists. The problem is the assumption of a fixed saving rate.

Representative agent model

The simplest, if not the most plausible, way to make the saving rate endogenous is to assume that saving behaviour may be described as if it were the outcome of an intertemporal optimisation choice by an infinitely-lived representative agent. In this model, saving behaviour in steady-state is described by the Euler equation

$$n = \sigma(r - \rho), \quad (4)$$

where σ is the intertemporal elasticity of substitution of consumption, and ρ is the rate of pure time preference of the representative consumer. Investment behaviour is, as in the Solow model, described by the first-order con-

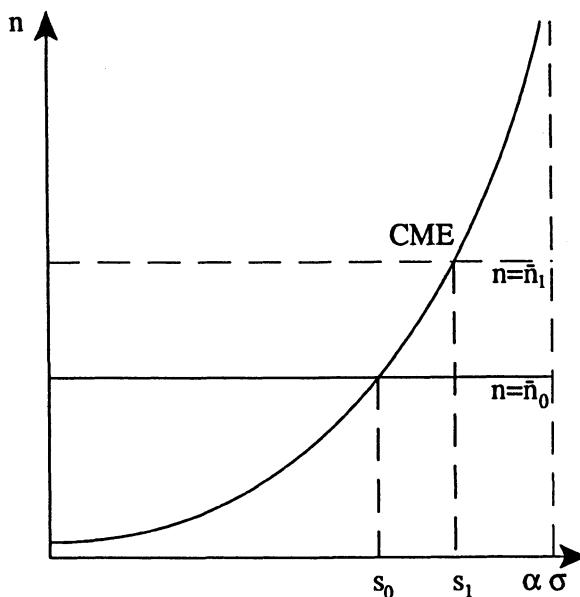


Figure 3. Representative agent model.

dition for optimal capital accumulation that the marginal product of capital is equal to the real interest rate (for simplicity I shall assume that there is no depreciation of capital).

$$r = \frac{\alpha}{\nu}. \quad (5)$$

We may now define a capital market equilibrium curve which defines the relationship between the steady-state growth rate of aggregate demand and the saving rate that is consistent with optimising behaviour in the capital market – it is obtained by substituting Equations (4) and (5) into (1). This CME-curve is given by

$$n = \frac{\sigma \rho s}{\alpha \sigma - s}. \quad (6)$$

The CME-curve is shown in Figure 3. It is easy to show that the CME-curve has the upward-sloping convex shape shown in Figure 3. This implies that there is a positive relationship between saving and growth rates. Figure 3 shows the determination of equilibrium in the RACE (representative agent closed economy) model. An increase in the growth rate from n_0 to n_1 leads

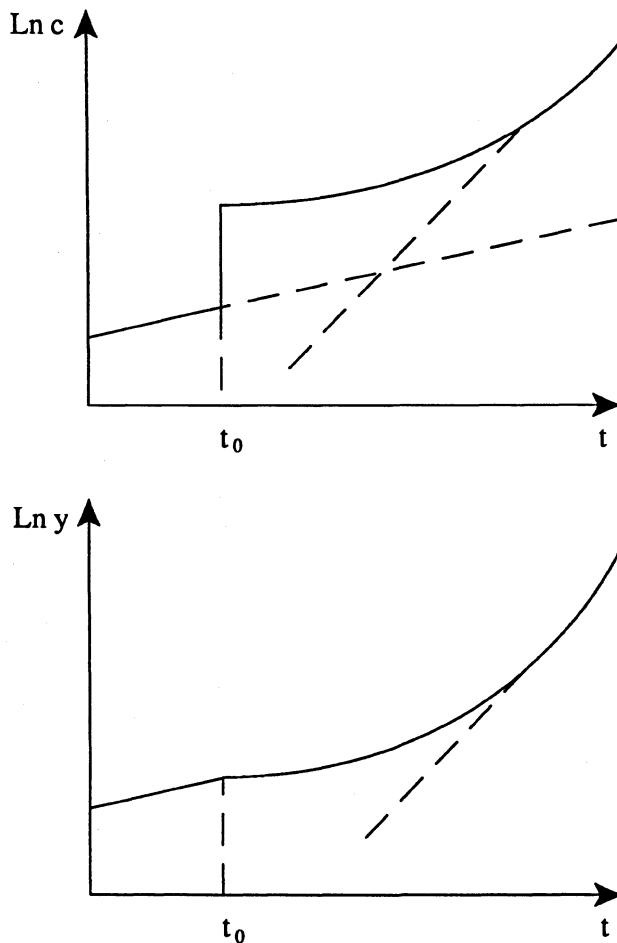


Figure 4. Dynamic adjustment in RACE model: closed economy.

in the long-run to a higher saving rate, a higher real rate of return on capital, and a lower capital-output ratio.

The dynamic adjustment of the economy to a higher natural rate of growth in the RACE model is shown in Figure 4. Initially saving falls, and there is a step jump in the level of consumption as households, anticipating higher future levels of income, decide to save less in the present. The fall in the saving rate means less investment and so output grows at a slower rate in the first instance than in the case of a fixed saving rate – adjustment is slower.

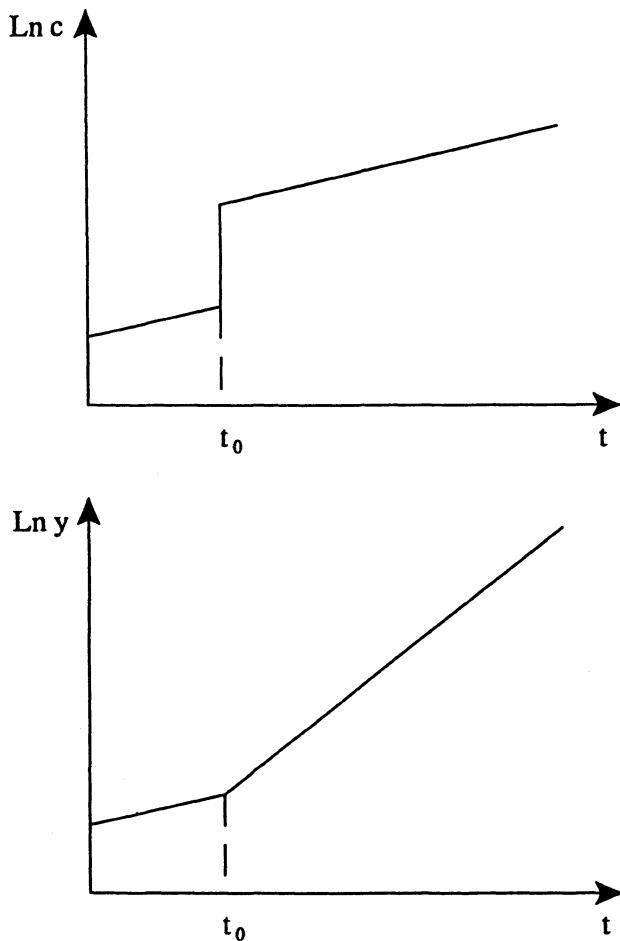


Figure 5. Dyunamic adjustment in RACE model: open economy.

Of most interest is the open economy case. This is illustrated in Figure 5. A positive shock to the growth rate at time t_0 results in a step jump in consumption. But in this case there is an immediate move to the new higher rate of growth, since the ability to borrow from abroad means that investment can rise at once to the level warranted by the higher growth rate because the world real rate of interest has not changed. At the same time, consumption can jump to a higher level, but it continues to grow at the old rate of growth because σ and ρ , as well as r , remain unchanged. Hence the initial jump in consumption, and rise in investment, leads to a trade deficit that

Table 2. Real demand growth in the UK, 1980–89 (per cent a year)

	Consumption	Investment
1980–86 (mean)	2.5	1.4
1987	5.3	9.5
1988	7.2	14.8
1989	3.9	4.8

eventually becomes a surplus as output starts to grow faster than consumption.

The size of the implied step-jump in consumption at time t_0 is given by

$$\frac{C_1}{C_0} = \left(\frac{r - n_0}{r - n_1} \right) \left(\frac{r - \alpha n_1}{r - \alpha n_0} \right). \quad (7)$$

To give some idea of the order of magnitude of the jump, consider the following parameter values – $n_0 = 2\%$, $n_1 = 2.2\%$, $r = 5\%$, $\alpha = 1/3$, and $s_0 = i_0$. Then the increases in consumption and investment over the first year of the new growth path are

Consumption	Investment
7.5%	12.2%

The main feature of the model is that for a short period there is a boom in both consumption and investment. Endogenous growth may exacerbate the problem because the rise in investment will generate further growth in productivity that will lead to even higher consumption.

An interesting question to ask is whether the model has any relevance to the rapid growth in aggregate demand experienced in the UK in 1987–88. That period was also noteworthy for the strength of the expansion in demand over a short period, and for the increase in both consumption and investment. The data on demand growth in the UK are shown in Table 2. The speed of the increase in the growth of demand in 1987–88 is evident. It was much faster than the growth experienced either before or after. To that extent the model is consistent with this particular episode in UK economic history. Nor is it implausible to imagine that expectations of an increase in the underlying growth could have occurred around the time of the general election of 1987 – as the illustrative calculations show, only a small increase in the growth rate is necessary to have quite large effects on current consumption and investment.

The optimal response to an unanticipated positive shock to the growth rate in this model is to run a current account deficit in order to finance the desired higher level of consumption. There are two problems that are likely

to arise in practice with such a policy. First, there is no collateral which can be used to support the loans that are implied by this response. They are a classic example of borrowing against ‘growth opportunities’ studied in the theory of corporate finance. Foreign lenders may be unable to observe whether there has been a genuine transformation of the prospects for growth or whether there has been a mistake, encouraged perhaps by excessive optimism on the part of the government, that will jeopardise the later ability to repay. The ability to repay may be very different in the two cases. The (immediate) observational equivalence in the eyes of lenders of a genuine positive supply-side shock and the pursuit of excessively expansionary demand policies creates a problem for governments committed to supply-side policies and financial liberalisation – ‘bad’ policies drive out ‘good’. The optimal response of consumers and firms to the supply-side shock creates an externality to all other borrowers because of the similarity of their behaviour to that induced by excessively lax monetary policy.

The second problem is that a rapid growth in domestic demand, both consumption and investment, might lead to inflationary pressure, something that is missing from the simple non-monetary growth model presented above. In the wake of financial liberalisation, money and credit aggregates provide confusing signals for wage bargainers and policy-makers alike. It was for good reason that the UK abandoned formal broad money targets in the mid-1980s, and countries yet to experience financial liberalisation may find similar difficulty in interpreting movements in the wider aggregates when their turn comes. A positive supply-side shock to the growth rate is likely to lead to increased demand for both narrow and broad money. But this may also be perceived as a signal of higher future inflation thus influencing current price and wage setting. If the government feels obliged to deal with this inflationary problem by adopting restrictive policies then part of the appropriate policy response might well be incentives to raise saving in order to alleviate the inflationary consequences of an increase in consumption and investment demand. In other words, policy might aim for a slower transition to the higher level of consumption than the individually rational stepjump that is feasible in a world of financial liberalisation.

POLICIES TO RAISE SAVING

In the previous section, I argued that there might be a second-best case for incentives to maintain the national saving rate at a time when it would be otherwise rational for the saving rate to fall for a time. How might this be done? The first – and obvious – point is that probably the largest impact of

government policy on national saving comes via the level of public saving. The need for a tight fiscal policy is the greater at a time of private dissaving. The second point is that to be effective saving incentives must be carefully targeted. An increase in interest rates raises private savings in two ways. First, by reducing household net worth – and increasing uncertainty about the economic prospect – it raises precautionary saving. Second, it increases the incentive to postpone consumption and buy next year rather than this. Since general tax incentives to saving are equivalent to an increase in long-term interest rates, there is little reason to believe that broad-based tax reliefs for saving would have led to significant additional increases in private saving in the UK in the 1980s, when real interest rates were high by historical experience, and such reliefs are in any case expensive. In order to minimise the initial revenue loss per pound of additional saving, it is sensible to target incentives on that part of the market that other incentives cannot reach. Many of our existing tax incentives for saving are highly complicated and difficult to understand. A large proportion of households own negligible financial assets. Tax incentives which exploit the marketing power of financial institutions – such as banks and building societies – that already enjoy the confidence of low income households are the most likely to raise national saving. In order to minimise deadweight loss, it makes sense, therefore, to target any new incentives on households that are not taking advantage of existing saving schemes, and who would be unlikely to reduce other forms of saving.

Such was indeed the objective of the new scheme introduced in the UK in the 1990 Budget – TESSA (Tax-Exempt Special Savings Account). The TESSA scheme allows individuals to deposit a maximum amount each year for five years in a special tax-free account offered by banks and building societies. In the first year the maximum is £3000, in subsequent years it is £1800, and there is an overall maximum of £9000. Any withdrawal of principal within the five-year life of the account means that the account ceases to be tax-exempt. At the end of five years the tax-exempt status of the account disappears, although savers can then start to accumulate in a new account (it is not difficult to imagine that this limitation on the life of an account might be removed when the initial accounts start to mature). The scheme started in January 1991, and within four months over £6 billion had been deposited in TESSA accounts. It is too early to judge whether the majority of deposits have simply been transferred from taxed accounts or whether they represent net new saving. Only the future pattern of withdrawals from TESSAs will indicate the deadweight cost of the scheme – because there is no prohibition on early withdrawals and so no disincentive to switching into a TESSA account in the first instance. But if early withdrawals occur then

there is no loss of revenue to the government. A retrospective analysis will be required in order to determine the revenue cost of each pound of new saving generated.

Other saving schemes aimed at encouraging new entrants, especially small savers, into the savings market or the extension of portfolios have attracted high take-up rates in both Britain and France. Both countries operate schemes that are known as PEPs. PEPs à l'anglaise are targeted on purchases of equities in quoted companies. Since 1987, over one million plans have been taken out and the total amount invested is around 3 billion. PEPs à la française are more general plans for small savers and in 1990, the first year of the scheme, there were 6.8 million plans in existence corresponding to a total investment of 111 billion francs.

It is vital that schemes such as these for encouraging saving do not add to the complexity and distortions that characterise the taxation of income from capital in most countries. Can a rationale for such schemes be provided within a coherent plan for the tax system as a whole? I believe that it can – provided that the limits and conditions on the various tax-preferred forms of saving are coordinated. There has long been an intellectual battle over the relative merits of income or expenditure as the base of the personal tax system. The arguments are well-known and I shall not rehearse them here (see Kay and King (1990) for example). It is now widely accepted that, not only on theoretical but also practical grounds, there are many attractions to the expenditure tax approach. But there are two main counter arguments that have proved crucial in practice. First, such a base is seen as being too lenient on the wealthy with large income from capital (at least in the absence of more effective taxation of transfers of wealth). Second, it has not proved easy to design a satisfactory transition from the current hybrid tax system to a purer form of expenditure taxation. One solution is to rationalise saving incentives in order to meet these objections. To meet the first objection, tax relief on saving can be limited in two ways. The first is to relate it to saving for life-cycle purposes – saving for retirement or consumption smoothing – by imposing a limit on the proportion of earnings that can be saved tax-free. This corresponds to the current treatment of pension saving in most countries. The second is to provide, in addition to tax-exempt pension schemes, tax-free forms of saving that have an absolute maximum contribution each year. In this way an expenditure tax could be gradually introduced for the 'ordinary' family, while maintaining a positive tax on income from capital of the more wealthy.

To meet the second objection – the transition – the solution is for any new saving incentive to be back-end loaded with an upper limit on the annual contribution. In other words, tax relief is provided not for the initial contribution into the scheme but for the income that accrues to funds in

the scheme. The rationalisation of the limits on tax-exempt saving into a combination of a limit proportional to earnings and an absolute amount each year offers a practical way of introducing an expenditure tax (or lifetime income tax as it might well be termed) for the majority of families while retaining an overall limit on the benefits of tax-free accumulation.

Finally, it is worth noting that the second-best arguments given above for the provision of tax incentives for saving conflict with the simple-minded view that all such tax incentives in the European Community should be harmonised. This is because countries are likely to experience supply-side shocks of the type that might justify attempts to encourage saving at different times. The optimal tax system may well differ from one member country to another.

POLICY LESSONS

The inability of lenders to distinguish between different types of borrowers may provide a government that is confident of the future success of its reforms with an argument – of a second-best kind – for encouraging domestic saving and discouraging borrowing by domestic consumers. It also suggests that it would be prudent to be cautious over the pace of introduction of financial liberalisation, especially in those countries, such as Eastern Europe, where reform might easily generate expectations of significantly higher incomes in the future.

Tax incentives may have a role if they are targeted – and specifically focused on reaching that part of the market that other incentives cannot reach. Most tax incentives are highly complicated. But incentives that are designed to harness the marketing power of successful financial institutions that already enjoy the confidence of low-income households may have a role to play in raising household saving. Such schemes have enjoyed popularity in both Britain (PEPs and TESSAs) and France (PEPs à la française).

The simple point made in this paper is that unless the problems posed by the demand consequences of a supply-side shock can be managed satisfactorily, the supply-side cupboard will be bare. There are, I think, some lessons in both this analysis and the UK experience of supply-side reform and financial liberalisation in the 1980s for much of the European Community that has yet to embark on financial liberalisation, and for Eastern Europe and the former Soviet Union that are embarking on ambitious programmes of supply-side reform.

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Part B

**Private Savings and the Taxation
of Income from Capital**

V. Tax policy and private saving in the 1980s: the United States experience

BARRY BOSWORTH

The US tax system underwent significant change during the 1980s. Effective income tax rates, particularly on capital income, were reduced dramatically in 1981. The system was overhauled again in 1986, with some of the reforms reversing provisions that had been enacted at the beginning of the decade. An important motivation for both sets of amendments was the hope that major changes in tax policy could induce equally dramatic changes in the nation's rate of capital formation. An ultimate goal of reform was to reverse the slowdown in economic growth that began in the early 1970s and to spur improvements in American living standards.

The beginning of a new decade is an appropriate time to consider whether the 1981 and 1986 tax reform acts achieved their principal supply-side goals. The decline in tax rates represented a sharp reversal of historical trend and the promised responses were large enough so that they should be visible in the crudest indexes of aggregate saving and investment. This paper reviews the evidence that has emerged over the past decade on the efficacy of supply-side measures stimulating private saving. I provide some aggregate measures of saving performance and consider a variety of hypotheses that have been advanced to explain recent trends.

The behavior of private saving rates in the United States during the 1980s is, on the surface, a damning refutation of the argument that tax incentives can be an effective tool for increasing private saving. In spite of novel and costly saving incentives and exceptionally high after-tax rates of return, private US saving fell to its lowest level in the post-war period. For a variety of reasons, however, analysts do not accept these aggregate trends as providing conclusive evidence on the success or failure of supply-side tax incentives. Most of the disagreement continues because the tax reforms of the 1980s did not take place in the context of a controlled economic experiment. Many other events occurred during the decade with potential impacts on saving and investment that may have camouflaged or offset the effects of the tax changes. It is therefore difficult to agree on baseline paths for investment and saving from which to measure the influence of the tax changes.

In the following sections of this paper, I first provide an overview of recent

trends in US saving and a simple summary of the tax changes that were enacted during the 1980s. The dilemma for advocates of tax incentives for saving is that the private saving rate declined dramatically in the 1980s despite significantly higher after-tax rates of return. Thus, much of the research has focused on other determinants of saving, trying to find some other factors that could have camouflaged the otherwise positive effect of the saving incentives. Subsequent sections examine some of these additional determinants. The issues that have attracted the greatest attention are the large capital gains generated by the recovery of the stock market and changes in the demographic structure of the population. Furthermore, special attention is devoted to the role of Individual Retirement Accounts (IRAs) because they have been at the center of the remaining debate over tax incentives. The final section examines in greater detail some of the arguments that have been advanced to explain a lack of response to variations in the rate of return on saving.

While the debate over the impact of tax incentives on private saving cannot be conclusively resolved, it is clear that tax reductions to stimulate private saving are not self-financing: that is, a dollar of lost tax revenue will not lead to a dollar of additional private saving. Thus, a tax incentive that is not financed by tax increases on others will lead to a net reduction of national saving – the dissaving by the public sector will exceed the increase in private saving.

It remains possible that shifts in the structure of the tax system, while holding total revenues constant, could lead to an overall increase in saving. An example is provided by a shift from reliance on income taxes to consumption taxes. But, even here the gains appear to be too small to offset the costs in increased public perceptions that the resulting tax burden is unfair. The basic problem is that private saving appears to be relatively insensitive to variations in the rate of return.

I conclude that tax incentives are not an effective means of increasing national saving, and that governments are better served in designing a tax system to focus on its revenue-raising function: that means emphasizing a simple system with a broad base, low rates, and the minimal number of special exceptions. Within that framework national saving can most effectively be increased by simply reducing the magnitude of government dissaving.

AGGREGATE TRENDS IN SAVING

Historical trends in the US saving-investment balance are shown in Table 1. Both the nation's rate of saving and net domestic investment declined

Table 1. Net saving and investment as a share of net national product, 1951–1990

Item	Per cent of net national product					
	1951– 1960	1961– 1970	1971– 1980	1981– 1985	1986– 1990	1990 ^p
<i>Net Saving^a</i>						
Private saving ^b	8.6	9.5	9.6	8.1	6.3	5.6
Government saving	-0.7	-1.0	-2.0	-4.5	-4.0	-4.0
<i>Total National Saving-Investment</i>						
Net domestic investment	7.7	7.7	7.5	5.0	4.8	3.4
New foreign investment	0.3	0.7	0.3	-1.3	-2.8	-1.8
<i>Addenda:</i>						
Capital consumption allowances ^c	9.0	8.4	9.8	11.4	10.7	10.5
Personal Saving Rate ^d	7.2	7.6	8.9	7.6	5.8	6.2

Source: United States Department of Commerce, Bureau of Economic Analysis, *United States National Income and Product Accounts*.

^a Net saving and investment equal the gross flow minus capital consumption allowances. Net national product equals gross national product minus capital consumption allowances. The sum of the saving components differs from the total by the amount of the statistical discrepancy.

^b Business and household saving. Employee pension funds of state and local governments are allocated to household saving to match the treatment of private pension funds.

^c Per cent of gross national product.

^d Per cent of disposable income.

precipitously throughout the 1980s from levels that were, by international standards, already quite low. National saving fell from 7.7 per cent of net national product (NNP) in the 1970s to a low of 1.4 per cent in 1987 before recovering to 2 per cent of NNP in 1990. The decline in national saving can be traced both to larger public sector deficits (dissaving) and a sharp decline in the private saving rate.¹ Overall, the net national saving rate has fallen by about 6 per cent of NNP with 2–3 percentage points of decline originating in the government sector and 3–4 percentage points in the private sector.

The decline in the domestic investment rate was smaller than the drop in saving, but only because of the nation's newly discovered ability to attract or borrow foreign capital in a more open international capital market. Over the full decade, 45 per cent of domestic capital accumulation was financed by the inflow of resources from abroad, limiting the decline in investment to about half that of domestic saving.

For purposes of this paper we are primarily interested in the decline in private saving. To understand some of the factors behind that decline it is useful to separate the private saving rate into three major components: (1) corporate saving; (2) saving accumulated inside employer-provided pension programs; and (3) other 'discretionary' elements of personal saving (see

Table 2. The components of private saving and the determinants of retained earnings, 1951–90

	1951– 1960	1961– 1970	1971– 1975	1976– 1980	1981– 1985	1986– 1990	1990 ^p
Per cent of net national product							
<i>Private Saving</i>	8.6	9.5	10.1	9.2	8.1	6.3	5.6
<i>Retained Earnings:</i>							
Rest of the World (net)	0.2	0.3	0.5	0.6	0.6	0.5	0.7
Domestic Financial	0.7	0.6	0.6	0.5	0.0	20.2	-0.4
Domestic Nonfinancial	2.2	2.9	1.5	1.7	1.4	1.3	0.4
Total	3.0	3.7	2.6	2.8	2.0	1.6	0.7
<i>Personal Saving:</i>							
Private Pension Reserves	0.9	1.2	1.6	2.3	2.3	1.0	0.6
S&L Government Pensions	0.4	0.5	0.7	0.9	1.3	1.4	1.3
Other	4.2	4.0	5.1	3.2	2.5	2.2	3.0
Total	5.5	5.8	7.5	6.4	6.1	4.7	5.0
<i>Determinants of Retained Earnings</i>							
Per cent of gross corporate product							
<i>Domestic Corporations:</i>							
Gross Cash Flow	25.9	25.2	22.7	24.1	23.8	23.7	23.5
Net Cash Flow	17.4	16.9	13.5	13.7	12.2	12.5	12.2
Taxes	9.2	7.2	5.9	5.9	3.9	4.4	4.2
Dividends	3.8	3.6	2.6	2.4	2.9	3.1	3.5
Interest (net)	-0.2	0.6	1.8	2.1	3.2	3.3	4.4
Retained Earnings	4.6	5.5	3.2	3.3	2.2	1.7	0.1
<i>Addenda:</i>							
Rate of Return on Nonfinancial Corporate Capital ^a	n.a.	6.6	5.2	4.9	5.1	5.7	n.a.

Source: National Income and Product Accounts, Tables 1.14, 1.16, 5.1, 6.13, 8.8, and author's calculations.

^a After-tax profits plus net interest payments as a per cent of tangible capital.

Table 2). Changes in each of these components are influenced by a distinctive set of factors.

The most important single source of the decline in private saving is the drop in saving of corporations, that is, retained earnings. The large drop during the late 1980s is concentrated among financial institutions who experienced large economic losses as a result of defaults on loans to Latin America and got caught up in excessive speculative activity in the domestic real estate market of the 1980s. In addition, however, there has been a substantial shift in the financial structure of nonfinancial corporations that results in a larger portion of the overall return to capital being paid out in the form of interest payments on debt. If the owners of equity see through the 'corporate veil', we would expect them to compensate for the increased payout rate of corporations they own by increasing their own rate of saving. Before 1980, a

portion of the decline in business saving could be attributed to the declining profitability of corporate capital, but the drop in the rate of return seems to have been arrested in the 1980s: net cash flow as a per cent of gross output and as a per cent of tangible assets has remained relatively stable.

Employer-provided pension programs became a major source of private saving after 1970, exceeding 3 per cent of NNP for the period 1975–85. However, they are also part of the explanation for the decline of overall saving in the 1980s. The decline of saving within these accounts is a major source of the falloff in household saving rates in the 1980s, declining from 3.6 per cent of NNP in the first half of the decade to 1.9 per cent in 1990. The cause of the fluctuation in pension-fund saving is examined in a later section.

Finally, there has also been a decline in the residual of other saving by households, but the falloff began well before 1980. The peak rate of such saving was in the early 1970s, at about 5 per cent of NNP with a drop to only 1.1 per cent in 1987. It is in this category that saving has improved slightly in recent years – particularly, after the stock-market collapse of 1987.

DESCRIPTION OF THE TAX REFORMS

The Economic Recovery Tax Act of 1981 (ERTA) reduced marginal personal income tax rates by an average of 23 per cent within each tax bracket, with the rate reductions scheduled to become fully effective by 1984. The top bracket rate was scaled back from 70 to 50 per cent, effective in 1982. To eliminate bracket creep due to inflation, the Act indexed personal exemptions, the standard deduction, and all income thresholds for tax brackets to the Consumer Price Index beginning in 1985. The income tax burden on income from new capital investment was lightened by a drastic shortening of the time period over which investors were allowed to depreciate capital.² The exclusion of 40 per cent of realized capital gains from taxable income was maintained. Finally, to encourage household saving the 1981 act permitted all wage earners to make a tax deductible contribution of up to \$2000 annually to an Individual Retirement Account (IRA). The income in IRAs is taxed only at time of withdrawal. Under previous law, only wage earners who were not covered by an employer pension plan were permitted to contribute to IRAs.

The Tax Reform Act of 1986 is widely acknowledged to be the most far reaching structural overhaul of the income tax since World War II.³ The Act emphasized a broadening of the tax base and elimination of special tax preferences in return for a sharp reduction in marginal tax rates. In most cases, the elimination of the special preferences increased the effective tax

on capital income. The previous 14 tax brackets, with associated tax rates ranging from 11 to 50 per cent, were reduced to four, with tax rates of 15, 28, 33, and 28 per cent. Both personal exemptions and the standard deduction were increased and indexed for inflation.

The 1986 reform represented a major shift in the philosophy of capital income taxation, as the tax burden was shifted back onto the corporate sector, and major emphasis was placed on reducing the variance of tax rates among different classes of business capital. The investment tax credit was eliminated and depreciation allowances were scaled back relative to those allowed by the 1981 Act. The number of brackets in the corporate income tax schedule was reduced from five to three and the maximum rate cut from 46 to 34 per cent. The Act also made a number of specific changes that reduced the attractiveness of a variety of tax shelters.

Preferential treatment of capital gains was eliminated, and eligibility for a tax deduction on IRA contributions was again restricted to those without an employer-provided pension or below certain income thresholds. Interest on IRA accounts continues to be exempt from taxation, however, until withdrawal at retirement. The income tax deduction of nonresidential consumer interest expenses was phased out over a five-year period.

To understand the effects of the tax reforms on the behavior of households it is useful to consider the impact of the major provisions on taxpayers in different parts of the income distribution. Special provisions existed prior to 1981 that sharply reduced the effective marginal tax on earned income for taxpayers who otherwise would have faced rates above 50 per cent. Thus, the 1981 reduction in top effective rates was less than that implied by the nominal change in the tax schedules. But for the decade as a whole, including the tax cuts enacted in 1986, a family with twice the median income would have experienced a one-third reduction in its marginal rate and a 28 per cent reduction in its average tax rate.

At the other end of the income distribution the effects of tax reform were more mixed. The 1981 Act reduced income tax rates, but the delay in indexation pushed workers into higher tax brackets. Thus, inflation reduced the income threshold at which families began to pay tax (from 3 per cent above the poverty level for a family of four in 1979 to 17 per cent below by 1984). The 1986 Act was kinder to the poor. It reduced average tax burdens and removed nearly six million low-wage workers from the positive income-tax rolls.

Trends in marginal and average tax rates for four-person families in different parts of the income distribution are displayed in Table 3. For families earning one-half median income, marginal income tax rates were reduced by the 1981 Act, but there was little change in average tax rates. The 1986 Act, by increasing the standard reduction, significantly lowered average tax rates

Table 3. Average and marginal federal tax rates at alternative levels of family income, 1980–88^a

Year	Median income (dollars)	Personal income tax rate:					
		One-half Median income		Median income		Twice Median income	
		Avg.	Mrg.	Avg.	Mrg.	Avg.	Mrg.
1980	24 332	6.0	18.0	11.4	24.0	18.3	43.0
1981	26 274	6.8	17.8	11.8	23.7	19.1	42.5
1982	27 619	6.5	16.0	11.1	25.0	18.0	39.0
1983	29 181	6.5	15.0	10.4	23.0	16.8	35.0
1984	31 097	6.5	14.0	10.3	22.0	16.6	38.0
1985	32 777	6.6	14.0	10.3	22.0	16.8	38.0
1986	34 716	6.6	14.0	10.5	22.0	17.0	38.0
1987	35 984 ^b	4.9	15.0	8.8	15.0	15.4	35.0
1988	37 482 ^b	4.8	15.0	9.2	15.0	14.9	28.0

Source: U.S. Department of the Treasury (1988).

^a Tax rates for a four-person family. It is assumed that each family contains only a single earner and that all taxable income consists of wage or self-employment earnings.

^b Estimate.

from 6.6 per cent of income in 1985–86 to 4.8 per cent in 1988. For families at or above the middle of the income distribution both marginal and average tax rates were reduced by the 1981 and 1986 legislation; but, for families in the upper portion of the distribution a significant part of the rate reduction was offset by an increase in the taxable income base. Between 1980 and 1988 the marginal tax rate fell 17 per cent for families with one-half of median income, 38 per cent for families at the median, and 35 per cent for families with income twice median income. The corresponding changes in average tax rates were –20, –19, and –19 per cent, respectively.⁴

The effect of the tax reforms on the net marginal tax on capital income from different types of assets is shown in Table 4. The calculations combine the effects of changes in both the personal and corporate tax systems and are based on the assumption of a closed economy.⁵ In the area of capital taxation, it is evident that the 1986 Act reversed rather than extended the 1981 changes. The effective tax rate was dramatically reduced between 1980 and 1986, but when the 1986 reforms took their full effect the marginal tax on equipment was raised above its 1980 levels, primarily because of the repeal of the investment tax credit. Nonetheless, the 1986 Act did achieve one of its major objectives which was to narrow the differential tax treatment of the various categories of tangible capital. In that regard it produced a more neutral tax system.

From the perspective of savers, the 1981 tax changes provided a large

Table 4. Effective marginal tax rates on capital, 1980–89

Year			Equipment			Other	All		
	Information processing		Industrial equipment	Transportation equipment					
	Total	Computers							
1980	28	5	31	27		17	26		
1981	8	8	14	11		5	10		
1982	16	20	18	19		13	17		
1983	12	15	16	15		9	11		
1984	12	15	16	15		9	13		
1985	10	13	14	13		8	12		
1986	32	39	33	36		32	33		
1987	33	39	34	37		33	34		
1988	31	39	32	35		31	32		
1989	28	39	30	32		29	30		

Year	Structures							
	Oil & Gas	Indus. Bldgs.	Public Utility	Com-mercial	Farm	Other	Total	Rental Housing
1980	14	57	34	53	47	61	48	46
1981	12	41	27	38	38	44	34	34
1982	11	39	28	37	37	42	34	34
1983	12	40	26	37	37	43	33	32
1984	26	41	25	38	37	44	35	35
1985	26	41	25	38	38	44	35	35
1986	26	37	34	35	32	39	33	33
1987	26	37	34	35	32	39	34	33
1988	26	37	34	35	32	39	33	33
1989	26	37	34	35	32	39	32	33

Source: The effective tax rates were supplied by Jane Gravelle of the Congressional Research Service. Marginal tax rates include both personal and business taxes. The discount rate is the Baa bond rate and inflation expectations are from the Drexel–Burnham survey.

boost in the incentives to save. Marginal tax rates on capital income were cut substantially; and taxpayers were provided with an expanded menu of tax-exempt and tax-deferred saving instruments, principally through the liberalization of eligibility for IRAs.

The 1986 Act had a more mixed effect on saving incentives (Skinner and Feenberge, 1990). As noted earlier, the tax burden was shifted from households to businesses, but the impact of this change on saving incentives is questionable. In a closed economy in which individuals see through the corporate veil, the net effect of the 1986 tax reforms was to increase slightly the overall tax rate on capital income. On the other hand, if US capital markets are viewed as completely open to the international markets, the rate

of return available to savers is determined in the global market. The increased taxation of American business may have disadvantaged them relative to foreign firms, but it would have a small impact on the return to US savers, who clearly benefited from a second round of marginal tax reductions. In either case, the scaling back of eligibility for IRAs, the elimination of the capital gains preference, and the elimination of many tax shelters all represented reductions of incentives for saving. The phasing out of the tax deductibility of consumer interest increased the cost of consumption, but the Act left a major loophole in the form of the continued deductibility of interest on home equity loans.

EXPLAINING THE SAVING DECLINE

It is very difficult to explain the behavior of private saving by reference to tax changes enacted during the 1980s. The decline in the saving rate has been extremely large and very unexpected given its historical constancy.⁶ On the other hand, the reduction in the tax on saving was very large at the beginning of the decade. Throughout the 1980s the increased saving incentives coming from tax reform were magnified by the availability of dramatically higher rates of return on financial market assets. Over the same period, regulatory reform made high returns available to a wider range of savers. It is difficult to reconcile the contrary movements of the after-tax real returns and the saving rate with a belief that saving behavior is sensitive to the rate of return.

The perverse movement of the private saving rate has led to a focus on other determinants of saving that might have offset the anticipated positive effect of the tax and interest rate changes. The studies have looked at the problems of measuring private saving, demographic changes, the role of pension funds, and the influence of capital gains on existing wealth.

Measurement issues

The saving data shown in Tables 1 and 2 are reported net of capital consumption allowances (depreciation of existing capital), whereas some analysts prefer to focus on gross measures of saving and investment. This is not an insignificant issue, as shown at the bottom of Table 1, because capital consumption allowances were a sharply rising share of GNP until the middle of the 1980s. I prefer to focus on net saving because it is more closely related to the concept of wealth accumulation, but an emphasis on the net concept does increase the extent of measured decline in saving. The share of capital

consumption allowances in GNP is composed of the product of the rate of depreciation of the capital stock and the capital-output ratio:

$$\text{CCA}/Q = (\text{CCA}/K) * (K/Q).$$

In the case of the United States, the rise in the ratio of capital consumption allowance to GNP can be traced to a shift in the composition of the business capital stock toward shorter-lived capital – principally, the very large growth in the share of investment accounted for by office computing equipment which is assumed to have a very short economic life due to rapid technological innovations. There is no significant increase in the capital-output ratio. If saving were measured on a gross basis it would reduce the magnitude of decline in corporate saving with a minor impact on the household saving rate. In addition, the timing of the decline in the saving rate is altered. Gross saving rates declined less than net saving in the 1970s, but the decline in the latter part of the 1980s is magnified.

Furthermore, while national saving is a well-defined concept, its division between the public and private sector is fraught with difficulties because of ambiguities about how individuals view public sector liabilities in making their own saving plans and problems of adjusting for the effects of inflation on the valuation of fixed nominal claims. Several recent articles have explored these issues in some detail.⁷ The basic conclusion is that, while adjustments for inflation and consumer durables alter the level and cyclical behavior of the private saving rate, they do not fundamentally change the conclusion that the rate has declined in the 1980s. Similarly, while there is some evidence of a negative relationship between public and private saving, the offset is far less than unity; and, at least in the case of the United States, taking account of the large growth in public sector dissaving during the 1980s actually increases the puzzle of why the private saving rate declined. Overall, problems of measurement cannot account for the failure of saving to rise in response to higher after-tax returns.

Demographic changes

Demographic change has emerged as a very commonly cited explanation for the decline in private saving both within the United States and in other countries. In the United States, there are two versions of this argument. On the one hand, several analysts have alleged that the overall decline in saving is the result of reduced saving on the part of a specific group, the baby-boom generation of young adults (Boskin and Lau, 1988). In some respects this is a comforting explanation because they argue that the private saving rate will rise in future years as this large age cohort matures into the period of their

life-cycle in which saving typically rises. The second version is more traditional in focusing on the differences in saving rates by various age groups. It argues that the saving rate has declined and will continue to decline because of increases in the proportion of the population that is retired and dissaving.⁸

In a recent paper we examined the issue of demographic change by analysing the change in saving reported in surveys of individual households in the United States, Canada, and Japan (Bosworth, Burtless, and Sabelhaus, 1991). Surveys were available that spanned the period of decline in private saving for each of these three countries. The surprising result was that the decline in saving rates is a common feature of all the demographic groups with roughly proportionate declines in the saving rates of all age groups. This result was evident in all three countries when households were grouped by age, family size, number of earners, or relative position in the income distribution. It suggests that the cause of the decline must be some factor that had a common influence on all households. In particular, there was no evidence that saving has declined by a disproportionate amount among young households.

Second, shifts in the mix of the population among groups with different rates of saving have had a trivial effect on the overall saving rate. This results primarily because saving rates do not differ among age groups by the magnitude suggested by the life-cycle hypothesis of saving behavior. In particular, the retired continue to accumulate wealth rather than dissaving as suggested by the theory. Furthermore, an explanation that focuses on the increase in the proportion of the population that is retired ignores the equally large changes in the proportion of the population that is very young. If the very young and the retired are responsible for the bulk of the dissaving, we should have observed a sharp decline in the private saving rate in the 1950s and 1960s when both of these two groups were rapidly increasing shares of the US population. The historical experience does not correspond to this prediction (Aaron, Bosworth, and Burtless, 1989). Until the mid-1970s, saving was relatively constant in spite of wide swings in the age profile of the population.

Pension fund saving

Saving within formal employer-provided pension programs has become the dominant component of household saving in the United States. The operation of these funds also provides an interesting partial explanation for both the decline in the private saving rate and its failure to rise in response to higher market rates of interest. The accumulation of reserves within pension funds

is attributed to household saving in the national accounts. Employer contributions to such plans are included in employee compensation and the interest and dividend income are imputed to personal income. Contributions to employer-provided pension funds have long been exempt from taxation, but they differ from IRAs because the employer contribution normally does not vary in response to the tax situation or saving preferences of the individual employee.

Despite the fact that 45 per cent of the private workforce is covered by such plans, pension accumulations are often overlooked in studies of saving behavior, reflecting an implicit assumption that variations in the accrual of saving within pension funds are offset by the behavior of households and firms. Households should adjust their own saving to account for employer-provided pension promises, and the owners of firms should recognize the accrual of pension liabilities regardless of whether or not they are explicitly funded. Empirical evidence on the plausibility of these assumptions is limited and inconclusive, however.⁹

There are two major forms of pension programs. The first, a defined-benefit program, is characterized by a commitment on the part of the employer to pay a pension that is a multiple of the employee's terminal wage. For example, the pension might be equal to one per cent of the terminal wage for each year of service, providing a worker with a pension equal to 30 per cent of the wage after 30 years of service. The alternative, a defined-contribution program, requires that the employer deposit in each pay period a given percentage of the employee's wage in an investment fund. The ultimate pension is an annuity purchased at time of retirement and it depends only upon the earnings of the investment fund. At present, most workers are covered by defined-benefit programs, but defined-contribution programs are growing in popularity.

In the case of a defined-benefit program firms must be concerned with funding their future liabilities by providing a contribution sufficient to cover the costs of the future pension. The contribution required to achieve adequate funding is positively related to projected wage growth and negatively related to the rate of return earned by the fund.

There has been almost no growth in the proportion of workers covered by pension plans since the mid-1960s, but there has been a greatly increased effort to fund their future liabilities. The 1974 Employee Retirement Income Security Act (ERISA) increased the probability that workers would actually receive a benefit in future years and set minimal standard for the funding for defined-benefit programs. Both of these factors led to higher employer contributions during the later 1970s. Saving within pension funds rose from less than 2 per cent of NNP in 1970 to 4 per cent by 1980.

With the onset of high interest rates and the recovery of the stock market in the 1980s, however, many defined-benefit plans became over-funded under IRS definitions, and employers were unable to deduct further contributions in calculating their tax liability. The result was a sharp falloff in the net inflow of funds to defined-benefit plans. Their contribution to national saving declined by about 2 per cent of NNP over the decade of the 1980s. Higher financial market rates of return, when factored into the long-term projections, actually reduced saving within pension funds. This response of pension funds to market returns may provide a partial explanation for the failure of a higher after-tax return to serve as a positive saving incentive. As pointed out by Bernheim and Shoven (1988), defined-benefit funds are an extreme example of a target saver who reduces the flow of new saving in response to a higher return on existing savings.

Furthermore, despite Congress's professed desire to raise private saving, a little noticed feature of the Omnibus Budget Reconciliation Act of 1987 significantly revised the criteria for what constitutes a fully-funded pension plan, effectively causing even more plans to become over-funded, forcing a reduction in employer contributions. In addition to prohibiting a tax deduction for contributions to such plans, the 1987 Act introduced a new penalty tax. This marked a major reversal of previous tax policy, which had sought to encourage saving for retirement. The likely result will be a further reduction in the reserve accumulation within defined-benefit pensions.

Some of the negative influence on saving of a reduction of defined-benefit plan contributions has been offset by the growing popularity of defined-contribution plans, many of which permit a substantial employee contribution. By 1987 these plans accounted for 40 per cent of pension fund assets. Contributions to these plans for most employees are not restricted by the funding rules that give rise to a negative saving response when market rates of return climb.

The role of capital gains

The national income accounts concept of private saving has been criticized for its failure to include capital gains. Thus, it does not correspond to the change in an individual's wealth (Bradford, 1990). It has been asserted that the direct inclusion of capital gains would eliminate the apparent decline of saving in the 1980s. The conventional measure excludes capital gains because saving is meant to measure that portion of current production, set aside from consumption, that is available for capital formation. While a capital gain on an existing asset improves the economic welfare of the individual who owns

the asset, it does not imply an increase in the resources available for investment goods.

Conventional models of saving behavior do not ignore capital gains since changes in the value of existing wealth are included as a major determinant of consumption and saving. However, most of these models would imply that the response of consumption to fluctuations in capital gains is very gradual and small in the short run – about 5 per cent on an annual basis. The direct inclusion of capital gains simply produces a highly volatile measure of saving behavior. Nevertheless, the large magnitude of capital gains on corporate stock in the 1982–87 period is a plausible explanation for some of the decline in the private saving rate; and the fall in stock market prices in 1987 may be an explanation for the partial recovery of the saving rate in the following years.

In the analysis of survey data on individual households, mentioned earlier, we found that the evidence on the role of capital gains was mixed. There was no evidence that saving rates had declined by disproportionate amounts among households that held corporate equities compared with those who did not. However, we did find evidence that the decline in household saving rates was somewhat concentrated among homeowners who had major capital gains on their residences in the 1970s (Bosworth, Burtless, and Sabelhaus, 1991).

The inclusion of capital gains does not alter the evidence of a secular decline in saving, however, because US households have experienced cumulative capital losses, not gains, over the last two decades. This point is illustrated in Figure 1 where I show the ratio of household wealth to income both with and without the inclusion of capital gains. A focus on the post-1982 period ignores the large capital losses sustained in 1974–75 and again in 1980–81. The actual ratio of wealth to income is consistently below the ratio that would be anticipated if wealth were a simple summation of past saving (measured in constant prices). If the recovery of asset prices depressed saving after 1982, saving should have increased in the late 1970s and early 1980s when asset prices fell.

Individual retirement accounts

IRAs have been at the center of the debate over tax incentives for private saving. They are also the most explicit test in the United States of the effectiveness of tax incentives for private saving. The tax advantages of the various forms of IRAs can be illustrated with the following simple mathematical notation for the value of the account in a future period:

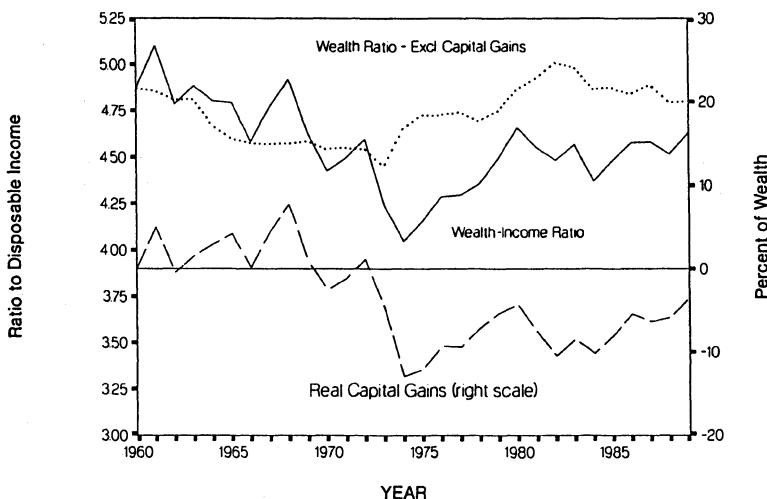


Figure 1. Ratio of household wealth to income, with and without capital gains, 1960–88. Wealth excluding real capital gains is computed as the cumulative sum of private saving in constant prices.

- (1) $C e^{(1-u)rt}$ (taxable savings accounts),
- (2) $[C/(1-u)] e^{et}(1-u)$ (1981 IRA),
- (3) $C e^{et}(1-u) + uC$ (post-1986 IRA for high-increase taxpayers),

where C = after-tax contribution,
 u = tax rate,
 t = number of years before withdrawal,
 r = pre-tax rate of return.

In the case where saving is fully taxable, deposits are made out of after-tax income and, more significantly the annual interest income is taxable. Thus, assets accumulate within the fund at a rate equal to the after-tax rate of interest. The 1981 version of the IRA allowed individuals to leverage up their contribution to the IRA with a tax deduction, accumulate income within the account at the pre-tax rate of return, and pay tax on the full amount upon withdrawal. The government lost revenue from the initial contribution and from the failure to collect taxes on accrued income within the account, but recovered some revenue upon withdrawal. On a present value basis, the real tax advantage of the IRA was the opportunity to compound the funds within the account at the pre-tax rate of interest. Under the provisions of the 1986 Act, individuals are still allowed to accumulate funds within the

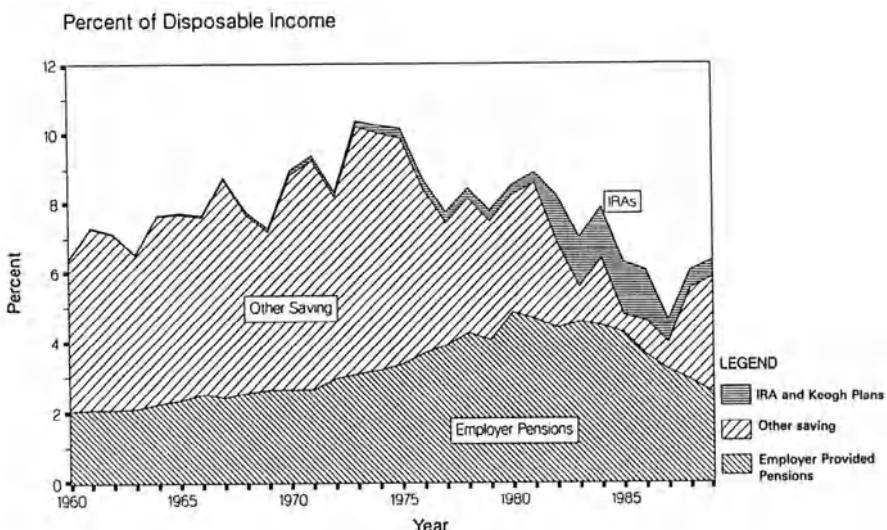


Figure 2. Components of Personal savings, 1960–89.

account at the pre-tax rate of return. However, taxpayers who have another retirement plan and income above a maximum limit receive no deduction for the initial contribution, and the earnings are taxable upon withdrawal.¹⁰ They were a large proportion of the previous contributors.

Contributions to tax-exempt IRAs and Keogh plans soared from less than 0.2 per cent of NNP in 1980 to 1.2 per cent in 1986. Data are not available to estimate the amount of tax-exempt interest earned within these accounts. With the 1986 reform, contributions fell off very sharply to 0.4 per cent of NNP in 1989, despite the substantial remaining tax advantage. The strong growth of IRA saving following the expansion of eligibility in 1981 and the equally abrupt contraction after the 1986 tax reform provides strong evidence that individuals are highly sensitive to tax incentives in making their saving decisions. The major issue, however, is whether the response to these incentives is substitution of tax-preferred for non-preferred forms of savings or an increase in overall saving – a substitution of future for current consumption.

The large swing in the inflow into these accounts, if they represent genuine moves in net private saving, should be visible in the aggregate data. Yet, as shown in Figure 2, the overall private saving rate is inversely correlated both with the expansion of IRAs and with their sharp contraction after 1986, suggesting that the funds that went into the accounts came out of other saving rather than consumption. A belief that the IRA accounts represented

a net addition to saving requires some explanation for the large decline in other saving at the time that IRAs were introduced, and that the factors responsible for the decline were reversed at the same time that the IRA program was scaled back.

The most extensive research on IRAs focuses on survey data from individual households rather than trends in aggregate saving or its components. The surveys suggest that most IRA accounts were held by families with substantial holdings of other financial assets, and many IRA contributors were in the age and income brackets where annual saving could be expected to exceed the \$2000 limit. For these individuals the IRA was a very attractive option, but they could take advantage of the program simply by shifting funds from other taxable accounts with no net impact on their overall saving. The fact that 75 per cent of participants contributed the maximum implies that the program provided an insignificant saving incentive at the margin, providing instead an inframarginal subsidy to wealthier taxpayers (Galper and Byce, 1986).

Several microeconomic studies have concluded, however, that the IRA incentives did produce a substantial increase in private saving between 1982 and 1986 (Venti and Wise, 1986, 1987; Feenber and Skinner, 1989). They found that the tax incentive generated about \$0.60 of additional private saving for each \$1 of contribution to the IRA. If true, IRAs would be a very effective saving program. These studies have a common statistical problem, however. To infer the effects of the IRA incentives, the authors compare households that contribute to IRAs with households that do not. A significant bias can arise if an IRA contribution serves simply to distinguish between individuals with high and low saving propensities. That is, the decision to contribute to an IRA may be correlated with other unobserved personal characteristics of savers. Individuals with an IRA may have a higher than average saving rate, but not because they have an IRA.

Gale and Scholz (1990) tried to avoid some of these statistical problems by restricting their analysis of the substitution against other assets to families with IRAs, contrasting those constrained by the upper limit on contributions (families with a potential excess demand) and those below the limit. They concluded that an increase in the contribution limit would lead to a very small increase in net private saving, an increase that would be more than offset by the rise in government dissaving.

Any income tax incentive for saving will be hampered in its effectiveness because much of the loss of tax revenue will take the form of an inframarginal subsidy to individuals who would have had significant saving in the absence of the program. However, in contrast to the alternative of expanding incentives for employer-provided pensions, the IRA provided unusually large

opportunities for tax arbitrage by wealthy families. In addition, tax measures that favor certain categories of saving over others will always be less effective than a general consumption tax as means of stimulating aggregate saving.

CONCLUSION

Despite the coincidence of timing, we would not go so far as to argue that the reduction of tax rates during the 1980s caused a decline in private saving. Nonetheless, the decade offered a very powerful test of the hypothesis that saving is sensitive to the after-tax rate of return. The evidence that the after-tax rate of return affects saving was always weak; and the events of the 1980s will add to the doubts. It would appear that either the elasticity of substitution between current and future consumption is very low or it is overwhelmed by the income effect of an increase in the after-tax return. In the latter case, it may be that the short run effects of higher rates of return are further dominated by the impact of the rise in the rate of return on existing wealth holders who experience a large unanticipated windfall, suggesting it may require several decades for the positive effect on saving to emerge. Without some convincing new evidence, government policy-makers should act under the presumption that income tax incentives for saving are likely to fail.

It is, of course, always possible to allege that other determinants of saving have changed so as to offset the effects of higher real rates of return. The above review of the most popular explanations, however, suggests that they could not have had a large enough effect to account for the observed decline in saving rates. In order to support the claim of a positive causal link between the rate of return and saving we need to find some other factor that would have reduced saving during the 1980s by an amount even larger than that which was observed. The search for such an explanation remains elusive.

It is also important to note that a substantial portion of private saving occurs within defined-benefit pension funds. Because they are the equivalent of target savers, increases in the rate of return will actually reduce such saving. To the extent that individual households mimic these pension funds in establishing targets for post-retirement income, it may not be surprising that tax measures that focus on increasing the return to saving have negative or no effects.

On the other side of the debate, considerable controversy still surrounds the role of IRAs. There are several microeconomic studies supportive of the view that IRAs had a net positive effect on saving. That evidence is in conflict with simple examinations of the aggregate data, however: and some recent work suggests that nearly all the impact of IRAs represents a rearrangement of existing saving (Gale and Scholtz, 1990).

The decline in the private saving rate, however, remains a puzzle and a cause for serious concern (Kotlikoff, 1990). What policy should the government adopt? A useful first step would be to reduce government dissaving. The saving concept of greatest relevance to future welfare is net national saving. It makes little difference whether an increase in this rate occurs because of greater saving in the private or public sector.

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NOTES

1. The national accounts do not include a separate capital account for the government although the United States does prepare such a version for the OECD. The inclusion of a government capital account raises the overall rate of national saving by about one per cent of NNP. But if government capital were included in the statistics, the trend rate of decline in national saving would be exacerbated, since many of the public spending restraints of the 1980s were concentrated in the area of capital programs.
2. In 1982 a previously-planned further liberalization of the 1981 depreciation provisions was withdrawn and the benefit of the investment tax credit was limited by requiring a reduction in the depreciation base equal to one-half of the credit.
3. For a description of the 1986 Reform as well as excellent analyses of its potential economic effects, see the symposium on tax reform in *The Journal of Economic Perspectives*, Volume 1, no. 1 (Summer 1987).
4. The importance of the base broadening measures can be illustrated by noting that the ratio of personal income taxes to personal income in the national accounts remained constant after 1986, despite the large reductions in the legislative rates of Table 3. The difference is largely due to the increase in the proportion of personal income that became taxable.
5. This assumption is becoming increasingly untenable. Below we consider the effect of the tax reforms on saving and investment when the market rate of return is assumed to be determined in the international market.
6. Most of the analysis focuses on the behavior of the total private as opposed to the household saving rate. In part, this is because equity holders should be expected to take account of the saving done for them by their corporate agents. But, also, the personal saving rate does not truly distinguish between business and individual saving since it includes the saving of noncorporate enterprises.
7. Recent summaries of the research with references to earlier work are provided in Bradford (1990) and Summers and Carroll (1987).
8. For references to this literature, see Auerbach and Kotlikoff (1989).
9. A summary of the available empirical evidence is provided in Munnell and Yohn (1990).
10. Recent proposals for what is called a 'back-loaded IRA' are equivalent to the 1981 version,

except that the revenue loss to the government is postponed to later years and is a problem to be faced by future Congresses. Mathematically, the future value is given by $C e^{rt}$.

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VI. The linkages between taxation, private saving decisions, and financial intermediation: some international comparisons*

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This paper surveys several facets of the way in which taxation interacts with the financial decisions of households and corporations to shape the character of financial intermediation and of the financial instruments traded in various countries. Whilst the importance of taxation in affecting corporate financial decisions is widely appreciated, little attention has been paid to the broader effects of taxation on the structure of the financial industry. This is surprising because taxes are often cited as influencing the growth of particular financial instruments. Moreover, the deductibility of interest rates on home mortgages is widely believed to have been one of the major factors behind the recent growth of household indebtedness in certain countries and to have contributed to the current problems arising from excessive lending to the housing sector.

The starting-point of this paper is the observation that no country has a single overall tax policy towards savings. No current tax system treats all forms of income in the same manner, as would be the case under a comprehensive concept of income. Likewise, no existing tax system provides total exemption of saving and capital income from taxation. Rather, a large amalgam of tax provisions operate side by side, sometimes in a contradictory fashion, to influence saving decisions and the manner in which savings are intermediated.¹

Because of this diverse character of tax provisions, there is no single direct influence of taxes either on savings or on the financial structure. Tax factors permeate decisions at various levels: the portfolio choices of households between different types of assets and liabilities, the saving and financing behaviour of companies, and the tax treatment of the activities of intermediaries, such as banks and insurance companies. In addition, taxation can also influence the international distribution of savings by affecting the relative interest rates obtainable in various locations and currencies.

The financial liberalisation and deregulation in the 1980s have heightened the importance of tax considerations. The lifting of many regulatory constraints has allowed price signals to play a larger role in guiding private financial decisions. In addition, financial innovation on an unprecedented scale, particularly the growth of derivative instruments, has highlighted the importance of market distortions. The ability to replicate the cash flows of

various instruments has also increased arbitrage possibilities in the tax area, where the authorities have been slow to understand and appreciate the developments taking place.

This paper is organised as follows. The first section provides an overview of the impact of taxation on companies' financing decisions and thus considers the various elements impinging on their cost of capital. The second section examines the manner in which taxation affects the portfolio decisions of households, influences contributions to pension funds and life assurance policies and affects housing purchases. The following section considers the tax treatment of banks. Section 4 provides a brief description of the role of transactions taxes in affecting the nature of financial markets. Taxation and the international allocation of savings are discussed in Section 5. Finally, Section 6 considers the manner in which arbitrage might influence the effective tax rate which is impounded in the return on assets.

1. THE DEBT/EQUITY DECISIONS OF HOUSEHOLDS AND COMPANIES

Private saving is the sum of personal saving, i.e. the excess of disposable income over personal consumption, and corporate saving, i.e. undistributed profits. The saving decisions of households and companies are inevitably related. When companies decide to distribute their profits, dividends are part of the disposable income of households. Households may also receive part of their disposable income from companies in the form of interest, while undistributed profits reinvested by a firm represent an increase in households' net wealth.

Until relatively recently, it was usual to consider that the saving decisions of households and companies were separate from one another, except in the extreme cases of closely held companies.² Modigliani and Miller (1958) and the stream of articles which followed have done much to broaden our understanding of the manner in which personal and corporate financial decisions interact. The Modigliani–Miller proposition, whereby with 'complete markets' and in the absence of taxes the financial policy of the firm in respect of debt and equity is indeterminate, is based on the consideration that as long as ultimate investors or financial intermediaries can borrow and lend on their own account on the same terms as a firm, they can 'undo' the effect of any changes in the firm's capital structure.

This observation has important implications for the manner in which one views the interaction between taxes at the corporate and personal level. Unless the tax regime is neutral with respect to distribution in the form of dividends, capital gains and interest payments, financial policy is determinate and there is a ranking of the various types of financial claim on companies.

Table 1. Degree of integration of personal and corporate tax, 1990

Country	Statutory corporate income tax rate (τ) (in percentages)	Tax discrimination variable (θ)	Degree of integration $(1 - \tau)\theta$ (in percentages)	Top marginal personal tax rate (m) (in percentages)
Belgium	43	1.0	57	25
Denmark	40	1.25	75	57
France	37	1.38	87	57
Germany	50/58 ^a	2.00	100/84 ^a	53
Greece	35	1.54	100	50
Ireland	10	1.06	95	56
Italy	36/46.4 ^a	1.56	100/84 ^a	62
Luxembourg	37	1.0	63	59 ^b
Netherlands	35	1.0	65	60
Portugal	36.5/40 ^a	1.0	63.5/60 ^a	30
Spain	35	1.1	72	56
United Kingdom	35	1.33	86	40
Canada	44.53 ^a	1.25	69	29/44 ^a
Japan	37.5	1	25	60
Sweden ^c	30.0	1	70	30
United States	34.0	1	66	28

^a Including local taxes.^b Including unemployment fund contribution.^c 1991

Source: Price Waterhouse (1990).

On tax grounds alone, individuals and companies would tend to focus on the overall tax-favoured form of financial instrument.

This reasoning is illustrated by the following framework. Let τ be the profits tax, θ the unit of gross dividends received per unit of retained earnings distributed, z the effective capital gains tax (accrual basis), m the personal income tax and b the tax on interest income. An investor receiving one unit of a firm's pre-tax income in the form of interest payments (debt finance) gets $(1 - b)$, since interest payments are tax-deductible at firm level. If he receives it in the form of capital gains (retained earnings finance), he gets $(1 - \tau)(1 - z)$, because the profit is taxed at firm level. Similarly, if income is distributed as dividends (share issues finance), the after-tax receipts are $(1 - \tau)\theta(1 - m)$. The resulting ranking is straightforward. For example, the traditional 'pecking order' model in which retained earnings are strictly preferable to debt, which is in turn superior to new share issues, is generated by the following tax configuration $(1 - \tau)(1 - z) > (1 - b) > (1 - \tau)\theta(1 - m)$.

Table 3, derived by combining the information on personal and corporate tax rates contained in Tables 1, 2 and 6 (see below), shows how the relevant tax configurations vary across countries. It indicates that, at least for investors

Table 2. Personal taxation of realised capital gains on portfolio investments, 1990

Country	Maximum short-term capital gains tax rate (in percentages) ^a	Maximum long-term capital gains tax rate (in percentages) ^a	Period to qualify for long-term gains treatment	Maximum annual net worth tax rate (in marginal percentages)
Belgium	Exempt	Exempt	None	None
Denmark	56	Exempt	Three years	1.2 ^b
France ^c	16.0	16.0	None	1.5
Germany ^d	56.0	Exempt	Six months	0.5
Greece	Exempt	Exempt	None	None
Ireland ^f	60.0	30.0	Six years	None
Italy ^e	Exempt	Exempt	None	None
Luxembourg ^g	56.0	56.0	None	None
Netherlands	Exempt	Exempt	None	0.8
Portugal	10.0	Exempt	Two years	None
Spain ^h	56.0	56.0	None	2.0
United Kingdom ⁱ	40.0	40.0	None	None
Canada ^j	17.5	17.5	None	None
Japan ^k	20	20	None	0.8
Sweden	45.0	18.0	Two years	3.0
United States ^l	28.0	28.0	One year	None

^a State, provincial and local taxes are not included. They can in some cases be substantial. Furthermore, in some countries exclusion rules might apply.

^b On net wealth exceeding D.kr. 138 600.

^c An additional 1 per cent surcharge applies for 1990. Gains from proceeds of up to Fr.fr 298 000 are exempt from taxation in a given taxable year (1989). Rate of wealth tax applies to net wealth in excess of Fr.fr. 40 million.

^d The first DM 1000 of short-term capital gains is exempt from tax.

^e Various legislation proposed for 1991.

^f Gains on shares held for over one year and less than three years are taxed at 50 per cent; 3-5 years at 35 per cent. In computing gains, the base cost is indexed by reference to the rate of inflation.

^g Capital gains are included in normal taxable income. The first L.fr. 1 250 000 of cumulative capital gains realised in every 10-year period is tax-exempt.

^h For purposes of arriving at the effective tax rate, the gain is divided by the number of years over which the asset is held. Wealth tax rate for assessments exceeding Pts. 2.5 billion.

ⁱ Since 1988-89 capital gains tax is levied on realised gains in excess of inflation. Only gains and losses accrued since 1982 may still be taxed; gains since 1982 are indexed. Each taxpayer is allowed £5000 of untaxed gains each year.

^j Canadian residents are allowed an annual capital gains exemption of Can. \$30 000 subject to a cumulative lifetime exemption of Can. \$500 000. In 1990, the lifetime capital gains exemption is reduced to \$100 000, except for owner/operators of farms and small business corporations, who may continue to apply the \$500 000 limit.

^k Separate taxation of net gains at 20 per cent through filing of returns or, at taxpayer's choice, 20 per cent of the deemed gain of 5 per cent of the proceeds from the sales of listed securities. If the latter is chosen the taxpayer is not required to be identified.

^l The nominal tax rate for long and short-term capital gains is 28 per cent. The marginal rate, however, rises to 33 per cent for joint returns between \$74 850 and \$155 370 and for single returns between \$44 900 and \$93 130 for the calendar year 1989.

Sources: Walker and Bloomfield (1989) and Price Waterhouse (1990).

Table 3. Relative tax treatment of various sources of finance

Country	$(1 - \tau)(1 - z)^a$	$(1 - \tau)\theta(1 - m)^b$	$(1 - b)^c$
Belgium	0.57	0.43	0.90
Denmark	0.60	0.32	0.50
France	0.59	0.37	0.83
Germany	0.42	0.39	0.47
Greece	0.65	0.50	0.50
Ireland	0.90	0.42	0.47
Italy	0.50	0.32	0.875
Luxembourg	0.58	0.26	0.41
Netherlands	0.65	0.26	0.40
Portugal	0.60	0.42	0.75
Spain	0.59	0.31	0.44
United Kingdom	0.60	0.52	0.60
Canada	0.52	0.39	0.71
Japan	0.58	0.25	0.80
Sweden	0.66	0.49	0.70
United States	0.61	0.48	0.72

^a The value of z is computed as $\lambda z_5/(\lambda + p)$, where λ is a fixed proportion of an investor's portfolio realised in every time-period assumed to equal 10 per cent; z_5 is the statutory tax rate on capital gains and p is a discount rate assumed to equal 10 per cent.

^b See Table 1.

^c See Table 6 for the value of the tax on interest income from corporate bonds.

Source: Price Waterhouse (1990).

in the top tax bracket, on the basis of statutory rates retained earnings are always preferable to share issues. Moreover, debt in turn ranks above all equity forms in a majority of countries (nine) independently of the investor's tax bracket; in one (the United Kingdom) neither is favoured, while in the others (six) the ranking is reversed.

Share issues are generally inferior to retained earnings as a source of finance because dividends are taxed at a higher effective rate than capital gains ($m > z$) and the difference cannot be offset even in those systems where the recipient of the dividend is at least partly compensated for the corporate tax already paid by the company ($\theta > 1$). The lower effective tax rate on capital gains in part results from the fact that the tax is paid when gains are realised rather than when they accrue, but it also reflects the tendency to set lower tax rates on this form of income. As can be seen from Tables 1 and 2, Luxembourg, Spain, the United Kingdom, and the United States are the only countries where both short-term and long-term gains are taxed at the personal income tax rate. At the other end of the spectrum, capital gains are exempt in Belgium, Greece, Italy, and the Netherlands. In the other countries, they are generally taxed at preferential rates, particularly if classified as long-term.

As interest payments are deductible from corporation tax, debt has a tax advantage at company level. Unless this is offset by differential taxation at the personal level, debt is tax-favoured over equity finance, whether in the form of retained earnings or share issues. Share issues are inferior to debt because even in those countries where double taxation of dividends is avoided by allowing individuals effectively to claim back corporation tax ('full integration', $(1 - \tau)\theta = 1$), interest income is typically taxed at a lower rate than dividends. This is, for instance, the case in Greece and, if local taxes are disregarded, Italy. The only exception until 1991 was Germany, where interest and dividends were taxed at the same statutory rate.³ By contrast, the relatively low rate of capital gains tax may give retained earnings an edge when the corporate tax rate is lower than that on personal interest income, especially for those investors in high income tax brackets.

On the basis of aggregate cross-country data, there are at least two related questions which can be addressed when assessing the empirical relevance of taxation for broad financing decisions. Firstly, it is possible to consider to what extent financing patterns in each country are in line with the ranking of finance sources resulting from tax considerations. Secondly, one may examine whether the relative advantage of debt *vis-à-vis* equity goes some way towards explaining the international dispersion of debt/equity ratios. For the sake of comparability, the analysis that follows is restricted to the G-7 countries and 1985.

Representative statutory income tax rates indicate that in 1985 in practically all G-7 countries there was the same ranking of sources of funds: debt was superior to all equity forms and retained earnings outranked share issues. The exception was Germany, where for income tax reasons alone debt and share issues ranked equally, while retained earnings were inferior to both. Neither of these findings is *prima facie* consistent with the relatively heavy reliance on retained earnings in all countries (see Table 4). By contrast, income taxes might partly explain why share issues are so sparingly used – though not in the case of Germany – and why a number of countries have adopted restrictions on share repurchases, especially when these could be regarded as disguised dividend payments.

An examination of the relationship between the advantage of debt *vis-à-vis* equity and the level of debt/equity ratios in the various countries tends to confirm the previous finding. In the specific case considered, there would seem to be relatively little correlation between the predicted and actual ranking of the countries in terms of their leverage (see Table 5).⁴ The rank correlation coefficient is low and not statistically significant.

Certain largely statistical limitations of this kind of analysis should not be overlooked. International comparisons of leverage and financing are fraught with pitfalls reflecting profound national differences in accounting practices

Table 4. Net financing proportions,^a 1983–87

	Low-leverage countries			High-leverage countries		
	United States	United Kingdom	Canada	Japan	Germany	France
in percentages of total sources						
Retained earnings	100	117	95	72	94/84 ^b	88
Share issues	-17	9 ^c	16	3	2	13
Direct investment	4	-13 ^c	-8	-2	-2	-2
Total debt	20	3	3	6	0	8
- credit institutions	8	8	7	14	9	13
- securities	18	7	6	-3	-1	3
- trade credit	-2	-2	-1	-6	-2	-2
- other	-3	-10	-8	-	-5	-7
Residual	-7	-15	-6	22	5	-7
<i>Memorandum item:</i>						
depreciation	86	116	65	52	78	n.a.

^a See Table 2 for sectoral definitions. Estimates are not fully comparable.

^b Excluding transfers.

^c Rough breakdown between share issues and direct investment.

Source: Borio (1990).

and flow-of-funds statistics, notably in terms of classification of sectors, degree of consolidation and treatment of a number of items such as direct investment. In addition, as is discussed further below, because of the complexity of the tax code the identification of the relevant 'representative' tax rates is equally problematic. Non-linearities in the tax schedules,⁵ tax exemptions for certain categories of investor or investment and differences

Table 5. Taxation and leverage (book values), 1985

Country	Leverage (gross)	Ranking of leverage	Ranking of tax advantage of debt relative to:		
			Tax-favoured equity finance	Retained earnings	Share issues
Low-leverage					
United States	0.48	7	5	5	2
United Kingdom	0.53	6	4	4	6
Canada	0.58	5	2	2	5
High-leverage					
Japan	0.81	1	1	1	1
Germany	0.63	4	7	6	7
France	0.71	2	6	7	4
Italy	0.64	3	3	3	3
Rank correlation			0.250	0.179	0.321

Source: Borio (1990).

in the effective degree of enforcement multiply tax arbitrage possibilities and make it difficult to single out the relevant 'marginal' investor. Even taking these shortcomings into account, however, it may be difficult to escape the conclusion that *income* tax considerations may indeed be important in the choice between external sources of funds (debt vs. share issues) but fail to explain the generalised preference for internal over external sources.

At the same time, this type of analysis runs a risk of underestimating the relevance of taxation. The impact of tax arrangements on financial decisions goes well beyond that of income tax provisions on the three broad sources of funds. Certain subsidies have been tied to particular forms of finance. More generally, as is discussed in detail in the rest of the paper, tax arrangements have a significant effect on the types of claim (e.g. marketable vs. non-marketable) and on the holders of these claims (e.g. individual investors or various types of intermediary). These features ultimately shape the interaction between households' and companies' financial decisions and may indirectly have an impact also on the broader categories of finance sources and observed debt/equity ratios.

The most widespread example of a subsidy tied to a particular form of finance is the extension of credits at subsidised interest rates or backed by government guarantees. Among the G-7 countries, these credits have been quite important precisely in three of the four high-leverage countries, viz. Italy, France, and Japan.

One notable feature of the financial system on which tax arrangements have a significant influence is the relative importance of intermediated and non-intermediated channels of finance, especially through the effect of turnover and wealth taxes and differences in the taxation of financial investments. The distinction between markets and intermediaries is in fact the aspect more recently emphasised as a key determinant of financing and leverage patterns by the theoretical literature focusing on the implications of asymmetric information between suppliers and users of funds, 'incomplete markets' and the consequent problems of control ('principal-agent'). Intermediated structures, particularly those which rely heavily on long-term relationships between financial institutions and companies, are regarded as better suited than open securities markets to overcoming external finance constraints and situations of financial distress (e.g. Mayer, 1988). They may therefore provide an environment more conducive to high leverage. The countries of the G-7 where leverage is relatively high and retentions generally less important are also those where securities markets are less well developed and exhibit other features consistent with this hypothesis (Borio, 1990). In all of them, a discriminating tax/subsidy system has favoured intermediaries and stunted the growth of securitised finance channels, at least until recently. For example, in Italy during the 1970s and early 1980s the high rates of withholding

tax on interest from corporate bonds induced companies to borrow from Special Credit Institutions which benefited from a privileged status in respect of withholding tax on the interest income from their bond issues.

2. THE TAX TREATMENT OF INTEREST INCOME AND PORTFOLIO DECISIONS

Taxation and portfolio decisions

Households' financial savings decisions can be thought of as a two-tiered process. Individuals must decide how much they wish to consume today relative to what they wish to save for the future. At the same time they must decide how to allocate their existing stock of savings amongst various types of financial and non-financial asset on the basis of returns and risks.

Assuming that it is possible to separate these two levels of decisions, one way of incorporating risk considerations into the structure of relative returns is the theory of optimal portfolio diversification (Gordon and Bradford, 1980; Frankel, 1985). Risk-averse investors are assumed to allocate their portfolio among the available assets so as to maximise a function of the mean and variance of their end-period wealth.

This theory highlights several important ways in which household asset demands may respond to changes in taxes. Firstly, the most direct impact comes through net-of-tax interest rate differentials.⁶ The greater the substitutability between assets and the lower the degree of relative risk aversion, the stronger is the impact of changes in net-of-tax interest rates on portfolio choices.

Secondly, in general a 1 per cent change in gross returns will not leave the interest rate differentials across assets constant unless the real returns on all assets are taxed at the same effective rate. In theory most countries have in place a comprehensive system of personal income taxation requiring that the return on savings be included in the tax base and be subject to taxation at progressive rates. In practice, the extent to which interest income, dividends and capital gains are actually part of the tax base differs widely.

Finally, taxation can affect diversification by changing the covariance structure of returns. However, the interaction between taxation and risk-taking is far from unambiguous. Domar and Musgrave (1944) showed that taxation may encourage risk-taking where loss offsets are possible. Further developments in the theory of portfolio allocation have illustrated that the outcome depends on the attitude of individuals to risk-taking and on the particular features of the tax system (see Atkinson and Stiglitz, 1980; Feldstein, 1976).⁷

Taxation of interest income

The tax treatment of capital gains and dividends has already been discussed. As is shown in Table 6, as far as interest income from bonds and bank deposits is concerned, Belgium, France, Italy, and to a lesser extent Portugal explicitly discriminate between various sources of income on the basis of differing flat rate withholding taxes.⁸ In Japan at present a uniform withholding tax applies to all financial assets. Most other countries attempt to achieve neutrality by applying a uniform rate of personal income tax to all sources of interest income. However, many assets are generally afforded a privileged status either by allowing a deduction of investments from taxable income or by exempting the return on the assets. There are numerous examples of this, from municipal bonds in the United States, interest on which was exempt from tax prior to 1986, to tax-deductible savings in specific accounts in France (*Plan d'Epargne Populaire*).

The '*de facto*' differences in the taxation of investment income for various types of investment resulting from the tax treatment of interest, capital gains and dividends are compounded by the lack of indexation of the tax system against inflation. In the absence of an indexed tax system, in order that real after-tax returns remain constant it is necessary that nominal interest rates rise by more than the rate of inflation to compensate for the taxation of nominal gains. Moreover, returns on different assets do not appear to respond in the same fashion to changes in the price level. For example, in the 1970s in many countries a negative correlation was observed between equity prices and inflation, whereas real estate prices followed inflation closely.

Yet another factor which can make for differences between the marginal tax rates on returns on various assets is the actual degree to which tax rules are enforced. Within the European Community only France, Denmark and the Netherlands appear to have a system of enforcement based on the automatic transmission of information on individual taxpayers by financial intermediaries.⁹ In most other countries of the Community non-declaration of income from financial assets is believed to be widespread. The German tax administration estimates that 75 per cent of the returns on capital income in Germany are not declared. Even for the United States, Poterba (1987) has estimated that prior to the 1986 tax reform, 40 per cent of capital gains were unreported. The upshot is that instruments on which taxation is easiest to evade will be those that are tax-favoured in investors' portfolios irrespective of the statutory tax provisions.¹⁰

Pension schemes and life assurance

By far the most widespread privileged forms of saving in terms of personal income tax are payments for pension schemes and life assurance policies.¹¹

Table 6. Marginal tax rates on interest income in selected countries, 1990 (in percentages)

Country	Domestic rate of withholding tax on interest income from		Top marginal personal tax or (-) if withholding tax is final	Memo: Basis of taxation territorial (T) or worldwide (W)
	Bonds	Bank deposits		
Belgium	10 ^a	10	—	W ^b
Denmark	0	0	57	W
France ^c	17 ^d	37 ^e	—	T
Germany	0	0	53	W
Greece ^f	0	0	50	W
Ireland	—	30 ^j	56	W
Italy	12.5 ^g	25 ^h	—	W ⁱ
Luxembourg	—	—	59	W
Netherlands	—	—	60	W
Portugal	25	20	—	W ^k
Spain	25 ^{j,l}	25 ^j	56	W
United Kingdom ^m	—	25 ^j	40	W
Canada ⁿ	—	—	29 ^o	W
Japan ^p	20	20	—	W
Sweden ^q	30	30	—	W
United States ^r	—	—	28	W

^a A rate of 25 per cent applies to debt issued prior to 1.3.1990.^b A withholding tax rate of 25 per cent is applicable on net foreign income, i.e. gross foreign interest less foreign withholding tax.^c In principle, interest income is taxed as personal income but investors may opt for tax to be withheld at source.^d For certain interest income there is an exemption of Fr.fr. 16 000. This rate of withholding tax (which includes a 2 per cent surcharge) also applies to shares in mutual funds.^e Interest income on certain forms of savings deposits (*livret A de caisse d'épargne, livrets d'épargne populaire*, CODEVI) is exempt from tax.^f Interest on certain government bonds and on bank deposits is exempt from tax.^g No withholding tax is levied on yields distributed by mutual funds: taxes are withheld at source on interest received by the funds.^h Current accounts are taxed at a rate of 30 per cent.ⁱ A flat withholding tax of 30 per cent is levied on interest income from abroad.^j Withholding tax creditable against personal income tax.^k No relief for foreign tax paid.^l No withholding tax applies to securities issued by the Treasury of the central bank.^m Under Tax-Exempt Special Savings Accounts (TESSAs) with building societies and banks, interest on capital up to £9000 saved over a period of five years is received gross of tax.ⁿ Various registered savings plans are deductible from tax.^o Excluding surtaxes and provincial taxes.^p Interest receipts on postal savings and certain types of investment vehicles, and on national bonds that do not exceed Yen 3 million (for each category) received by qualifying individuals (such as elderly tax payers) are exempt from tax. Redemption gains on discount bonds are subject to 18 per cent withholding tax.^q Rates as at 1991. A lower 20 per cent rate will apply to interest income from national savings schemes.^r Many states have income taxes that apply to interest income at rates of below 10 per cent.

Source: Price Waterhouse (1990).

Table 7. The growth of life assurance companies and pension funds

	United States	Japan	Germany ^a	France	United Kingdom	Italy	Canada ^b
	Total assets as a percentage of households' financial wealth						
Life assurance							
1980	7.1	n.a.	n.a.	5.0	21.8 ^b	2.2	n.a.
1985	8.4	n.a.	n.a.	7.0	24.3 ^b	2.2	n.a.
1989	9.2	n.a.	n.a.	12.3	25.9 ^b	2.8 ^c	n.a.
Pension funds							
1980	10.2	n.a.	n.a.	-	11.2	-	n.a.
1985	13.3	n.a.	n.a.	-	15.9	-	n.a.
1989	13.7	n.a.	n.a.	-	n.a.	-	n.a.
Total							
1980	17.3	13.8	19.3	5.0	33.0	2.2	19.4
1985	21.7	15.3	22.8	7.0	40.2	2.2	23.2
1989	22.9	19.0	25.3	12.3	n.a.	2.8 ^c	25.6

^a Including non-life assurance companies.

^b Excluding the net value of direct investments.

^c 1988.

Source: National data.

Not surprisingly, as is shown in Table 7, the share of household sector assets channelled through these types of institutional investment has been growing. While the precise extent of their tax-favoured status differs from country to country, it generally results from two possible advantages: deferral or exemption from tax on accrued income and deductibility of contributions.

As far as statutory and supplementary occupational pension schemes are concerned, Table 8 shows that in all countries employers are allowed to deduct contributions (equivalent to deferred wage payments) from corporation tax and that these contributions are excluded from the tax base of personal income. Similarly, contributions by employees to such occupational pension schemes are generally deductible from income tax when these arrangements form part of a collective wage agreement. Moreover, in most countries full or partial deductibility is allowed for supplementary pension contributions. A notable exception in this respect is Germany, where independent pension funds are at a tax disadvantage compared with other countries in that employee contributions are treated as current income and subject to income tax, and transfers by employers to independent pension funds are not fully tax-deductible from corporation tax. As a result, there is a strong incentive to run unfunded schemes taking the form of a direct liability of companies.

The benefits from pension schemes are subject to two types of tax treatment: on a yearly basis as income accrues and at a later date when the

Table 8. Tax treatment of occupational pension schemes

Country	Employer contributions under corporate and personal income tax	Employee contributions under personal income tax (statutory/supplementary)	Benefits under personal income tax: pensions
Belgium	FD	FD ^a /FD ^a	I
Denmark		No statutory contribution systems	
France	FD	FD ^a /FD ^{a,b}	P
Germany	FD	ND ^c /ND ^c	P
Greece	FD	FD ^a /FD ^a	P
Ireland	FD	ND/n.a.	I
Italy	FD	FD/FD	P
Luxembourg	FD	FD ^a /n.a.	I
Netherlands	No employer share	FD/FD ^d	I
Portugal	FD	FD ^a /FD ^a	P
Spain	FD	FD ^a /PD	I
United Kingdom	FD	PD ^e /PD ^e	I

FD = fully deductible. PD = partly deductible. ND = not deductible. I = taxed as wages or salaries. P = taxed under special provisions. E = exempt. n.a. = not applicable.

^a If employer undertakes to pay these contributions they are counted as taxable income.

^b Subject to a ceiling.

^c Contributions are deductible as a part of general welfare contributions up to a ceiling.

^d As long as deductions are not excessive.

^e Contributions to qualifying employee pension schemes (including pension business of insurance companies) of up to 15 per cent of total earnings are eligible for tax relief.

Source: Comité Européen des Assurances (1990).

pension is actually received. In the case of pension funds income and capital gains are generally exempt from personal income tax. As a result, taxation of returns on capital invested through pension funds is typically deferred until retirement from the fund takes place.¹² This is, however, not always the case because pension funds may not necessarily recover dividend tax credits or withholding taxes. If pension obligations are the liability of a company, as in Germany, implicit returns which are earmarked for future pension payments are deductible from profits.¹³

When benefits are paid out some countries tax pensions as ordinary income while others apply special tax provisions (see Table 8, column 3). One important tax provision is that which applies to lump-sum receipts, which in some cases are subject to a flat tax (for example, in Italy at a rate of 12.5 per cent on the difference between the capital amount and contributions).

The different patterns of growth of pension-related assets and their varying deployment have contributed to differentiating further the forms of financial intermediation across countries. When pension contributions are made to a

specific pension fund which is independent of the employer's balance sheet they are intermediated by financial institutions. By contrast, when they represent a direct liability of employer they are generally part of the cash flow available for reinvestment by companies and, hence, by-pass the channels of financial intermediation. Although in this case the pension liability is often guaranteed (as in Germany), the risk/return profile obtainable through a single company and that of a separately funded pension scheme will be markedly different.

Tax provisions can also be significant in shaping the portfolio decisions of pension funds, inhibiting or encouraging particular investments. For instance, the funds may avoid investments in assets for which it is difficult to recover dividend tax credits or withholding taxes. Similarly, the tax law generally establishes the types of financial instrument which can be acquired without being subject to tax. For example, in the United States unless the income of pension funds is derived from 'interest, dividend and sale or rent of property', it is considered taxable, except when otherwise approved by the IRS. Hence, until recently pension funds could not hedge their interest rate exposures by engaging in interest rate swaps without running the risk of being taxed on these transactions. More generally, as the laws typically consider as tax exempt the income derived from assets traded in broad, liquid markets,¹⁴ tax provisions may have encouraged the process of securitisation.

Pensions may also influence other broad aspects of portfolio decisions and aggregate saving. For example, the extent to which pension funds may be drawn down without tax penalty or the acceptance of pension fund contributions as collateral for other investment or consumption expenditures will affect the degree of substitutability between pension funds and other types of financial investment. Finally, fiscal incentives to pension fund contributions may lead to a re-shuffling of portfolios away from taxable assets and to potential shortfalls in tax revenue.¹⁵

Most life assurance policies combine savings features with those of pure insurance. The pure insurance component is the protection against the economic loss caused by premature death. The savings take the form of interest-earning reserves accumulated out of premium payments. At any time the pure insurance protection afforded by the policy is the difference between the face amount of the policy and the cumulated reserves. A one-year-term policy involves no saving whereas an endowment policy promising a fixed amount after a specific time-period may be mainly a saving instrument. One of the major developments in recent years has been the growing importance of endowment policies which have increasingly come to resemble similar types of liability issued by other financial intermediaries, such as term deposits.

In most countries public approval of life assurance is expressed in three

ways: the special treatment of life assurance benefits under personal income tax, including in some cases their exemption; the partial deductibility of the premiums from income tax; and the special tax provisions applying to the income earned by insurance companies. Table 9 illustrates the most important tax provisions affecting savings through life policies.

The channelling of savings through life assurance companies has very similar implications for the process of financial intermediation to those of pension funds. Firstly, insurance companies may be constrained in the composition of the assets which they are allowed to hold. For example, in the United States legal controls on portfolios imposed by state law typically require that only 20 per cent of the portfolio of life assurance companies should be held in equity. In Germany, too, restrictions apply to portfolio distributions – no more than 20 per cent in equity (of which 4 per cent in foreign equity) and 10 per cent in commercial property. Secondly, the portfolio choices of insurance companies may be different from those of individuals. Indeed, certain categories of asset may only be purchased by insurance companies or other institutional investors and are not available to the general public (for example, securities issued as private placements under SEC Section 144a).

Housing finance

Government tax and expenditure policies towards owner-occupied housing¹⁶ affect the structure of the financial system in two ways. Firstly, through tax deductions and interest subsidies households may have an incentive to alter their portfolio decisions and savings behaviour. For example, as a result of tax relief on mortgage interest financial institutions may indirectly have invested resources in providing intermediary services linked to housing. Secondly, since home ownership is the most important store of wealth for many households, the tax treatment of owner-occupied housing may have other indirect influences on portfolio decisions. For example, changes in the tax treatment of housing may give rise to wealth effects or saving for house purchases may be channelled into specific investments.

There are three main sets of tax provisions which influence the costs of owner-occupancy and the financing decisions relating to home ownership.¹⁷ These provisions concern (i) the inclusion of the implicit value of housing services ('imputed rental income') in personal taxable income, (ii) the deductibility for personal tax purposes of mortgage interest and (iii) the deferral or exemption of capital gains on the sale of a principal residence. Table 10 illustrates the principal features of (i) and (ii) in some major countries. The provisions vary markedly from country to country, particularly with respect to the valuation of imputed rent and the extent to which interest is deductible.

Table 9. Personal income tax treatment of premiums for life assurance (annuities) and of the benefits on these investments

Country	Deductibility of premiums for life annuities	Income tax on benefits (interest on premium capital)
Belgium ^a	TA(L)	PT
Denmark ^b	TA(L)	T
France ^c	TC(L)	E
Germany	TA(L)	E ^d
Greece ^e	TA(L)	E
Ireland	TA(L) ^f	E
Italy ^g	TA(L)	PT
Luxembourg ^h	TA	E
Netherlands	TA(L) ⁱ	E ^d
Portugal	TA(L)	PT ^j
Spain ^k	TC(L)	T
United Kingdom ^l	No	E
Canada ^m	No	E
Japan ⁿ	TA(L)	T
Sweden ^o	TA(L)	T
United States	TA	T

TC = Tax Credit E = Exempt TA = Tax Allowance T = Taxed (L) = Up to ceiling
 PT = Partially Taxed.

Note: Countries differ widely in the minimum term for the insurance contract. For example, Belgium, 6 years; Germany, 12 years; Italy, 5 years; Luxembourg, 10 years and France, 8 years.

^a Insurance premiums deductible up to a limit of B.fr. 62 000. Both group and individual pension plans are deductible up to B.fr. 20 000. Capital sum taxable at a flat rate of 16.5 per cent on retirement.

^b Contributions or premiums under certain pension schemes with Danish pension funds or insurance companies are fully deductible but the deductions are subject to certain limitations depending on the type of scheme. Interest in pension fund is taxed so as to allow an after-tax real return of 3.5 per cent.

^c One-quarter of qualifying premiums are tax-deductible, up to a ceiling of Fr.fr. 4000 plus Fr.fr. 1000 per dependant. Benefits exempt if scheme in operation for more than eight years.

^d Exempt if insurance policy held for a minimum term of 12 years.

^e Tax allowance up to 10 per cent of total income up to a limit.

^f One-quarter of qualifying premiums are tax-deductible up to a ceiling of IR£ 1000.

^g Premiums are deductible up to a limit of Lit. 25 000 000. Benefits in the form of lump-sum payments are taxed at a flat rate of 12.5 per cent.

^h Limited to a ceiling depending on age and family status.

ⁱ Tax allowance up to a maximum of Fl. 17 116.

^j Benefits exceeding Esc. 4 million are taxable.

^k Limited to 10 per cent of life assurance premiums paid to Spanish insurance companies and 15 per cent of pension scheme contributions. Total tax credits may not exceed 30 per cent of taxable income.

^l Contribution to qualifying employee pension schemes of up to 15 per cent of total earnings are eligible for tax relief.

^m Individuals may contribute tax-deductible amounts to registered pension plans (RPP), registered retirement savings plans (RRSPs) and deferred profit-sharing plans (DPSPs). Earnings within the plans are sheltered but withdrawals are taxable.

ⁿ Deduction for life assurance premiums and qualified pension premiums paid by the taxpayer to a maximum of Yen 55 000 (national tax) and Yen 38 500 (inhabitants tax).

^o Life assurance premiums of up to S.kr. 20 925 are deductible from taxable income.

Source: Comité Européen des Assurances (1990).

Table 10. The treatment of imputed income from home ownership and interest deductibility under the personal income tax system,^a 1990

Country	Included in taxable income	Valuation base	Assessed ^a rental rate (in percentages)	Deductibility of interest on mortgage loans	Estimated user cost of housing (in percentages)
Belgium	Yes	Cadastral value ^b (10-year revaluation)	60% of normal rent	TA(L) ^c	5.4
Denmark	Yes	Assessed value under net wealth tax	2.5 to 7.5	TA ^d	2.6
France	No	n.a.	n.a.	TC(L) ^e	5.1
Germany ^f	Yes	Assessed value under net wealth tax	1.4	No	5.4
Greece	Yes	Assessed value	4	TA(L)	5.0
Ireland	No	n.a.	n.a.	TA(L)	
Italy	Yes	Cadastral value ^b	1.25	TA(L) ^g	4.9
Luxembourg	Yes	Cadastral value		TA(L) ^e	5.4
Netherlands	Yes	60% of market value	1.3	TA	1.7
Spain	Yes	Value under net wealth tax	2	TA(L) ^h	4.0
United Kingdom	No	n.a.	n.a.	TA(L) ⁱ	4.0
Canada	No	n.a.	n.a.	No	5.4
Japan ^j	No	n.a.	n.a.	TC(L) ^k	5.2
Sweden ^l	Yes	Assessed value ^m	2-8	TA ⁿ	1.7
United States	No	n.a.	n.a.	TA(L) ^o	3.1

TC = Tax Credit. TA = Tax Allowance. (L) = Up to ceiling. N = No relief. n.a. = Information not applicable.

^a For the treatment of home ownership under net wealth taxes, see *Taxation of Net Wealth, Capital Transfers and Capital Gains of Individuals*, OECD 1988.

^b Official rental value of real estate determined according to the public record (cadaster) for tax purposes.

^c Deductibility of interest limited to assessed cadastral rental income.

^d Interest expenses deductible from interest income only.

^e A tax credit of 25 per cent of interest payable with a ceiling of Fr.fr. 9000 plus Fr.fr. 1500 per dependent child is granted for the first five years of the mortgage.

^f Interest on mortgages is deductible up to the amount of imputed interest income. A supplementary tax allowance was in effect for 1983-86. Saving with special savings institutions (Banksparskassen) is deductible from tax.

^g Interest deductibility limited to Lit. 4 million.

^h Limit of Pts. 800 000 in each fiscal period.

ⁱ Interest on debt of up to £30 000 per unit of property.

^j Interest on home saving contracts are exempt from tax on principal amount of Yen 5 million.

^k Interest on debt of Yen 200 000 per household.

^l New rules for taxation of home ownership will come into effect in 1991.

^m The assessments were approximately 75 per cent of market value at the time they were set. New assessments every five years but intervals have been longer.

ⁿ In cases where mortgage payments exceed imputed income, 1.5 per cent of the assessed value of housing is added to the base of the local income tax.

^o Interest on debt up to \$1 million to acquire or improve main or second residence.

Source: OECD, Bank of England, national sources.

The last column attempts to summarise the differing provisions in terms of a measure of debt-financed capital costs, or the value of tax subsidies to owner-occupiers if housing is financed by borrowing. This capital cost is measured by the net interest rate after allowing for relief on mortgage payments and for payment of tax on imputed rental income. In the absence of taxation the capital cost of housing services would equal the real interest rate plus depreciation (assumed to be 5.4 per cent). For present purposes, this is taken as the benchmark for assessing the tax benefits of owner-occupancy.¹⁸

According to the data shown in this table countries can be divided into three broad groupings. Firstly, Canada is unique in disallowing deductibility of interest payments on mortgages and in not taxing imputed interest income: taxes do not enter the measure of the user cost. Secondly, for a group of countries comprising Germany, Belgium, and Luxembourg the user cost is the same as in Canada because mortgage interest is only deductible up to the imputed income, which in these estimates is assumed to be equal to the true economic implicit rental cost. While there is no overall incentive to investment in housing, debt is preferred over equity as a means of finance. In the remaining countries, housing is subsidised because of allowances for the deduction of interest payments, the low taxes on imputed interest income or a combination of both. By far the most generous treatment is provided in Sweden, the Netherlands, and Denmark.¹⁹ In the United States, the lowering of marginal tax rates in the 1980s has considerably reduced the incentives to owner-occupancy (Poterba, 1990); and in the United Kingdom, the low level of the ceiling on the deductibility of mortgage interest and declining marginal tax rates have also reduced the marginal incentives to owner-occupancy in recent years (Hill, 1991; Lomax, 1991).

Although it should be emphasised that the user cost data are imperfect and any inference therefrom is of a partial equilibrium nature, the figures in Table 10 suggest that there have been strong incentives to debt-financed owner-occupancy in a number of countries, most notably in some Nordic countries. Indeed, there appears to be a rough correlation between user cost and the level of households' indebtedness (Tanzi, 1990).

Nevertheless, the tax treatment of housing cannot be isolated from other aspects of government policy affecting the specific structure of the financial sector. Housing finance varies substantially from country to country, being dominated by institutions established especially for this purpose (OECD, 1988; Lomax, 1991). Specialised mortgage lending institutions of differing character, often sponsored by governments, exist in all major countries and until the late 1980s in most instances have operated under special regimes. Moreover, government intervention has been very pronounced with respect to the types of conditions applying to financial arrangements by placing

ceilings on the funding cost of these institutions, providing interest rate subsidies or setting up special tax-exempt savings programmes targeted to the acquisition of housing. Another feature of housing finance partly attributable to these policies has been credit rationing. Owing to the channelling of savings through specialised institutions, the complexity of the subsidy elements and the numerous restrictions on lending, the role of taxes per se in affecting households' choice between different types of borrowing up to the mid-1980s was probably peripheral in many countries.

More recently, financial deregulation, the gradual 'despecialisation' of mortgage institutions and increased competition for mortgage lending from commercial banks has relaxed many of the constraints faced by households. As a result there has been a sizable build-up of personal debt in several countries, particularly the Nordic countries and the United Kingdom.²⁰ The favourable tax treatment of housing has often been quoted as a contributory factor affecting households' borrowing decisions. While taxation has not become more favourable and if anything the advantages of owner-occupancy have been reduced somewhat, the lifting of credit rationing has made the tax incentives more attractive. In the United Kingdom and some Nordic countries financial liberalisation appears to have contributed to the diversion of housing loans into consumption (Muellbauer and Murphy, 1990).

3. THE TAXATION OF BANKS: EXPLICIT AND IMPLICIT LEVIES

The taxation of banks cannot be treated separately from their regulatory and accounting regime. This section examines three of the most important explicit and implicit types of levy and subsidy on banking activity:²¹ reserve requirements; taxation of interest earnings and expenses (including interest on foreign sources of income); and the tax treatment of bad and doubtful debts.²²

Reserve requirements

Reserve requirements are a cost of funding for the banks. They can be viewed as a source of revenue for governments (seigniorage) or as a distortion of financial intermediation through the banking system. A reserve requirement has something in common with a tax on interest on demand deposits. It is therefore not surprising, as mentioned below, that the current debate on the level of reserve requirements within the European Community should coincide with that concerning the level of withholding taxes. Reserve requirements and withholding taxes are similar in placing a wedge between the interest rate on loans and the net interest rate received by depositors. For-

mally, if i_L and i_D are the nominal interest rates on loans and deposits respectively, then in a highly stylised perfectly competitive banking system the zero profit condition implies that $i_D = (1 - \beta) i_L$, where β is either the (non-interest-bearing) reserve requirements coefficient or the tax rate on deposits. However, reserve requirements, unlike taxes, mean that the bank can lend a smaller volume of funds. As a result the ultimate incidence of a reserve requirement and a tax on deposits will differ.

An increase in reserve requirements has three potential impacts on financial market equilibrium. Firstly, for a given deposit rate, a higher interest rate on loans is needed for banks to maintain zero profits. Secondly, since a smaller fraction of deposits is available for loans, a higher rate of interest on deposits is needed for a given amount of loans. The combination of these two factors tends to increase the interest rate on loans (Romer, 1985; Drazen, 1989). The effect on the deposit rate is ambiguous depending on what is assumed about the relative elasticities of deposit supply and loan demand. If, for instance, bank deposits, such as CDs, trade in the capital markets in competition with instruments of similar character and roughly equivalent risk which are not subject to reserve requirements, such as commercial paper, then changes in the reserve requirements are passed on to banks' borrowers (Fama, 1985) and there is no change in deposit rates. Thirdly, if some borrowers can substitute other sources of funds for loans from banks (commercial paper, Euro-markets, etc.), banks will be forced to shift the composition of their client mix towards riskier borrowers which do not have access to the capital markets directly, or otherwise try to place the burden of the requirements on their depositors. Alternatively, banks can move to provide services which are independent of deposit-taking, such as channelling business to foreign branches, special-purpose affiliates or 'off-balance-sheet' activities. At the same time they can choose to reduce their balance sheets²³ or seek sources of funding which do not attract reserve requirements.

The process of financial deregulation which has occurred in recent years has been accompanied by a reduction in reserve requirements in most countries. The burden of the requirements has also tended to decline as nominal rates have fallen relative to their level in the late 1970s and early 1980s. Nevertheless, as is shown in Table 11 (column 2), the implicit wedge (βi_L) between borrowing and lending rates resulting from reserve requirements and the potential source of seigniorage gains (column 3) is still quite high in some countries, particularly Italy, Portugal, and Spain.²⁴ It is not surprising to find that banks in these countries have been increasingly trying to circumvent the reserve requirements.²⁵ In the case of France, which lowered reserve requirements in November 1990, the lifting of capital controls earlier that year led to a massive exodus of funds (well over 50 per cent of the growth of the broad monetary aggregate, M2) to the Euro-markets.

Table 11. Implicit taxes on banks from reserve requirements (end-1990)

Country	Reserve requirements on outstanding sight deposits (in percentages)	Implicit wedge between borrowing and lending rate (in percentages)	Memo: Reserve to deposit ratio (end 1989)
Belgium	0	—	1.0
Denmark	0 (20 ^a)	—	2.2
France	5.5/2/0.5 ^b	0.5/0.2/ . . .	4.9
Germany	12.1/4.95/4.15 ^c	0.8/0.3/0.3	8.1
Greece	7.5	1.3	29.1 ^d
Ireland	0	—	7.3
Italy	25/22.5 ^e	1.8/1.6	16.2
Luxembourg	0	—	—
Netherlands	0 (less than 10 ^f)	—	0.7
Portugal	15/12/3/1 ^g	1.9/1.5/0.4/0.1	7.3 ^h
Spain	17 ⁱ	2.2	22.9
United Kingdom	0.45	—	1.3
Canada	0	0	—
Japan	2.5/1.75 ^j	1.2/0.1	1.9
United States	12/3/1.5 ^k	1.0/0.2/0.1	4.0

Note: Implicit wedge calculated as reserve requirement times average money market rate in 1990, less interest paid on reserves.

^a 20 per cent of the increase in deposits above a certain rate; reserve requirements remunerated at market rates.

^b Rates for sight deposits, term deposits and CDs respectively.

^c Rates for sight deposits exceeding DM 100 000, term deposits and savings accounts respectively.

^d End-1987.

^e 25 per cent on increase in deposits; 22.5 per cent on stocks outstanding. Reserves are remunerated at an interest rate of 5.5 per cent.

^f Reserve requirements used to mop up excess liquidity and holdings with central bank remunerated at market rates of interest.

^g Sight deposits; term deposits with a maturity of less than six months, six months to one year, and over one year.

^h End-1988.

ⁱ Of which 9.5 per cent are remunerated at a rate of 7.75 per cent.

^j For sight deposits above Yen 1200 billion and term deposits above Yen 2500 billion.

^k Sight deposits, term deposits personal, term deposits non-personal (including net Euro-currency).

Sources: National legislation, IMF International Financial Statistics and own calculations.

Taxation and banks' investment decisions

Banks are subject to the same corporate taxes on profits as non-financial companies. The character of their business and a number of special tax provisions, however, differentiate their tax status. Banks are unique in that interest income and expenses represent the core of cash flows, depreciation

allowances for fixed assets are minimal²⁶ and the valuation of complex financial transactions (such as activities in the foreign exchange markets and trading in securities) is recurrent.

There are four sets of tax asymmetries which can produce distortions in the composition of banks' portfolios. Firstly, in order to prevent arbitrage when banks acquire tax-exempt securities a portion of their interest expenses is allocated to these purchases. However, such provisions generally work imperfectly.²⁷ In the United States, for example, in spite of this allocation of interest expenses banks found municipal bonds and other tax-exempt securities to be tax-favoured: prior to 1986 US banks accounted for one-third of total holdings of domestic tax-exempt bonds. Following the repeal of the tax advantages such investments have contracted continuously. Similar problems existed in Italy prior to 1986 (see Di Majo and Franco, 1987).

Secondly, as already mentioned, banks may have access to funds at regulated, below-market interest rates which are relatively tax-favoured from the point of view of the depositor. This can mean that certain institutions may be able to reduce margins below those which would prevail in the absence of the regulations and subsidies. Prior to tax reform in Japan in 1988 the 'Maruyu' system (tax exemption of small deposits) was seen as one form of implicit subsidy giving Japanese banks a competitive advantage internationally.

Thirdly, interest received by banks on foreign loans is subject to special rules which in some instances increase the profitability of such lending. In general, withholding taxes are levied on gross interest in borrowing countries whereas income taxes are normally imposed on the net income of banks in lending countries (see Table 12). Most lending countries, however, allow foreign withholding taxes to be credited against the net interest margin (interest receipts less interest expenses). Since the tax credit can exceed the net interest margin, foreign lending can be more attractive than domestic business (Alworth, 1984; Frankel, 1984). In recent years, however, this favourable provision has been clawed back somewhat.

Finally, taxation is also relevant to international business because banks have a long tradition of booking their 'international' loans in branches or subsidiaries located in tax havens. Deferral of taxation of foreign source income is the prime motivation for locating such intermediaries in these centres.²⁸

Bad and doubtful debts

Banks may set aside either specific or general provisions to reflect the possible deterioration in the value of their assets. Specific provisions are made against clearly definable losses which can be expected to occur in connection with

Table 12. Definition of foreign interest income and double taxation relief provisions for banks incorporated in some major lending countries

Country	Definition of foreign interest income before relief	Type of double taxation relief	Limitations on double taxation relief	Allocation of funding costs
Belgium	Net	Credit	Deemed tax credit of 15% ^a interest net of withholding tax	No allocation
France	Gross	Credit ^b / Deduction ^c	No limitation ^d	Allocated on basis of gross interest
Germany	Gross	Credit	Credit relief ^e is limited to the total corporate income tax liability on foreign source interest	Allocated on a country-by-country basis
Netherlands	Gross	Credit ^f	Credit relief is limited to the total corporate income tax liability on foreign source interest	Allocated on a country-by-country basis, except for LDCs
United Kingdom	Gross	Credit	Limited to the lesser of the actual withholding tax or a deemed tax of 15% ^g	Allocation on a loan-by-loan basis
Japan	Gross	Credit	No limitation	No allocation
Switzerland	Gross	Credit	Credit relief is limited to the total corporate income tax liability on foreign source interest	Allocated on the basis of gross interest
United States	Gross	Credit	Credit relief is limited to the total corporate income tax liability on foreign source interest	Allocated by domestic or foreign source

Note: Net = interest received net of foreign withholding tax minus funding costs. Gross = interest received gross of foreign withholding tax minus funding costs.

^a The deemed credit is provided regardless of the actual amount of foreign tax.

^b Under a double taxation agreement.

^c Available if there is no double taxation agreement.

^d Generally, double taxation agreements concluded by France provide for a tax credit equal to the actual foreign tax paid by the bank. In the case of agreements with several LDCs, however, a deemed foreign tax credit is provided if a minimum tax is withheld at source.

^e Double tax agreements generally provide for a tax credit equal to the actual foreign tax. However, the agreements with certain countries provide for a deemed foreign tax credit.

^f Credit relief is available under a double taxation agreement where one exists except in the case of agreements concluded with Canada, Italy, Luxembourg and Germany, for which a deduction is allowed. Credit relief is also available in respect of foreign taxes withheld in certain specified developing countries.

^g Before 1982 there was no limitation.

Source: Alworth (1984).

the affairs of a particular customer or group of customers. General provisions permit a blanket cover against all possible expected future as well as current latent losses.

In the first instance it falls to the banks to decide what they consider to be the correct value of their assets and consequently to choose the appropriate level of provisioning which should be made. Three sorts of constraints, however, affect the level of provisioning and the amounts of write-offs which a bank may decide to make. Firstly, company law lays down what banks are required to disclose in their balance sheets and profit and loss accounts. Secondly, supervisors are concerned to see that banks follow a prudent and responsible approach to making provisions. For this purpose they allow general reserves which have not been earmarked to be included in bank capital and have generally excluded specific provisions from such calculations.²⁹ Finally, the tax authorities set out specific guidelines as to what they regard as allowable deductions against profits. One of the problems in understanding provisioning and its possible effects is that these various valuations may differ markedly within a single country.

Provisioning is materially assisted by the possibility of an offset against tax for the annual charge which is made in the profit and loss account. Decisions on tax deductions are made by the fiscal authorities and need not be consistent with regulatory requirements. As can be seen from Table 13, the tax authorities in most countries tend to allow specific provisions without stringent limitations, but differ widely in terms of the required evidence regarding the deterioration in asset values. The most favourable countries from this standpoint appear to be France, Germany and the Netherlands, while Belgium, Canada, the United Kingdom, and the United States require more substantial evidence. There is also considerable differentiation with respect to general provisions. The most generous country is Germany (and Switzerland, not shown in the table), which allows provisioning for tax purposes against up to 5 per cent of the loan portfolio. By contrast, Belgium, Canada, the United Kingdom, and the United States do not allow any tax relief.

The impact of such rules on banks' behaviour can vary markedly. Firstly, generous provisioning policy can be an implicit subsidy to banking relative to other forms of financial intermediation and can affect interest rates charged on differing types of activity. In the case of US thrifts, during the 1960s and 1970s it was possible to set aside loan loss reserves far in excess of reasonable provisions for expected losses provided a large fraction of assets was invested in housing-related loans. In effect, thrifts were allowed to transfer large portions of their taxable income to reserves, thereby avoiding taxes. As a result, mortgage rates differed significantly from market rates. Over time these favourable provisioning rules have been clawed back and now no longer

Table 13. Tax relief for banks' loan loss provisioning

Country	Type of provisioning accepted	Limitations on tax deductions	Evidence necessary for specific provisioning
Belgium ^a	S	C	SR
Denmark	S/G	NC/C ^b	J
France	S/G	NC/C ^c	J
Germany	S/G	NC/C	J
Greece ^d	G	C	-
Ireland	S	NC	SR
Italy ^e	S/G	NC/C	J
Luxembourg ^f	S/G	NC/C	J
Netherlands ^g	S	NC	J
Portugal	S/G	NC/C ^h	J
Spain ⁱ	S/G	NC/C	SR
United Kingdom ^j	S	NC	SR
Canada ^k	S	NC	SR
Japan ^l	S/G	NC/C	SR
United States ^m	S(G)	C	SR

S = specific provision. G = general provision. C = ceiling. NC = no ceiling. J = judgement; evidence about probability of loss or non-performance. SR = strict rulings.

^a Tax provision was to be determined according to one of two methods: (a) it cannot exceed 5 per cent of taxable profit in the financial period and total accumulated provisions cannot exceed 7.5 per cent of the highest taxable profit of the five preceding years; (b) the tax-free provision cannot exceed 0.2 per cent of the debts at the end of the year and the total reserve cannot exceed 0.3 per cent of the claim on the debtor.

^b General reserve cannot exceed 3 per cent of total portfolio.

^c Upper limit of 0.5 per cent of total medium and long-term lending and 5 per cent of fiscal income.

^d Specific provisions give rise to a write-off. General provisions are limited to 1 per cent of loans outstanding.

^e Specific provisions are allowed for country risk only. General provisions are tax-deductible to an upper limit of 5 per cent of loans to non-banks and tax-deductible to 0.5 per cent of these loans.

^f General provisions qualify for tax relief up to a limit ranging from 0.3 to 1.8 per cent and depending on the riskiness of products. All specific provisions are deductible at the discretion of the tax authorities.

^g Strictly speaking, general provisions do not qualify for tax relief but much discretion is left to tax inspectors.

^h Maximum of 5 per cent of all credits not specifically considered doubtful.

ⁱ The Bank of Spain establishes minimum provisions for bad debts which are accepted for tax purposes by applying percentages to overdue accounts of differing maturity. Other percentages apply to country debt. The general provision cannot exceed 1.5 per cent of qualifying loans.

^j Provisions against country risk based on Bank of England 'matrix' are accepted for tax relief.

^k Specific reserves may be established depending on the nature of the loan or on the basis of a loan-by-loan examination or on a pooled basis. General reserves for loans to problem debtor countries will be regarded as specific reserves for tax purposes.

^l The statutory maximum rate of the general reserve is 0.3 per cent of total loans. There are also provisions for country debt.

^m Large banks can only reduce taxable income when loans are identified as worthless ('charge-off method'). Small banks can compute general reserves on the basis of historical experience with loan losses.

Sources: Arthur Young (1988), Peat Marwick (1983) and national sources.

apply. As shown by Hendershott (1991), the effect of these changes has been a convergence of mortgage rates with other market rates.

Secondly, where accounting and fiscal definitions of income must broadly coincide, banks may be unwilling to set aside an appropriate level of provisions unless the tax authorities permit tax deductibility. Thirdly, changes in provisioning policy – such as the shift from the ‘reserve’ method of computing tax provisions by setting aside yearly amounts based on future expected losses to the ‘specific charge-off’ method which entails making deductions when default actually materialises – may have encouraged banks to realise losses through the sale of their loan books in the secondary market. Finally, particularly generous (limited) tax allowances on provisioning may induce a bank to expand (reduce) its balance sheet compared with the degree of risk it would accept if tax allowances were neutral.

One area where tax provisioning rules may have played an influential role on banks’ behaviour is that of the treatment of claims on problem debtor countries. In particular, tax rulings may have affected banks’ willingness to engage in financing (‘new money’) packages or participate in voluntary debt reductions. In those countries where tax provisioning for such claims has been limited, there has been an incentive for banks to realise losses outright, for example through sales in the secondary market,³⁰ or to establish tax deductions through specially authorised loan sales.³¹ By contrast, the possibility of tax deductions for provisions has encouraged banks in some other countries to allocate large amounts of their capital to LDC assets, possibly inhibiting the disposal of their assets on the secondary market for country loans.

4. TRANSACTIONS TAXES

A decreasing number of countries apply certain types of stamp duty and other transactions taxes on new issues or secondary market trading of marketable financial instruments such as money market paper, notes and bonds, equities, and financial futures and options. The rates of tax in the various countries as at the end of 1990 are shown in Table 14.

The effects of these taxes can be important. On the one hand, many markets may simply fail to develop at all. For example, there are no markets for Treasury bills, certificates of deposit and commercial paper in Germany or Switzerland. While by no means the only reason for the overwhelming role of banks in credit intermediation, stamp duty has certainly contributed to the less important role of securities in these countries. Indeed, in Germany the opening of a commercial paper market has been announced as a result of the prospective abolition of such levies. On the other hand, these taxes

Table 14. Stamp duties and other taxes on the value of transaction in selected countries, 1990

Country	Type of purchase or sale	Rate (in percentages)	Exclusions or other provisions	Estimated charges per \$100 000 share transaction (in US dollars) ^a
Belgium	Bonds, shares and government stock	0.14, 0.35 ^b and 0.07	–	700
Denmark	Shares	1	–	1000
France	Securities traded off authorised exchanges	0.30/0.15 ^c	–	600
Germany ^d	Shares, corporate bonds, foreign bonds/investment certificates	0.25/0.2	Only half tax levied on transactions with non-residents; no tax levied on transactions between banks and brokers, and on book-entry bonds	500
Greece	–	–	–	–
Ireland	Shares	1	–	1000
Italy	Bonds, shares and government stock	– ^e	–	200
Luxembourg	–	–	–	–
Netherlands ^f	–	–	–	–
Portugal	–	–	–	–
Spain	–	–	–	–
United Kingdom ^g	Shares	0.5	–	500
Japan	Bonds, shares and government stock	0.45, 0.5, 0.03	–	500
Sweden	Shares	1	–	1000

^a National stamp duty or transfer taxes which would be charged on a share transaction valued at \$100 000.

^b 0.17% on forward transactions.

^c Duty scaled by size of transaction if transaction \leq Fr.fr 1 million/if transaction \geq Fr.fr 1 million.

^d Stock exchange turnover tax abolished as from 1.1.1991; bill stamp duty abolished as from 1992.

^e There are stamp duties chargeable at a fixed lira amount per transaction which vary by type of market participant and instrument. For example, private investors are charged Lit. 16 per purchase of government stock and Lit. 140 per forward purchase of shares.

^f Abolished July 1990.

^g To be abolished around end-1991.

Sources: Bingham (1990) and Committee of Stock Exchanges in the European Community.

may result in the development of instruments and financing techniques aimed at avoiding them.³²

At the international level, the application of stamp duties may contribute to a shift of trading to markets outside the country concerned. In Sweden,

following the imposition of a stamp duty in 1984 and its subsequent increase in 1988, financial market transactions migrated to the United Kingdom and the United States. It has been estimated that about one-third of share transactions on Swedish companies was driven offshore,³³ so that for seventeen leading shares turnover was split equally between the Stockholm Stock Exchange and SEAQ International in London. Pagano and Roell (1990) consider this element together with higher commission rates to have been partly responsible for the shift of trading from Germany and Paris to London.

Transactions taxes have been proposed as a means of reducing the volatility of prices in financial markets (Summers and Summers, 1989). These proposals stem from the belief that financial markets are not efficient in the sense that equilibrium prices do not accurately reflect fundamental values. In inefficient markets, asset prices respond to other factors, such as irrational waves of optimism and pessimism, and a transactions tax would be a means of dampening short-term volatility by reducing the participation of traders who are not motivated solely by considerations concerning the development of fundamental economic variables. A small transactions tax could therefore discourage short-term speculative trading and increase efficiency.

Practical experience, however, has not shown that transactions taxes reduce volatility. Roll (1989) reports in a study of the 1987 stock market crash that 'transactions taxes are inversely but insignificantly correlated with volatility across countries'. Moreover, registration duties and other costs on housing and real estate transactions are very high but it is not apparent that they have affected the volatility or level of housing prices.

5. TAXATION AND THE INTERNATIONAL DISTRIBUTION OF SAVINGS

The international dimension of savings decisions has only recently begun to attract some attention as the barriers to free capital movements have been lifted. Some of the effects of taxation on the location and character of financial intermediation have already been mentioned with reference to transactions taxes and to the tax treatment of banks. In this section, the more general tax treatment of the returns on foreign portfolio investments by households is examined, in particular with respect to two separate types of influence which it can have on financial intermediation: the location in which an investor is willing to place savings and the currency in which securities are denominated.

The returns on foreign investments are taxed initially in the source country and again in the country of residence, subject to the provisions of double taxation treaties. Where the taxes levied in the source country can be credited

against those in the country of residence of the beneficiary, there is a presumption that tax considerations should not influence the decision on whether to invest at home or abroad. Nearly all countries (the most notable being France) operate such a tax credit system for portfolio financial investments. However, even disregarding the tax treatment of foreign exchange gains and losses, there are three factors which tend to bias this decision. Firstly, some countries which operate a credit system have a range of taxes on domestic and foreign investments. This is most notable in the case of countries, such as Italy, which apply different final withholding taxes to different types of financial instrument, including foreign investments. In other instances, saving incentives tend to be restricted to domestic financial instruments. Secondly, not all taxpayers may be able to credit foreign taxes against their domestic tax liabilities. For example, some institutions which are tax-exempt in their domestic markets are generally unable or may find it costly to recover taxes withheld abroad. This explains, in part, the growth of securities issued in the Euro-markets free of withholding taxes. Another example is where the tax credit on foreign dividends is not passed on to foreign investors. Finally, banking secrecy laws and the bearer status of securities issued in several countries tend to encourage tax evasion (Giovannini, 1989).³⁴

Two recent episodes which also highlight the impact of differences between domestic and international tax factors are the repeal in 1984 of withholding tax in the United States, and in 1988–89 the announcement, introduction and subsequent abolition of withholding tax in Germany.³⁵ Prior to the repeal of withholding tax in the United States, US companies issued Euro-bonds through their subsidiaries located in the Netherlands Antilles and channelled the proceeds to their head offices. This practice was advantageous because, under a tax treaty the US did not levy a withholding tax on interest payments to the Netherlands Antilles and the Euro-bonds were not subject to any levy. Since 1984 this practice has come to a halt and there is no longer any tax benefit to US companies from issuing Euro-bonds (Papke, 1988). In the German case, the announcement of the introduction of a withholding tax led to the unusual situation in which German government securities traded at a discount relative to Deutsche Mark denominated bonds issued in the Euro-markets to which withholding tax did not apply. This was widely interpreted as an indication that interest on government securities had not been previously declared to the tax authorities. Following the announcement of the repeal of this levy interest rate differentials have returned to normal.

The second factor which creates a distortion between domestic and foreign investments is the special treatment of capital gains and losses. For example, if foreign exchange gains and losses are taxed at a lower rate than interest income, the real rate of interest must be higher in countries with high inflation

in order to discourage tax arbitrage (Gordon, 1987). These effects may also interact to compound the locational effects which have already been mentioned.

6. TAX ARBITRAGE, FINANCIAL INSTRUMENTS AND THE TAX STRUCTURE OF RETURNS

Arbitrage is a process whereby profit is generated from price discrepancies by the simultaneous, or nearly simultaneous, purchase and sale of identical or very similar assets or goods. Arbitrage in financial markets is common; it is the process through which the rate of return on assets of similar risk is brought into equality. Tax arbitrage exploits the differences in tax treatment of the returns or cash flows on different assets and liabilities. We have already mentioned numerous cases of tax arbitrage typically associated with exploiting differences between the rate at which interest payments are deductible from tax and that at which interest receipts are taxed.

A second type of arbitrage is where all the gains from the transaction are induced by the manipulation of the tax system. In this case the taxpayer buys and sells essentially the same asset to exploit the differences in tax treatment of the purchase and sale in order to reduce tax liabilities. For example, if capital gains realised on a share can be offset against other losses it may be possible to artificially create a loss to reduce tax liabilities. The easiest way to create tax losses is to purchase and sell simultaneously two futures contracts on a very volatile commodity, such as silver. At the end of the accounting period the futures position in silver which has generated a loss is closed out and used to offset accrued capital gains on the offsetting contract. On the following day the futures position in silver is reopened (possibly for a different delivery date) to maintain a neutral portfolio position and to defer gains.

While this example may be somewhat extreme, and indeed the tax authorities in most countries tend to prohibit the most blatant arbitrages, there can be little doubt that recent financial innovation has often been driven by an attempt to avoid tax. The variety of forms which particular streams of cash flows can take is limited only by the imagination of 'financial engineers'. The possibility of recombining and 'unbundling' obligations together with the many dimensions along which the taxation of a specific financial instrument may vary make it virtually impossible to summarise the manner in which tax considerations influence decision-making and the prices of various instruments. The most important factors which are likely to affect the taxation of different financial instruments are the characteristics of a participant in a transaction, the manner in which payments and receipts are characterised for tax purposes, the time at which a charge is levied or an allowance is

given, and the location which is deemed to be the source of cash flows. More generally, as markets become less segmented the potential effective rate of tax on various sources of income becomes a more important determinant of decisions and at the same time more difficult to isolate.

CONCLUSIONS

The objective of this paper has been to document in an anecdotal fashion the manner in which taxes affect financial intermediation. It is possible to draw four tentative conclusions from this analysis.

Firstly, some of the broader trends in the allocation of savings in recent years appear to have been partly related to tax factors. In terms of financial intermediation, the growth of pension funds and insurance companies in certain countries is the most notable example. In addition, many types of financial instrument have been motivated by an attempt to minimise taxes.

Secondly, in view of the wide number of channels through which saving is intermediated and taxes affect the structure of returns on various assets, it is by no means clear that specific savings incentives have an impact on the aggregate level of savings.

Thirdly, the lifting of barriers to capital movements as well as the lower degree of segmentation between markets tends to impose a downward pressure on tax rates on capital income. The growing presence of institutional investors demanding securities that are exempt from tax and tax evasion appear to be the major factors behind this trend. Moreover, as a result of the multiplicity of arbitrage possibilities, it becomes difficult to identify the marginal tax on savings.

Finally, given the growing internationalisation of financial markets it has become more difficult to use the tax system to pursue domestic objectives. Tax-favoured channels of financial intermediation, such as the 'Maruyu' system abolished recently in Japan, become difficult to uphold and transactions taxes which tend to limit activity in securities markets cause activity to migrate overseas. As a result, in some countries the use of tax/subsidy mechanisms as a means of supporting bank-centred financial intermediation may become less effective.

NOTES

*The views expressed in this paper are personal and do not necessarily reflect those of the BIS.

1. Gordon and Slemrod (1988) provide evidence for the United States that in 1983 on balance exempting capital income from taxation would have raised more revenue than the current tax system.

2. This view is reflected in the 'classical' system of corporate taxation, which treats corporations and their shareholders as separate entities.
3. There is evidence, however, of tax evasion on interest income (see below).
4. This is the case independently of the measure of leverage used. See Borio (1990).
5. A notable example in this context is tax exhaustion, which limits the advantage of the tax deductibility of interest payments from corporate tax.
6. Expression (2) does not allow for non-linearities in the taxation of interest income, including those resulting from the tax deductibility of savings.
7. The effects of taxation on portfolio choice have been shown to depend on the interaction between the degree of individuals' risk aversion, the deductibility of interest expenses and the loss offset provisions of the tax system.
8. Analysis of differences in tax systems across countries is difficult because of institutional differences and deviations between the law as practised and the statutes as published. Moreover, national differences in tax compliance may affect the actual effectiveness of the provisions of the law.
9. In France taxes are enforced in two ways. Firstly, banks are obliged to transmit a '*relevé de coupons*' to the tax administration informing it of the amount of revenue actually collected by individual taxpayers. Secondly, at a subsequent stage the tax administration has the authority to request any information concerning the investments of individual taxpayers.
10. Unfortunately, there are few empirical studies of the impact of tax rates on the demand for assets. Two notable exceptions are the studies by Feldstein (1976) for the United States and Artus and Rousseau (1989) for France.
11. Munnell (1989) has estimated that the revenue effects of 'agreed upon' employee benefits receiving a favourable treatment under US personal income tax – comprising pension fund and life and health insurance contributions – amounted to 17 per cent of income tax receipts in 1987.
12. This has led some authors to argue that pension funds should invest in securities which are heavily taxed under personal income tax, such as bonds and high dividend paying shares.
13. The distinction between funded pension plans and pension plans which are the direct liability of a corporation is blurred in the case of defined-benefit plans. In this case a firm is liable to provide a particular stream of benefits to workers regardless of the corporate pension plan's asset position.
14. Another effect is that arising from ceilings on the amount of contributions. In the United States, under ERISA full-funding limitations generally make it impossible for firms to make any contributions in excess of a permissible limit. Owing to the increase in stock prices in the 1980s many private pension plans became 'overfunded' and limits on the amounts of pension contributions have led to a decline in reported personal saving. See Munnell and Ernsberger (1987).
15. Johnson (1985), quoted in Feenberg and Skinner (1989), estimated that in the case of Individual Retirement Accounts the United States Government lost \$7 billion in tax revenue to generate \$7 billion of net saving.
16. This section is concerned only with the interrelation between taxes and owner-occupied housing.
17. Other tax provisions affecting individuals' tenure and financing choices are property taxes, the deductibility of debt from the computation of net wealth taxes and the deductibility of local taxes on housing from personal income tax.
18. The user cost u is estimated (Poterba, 1984) as

$$u = [d + i'z\tau + (1 - \tau z')i - \pi],$$

where d is the rate of depreciation of structures (inclusive of maintenance costs) assumed to be equal to 1.4 per cent, i' is the rate at which rental income is imputed for owner-occupied housing, z is the ratio of the assessed value of the house to its market value, τ is the top personal marginal tax rate, z' is the estimated share of mortgage interest payments which are tax-deductible, i is the nominal rate of interest assumed to be equal to 7 per cent and π is the rate of inflation assumed to be equal to 3 per cent. The capital gains tax on the increase in the value of housing and property taxes are set equal to nil.

19. Norway and Finland (not shown in this table) afford equally favourable treatment.
20. In the United States, the recent increase in mortgage debt has coincided with a decline in other consumer debt. This shift is attributable to the effects of the 1986 Tax Reform Act which withdrew the deductibility of interest on consumer loans.
21. Two important sets of regulations which are not discussed in this paper are the new prudential bank capital requirements and deposit insurance. The implementation of risk-based capital guidelines has major implications for banks' portfolio decisions, the relative pricing of their assets, the composition of liabilities and possibly the structure of the banking industry. Taxes have a direct bearing on the composition of liabilities because various instruments eligible as capital are subject to differing tax treatment.
22. Quantitative constraints on bank lending and restrictions on interest rates charged by banks are a further set of regulations still in force in certain countries. However, in most European countries as well as in the United States and Japan there has been a tendency to remove these regulations.
23. Romer (1985) shows that under certain simplifying assumptions a steady-state economy with no reserve requirements, a tax rate of β on deposits D , and an amount $B + \beta D$ of government bonds corresponds to a steady state of an economy with no tax, a reserve requirement β and a quantity of bonds B . That is, "a reserve requirement is equivalent to a combination of a tax on deposit interest and a government issue of bonds" (p. 189). The contraction effect on banks' balance sheets could be partly offset by a retirement of bonds which frees savings (reserves) for private investment.
24. For a more detailed analysis of the wedge in Spain taking account also of other constraints on banks' portfolios, see OECD (1986).
25. Garber and Weisbrod (1991) argue that if negotiable money market instruments not subject to reserve requirements, such as commercial paper, need to be settled periodically in demand deposits, then the burden of the reserve requirement will also fall on holders and issuers of these securities.
26. The growth of leasing in several countries can be attributed partly to the use of depreciation allowances by banks (as lessors) to exploit situations where lessees had no taxable capacity ('tax exhausted'). For a description of some of the implications, see Edwards and Mayer (1983).
27. Between 1982 and 1986, banks were denied 20 per cent of their indebtedness incurred to purchase tax-exempt obligations acquired after 1982. Following the Tax Reform Act of 1986 it is no longer possible to undertake these deductions. Another reason for banks' sales of municipal bonds is that the instruments are treated relatively unfavourably by the new prudential capital guidelines.
28. Another motivation for establishing affiliates in 'offshore centres' is to avoid local taxes. For example, before the opening of International Banking Facilities in the United States in December 1981, earnings from foreign lending by banks in the United States were subject to local taxes.
29. The new international prudential capital guidelines exclude specific provisions.
30. In the United States, the value of a tax deduction depends in part on whether it is applied

- against domestic or foreign source income. Since many banks have only limited potential liabilities in respect of foreign source income by virtue of the tax credits from double taxation relief, tax deductions applied against foreign source income reduce the value of these credits.
31. In Japan, where tax deductibility for provisions against loans to problem debtor countries has until recently been limited, losses realised on loan sales in the secondary market have generally not been recognised. However, in some instances these restrictions have been waived and Japanese banks have also been allowed to sell existing loans to a factoring company set up jointly by the major banks claiming tax deductions on the loss incurred.
 32. An extensive survey of the problems encountered in designing a comprehensive transactions tax is discussed in White, Kupiec, and Duffee (1990).
 33. This estimate was cited by the President of the Stockholm Stock Exchange. (*Wall Street Journal*, 27th November 1989, p. 12.)
 34. Owing to measurement difficulties the degree of banking secrecy in individual locations was not considered. For an attempt at measuring banking secrecy, see Grilli (1989).
 35. Withholding tax legislation can be very complex and lead to puzzling financial outcomes. A case in point is the use of 'conduits' for affiliates of Italian banks for lending to Italian residents. External borrowings by Italian residents from foreign-owned banks are subject to withholding tax whereas those from the foreign affiliates of Italian banks do not attract the tax. As a result, for a fee, many non-Italian banks channel their lending to Italian residents through the foreign affiliates of Italian banks.

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VII. Fiscalité et épargne des ménages en France à l'heure de l'intégration européenne

PIERRE LLAU

INTRODUCTION

La relation fiscalité/épargne des ménages est, à l'orée de la décennie 90, en France comme dans les grands pays industrialisés, d'importance et d'actualité certaines. D'importance tout d'abord, dans la mesure où la fiscalité étant une composante du rendement net de l'épargne, elle est susceptible de jouer un rôle dans la constitution et, plus encore, le placement de cette épargne. D'actualité ensuite, les écarts de fiscalité entre produits financiers pouvant induire des risques de délocalisation de l'épargne, non-négligeables dans un espace financier européen en voie d'intégration avec harmonisation de facto au "moins disant fiscal", tout en se rappelant que les mouvements de capitaux sont désormais mondialisés avec la levée générale du contrôle des changes.

Deux notations définitionnelles doivent être posées à titre préalable: l'épargne des ménages étudiée ici est une composante de l'épargne privée; la fiscalité de l'épargne abordée ci-après est un élément de la fiscalité du patrimoine (ou du capital).

L'épargne privée, dont l'évolution de longue période en France fait apparaître une stabilité relative par rapport au PIB (à l'opposé de l'épargne publique qui a connu des fluctuations non-négligeables), est une addition de comportements dissemblables. L'épargne privée est en effet la somme de l'épargne des ménages, des sociétés non financières, et des institutions financières (y compris les sociétés d'assurance). Or l'épargne des sociétés non financières est par définition égale à leur revenu (puisque ces sociétés n'ont pas de consommation finale), et ce revenu dépend fondamentalement de l'évolution du partage de la valeur ajoutée des entreprises. L'épargne des établissements de crédit est pour sa part peu comparable à celle des autres secteurs et sert (dans une proportion importante) à la constitution de provisions (notamment pour créances douteuses). L'épargne des sociétés d'assurance, fruit d'une politique spécifique de réserves, est affectée par les plus-values de placements de ces sociétés, rétrocédées (pour l'essentiel) par voie de transfert au bénéfice des ménages. Ainsi au sein de l'épargne privée, l'épargne des ménages est elle seule à révéler le jeu d'une "autonomie relative" de comportement économique.

La fiscalité de l'épargne peut affecter cette dernière selon trois perspectives selon que l'on appréhende la formation, la détention ou la transmission du capital. La fiscalité de la formation du capital porte, au delà de l'imposition sur le revenu lui-même, sur le revenu courant généré par l'épargne. Qu'elle fasse l'objet d'une imposition spécifique ou qu'elle soit intégrée dans l'ensemble des revenus du contribuable, cette fiscalité est assise sur les revenus courants de l'épargne y compris, en une conception large du revenu, les plus-values en capital. La fiscalité de la détention du capital atteint pour sa part la valeur, périodiquement évaluée, de ce capital (c'est par exemple le cas de l'impôt de solidarité sur la fortune, I.S.F., en France à l'heure actuelle). La fiscalité de la transmission du capital porte, pour ce qui la concerne, sur la valeur atteinte par ce dernier à la date de la transmission (c'est le cas classique des impôts sur les successions, dotations ou mutations à titre onéreux). A l'évidence, si la prise en compte des trois approches serait de première importance pour l'analyse de la relation fiscalité-patrimoine des ménages, on centrera ici l'analyse sur la première perspective dite de formation du capital i.e. imposition des revenus de l'épargne (plus-values incluses) en relation avec l'évolution de la constitution, des placements et de la localisation de l'épargne des ménages.

Une mise en évidence de la relation fiscalité/épargne des ménages en France implique un processus en deux étapes: un état des lieux doit permettre de préciser la situation à l'heure de l'intégration européenne; une mise en perspective devrait permettre de dégager ensuite les lignes d'évolution face à l'espace financier européen intégré.

1. SITUATION DE L'EPARGNE DES MENAGES EN FRANCE A L'HEURE DE L'INTEGRATION EUROPEENNE

Quelle est la situation de l'épargne des ménages en France à l'heure de l'intégration européenne et quel est l'impact de la fiscalité sur le niveau, la structure et les emplois de cette épargne? Un diagnostic préalable s'impose dans la mesure où l'intégration européenne doit induire un rapprochement des taux de rendements après impôt de l'épargne dans les différents pays, limitant par la même l'autonomie des politiques fiscales des Etats-nationaux. Pour dresser un état des lieux à la fin des années 80, on distinguera successivement: l'évolution du taux d'épargne des ménages, celle des comportements financiers de ces derniers, puis l'impact de la fiscalité sur cette épargne.

1.1. L'évolution du taux d'épargne des ménages

L'évolution du taux d'épargne des ménages en France doit être replacée dans la perspective mondiale d'évolution des taux d'épargne nationaux.

1.1.1. Une comparaison de la situation de la décennie 70 à celle qui lui a succédé, fait apparaître une diminution des taux d'épargne nationaux pour nombre de pays industrialisés. Une baisse de 5 points de PIB au cours de la période 1973-1987 est généralement retenue à titre d'ordre de grandeur (notamment dans les données du FMI qui insiste sur le développement de l'économie souterraine, lié entre autres à des considérations fiscales, au cours des années 80 ce qui peut conduire à une sous-estimation des revenus et de l'épargne).

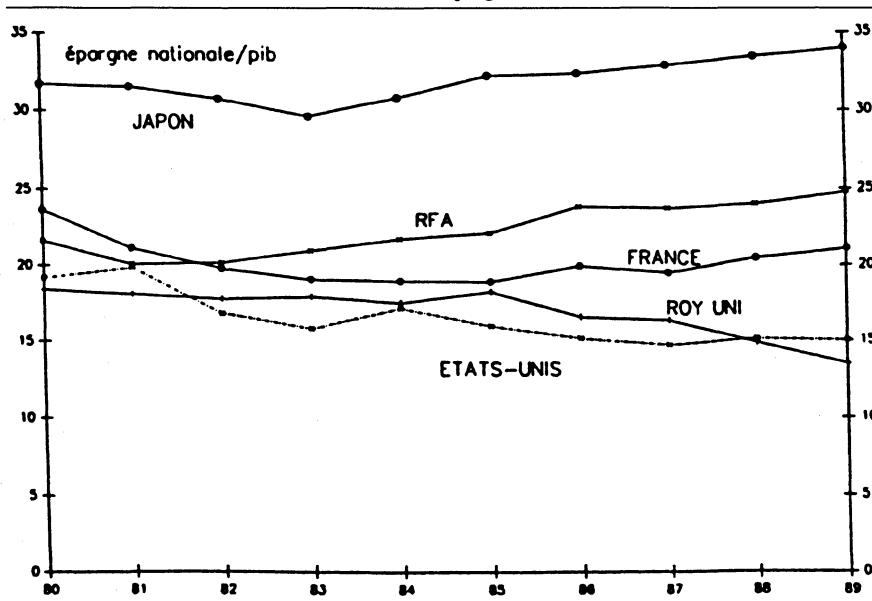
Dans les années 80, les déséquilibres internationaux et les fluctuations de parités – traduisant entre autres des déséquilibres entre épargne et investissement nationaux – ont conduit à une évolution divergente des taux d'épargne nationaux: hausse au Japon et en R.F.A., baisse aux U.S.A. et au Royaume-Uni, baisse en France. Pour ce dernier pays, partant d'un point haut (23,6% du PIB) en 1980 on atteint 18,9% en 1985, avec une remontée subséquente jusqu'à 21,3% en 1989 (soit à 1,5 point au-dessous du taux atteint dix ans auparavant). Ainsi, les taux d'épargne nationaux des grands pays industrialisés font-ils désormais apparaître des divergences non négligeables (Tableau 1).

Cette évolution globale traduit cependant une profonde modification de la répartition de l'épargne entre les agents. Dans les principaux pays industrialisés, l'évolution de l'épargne publique diffère suivant les pays, ce qui reflète la diversité des politiques budgétaires, avec baisse jusqu'en 1983 et redressements diversifiés (conséquences de l'austérité budgétaire) selon les pays, ensuite. Par contre, en ce qui concerne l'épargne privée, la tendance est commune au cours des années 80: augmentation de l'épargne des sociétés et baisse de l'épargne des ménages se compensent assez largement en une minimisation des fluctuations de l'épargne privée.

Une focalisation sur la situation française fait apparaître trois phénomènes majeurs. L'épargne publique baisse nettement de 1980 à 1985 (passant de 3,7 à 0,5% du PIB) puis remonte à 2% en 1989 ce qui est le corollaire de l'évolution des soldes budgétaires (et de la structure des dépenses publiques) au cours de la période. On ajoutera: les fluctuations de cette épargne publique ont été le facteur essentiel des fluctuations de l'épargne totale. Une certaine compensation est en effet apparue entre les composantes de l'épargne privée (Tableau 2)

L'épargne des sociétés non financières a nettement augmenté, passant de 6% du PIB en 1981/82 à 11% en 1989 (conséquence directe de la modification

Tableau 1. Taux d'épargne nationaux.

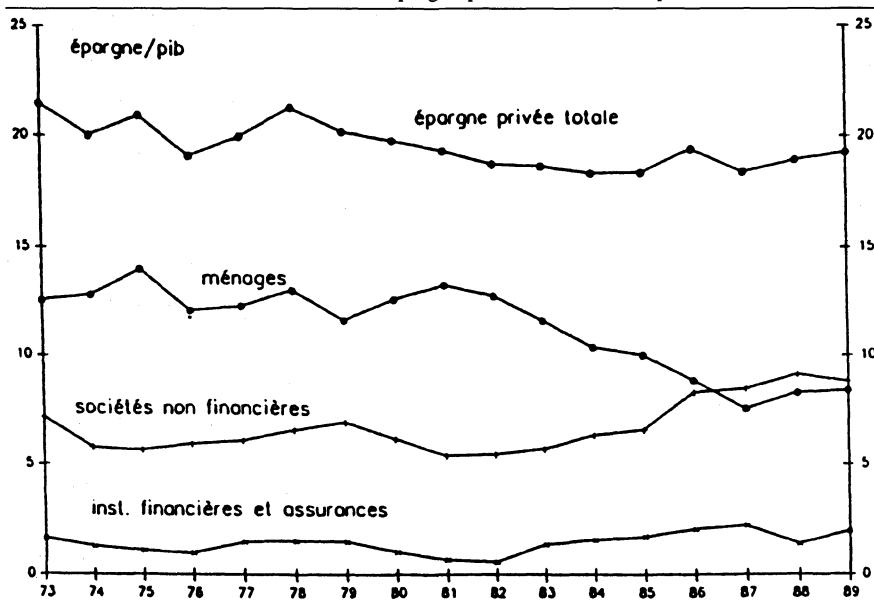


Source: Comptes de la Nation, (21) 1990.

de la répartition de la Valeur ajoutée brute des entreprises). L'épargne des ménages a par contre vivement baissé. Elle ne représente plus aujourd'hui que 8,3% du PIB alors qu'elle en représentait 12 à 13% en 1975/80 et 12% en 1982. Le taux d'épargne brut des ménages (ratio de l'épargne sur le revenu disponible brut) a baissé de 6 points en une décennie passant de 18% de ce revenu en 1981 à 12,3% en 1989 ainsi que l'indique le Tableau 3. On notera par ailleurs que le taux d'épargne financière (capacité de financement/revenu disponible brut) s'est lui aussi dégradé au cours de la période. Ce sont là des faits majeurs qu'il convient de s'efforcer d'expliquer.

1.1.2. Une mise en évidence des facteurs explicatifs de cette baisse du taux d'épargne des ménages pourrait conduire à s'interroger sur les déterminants théoriques à long terme de ce taux: variables démographiques; taux de croissance du revenu réel; composition et répartition du revenu; horizon temporel des ménages (les ménages à horizon court sensibles au revenu courant, s'opposant aux ménages ayant pour horizon le cycle de vie ou adoptant un comportement dynastique); influence du taux d'intérêt, le revenu de l'épargne pouvant être un facteur d'arbitrage intertemporel entre la consommation et l'épargne; action de la fiscalité de l'épargne qui vient

Tableau 2. Evolution de l'épargne privée et de ses composantes.



Source: Comptes de la Nation, (21) 1990.

Tableau 3. Taux d'épargne des ménages (en % du revenu disponible brut)

Année	Taux d'épargne (en %)	Taux d'épargne non financière (en %)	Taux d'épargne financière (en %)
1980	17,6	12,5	5,1
1981	18,0	11,3	6,7
1982	17,3	11,0	6,3
1983	15,9	10,4	5,5
1984	14,5	9,6	4,9
1985	14,0	9,2	4,8
1986	12,9	9,4	3,5
1987	11,1	9,5	1,6
1988	12,1	9,1	3,0
1989	12,3	9,7	2,6
1990*	12,7	9,8	2,9
1991*	12,8	9,9	2,9

Source: CNC (23) 1990b et Comptes Prévisionnels de la Nation pour 1990 et 1991 (* = prévisions)

diminuer le revenu net de l'épargne; rôle de l'inflation; régimes de protection sociale; rôle de la variable logement et de l'endettement en vue du logement; rétroaction des comportements de placement sur le niveau de l'épargne, importance du patrimoine et des effets de richesse; évolution générale des références de valeur sociétales . . .¹.

On se bornera ici à indiquer les éléments qui semblent jouer le rôle essentiel dans la baisse du taux d'épargne des ménages en France, ainsi que dans le déclin relatif de leur taux d'épargne financière.

Trois facteurs primordiaux sont mis en évidence par les principales études économétriques sur la question: évolution du revenu réel, effet d'encaisses réelles et rôle de l'investissement-logement². L'évolution du revenu réel est liée à celle de la désinflation. En effet, la désinflation des années 80 a entraîné un net ralentissement, et certaines années une baisse du revenu salarial net moyen par tête. Si, comme c'est le cas à court terme, les ménages maintiennent le taux de croissance de leur consommation alors que leur pouvoir d'achat se modifie, un ajustement s'opère sur l'épargne. Certes une adaptation s'opère à long terme mais, dans la mesure où les ménages ont des objectifs de patrimoine désiré qui varient avec leur revenu, la correction qui intervient ne compense pas parfaitement le premier effet. L'effet d'encaisses réelles est lié à l'effet différencié de l'inflation sur les diverses composantes du patrimoine des ménages. C'est bien entendu sur le patrimoine financier en liquidités, net de dettes, que l'action est la plus sensible: la désinflation a ainsi entraîné, *ceteris paribus*, une diminution de l'épargne. Le rôle de l'investissement-logement est plus ambivalent: le logement est en effet conjointement motif d'épargne et motif d'endettement. En tant que motif d'épargne on ne peut que constater la forte diminution depuis 1981 de l'investissement-logement par référence au revenu disponible brut des ménages (diminution imputable à l'évolution du revenu des ménages, à la montée des taux d'intérêt, à des variables démographiques). En tant que motif d'endettement, il faut noter que la constitution d'une épargne en vue du logement prend la double forme d'apport personnel (épargne préalable) et de remboursement d'emprunts (épargne préaffectée) avec différenciation entre intérêts (consommation) et amortissements (épargne). L'évolution de la proportion précédente dépend de l'évolution des crédits et des taux d'intérêt: les fluctuations de cette proportion ont atténué l'effet défavorable sur l'épargne de la baisse de l'investissement logement constatée depuis 1981, avec inflexion de la tendance depuis les renégociations d'emprunt intervenues en 1986-87³.

Deux effets controversés, effets de richesse et effets des crédits de trésorerie, conduisent à des résultats imprécis ou peu probants. Les effets de richesse sont liés à l'influence exercée sur l'épargne des ménages par l'évolution du prix de leurs actifs patrimoniaux. La forte hausse du cours des actions depuis 1985 – avec multiplication par 4 de 1982 à 1988 –, tout comme celle

du prix des logements dans la Région parisienne, ne sont sans doute pas étrangères à la baisse du taux d'épargne puisque les détenteurs de tel actifs ont besoin d'épargner beaucoup moins pour atteindre leur patrimoine désiré. Les résultats économétriques sur ce point sont cependant imprécis, l'existence d'importantes plus-values sur les valeurs mobilières étant en France un phénomène trop récent⁴. Les effets des crédits de trésorerie, en forte croissance depuis 1986 ont pu pour leur part, en stimulant la consommation, concourir à la baisse du taux d'épargne, ou à tout le moins à un effet de lissage, phénomène qui donne lieu à des résultats économétriques controversés⁵.

Quatre effets, importants dans l'analyse théorique, n'ont pu être mis en évidence dans les essais explicatifs de l'évolution en baisse du taux d'épargne en France: le taux d'intérêt, les variables démographiques, les régimes de retraite, la structure des revenus. Le taux d'intérêt n'a pas en France d'influence décelable sur l'évolution du taux d'épargne des ménages, contrairement à certains tests sur d'autres pays, et contrairement à l'analyse néo-classique ou nouvelle économie classique de la relation entre le taux d'épargne et le taux d'intérêt. Cette absence d'influence apparaît dans la quasi-totalité des études économétriques sur la question⁶. Indépendamment de l'explication théorique liée à la compensation entre les effets de substitution et de revenu afférents à une variation des taux d'intérêt, on ne saurait omettre l'effet des crédits au logement: toute hausse des taux d'intérêt créditeurs (placements) va généralement de pair avec une hausse des taux d'intérêt débiteurs (emprunts); l'effet positif du taux d'intérêt sur l'épargne, via les placements financiers, peut être contrebalancé par l'impact négatif exercé via l'investissement-logement et l'endettement qui en résulte⁷. Cette absence d'influence du taux d'intérêt va de pair avec une absence d'effets sur le taux d'épargne, de la fiscalité des revenus de l'épargne; les variations de la fiscalité (notamment les abaissements spécifiques retenus dans le passé) sont généralement faibles en proportion des variations totales du taux d'intérêt et se traduisent justement par des variations du taux d'intérêt net⁸. Les variables démographiques, sous réserve de leur effet via l'investissement-logement, n'ont pas elles n'ont plus en France d'influence décelable sur le taux d'épargne des ménages notamment via l'aspect "cycle de vie": la structure par âge de la population ne se modifie que fort lentement (l'effet en résultant a été de l'ordre de 1 point de taux d'épargne au maximum de 1970 à 1985) et la modification du Rapport Actifs-Inactifs n'aura d'effet important que dans une décennie. Les régimes de retraite, comme la structure des ressources (avec notamment l'importante augmentation de la part des revenus de transfert) n'ont pas par ailleurs d'influence globalement dépressive sur le taux d'épargne des ménages, contrairement à la thèse vigoureusement défendue par M. Feldstein⁹.

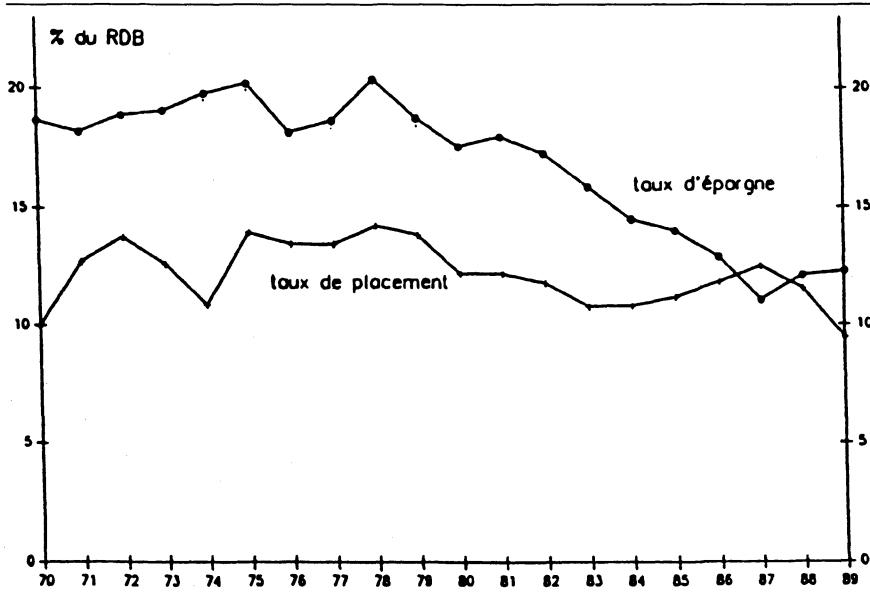
1.2. L'évolution des comportements financiers des ménages

L'évolution des comportements financiers des ménages en France doit être précisée, tant par référence au contexte mondial de croissance des mouvements de capitaux, que dans le cadre de la profonde évolution connue par le système financier français.

1.2.1. Les années 80 ont connu, en France comme dans les principaux pays de l'OCDE, une importance croissante des flux de capitaux de et vers l'extérieur. Trois facteurs clés caractérisent ce phénomène. Les déséquilibres de balance courante, nettement plus importants que dans le passé, ont directement conduit à un accroissement des flux internationaux de capitaux. La disparition du contrôle des changes dans plusieurs pays (ce sera notamment le cas pour les entreprises en France en 1987) et la mise en place d'un environnement financier attrayant pour les investisseurs étrangers ont accentué le phénomène. Le souci des entreprises de disposer d'implantations à l'étranger, de conclure des accords de partenariat, comme le souci de diversification de portefeuille des institutions financières, sociétés d'assurance . . . voire entreprises et ménages impulsés par le "motif de spéculation" ont parachevé la tendance. Cet accroissement de flux internationaux de capitaux s'est par ailleurs accompagné d'une croissance des investissements de portefeuille nettement plus rapide que celle des investissements directs, conduisant ainsi à une véritable "mobiliérisation" ou "titrisation" externe de l'économie. Ainsi par exemple pour la France, les investissements nets de résidents en valeurs étrangères sont passés de 10 milliards de francs au début des années 80, à près de 40 milliards en 1989; dans le même temps les achats nets de valeurs françaises sont passés d'un niveau voisin de zéro à 165 milliards de francs en 1989.

Les années 80 ont été aussi, pour la France, celles d'une mutation profonde du système financier inscrite dans le nouveau contexte international¹⁰. On n'insistera pas ici sur ce point, se contentant de rappeler quatre thèmes clés: décloisonnement des marchés de capitaux et des marchés des crédits, réforme des marchés financiers avec dérégulation et modernisation des opérations financières, encouragement à l'épargne longue, novation de la dette publique. Ces mutations ont profondément modifié le système financier français caractérisé désormais par un double essor des titres longs et des titres monétaires, allant de pair avec une "marchéïsation" des placements et des financements avec "mobiliérisation" des placements et "désintermédiation" des financements¹¹. Ainsi a-t-on vu apparaître un système financier plus efficace mais sans doute plus vulnérable aux chocs économiques et financiers, système en transition d'une économie d'endettement vers une économie de marchés

Tableau 4. Taux d'épargne et de placement financier des ménages.



Source: Comptes de la Nation, (21) 1990.

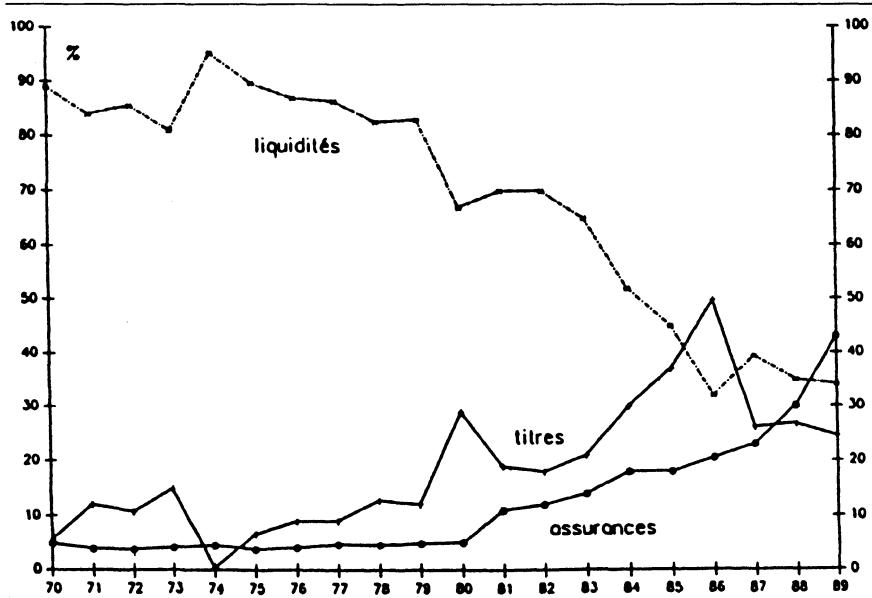
financiers. C'est dans le cadre de ce système que les comportements financiers des ménages ont connu, eux aussi, une véritable novation.

1.2.2. Trois phénomènes caractérisent l'évolution des comportements financiers des ménages au cours des années 80: stabilité relative du montant des placements; modification profonde de la composition des placements et par voie de conséquence de la structure des patrimoines financiers; croissance de l'endettement.

La stabilité relative du montant total des placements des ménages, telle qu'elle apparaît dans le Tableau 4¹², recouvre en fait un double phénomène: parallélisme au taux d'épargne jusqu'en 1983, puis remontée jusqu'en 1987 avec atteinte du niveau de la fin des années 70. Cette remontée particulière paraît s'expliquer par une modification des taux de rendement relatif en défaveur du marché de l'immobilier entraînant l'apparition de placements supplémentaires.

Les modifications profondes de la composition des placements (et par voie de conséquence de la structure des patrimoines financiers) des ménages, sont dues fondamentalement aux mutations du système financier français dans le sens de la "mobiliérisation" précitée, allant de pair avec les mesures (notam-

Tableau 5. Evolution du flux annuel de placement des ménages (en %).



Source: Comptes de la Nation, (21) 1990.

ment fiscales) prises par les pouvoirs publics en faveur de l'épargne longue. Une analyse de l'évolution des flux de placements laisse apparaître les faits majeurs suivants (Tableau 5).

Il y a tout d'abord une nette augmentation des placements en titres et notamment sous formes de parts d'OPCVM (avec accélération du rôle dévolu aux SICAV court terme après 1982). Il y a ensuite une nette diminution des placements liquides qui, représentant 80 à 90% des flux de placements au cours de la décennie 70, n'en représentent plus que 35% aujourd'hui. Les placements sous forme d'épargne contractuelle, notamment sous forme de Plans d'épargne logement, de contrats d'assurance vie (de Plans d'épargne populaire en 1990) ont pour leur part nettement augmenté représentant plus de 40% des flux de placement. Une analyse de la structure des patrimoines financiers confirme, bien entendu, les tendances en flux. La part des actifs négociables sur un marché s'est accrue considérablement: les actions et participations qui représentaient moins de 10% de ce patrimoine à la fin des années 70 ont quadruplé en une décennie (nonobstant le krach de 1987) et les titres d'OPCVM représentent près de 10% de la structure des encours financiers (Tableau 6). De façon symétrique les actifs non négociables (moyens de paiements et autres liquidités hors épargne contractuelle) ont nettement régressé, leur part revenant de plus de 50% à moins de 40% au cours

Tableau 6. Structure du patrimoine financier des ménages (en %)

	1983	1984	1985	1986	1987	1988	1989
Moyens de paiement	16,4	16,1	15,4	14,3	14,6	13,3	12,2
Autres liquidités (sans épargne contractuelle)	36,1	34,7	32,7	28,2	29,6	26,1	21,3
Epargne contractuelle	3,9	4,2	4,4	4,8	5,8	5,8	4,8
Titres du marché monétaire	-	-	-	-	-	0,1	0,1
Obligations	10,7	9,3	8,9	7,3	7,2	5,1	4,8
Actions et autres participations (dont OPCVM)	17,3	22,0	25,5	33,0	31,1	38,0	44,4
(4,6)	(5,8)	(7,7)	(9,5)	(9,2)	(11,7)	(11,4)	
Prêts à court terme	7,6	5,1	4,2	3,5	2,4	2,1	2,1
Crédits à moyen et long terme	0,5	0,4	0,4	0,1	0,1	0,1	0,2
Réserves techniques d'assurance	7,5	8,2	8,5	8,8	9,2	9,4	10,1
Total encours financiers	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Source: TOF en encours, Banque de France (11) 1990, (situation au 31 décembre).

des années 80. L'épargne contractuelle pour sa part a connu une lente mais sûre augmentation. Les réserves techniques d'assurance représentent quant à elles aujourd'hui plus de 10% de la structure des patrimoines financiers des ménages, traduisant notamment l'importance des engagements dans le cadre de divers types de contrats d'assurance-vie ou d'assurance retraite.

La croissance de l'endettement des ménages au cours de la décennie 80 a été imputable à un double phénomène: l'encours des crédits au logement a modérément progressé de 26% (en 1981) à 32% (en 1989) du revenu disponible brut des ménages: les crédits de trésorerie ont pour leur part nettement augmenté, leur encours (au revenu disponible brut des ménages) passant de 2,9% en 1981 à 8,4% en 1989. Les ménages français ont cependant un niveau d'endettement qui, s'il est relativement proche de celui des allemands, est cependant nettement inférieur à celui des ménages britanniques, japonais ou américains.

1.3. *L'impact de la fiscalité sur l'épargne des ménages*

L'analyse de l'impact de la fiscalité sur l'épargne des ménages conduit à distinguer l'effet sur le taux d'épargne, de l'effet sur la composition des placements financiers.

1.3.1. L'effet sur le taux d'épargne, notamment via l'analyse de l'effet du taux d'intérêt net d'impôt, est économétriquement indécelable en France comme on l'a déjà noté lors de l'analyse des déterminants du taux d'épargne des ménages.

Une récente étude de P. Artus, E. Bleuze, F. Legros et J. P. Nicolai¹³ a testé sur la période 1970–1988 l'incidence de trois variables de politique publique favorable à l'épargne: variations en termes réels du plafond du livret A défiscalisé, variations en termes réels du plancher de dépôts à terme conduisant à une liberté de rémunération, et effets du taux d'avantage fiscal en faveur des souscripteurs de contrats d'assurance-vie¹⁴. Ni les variations du taux d'avantage fiscal, ni celles du plafond du livret A n'apparaissent avoir d'effet; seule la variation du plancher des dépôts à terme donne un résultat faiblement significatif comme l'indique l'estimation ci-après:

$$\begin{aligned} \text{Log } C &= 1,05 + 0,58 \text{ Log } C_{-1} + 0,20 \text{ Log } R - 0,09 \text{ Log } R_{-1} \\ (3,0) &\quad (7,3) \quad (2,8) \quad (1,2) \\ &+ 0,19 \text{ Log } S - 4 \cdot 10^{-4} P + 0,09 RT + 5,2 \cdot 10^{-8} PDT/P \\ (3,0) &\quad (1,1) \quad (1,5) \quad (1,5) \\ R^2 &= 0,998 \quad DW = 2,3 \quad SEE = 0,6\% \end{aligned}$$

avec

C = consommation

R = revenu disponible "humain" (i.e. excluant les ressources liées à la possession d'actifs)

RT = part des revenus de transferts dans R

S = richesse totale

P = taux d'inflation (année écoulée)

PDT = plancher de rémunération libre des dépôts à terme

Ainsi les mesures de politique publique (notamment fiscales) en faveur de l'épargne ne semblent pas avoir d'influence sur le taux de cette dernière qui résulte essentiellement de considérations macroéconomiques.

1.3.2. L'effet sur la composition des placements financiers, qui doit logiquement s'avérer d'importance, peut être testé soit par une approche en séries temporelles soit par une modélisation en termes de choix de portefeuille.

Les modèles basés sur les séries temporelles développés en France ces dernières années¹⁵ ne donnent en règle générale pas de résultats satisfaisants. En effet, l'absence de réforme fiscale importante afférente à l'épargne, tout au moins dans la période antérieure à 1990, rend difficile tout repérage des effets de la fiscalité même si les variations dans la composition des actifs

produisent un changement de taux moyen d'imposition (qui est en général de faible ampleur).

Les modèles de choix de portefeuille paraissent a priori plus intéressants puisqu'ils mettent en évidence une diversification d'actifs liée aux excès de rendements (nets de fiscalité) des différents actifs par rapport à celui de l'actif sans risque, compte tenu d'un coefficient d'aversion au risque. P. Artus et J. M. Rousseau ont présenté en 1989¹⁶ un modèle de ce type en distinguant deux sous-périodes, 1983–1986, et 1986–1988. Ils testent en ce sens, pour 17 actifs financiers de type a_i , compte tenu du taux moyen d'imposition t^i de ces actifs, l'équation suivante:

$$\bar{R}^{i,B} - \bar{r}^{0,B} = a_0 + a_1 \left[\sum_j w_{ij}^{(N)} \bar{\alpha}_j \right] + a_2 [\bar{t}^i R^{i,B} - \bar{t}^0 \bar{r}^{0,B}] + \theta_i$$

avec $\bar{R}^{i,B}$ = rendement moyen brut de l'actif risqué i

$\bar{r}^{0,B}$ = rendement moyen brut de l'actif sans risque

$w_{ij}^{(N)}$ = matrice des variances covariances (risque relatif et conditionnel des excès de rendement des actifs j détenus dans le portefeuille N par rapport à celui des actifs i)

α = part des différents actifs dans le portefeuille

τ = taux de fiscalité moyenne d'un actif

a_0 = constante

a_1 = degré d'aversion pour le risque

$a_2 = 1$ si la fiscalité est transmise intégralement dans les rendements bruts

θ = aléa

Les résultats de l'étude (non reproduits ici) sont relativement décevants pour ce qui concerne la mise en évidence du jeu de la fiscalité. En effet la variable fiscale n'a pas la valeur attendue et n'est pas par ailleurs significative. Il n'apparaît donc pas de correction des rendements bruts afin d'obtenir une égalisation des rendements nets d'impôts compte tenu des écarts de risque et d'offre d'actifs, phénomène sans doute explicable par le fait que la fiscalité varie peu au cours de la période étudiée, la constante jouant un rôle essentiel dans l'estimation de l'équation. Ainsi le marché des actifs financiers est-il, à la fin des années 80, et malgré plusieurs années de mutation du système financier allant vers le développement des marchés financiers et des crédits ainsi que leur décloisonnement, un marché peu intégré conduisant à s'interroger sur l'importance du risque de transferts d'actifs entre pays européens s'il n'y pas alignement complet des conditions créditrices.

2. PERSPECTIVES D'EVOLUTION DE L'EPARGNE DES MENAGES FACE A L'ESPACE FINANCIER EUROPEEN INTEGRE

L'Europe a franchi le 1er juillet 1990 une étape fondamentale dans la réalisation du marché unique avec la mise en oeuvre effective de la liberté de mouvements de capitaux qui vient compléter les avancées existant dans le domaine de la liberté d'établissement et de prestations de services relatifs aux opérations, opérateurs et produits financiers. Fait notable: la suppression du contrôle des changes (qui est, on le sait, au-delà de l'Europe des Douze une suppression "erga omnes") a été, en France, effective dès le 31 décembre 1989. Un an après le début de l'intégration financière européenne, quelle est l'expérience en matière de délocalisation de l'épargne des ménages à motivation fiscale et quelles sont les lignes de plus grande pente que l'on peut discerner dans l'évolution actuelle? C'est ce que l'on précisera en distinguant successivement: les risques de délocalisation de l'épargne et leurs motivations fiscales, les stratégies fiscales publiques et l'évolution de la délocalisation.

2.1. Les risques de délocalisation de l'épargne et leurs motivations fiscales

Les risques de délocalisation de l'épargne, liés notamment à l'existence d'écart nationaux de fiscalité, ont été vite perçus par les Etats-membres signataires de l'Acte unique, notamment par ceux qui, comme la France, ont (ou plutôt avaient) une fiscalité de l'épargne non négligeable eu égard aux "canons européens". Il est symptomatique à ce propos que le premier Rapport d'étape élaboré en février 1988 par "la Commission de réflexion économique pour la préparation de l'échéance de 1992" (Rapport BOITE-IUX)¹⁷ ait été consacré à "Fiscalité et marché unique européen", la fiscalité de l'épargne mobilière (opérations, opérateurs et produits de l'épargne) tenant une large place dans ce travail. De multiples travaux émanant tant d'organismes de recherches (INSEE, CEPII, OFCE, AEA...), que d'instances officielles (CNC, CGP, Sénat...) sont venus depuis lors enrichir les débats¹⁸. Il apparaît ainsi trois éléments essentiels à mettre en évidence à propos des risques de délocalisation: les problématiques, les typologies et l'importance des risques.

2.1.1. Les problématiques des risques de délocalisation ressortissent à deux sortes de démarches: l'analyse économique en termes de sélection de portefeuille; l'analyse juridico-administrative en termes d'applicabilité et d'application effective des règles.

L'analyse économique "classique" de sélection d'un portefeuille d'actifs financiers, se réfère à une comparaison inductive d'arbitrages entre actifs, basée sur le double critère de rendement attendu et de risque. Dans un

marché unique européen avec coexistence d'espaces monétaires, financiers et fiscaux nationaux (ce qui est la situation actuelle) des risques de délocalisation d'épargne à motivation fiscale apparaissent, soit par arbitrage entre actifs financiers de nationalité différente, soit même par arbitrage (spatial) entre actifs financiers de même nationalité¹⁹.

Dans le premier arbitrage les agents économiques comparent le rendement attendu et le risque d'actifs nationaux et d'actifs étrangers, le tout évalué en monnaie nationale. Le rendement attendu dépend dans ce cas du rendement de l'actif à l'étranger et de la variation anticipée de la devise étrangère. Dans une situation d'équilibre, les rendements attendus sur les actifs financiers des pays membres de la C.E.E. doivent s'égaliser. On voit ainsi à l'évidence, qu'indépendamment du différentiel de risque existant entre actifs nationaux et actifs étrangers, l'existence d'écart nationaux entre les fiscalités de l'épargne joue un rôle sur la (dé)localisation de cette dernière. Mais bien entendu, l'existence d'écart de risque peut induire elle aussi un processus de délocalisation. L'importance du rôle des deux types d'écart doit cependant être modulée par plusieurs considérations: niveau des écarts eux-mêmes, existence chez les agents de "préférences nationales d'actifs financiers" conduisant à une viscosité spatiale de comportement, importance relative de l'épargne défisc a lisée... Ainsi, une faible différence de rendement attendu entre deux actifs financiers nationaux et étrangers peut très bien conduire à une compensation au niveau du rendement global (et donc à une absence de délocalisation) lorsque la quasi-stabilité du change et donc la minimisation des écarts de risque sont assurés (ce qui est notamment le cas dans les phases de comportement non-tensionnel du SME). L'analyse précédente doit être par ailleurs complexifiée par prise en compte de l'inflation (et de la volatilité de cette dernière) compte tenu du rôle joué par le rendement réel moyen dans la localisation du placement de l'épargnant. C'est qu'en effet les conséquences du risque de change peuvent être compensées (au niveau du rendement réel) par celles afférentes à une moins grande volatilité de l'inflation. Ce phénomène est d'autant plus important que les pays à inflation stable (par exemple la RFA et la France à l'heure actuelle) sont souvent de facto des pays à inflation faible. Au total dans ce premier type d'arbitrage, les écarts entre taux de fiscalité (modifiant les rendements attendus des actifs nationaux et étrangers compte tenu des risques y afférents), sont tolérables et acceptables entre actifs de nationalité différente, dans la mesure où existe une imparfaite substituabilité à l'égard du risque²⁰.

Dans le second arbitrage les agents économiques comparent le rendement attendu et le risque entre actifs de même nationalité. Un agent national a en effet le choix entre deux solutions de détention d'un actif financier: il peut ouvrir un compte-titres (ou acheter des parts d'OPCVM spécialisé dans l'actif financier désiré) dans son propre pays; il peut ouvrir un compte-titres

à l'étranger (ou même acheter dans son propre pays des parts d'OPCVM étranger à spécialisation adéquate). Dans cette hypothèse, le différentiel de risque n'apparaît pas dans l'arbitrage entre les deux solutions. C'est donc le rendement réel net (rendement brut plus ou moins values incluses, moins la fiscalité et les frais de gestion – de facto minimes – avec prise en compte de l'inflation) qui joue le rôle essentiel. Bien entendu, ici encore des préférences de gestion nationales d'actifs financiers, l'inertie des comportements . . . - peuvent notamment à court terme freiner un éventuel processus de délocalisation. Mais au total, dans ce second type d'arbitrage, seuls de faibles écarts entre taux de fiscalité entre les Etats-membres de la CEE sont à la limite tolérables compte tenu des potentialités "naturelles" de délocalisation des actifs financiers.

L'analyse juridico-administrative de l'applicabilité potentielle et de l'application effective des règles trouve dans le domaine de la fiscalité de l'épargne un point d'appui comparatif essentiel avec la mise en oeuvre des trois libertés constitutives de l'Europe financière.

L'applicabilité potentielle des règles de fiscalité de l'épargne fait apparaître une disparité réelle entre les divers pays de la CEE. Il faut noter à ce propos l'importance de la distinction entre fiscalité de l'épargne des résidents et fiscalité de l'épargne des non-résidents (la seconde étant souvent quasi-inexistante, les gouvernements cherchant à attirer des capitaux étrangers) qui peut entraîner ipso facto une propension à la délocalisation vers un autre pays de la CEE, un national d'un Etat-membre étant non-résident dans un autre Etat-membre²¹. On ajoutera: compte tenu de la levée générale du contrôle des changes, comme précédemment noté, les risques de délocalisation jouent désormais aussi entre membres de la CEE et non-membres de la CEE (sous réserve des politiques de réciprocité). On ne saurait aussi oublier le fait que pour plusieurs pays de la CEE la pratique effective de la liberté "mondialisée" quasi-absolue des mouvements de capitaux est d'usage courant . . . avec une fiscalité de l'épargne tendant asymptotiquement vers la fiscalité zéro.

L'application effective des règles de fiscalité de l'épargne fait apparaître pour sa part des disparités dans l'application du droit fiscal et plus encore dans son contrôle. Parmi les pays de la CEE, la France a la meilleure connaissance "ex-ante" des capitaux mobiliers possédés par ses résidents, ainsi que des revenus produits par ces capitaux. Elle dispose par ailleurs d'excellents moyens d'investigation "ex post" et utilise effectivement ces moyens de sorte que la fraude et l'évasion fiscale sont effectivement minimisées. Seuls le Danemark et dans une moindre mesure l'Espagne et les Pays-Bas depuis 1988 ont au sein de la CEE un régime relativement comparable (ce qui on le notera est aussi le cas aux Etats-Unis et au Japon)²². On sait en effet que la connaissance "ex-ante" des flux financiers fiscalisables

peut valablement s'appuyer sur le relevé de coupons établi par l'intermédiaire financier (ou la déclaration de valeur déposée chez ce dernier en cas de succession). Ce relevé de coupons n'existe pas au Royaume-Uni, en Allemagne, au Luxembourg, en Belgique et en Italie (on le rencontre cependant au Danemark et en Espagne)²³. De même, en ce qui concerne la connaissance "ex-post" permettant le contrôle a posteriori des flux financiers fiscalement assujettis, le droit de communication reconnu à l'administration fiscale française permet de fructueux recoupements. Ce droit de communication existe de jure dans la plupart des Etats-membres de la CEE mais se heurte dans son application à la règle du secret bancaire opposable (dans de nombreux cas) à l'administration fiscale²⁴. Le droit de communication est en fait limité dans les pays de la CEE (sauf au Danemark) à des cas exorbitants de fraude qui apparaissent dans les vérifications fiscales; par ailleurs le droit est de facto tombé en désuétude dans plusieurs pays²⁵. Au total, les limites d'application effective des règles de la fiscalité de l'épargne font du système fiscal français une exception par rapport à la norme européenne.

2.1.2. Les typologies des risques de délocalisation, (au-delà d'un simple recensement comparatif de la fiscalité afférente à chaque type d'actif financier), peuvent être appréhendées dans une double optique.

Dans une perspective centrée sur les types de transferts potentiels d'épargne et des institutions gestionnaires de cette dernière, perspective retenue par le Rapport Lebègue²⁶, on est conduit à mettre en évidence trois types de délocalisation et donc trois types de risques: la délocalisation fiscale, la délocalisation financière et la délocalisation bancaire. La délocalisation fiscale correspond à un transfert d'épargne existante vers un pays voisin afin de bénéficier d'une fiscalité plus favorable. Il y a ainsi minoration des recettes fiscales et donc perte de recettes budgétaires par fraude ou à tout le moins évasion fiscale, diminution de l'activité des intermédiaires financiers du pays membre, mais il n'y a pas nécessairement une perte d'épargne interne. La délocalisation financière correspond à un déplacement de l'épargne, de placements internes vers des placements finals étrangers. La délocalisation bancaire correspond à un déplacement d'intermédiaires financiers (Banque, Assurance . . .) établis dans un pays-membre vers un autre Etat de la CEE: il y a bien sûr dans ce cas affaiblissement de la place financière de départ.

Dans une perspective centrée sur les motivations économiques de délocalisation de l'épargne, ce qui est notamment celle retenue, entre autres par le Rapport Peyrelevade²⁷, les travaux du CEPPII et de l'OFCE²⁸ . . . , on est conduit à distinguer un double problème: celui du lien entre l'épargne nationale et l'investissement national, celui du déplacement et (ou) de la conversion des actifs financiers.

Le problème du lien entre épargne et investissement national a donné lieu

dans la littérature économique aux débats sur le paradoxe de Feldstein-Horioka²⁹. En effet, dans un monde à marchés de capitaux à libre circulation, les niveaux d'épargne et d'investissement d'un Etat donné ne dépendant pas nécessairement l'un de l'autre, des écarts épargne-investissement devraient logiquement apparaître par suite de la mobilité des capitaux internationaux. Les travaux de Feldstein-Horioka ont cependant fait apparaître une quasi-inexistence de tels écarts (aussi bien dans les années 60 – période à circulation de capitaux étroitement contrôlée, que dans les années 70–80 – période d'assouplissement important de ces contrôles). Feldstein et Horioka expliquent le phénomène par des facteurs généraux de comportement (manque d'information, crainte face aux risques, différences de systèmes juridiques – et donc fiscaux – . . .). Ce type d'approche qui priviliege la dynamique des mouvements de capitaux dans l'explication des déséquilibres de balance de paiements – au détriment d'une approche en termes de transactions courantes – a fait l'objet d'une multiplicité d'études empiriques aux USA, dans les pays de l'OCDE, en France . . . sur la base de tests économétriques de type $I/Y = a + b S/Y$ (I : investissement, S : épargne intérieure et Y : PIB/PNB), avec complexification selon les cas par distinction entre investissement total, privé, public et ventilations différencierées, correspondantes de l'épargne³⁰. Pour la majorité des pays de l'OCDE on aboutit, si l'on se réfère à l'étude de l'INSEE (38) 1990b, à une assez bonne relation entre épargne et investissement, ce qui conduit à une deconnexion entre balance courante et taux d'épargne (sauf dans le cas des USA et du Royaume-Uni, pays à systèmes financiers traditionnellement importants sur le plan international, et pour lesquels l'investissement national dépend le moins de l'épargne intérieure). On est ainsi conduit à penser que, plus l'intégration financière est avancée, plus le solde des paiements courants sera influencé par les conditions de l'ajustement épargne-investissement. Ainsi la situation de la CEE (ainsi que celle du Japon) pourraient à l'avenir se rapprocher de celle des USA et du Royaume-Uni³¹. On peut par ailleurs estimer que les déséquilibres qui apparaissent relèvent assez largement des écarts entre taux d'épargne nationaux; et il se trouve que ces taux dépendent à long terme de multiples facteurs qui peuvent être différencierés (de façon plus ou moins importante) suivant les Etats-nationaux (notamment en matière d'effet de la fiscalité sur le taux d'épargne ainsi qu'en matière de fonctions de réaction de l'Etat et de politiques budgétaires d'épargne publique . . .) Ainsi, une relative homogénéité de comportements d'investissements entre pays de la CEE allant de pair avec des disparités des comportements d'épargne (dans lesquels la fiscalité serait susceptible d'avoir une part de responsabilité) pourrait, en supposant une bonne intégration des marchés financiers et une tendance à l'égalisation des taux de rendement, entraîner des délocalisations

d'épargne, dans la perspective de recherche d'une configuration satisfaisante du couple rendement-risque.

Le problème du déplacement et (ou) de la conversion des actifs financiers conduit à préciser (voire à relativiser) les risques que l'intégration européenne fait courir aux Etats-Membres par suite des sorties de capitaux. Le déplacement d'actifs financiers à l'étranger engendre deux risques: risque "fiscal" (perte de recettes pour l'Etat), risque "industriel" (pour les entreprises financières résidentes qui voient leur activité diminuer). La conversion d'actifs financiers (en devises étrangères) entraîne pour sa part un risque "financier" à incidence macroéconomique: une augmentation de l'offre de francs sur le marché des changes entraîne, par exemple, une action de rééquilibrage nécessaire afin de respecter la grille des parités du SME; sauf cas particulier d'intervention directe de la Banque Centrale à partir des réserves de change, le rééquilibrage se traduira par un relèvement de l'écart entre les taux d'intérêt intérieur et étranger ce qui accroîtra, en l'espèce, la demande de francs; à l'évidence le relèvement du taux d'intérêt intérieur entraînera des conséquences en termes d'activité et d'emploi intérieurs. Ces deux risques de délocalisation peuvent être, bien entendu, distincts ou conjoints: il peut y avoir déplacement sans conversion (cas classique de motivation fiscale du type transfert vers les OPCVM luxembourgeois après l'instauration en 1986 de la règle du coupon couru); il peut y avoir conversion sans déplacement (cas classique de motivation économique du type diversification spatiale des actifs financiers au regard du risque de change, avec maintien de la gestion par un intermédiaire financier résident). De fait, la réalité du risque encouru en cas de transfert d'épargne dépendra de l'importance relative des transferts de gestion des portefeuilles à des filiales d'intermédiaires financiers nationaux, (ce qui atténue le risque "industriel" pour les entreprises financières); dans l'hypothèse de transferts de gestion à des intermédiaires financiers non filialisés, la propension à investir en titres nationaux sera la variable-clé, propension variable à l'heure actuelle, mais qui devrait s'homogénéiser avec l'europeanisation de la structure des portefeuilles financiers.

2.1.3. Une quantification globale de l'importance des risques de délocalisation serait sans aucun doute illusoire compte tenu de la multiplicité des paramètres intervenant dans les processus analysés, des hypothèses controversables sur les comportements attendus des épargnants et des intermédiaires financiers³², des anticipations sur les indicateurs-clés de l'évolution économique . . . Un recours à une modélisation économétrique paraît en ce sens peu adéquat: les modèles macroéconométriques sont d'un faible secours étant donné les limites de la modélisation financière (et notamment de celle

de l'incidence de la fiscalité sur les opérations financières) dans ce type de travaux indépendamment des difficultés déjà notées, inhérentes à l'analyse de l'impact de la fiscalité sur l'épargne des ménages en séries temporelles; les modèles d'équilibres généraux calculables avec fiscalité différenciée ne sont pas en France à un stade opératoire concernant le problème à traiter; un modèle de gestion de portefeuille internationalisé serait sans doute plus adéquat mais supposerait diverses hypothèses "héroïques" par exemple sur les degrés différenciés d'aversion au risque . . . C'est donc à une analyse "qualitative raisonnée" basée sur une connaissance des fiscalités comparatives des divers produits que l'on se réfère habituellement. On se reportera ici à deux séries de travaux menés en France sur la question: le Rapport Lebègue et le Rapport Peyrelevade.

Le Rapport Lebègue concluait, en juin 1988 et dans l'hypothèse d'absence de toute réforme "à un risque sérieux de délocalisation des flux d'épargne et des établissements gestionnaires, au détriment de l'économie française" sur la base d'une évaluation qualitative des risques³³. Trois conclusions majeures apparaissent dans ce travail. Le risque de délocalisation est réel pour 20% du total des ménages (il ne concerne pas en effet les patrimoines financiers inférieurs à 300 000 Fr compte tenu des modalités cumulatives d'exonération fiscale de l'épargne). Le risque de délocalisation financière est moindre et est essentiellement indirect: une épargne délocalisée a une propension certaine à se porter sur des actifs étrangers. Le risque de délocalisation bancaire est un corollaire des deux précédents: face aux risques encourus, les établissements financiers français auront recours à leurs filiales intracommunautaires et les développeront, afin de capter la clientèle émigrante, d'où affaiblissement de l'espace financier français³⁴. Le rapport Lebègue infère de ces trois conclusions l'existence d'un risque réel (plus important pour la France que pour les autres pays de la CEE), mais d'un risque maîtrisable: des adaptations législatives peuvent atténuer les distorsions existantes (et c'est de fait ce qui s'est produit en 1990); le dynamisme des intermédiaires financiers français devrait permettre à ces derniers de tirer partie d'opportunités non négligeables.

Le Rapport Peyrelevade³⁵ concluait, en juin 1989, à un risque réel mais maîtrisable dans le temps, compte tenu notamment de la possibilité de procéder aux adaptations nécessaires, en matière de fiscalité de l'épargne, de compétitivité des entreprises financières et d'établissement d'un 'parallelisme' nécessaire entre les composantes de la construction européenne.

Si l'on s'en tient aux risques de délocalisation de l'épargne liés à la fiscalité, le Rapport Peyrelevade établit un diagnostic fondé sur un double constat: les taux d'imposition sont certes élevés et les contrôles efficaces mais une grande partie des revenus de l'épargne est de fait, dès janvier 1989, défiscalisée. Compte tenu des produits exonérés, des abattements sur les revenus

des valeurs mobilières, et de la défiscalisation d'une partie importante des revenus de l'épargne (45% de l'épargne financière des ménages ne supporte pas d'imposition sur le revenu et, si l'on fait abstraction des dépôts à vue, la part non fiscalisée représente 65% de placements rémunérés) on aboutit ainsi à une possibilité de détenir un portefeuille défiscalisé relativement élevé. L'évaluation minimale d'un tel portefeuille est de 700 000 F pour un couple et il est possible par saturation des diverses possibilités offertes par la législation fiscale (ce qui n'est pas nécessairement le meilleur placement) de détenir, en franchise d'impôt sur le revenu, un patrimoine financier de l'ordre de 1 à 1,5 millions de francs. Comme le note le Rapport Peyrellevade³⁶, ceci conduit à "tempérer l'appréciation des risques de délocalisation liés à des motivations fiscales". Il demeure cependant une interrogation sur l'importance des ménages et des produits financiers concernés par la délocalisation. Les données afférentes à la concentration des patrimoines (immobilier inclus) indiquent qu'en fin 1987, seul un million de ménages (5% de l'ensemble) possédait un patrimoine supérieur à 1,5 millions de francs. Le nombre de ménages disposant d'un patrimoine financier dépassant le seuil de fiscalisation est donc faible: "un ordre de grandeur de quelques centaines de milliers de ménages paraît être une estimation très large"³⁷; il y aurait donc environ 2% des ménages susceptibles d'être "intéressés" par la délocalisation fiscale. Ce faible nombre de ménages concernés ne doit pas cependant occulter l'importance du problème en termes de montant des "capitaux sensibles": les 1% des ménages les plus fortunés possèdent selon l'INSEE en 1987 le tiers du patrimoine financier (fin 1988, 1,1% des comptes titres représentaient selon la Banque de France, 35,5% des portefeuilles financiers)³⁸. Une part non-négligeable du patrimoine financier français ("haut de gamme" de la clientèle des intermédiaires financiers) est donc concernée par le risque de délocalisation fiscale³⁹.

2.2. Stratégies fiscales publiques et évolution de la délocalisation de l'épargne: la situation française

Si l'Acte Unique n'avait pas retenu, à titre de préalable à la libération des mouvements de capitaux, le principe de l'harmonisation fiscale de l'épargne, la recherche d'une "dose commune d'harmonisation" est vite apparue nécessaire comme noté par le Conseil ECOFIN de juin 1988. On connaît le sort des deux projets de directive élaborés par la Commission en février 1989, sur la base du mandat de juin 1988. La première directive, visant à instaurer une retenue à la source européenne sur les intérêts dont le débiteur est un résident de la CEE (à un taux de 15%) a été abandonnée, suite à l'échec de l'instauration expérimentale (au premier semestre de 1989) d'une retenue à la source de 10% en RFA... et de l'opposition de fond du Royaume Uni

et du Luxembourg à ce type d'harmonisation. La seconde directive proposant un renforcement de la coopération entre les administrations fiscales⁴⁰ a fait l'objet d'un accord quasi unanime en décembre 1989, sous réserve de l'opposition du Luxembourg sur un des points centraux (conditions de levée du secret bancaire). C'est donc en définitive dans le cadre d'une harmonisation "spontanée" par le jeu des forces du marché, induisant des ajustements à la baisse de certaines fiscalités nationales de l'épargne, qu'est intervenue la libération des mouvements de capitaux au 1er juillet 1990. C'est ainsi une approche du "moins disant fiscal" ou du modèle de "contagion à la baisse"⁴¹ qui l'a emporté sur ce point⁴².

C'est par référence à cette approche que l'on précisera la stratégie fiscale française face aux risques de délocalisation, avant de faire le point sur la situation et les perspectives de délocalisation de l'épargne des ménages.

2.2.1. Face à une perspective d'harmonisation européenne de la fiscalité de l'épargne basée sur "le moins disant fiscal" la stratégie fiscale des pouvoirs publics français s'est essentiellement traduite (indépendamment d'une participation active à la mise en place du quasi accord de décembre 1989 sur la coopération entre administrations fiscales), par un allégement non-négligeable de la fiscalité de l'épargne en vue de la rapprocher de la "moyenne européenne"⁴³. Ce rapprochement, mis en oeuvre à compter du 01/01/90, porte essentiellement sur quatre points⁴⁴. En matière d'OPCVM l'abandon de la règle du coupon couru non échu intervenue par une loi du 2 août 1989 en ce qui concerne les produits des placements à revenu fixe, a été étendue aux dividendes et autres produits d'actions. Il est désormais possible d'effectuer des placements dans des OPCVM de capitalisation (actions ou obligations) avec imposition, non pas au titre des revenus de capitaux mobiliers, mais à celui des plus values mobilières (16% + 1% au titre du prélèvement social) en cas de dépassement du seuil de cession (298.000 Francs)⁴⁵. En matière de placements à revenu fixe, la loi de finances pour 1990 a introduit une baisse du prélèvement forfaitaire sur les obligations (15% + 2% au titre du prélèvement social) ce qui supprime la différence d'imposition entre les intérêts et les plus values et contribue à l'unification du marché des titres puisque le même taux (17%) est désormais appliqué aux titres du créances négociables (billets de trésorerie, certificats de dépôts et bons du Trésor). Une baisse parallèle a été introduite sur le prélèvement forfaitaire effectué sur les placements bancaires (livrets, comptes à terme et bons de caisse) désormais taxés à 37% (35% + 2% au titre du prélèvement social), afin d'éviter des distorsions entre produits d'épargne et de maintenir une concurrence entre placements bancaires et valeurs mobilières. En matière de gains procurés par les nouveaux instruments financiers un taux unique (16% + 1% de prélèvement social) frappe désormais, depuis la loi de finances pour 1990,

les profits occasionnels sur les marchés à terme et sur les marchés d'options négociables (et il en va de même pour les taux de taxation des revenus et gains procurés par les Fonds communs de créances). En matière de taxe sur les contrats d'assurance (un des risques majeurs de délocalisation fiscale) la suppression prévue par la loi de finances pour 1990 a été effective au 1er juillet 1990 (avec anticipation au 1er janvier 1990 dans le cadre des PEP assurance). On notera par ailleurs, indépendamment de ce quadruple rapprochement de la tendance moyenne de la fiscalité de l'épargne européenne, l'importance revêtue par deux nouvelles innovations financières⁴⁶: création des plans d'épargne populaire (avec possibilité de sortie au bout de 8 ans sans imposition des revenus capitalisés); possibilité d'alimentation d'un compte rémunéré par virement automatique d'un compte à vue dont la rémunération demeure interdite.

Ainsi, en définitive, l'effort de minimisation des risques fiscaux de délocalisation de l'épargne française a-t-il abouti à une quasi-disparition des principaux écarts fiscaux existant par rapport à la "moyenne européenne". Trois points sensibles demeurent: divergences d'application effective de la fiscalité de l'épargne selon les pays et les administrations fiscales concernées, ce qui est le point majeur, nonobstant le quasi-accord de coopération fiscale; maintien de l'impôt de Bourse posant un problème de concurrence entre la place financière de Paris et celle de Londres pour la négociation de blocs de titres; disparités de régimes d'imposition des diverses sortes de placements à revenu fixe qui, si elles sont favorables aux OPCVM français (qui représentent à eux seuls 48% du marché de la CEE) peuvent à terme poser des problèmes aux banques françaises et donc affaiblir leur compétitivité (indépendamment des problèmes de niveaux relatifs de taux d'imposition des placements à revenus fixes qui peuvent se poser avec certains pays de la CEE, notamment l'Allemagne et le Luxembourg)⁴⁷.

2.2.2. Peut-on parler de délocalisation de l'épargne des ménages français depuis la mise en oeuvre effective de la liberté de mouvements de capitaux en 1990?

Les données de la balance des paiements pour 1990 (qui ont, il est vrai, l'inconvénient de ne pas distinguer les mouvements de capitaux des entreprises et des ménages), permettent de noter un double phénomène. En ce qui concerne les investissements de portefeuille, les opérations des non-résidents sur titres français (libellés en francs) ont entraîné une importante entrée de capitaux: 196,4 Mds de Francs (contre 153,6 Mds en 1989); par ailleurs les achats de titres étrangers par les résidents ont atteint 43,5 Mds de Francs (avec nette réduction au second semestre expliquée sans doute par un repli des investisseurs sur le marché national par suite des incertitudes régnant sur les marchés financiers). Fait notable: les supports privilégiés des

investissements des non-résidents sont désormais (à hauteur de 107,8 Mds de Francs) des Valeurs du Trésor, conséquence de la novation de la politique de la dette publique au cours des dernières années. En ce qui concerne les mouvements de capitaux à court terme, on a assisté à des variations de forte ampleur et opposées entre des sorties du secteur privé non bancaire et des entrées du secteur bancaire. Ce mouvement qui a marqué les trois premiers trimestres de 1990, s'est inversé au quatrième, et a conduit in fine, à des entrées nettes de capitaux de 70,5 Mds. de Francs. Ce phénomène est en grande partie lié à une stratégie de contournement des réserves obligatoires par les banques résidentes, ce qui a provoqué un aller-retour sur les certificats de dépôts.

Les certificats de dépôts, inclus dans l'agrégat M3-M2, supportaient en effet jusqu'au 16 octobre 1990, la charge de réserves obligatoires dont le coût moyen était estimé à 0,3 centimes aux taux en vigueur à l'époque alors que les billets de trésorerie des entreprises n'étaient pas l'objet de surcoût, d'où handicap pour les banques vis-à-vis des entreprises sur un marché monétaire décloisonné. Afin de réduire l'assiette des réserves obligatoires, les banques ont incité leurs clients résidents à transférer leurs dépôts auprès de filiales installées à l'étranger, ces filiales reprétant les fonds reçus à leur maison-mère. L'abaissement des taux de réserves obligatoires, les banques ont incité leurs clients résidents à transférer leurs dépôts auprès de filiales installées à l'étranger, ces filiales reprétant les fonds reçus à leur maison-mère. L'abaissement des taux de réserves obligatoires (qui passent de 3 à 0,5% pour M3-M2), dans le cadre de la réforme des agrégats monétaires intervenue le 16 octobre 1990, a entraîné un rapatriement rapide des fonds délocalisés conduisant à des entrées nettes de près de 150 Mds de francs pour le secteur bancaire sur l'année. Ce phénomène peut être considéré lato sensu comme une délocalisation quasi-fiscale, dans la mesure où la politique de réserves obligatoires, créatrice d'hétérogénéité sur des placements internationalement arbitrables, peut être interprétée comme une quasi-taxe sur les établissements de crédit.

La création d'OPCVM à compartiments multiples au Luxembourg par des établissements financiers français s'est par ailleurs ponctuellement poursuivie. Il s'agit là d'une délocalisation financière à motivation fiscale, la création de ces "umbrella funds" qui peuvent compter une vingtaine de comportements n'étant pas autorisée en France; par contre, la commercialisation de ces OPCVM étrangers est autorisée (85 visas ont été donnés par la COB), mais le fisc considère le passage d'un compartiment à un autre comme une cession, ce qui limite singulièrement l'avantage fiscal en France.⁴⁸

On ne peut dans l'ensemble que constater à court terme une absence de délocalisation de l'épargne privée (et donc des ménages) en France: 1990 aura été en ce sens un non-événement.

Etudiant les risques "calculés" de délocalisation de l'épargne en juillet 1990, la Direction des Etudes et Synthèses économiques de l'INSEE⁴⁹ insistait sur le caractère attractif des rendements nets des placements français, allant de pair avec une offre de produits financiers compétitive, ainsi qu'une relative inertie en longue période des comportements de détention d'actifs financiers et concluait à une minimisation des risques de transferts d'épargne à court terme. Ce caractère attractif des rendements nets français est dû à la coexistence de taux nominaux intéressants, d'une fiscalité allégée, d'un risque de change limité (et l'on ajoutera, d'absence de différentiel d'inflation par trop important). Un tableau synthétique des taux de rendements comparatifs des (seuls) placements à revenu fixe permet de préciser cette attractivité⁵⁰ (Tableau 7).

Ainsi, même dans l'hypothèse de non déclaration au fisc français des revenus placés à l'étranger, la situation demeure t-elle attractive (sauf en ce qui concerne le Royaume-Uni sous réserve des problèmes spécifiques de risque de change nonobstant le récente entrée dans le SME, par suite de la large bande de fluctuation de la livre, et de rythme inflationniste).

Trois notations doivent cependant atténuer le jugement précédent:

- dans le cas d'arbitrage spatial d'actifs français (produits d'épargne français gérés par un intermédiaire financier étranger, sans déclaration des revenus de l'épargne) le rendement net est élevé (en 1989, 9,3% et 9,1%, en 1990 10,4% et 9,7% pour les placements à court et à long terme) alors que le risque de change est nul. Il y a là une possibilité typique de délocalisation bancaire au sens du Rapport Lebègue, avec affaiblissement potentiel de la place financière de Paris (et perte de recettes fiscales pour l'Etat), mais avec un contribuable potentiel en situation de fraude.
- le problème des paradis fiscaux demeure entier. Deux types d'avancées peuvent être éventuellement envisagées à ce propos. La mise en place de l'UEM pourrait modifier la situation. Comme le note C. Wyplosz⁵¹ la constitution d'un nouveau pôle monétaire pourrait, en accord avec les pôles américains et japonais, exercer "une action plus crédible auprès des paradis fiscaux qui jouent le rôle de passager clandestin de la finance internationale". Dans une approche plus opératoire, on pourrait concevoir d'adopter un principe général d'imposition du revenu de l'épargne selon la résidence du détenteur du placement. C'est le principe qui inspire la fiscalité de l'épargne française depuis la loi de finances pour 1990 (article 98) qui oblige à déclarer les revenus des placements à l'étranger des personnes physiques résidentes en France, via une obligation de déclaration des références des comptes ouverts, utilisés ou

Tableau 7. Taux de rendement^a comparés de placements à revenu fixe

	1988		1989		1990	
	Tous revenus déclarés au fisc français	Revenus non déclarés au fisc français	Tous revenus déclarés au fisc français	Revenus non déclarés au fisc français	Tous revenus déclarés au fisc français	Revenus non déclarés au fisc français
<i>Placements à court terme^b</i>						
France	5,2	(4)	6,1	(4)	8,6	(4)
République Fédérale d'Allemagne	2,1	4,2	3,5	7,0	4,2	8,4
Royaume-Uni	8,9	17,8	6,3	12,6	7,3	14,5
Etats-Unis	2,3	3,7	11,2	12,9	3,7	5,3
<i>Placements à long terme^c</i>						
France	6,7	(d)	6,6	(d)	8,0	(d)
République Fédérale d'Allemagne	3,3	6,5	3,5	7,0	3,9	7,7
Royaume-Uni	12,4	14,9	3,7	6,3	5,0	7,5
Etats-Unis	3,4	5,1	11,8	13,6	5,0	7,0

^a Taux annuels, nets de la fiscalité dans le cas de revenus déclarés.^b Taux d'intérêt à court terme (3 mois), nets de la fiscalité, corrigés de l'évolution des taux de change (sauf pour 1990).^c Taux d'intérêt à long terme (emprunts obligataires du secteur public) nets de la fiscalité, corrigés de l'évolution des taux de change (sauf pour 1990).^d On a fait l'hypothèse qu'il était impossible de ne pas déclarer au fisc français les revenus financiers de placements français.

- clos à l'étranger, ainsi que des mouvements de fonds⁵² de la part des organismes gestionnaires des comptes de particuliers concernés. La mise en pratique d'un tel principe ne sera de fait effective que dans la mesure où des modifications des règles du secret bancaire inscrites dans la législation de plusieurs Etats-membres seront intervenues (ce qui est largement hypothétique), et où s'instaurera une véritable coopération entre les administrations fiscales des différents Etats-membres (ce qui va dans le sens de la seconde directive d'harmonisation de la fiscalité de l'épargne). Faute d'une mise en oeuvre effective de ce type de démarche, l'imposition selon le principe de résidence demeurerait illusoire face à l'évasion et la fraude fiscale (d'autant plus que le problème se pose avec davantage d'acuité pour les situations extracommunautaires).
- la fiscalité n'est à l'évidence qu'une des variables pertinentes pour appréhender les délocalisations à long terme de l'épargne des ménages (d'autant plus que dans le cas de la France une notable partie de cette épargne demeure défiscalisée). Les écarts de rendements anticipés, en y incluant les plus ou moins values, les différenciations de l'aversion pour le risque selon les actifs financiers, les écarts de change et de taux d'inflation . . . sans parler des crédibilités des politiques monétaires et financières seront à l'évidence des variables clés au cours des diverses étapes de la construction communautaire. C'est-à-dire combien les perspectives afférentes à la construction de l'Union Economique et Monétaire sont fondamentales, au-delà de la fiscalité, pour apprécier les perspectives effectives de délocalisation de l'épargne des ménages.

NOTES

1. Cf. sur tous ces points une bonne synthèse in A. Babeau (9) 1988, p. 26 et suivantes.
2. Cf. sur ce point CNC (23) 1990a, p. 83 et stes.
3. Cf. sur ce point M. Mouillart (49) 1989, p. 6.
4. L'impact des plus-values sur le taux d'épargne est négatif dans une étude de P. Artus, E. Bleuze, F. Legros et J. P. Nicolai (7) 1989, p. 10 et inexistant dans une étude de A. Minczelles et P. Sicsic (47) 1987, p. 1.
5. L'étude précitée (7) 1989, p. 10 conduit à une absence d'influence significative, résultat confirmé par H. Sterdyniak (58) 1986, p. 45. Par contre l'influence s'avère positive pour P. Sicsic (57) 1988, p. 1 et pour T. Chauveau et V. Khong (22) 1987, p. 30.
6. Cf. sur ce point F. Charpin (20) 1987, p. 1, H. Sterdyniak (58) 1986, p. 47, P. Artus, E. Bleuze, F. Legros et J. P. Nicolai (7) 1989, p. 12.
7. Ce double effet se produit aussi dans les autres pays mais la résultante peut être différente notamment par suite d'un recours au crédit moins important, ou par suite d'un traitement fiscal plus favorable des intérêts payés.
8. A l'évidence la fiscalité peut cependant jouer un rôle dans la répartition de l'épargne des

- ménages entre l'investissement-logement et le placement financier, ainsi que dans la répartition entre les divers types de placements financiers.
9. Cf. sur ce point CNC (23) 1990a, p. 66 et les remarques plus générales de A. Babeau (9) 1988, p. 28.
 10. Cf. sur ce point C. de Boissieu (27) 1986 et 1987, J. Metais et P. Szymczak (45) 1986, ainsi que H. Rouilleault et J. J. Santini (53) 1988.
 11. Phénomène d'ailleurs controversé et lié en partie à la nomenclature retenue pour la classification des OPCVM.
 12. On se rappellera, garder la cohérence avec l'évolution du taux d'épargne financière, que la capacité de financement est égale au flux de placement ici étudié, diminué de la variation de l'endettement.
 13. Cf. sur ce point (7) 1989, p. 37.
 14. L'avantage fiscal est de 25% de la fraction de la prime représentative de l'opération d'épargne avec limitation de cette fraction à 4 000 F, plus 1000 F. par enfant à charge.
 15. C'est notamment le cas de P. Artus, E. Bleuze, F. Legros, J. P. Nicolaï (7) 1989, p. 37 et P. Artus et J. M. Rousseau (8) 1989, p. 155.
 16. Cf. sur ce point P. Artus et J. M. Rousseau (8) 1969, p. 156 à 159.
 17. Le rapport de la Commission présidée par Marcel Boiteux (12) 1988 s'est notamment appuyé sur les travaux du Rapport Pierre Achard de décembre 1987 (1).
 18. Pour les diverses références on se reportera à la bibliographie in fine.
 19. Cf. Notamment sur ce point INSEE (38), 1989, p. 128 et 129.
 20. Ce phénomène peut être modulé par une double considération:
 - une bonne couverture du risque de change rend plus attractifs les placements sur devises étrangères
 - la délocalisation de l'épargne est d'autant plus freinée que les coûts d'information sur la solvabilité des émetteurs (notamment étrangers) sont importants.
 21. Cf. Par exemple sur ce point l'intéressant tableau présenté par le XIème Rapport du Conseil des Impôts (25) 1990, p. 156.
 22. Cf. Sur tous ces points les données du Rapport LEBEGUE (23) 1988, p. 9 et suivantes, ainsi que celles du XIème Rapport du Conseil des Impôts (25) 1990, p. 157.
 23. Des déclarations de mêmes type existent aux U.S.A. et au Japon.
 24. Notamment au Royaume-Uni, en Allemagne, en Irlande, aux Pays-Bas, au Luxembourg et en Espagne. Cette règle n'existe pas aux Etats-Unis et au Japon.
 25. On pourrait aussi relever l'absence de divers dispositifs déclaratifs propres à la France, notamment celle faite aux intermédiaires financiers de déclarer les ouvertures, les clôtures et les modifications importantes intervenues dans le divers comptes financiers.
 26. Cf. sur ce point (23) 1988, p. 18.
 27. Cf. sur ce point CGP (19) 1989c.
 28. Cf. sur ce point CEPII-OFCE (18) 1990.
 29. M. Feldstein et C. Horioka (31) 1980 et M. Feldstein (30) 1983.
 30. Une bonne synthèse des débats sur la question se trouve in P. Artus (5) 1988, p. 109, M. Artis et T. Bayoumi (4) 1989, p. 3, dans INSEE (38) 1990b, p. 39, ainsi que dans le Compte rendu du 11ème Colloque Banque de France-Université, "La politique monétaire dans son environnement international", publié dans les Cahiers Économiques et Monétaires de la Banque de France en 1990, n°36 et 37 (on se référera tout spécialement aux contributions de Y. Barroux et C. Laclare p. 83 ainsi qu'à celle de E. Girardin p. 113).
 31. Pour ce qui concerne la France, une étude spécifique menée par P. Artus (5) 1988, T. 1, p. 17 et suivantes et T.2, p. 19 et suivantes, aboutit selon cet auteur à des caractéristiques particulières. P. Artus distingue d'une part I total, privé et public et d'autre part S brute des ménages, des sociétés et entreprises individuelles ainsi que des administrations publiques, privés et des institutions financières. Les différents tests économétriques menés

conduisent à distinguer deux périodes. Sur la période 1963-1980, l'épargne paraît assez peu contraindre l'investissement. Sur la période 1980-86 il est nécessaire de bien distinguer l'épargne par agent: il y a coefficient quasi-unitaire entre épargne des ménages et investissement, un coefficient de 0,50 pour l'épargne des entreprises et un coefficient nul pour celle des administrations. P. Artus explique cette situation des années 80-86 en termes de déconnexion entre, un circuit de financement public avec forte mobilité internationale par suite notamment des qualités intrinsèques des titres publics, et un circuit de financement privé avec faible substituabilité internationale, par suite de l'importance des problèmes d'information, des problèmes de risque financier et, plus encore l'existence de risques industriels. On peut cependant s'interroger sur la portée de cette explication: les mouvements internationaux de titres publics (on estime que 200 milliards de titres de la dette sont portés à l'heure actuelle par des acquéreurs internationaux, soit moins de 15% de l'encours) n'ont pris de l'importance qu'avec la "nouvelle dette publique", née au milieu des années 80; le déclin de l'épargne publique (au détriment de la consommation publique) peut avoir joué un rôle spécifique dans la déconnexion constatée.

32. Les études comparatives étrangères (études du fédéralisme financier et du "vote à pied") comme certaines expériences récentes (établissement puis suppression d'une retenue à la source de 10% en RFA en 1989) sont une indication intéressante de sensibilité à la variable fiscale.
33. (23) 1988, p. 27.
34. On n'omettra pas le rôle que peut jouer le maintien en France d'un impôt de Bourse sur le freinage du développement de la place financière de Paris, compte tenu notamment du fait que les blocs de titres cotés au marché SEAQ international de Londres sont exonérés d'impôts.
35. (19) 1989c; p. 19 et suivantes.
36. (19) 1989c, pp. 44 et 45.
37. (19) 1989c, p. 45.
38. La patrimoine financier des ménages s'élevait à 9275 milliards de francs au 31/12/89 (Données du TOF en cours, B.D.F. (11) 1990 p. 465).
39. Plusieurs études parues en 1990 ont confirmé les analyses précédentes des risques de délocalisation.
On lira notamment sur ce point:
 - L'étude de E. Maigret publiée en février 1990 (15) 1990, p. 78 et 79 qui synthétise les apports du Rapport Peyrelevade et présente les mesures fiscales en faveur de l'épargne de la loi de finances pour 1990.
 - Le rapport annuel sur la France publié par l'OCDE en mars 1990 (50) 1990a, qui s'appuie lui aussi sur le Rapport Peyrelevade et insiste à moyen terme sur les effets créateurs de risques de la taxe sur les contrats d'assurance-vie (aujourd'hui supprimée) et de l'impôt de Bourse.
 - Le XIème Rapport du Conseil des Impôts publié en juillet 1990 (25) 1990, qui tout en reprenant certains éléments du Rapport Peyrelevade, fait bien le point de la disparité de législation des Etats-membres et de la persistance d'écart de fiscalité, compte tenu des difficultés européennes d'harmonisation de la fiscalité de l'épargne.
40. Sauf dispositions législatives les empêchant d'agir, les Administrations fiscales ne pourront se prévaloir de leurs propres usages pour refuser une coopération (dès lors qu'existent de sérieuses présomptions de fraude).
41. Cf. sur ce point A. Case, J. R. Hines et H. Rosen (16) 1989, p. 1.
42. S'interrogeant en novembre 1990 sur les perspectives de long terme de la fiscalité européenne de l'épargne, le Commissaire européen chargé de la fiscalité estimait que "la formule la mieux adaptée est celle d'une retenue à la source libératoire et de faible ampleur. Pas plus de 10%. (Cf. sur ce point C. Scrivener (55) 1990, p. 13). Cette formule simple et incitative

pour les épargnants éviterait aux Etats membres une surenchère à la baisse; une extension au-delà de la Communauté devrait par ailleurs permettre de consolider la position communautaire", ce qui suppose un accord, . . . très hypothétique, entre grands partenaires mondiaux.

43. On notera qu'au sein de la CEE, la Belgique a réduit son précompte mobilier libératoire de 25 à 10%, ce qui a entraîné des rentrées non négligeables de capitaux.
 44. On trouvera une recension détaillée de ces mesures in (22), 1990 p. 158 et (48) 1990a, n° 1, p. 59. Le coût de ces mesures est évalué à 4 Mds de Francs en 1990 et 1,7 Mds en 1991, indépendamment des dépenses fiscales déjà existantes en faveur de l'épargne.
 45. Les chiffres indiqués pour les 4 rapprochements sont ceux en vigueur au 31 décembre 1990. A compter du 1er janvier 1991 il convient de prendre en compte le double effet de relèvement des seuils de cession, d'abattement . . . et d'alourdissement imputable à la Contribution Sociale Généralisée (prélèvement complémentaire de 1,1%).
 46. Indépendamment de l'importante innovation constituée par les larges possibilités de recours aux OPCVM de capitalisation.
 47. Ces disparités entre régimes d'imposition ont été de fait en 1990 (avec la situation de la structure par terme des taux d'intérêt un des éléments du succès des SICAV monétaires en France qui témoigne en partie d'une délocalisation fiscale intrafrançaise).
 48. On notera à ce propos une évolution récente de la situation (juillet 1990) avec l'autorisation intervenue de création de SICAV mixtes (avec des actions A distribuant des résultats et des actions B capitalisant les produits). Le Service de législation fiscale n'ayant pas encore précisé le statut du passage d'une catégorie d'actions à une autre, une expérience effective n'a démarré qu'à la mi-octobre. Bien entendu, une incidence fiscale nulle de ce passage concurrencerait partiellement les OPCVM luxembourgeois à compartiments multiples.
 49. Cf. sur ce point INSEE (38) 1990, p. 219 et INSEE (38) 1990c, p. 1.
 50. Cf. sur ce point (38) 1990a, p. 226 et (38) 1990b, p. 4.
- Le calcul des taux de rendement nets d'une année t soient RNt repose sur les hypothèses suivantes:
- application de la fiscalité en vigueur:
le taux de prélèvement obligatoire retenu est de 27% en 1988-89 et 17% en 1990 pour les titres français; il y a absence d'abattement, imposition à l'IR à un taux marginal de 50% (ce qui suppose un haut niveau de revenu), avec retenue à la source (et donc crédit d'impôt) éventuelle pour les titres étrangers détenus par les résidents français; le taux de prélèvement sur les revenus des placements effectués par des non-résidents dans le pays étrangers est de: 0% en RFA, 25% au R.U. pour les placements à long terme et 30% aux USA pour les placements à court et à long terme.
 - prise en compte des variations du taux de change:
La variation du taux de change franc/devise considérée est prise en compte uniquement pour 1988 et 1989.
Le calcul de RNt est le suivant (avec RBt rendement brut de l'année t, a taux de retenue à la source, 0,5 taux marginal de l'IR, it taux de variation du taux de change de l'année t).
- Absence de retenue à la source dans le pays d'origine

$$RNt = (RBt + it) \cdot (0,5) \quad \text{avec déclaration au fisc français}$$

$$RNt = RBt + it \quad \text{sans déclaration au fisc français}$$

- existence de retenue à la source dans le pays d'origine

$$RNt = (RBt \cdot 0,5) + it \quad \text{avec déclaration au fisc français}$$

$$RNt(RBt(1 - a) + it) \quad \text{sans déclaration au fisc français}$$

51. Cf. sur ce point (60) 1990, p. 168.
52. Il s'agit des mouvements scripturaux. Il existe une obligation de déclaration des transferts physiques de capitaux excédant 50 000 francs par transfert.

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VIII. Household saving, interest rates, inflation and taxation: some cross-country evidence

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1. INTRODUCTION

After Modigliani and Brumberg had provided, in the early 1950s, seminal formulations of what has come to be known as the life cycle hypothesis of saving (LCH), it has been pursued by a number of authors, both at the theoretical level and for the analysis of empirical data (see Modigliani (1986) for a recent review of the approach). Early applications dealt with aggregate time series data, and later on it was argued that LCH is equally fruitful for an understanding of huge observed inter-country differences in the average household (and private) saving ratios. The approach was extended by Feldstein (1977) to account for social security and endogenous retirement age. According to the Modigliani–Feldstein hypothesis, the aggregate household (and private) saving ratio depends on the growth rate of income, various demographic variables, social security benefit variable and the labour force participation rate of the aged.

The early tests of LCH to account for inter-country differences in the average private savings – the sum of household saving and corporate saving – ratios were successful. Modigliani (1970) concluded his study with a sample of 36 countries from the 1950s by saying that “... all the evidence supports both qualitatively and quantitatively the role of the two principal variables suggested by the life cycle model, productivity growth of income, and the age structure of the adult population” (Modigliani (1970), p. 219). Using a sample of 15 countries from the 1950s, Feldstein (1977) introduced social security benefit and labour force participation rate of the aged – variables into the inter-country private savings ratio specification proposed by Modigliani. Feldstein’s results provided support to this extended LCH (for a US time series evidence, see Feldstein (1974)).

Attempts to understand inter-country differences in saving ratios by using more recent data have been less successful. Using a sample of 12 countries from the early 1970s, Feldstein (1980) kept sticking to the ‘social security depresses private saving’ hypothesis by saying that “... the new estimates support ... the conclusions ... that indicate ... the negative impact of social security benefits on private saving” (Feldstein (1980), p. 238). This claim,

however, turned out to be very fragile to the specification details of the private saving ratio equation as indicated, e.g., in Koskela and Virén (1983). Hence, the social security benefit variable's role in understanding international differences of the private saving ratios in the 1970s has remained moot.

Recent research with the international cross-section data from 23 countries over the periods 1968–1973 and 1978–1983 also casts some doubt on the ability of conventional life cycle and demographic variables *a lá* Modigliani–Feldstein to account for the observed intercountry differences in household saving rates (see Koskela and Virén, 1989). Though it is possible to obtain reasonable explanatory power, in particular, if sectoral saving substitution possibilities are taken into account, there are indicative stability and insignificance problems which seriously weaken the results.

As mentioned earlier, time series data have also been used in studying saving behaviour since the 1950s when LCH and the permanent income hypothesis (PIH) were proposed to explain the stylized facts originally presented by Kuznets. The conventional specification, where inflation played no role, worked reasonably well up to the 1970s. During that decade, however, high rates of inflation were accompanied by reduced real rates of return and high rates of household savings. Numerous theories were proposed to explain this phenomenon, such as the misperception hypothesis by Deaton (1977), the mismeasurement hypothesis (see, e.g., von Ungern-Sternberg, 1981; Jump, 1980) and the anticipated inflation hypothesis by Bulkley (1981).¹ It seemed to be fair to say that despite considerable empirical research on the matter, the issue of the relative significance of the above-mentioned hypotheses was not convincingly resolved, though the inflation rate turned out to be an important explanatory variable.

The so-called Lucas critique was important for the methodology of empirical research in the late 1970s. In the context of aggregate consumption, Hall's (1978) contribution took the Lucas critique seriously and was path-breaking. In particular, he showed how under certain conditions the rational expectations hypothesis implies that only 'surprise' in the permanent income should affect current consumption once lagged consumption is controlled. Since then, much research has been done in the specification and estimation of this so-called Euler equation approach to consumption behavior which links current and lagged consumption in the manner implied by the first-order conditions of a Fisherian intertemporal optimization problem. It is fair to say that the research done to date has not completely supported the econometric restrictions implied by the Euler equations approach. (See, e.g., King (1985) and Hayashi (1985) for general surveys and Giovannini (1985) and Rossi (1988) for applications to developing countries.)

The dominance of the Keynesian perspective that consumption is largely

determined by disposable income prevented the effect of the real rate of return on saving from receiving much attention until well into the 1970s. Boskin's (1978) work sharply altered the debate over the interest elasticity of saving. He argued for the interest rate elasticity of 0.4, while additional studies (e.g., Fried and Hasbrouck, 1983) have found little or no effect. The econometric evidence has not, however, provided any clear consensus concerning the effect of the real after-tax rate of return on saving (for a recent survey, see Smith, 1990; Hall, 1988).

Another issue which is important for the design of tax policy is the question of whether the redistribution of taxes between corporation and individuals matter. This hinges on the question of whether there is a corporate veil or not. This has been studied by Feldstein (1973), Feldstein and Fane (1973), and Poterba (1987). Their conclusion from US and UK time series evidence indicates that although corporate saving is a substitute for personal saving, it is an imperfect substitute. The evidence from international data also supports this conclusion (see Koskela and Virén, 1989).² Another substitutability issue is whether there is a government veil or not. This has been discussed under the rubric of the Ricardian equivalence proposition which holds that the timing of government tax payments has no impact on an economy's level of national saving; if the government runs a budget deficit, consumers will anticipate the subsequent increase in taxes that will be necessary to repay the debt, and so will raise their saving. As a result, private saving will rise to offset the decline in government saving leaving national saving unaffected. Empirically, evaluation of the Ricardian equivalence has been difficult because there has been relatively little variation in deficits (see, e.g., Carroll and Summers, 1987; Koskela and Virén, 1985). Most of the evidence, however, tends to refute the hypothesis suggesting that government saving is far from a perfect substitute for personal saving.

There are a few conclusions that can be drawn on the basis of this brief selective survey. First, cross-country studies have been carried out without using the most recent data from 1980s. This data is particularly useful and interesting because capital market liberalization took place in many countries during that decade simultaneously with a fall in the inflation rate and a rise in the nominal and real interest rates. This period is also characterized in most countries by relatively large changes (decreases) in household saving rates. Second, earlier research has been notable in the sense that it has not tried to incorporate taxes into the analyses of consumption and saving behaviour, though it is likely that taxation may affect them via various channels. Finally, while liquidity constraint has been emphasized in the Euler equation literature (see, e.g., Hall and Mishkin, 1982; Flavin, 1985), it has not been emphasized very much in studies with international data (see, however, Jappelli and Pagano, 1989). In particular, the interest rate wedge –

an important feature of capital market imperfection – may play some role in saving behaviour (see King (1986) for a theoretical analysis and some preliminary US and UK empirical evidence).

The purpose of this paper is to review recent empirical evidence on household saving behaviour by focusing on the question of how nominal and real interest rates, income taxes and eventual capital market imperfections as well as inflation, have affected household saving behaviour in the 1980s. These factors are obvious candidates when searching for an explanation for large decreases in household saving rates.³

The paper proceeds as follows. In Section 2, a theoretical framework and specifications to be used are introduced and explained. The data and empirical results from annual cross-country data of 17 OECD countries over the period 1979–1988 are reported in Section 3. Finally, there is a brief concluding section.

2. THEORETICAL BACKGROUND FOR EMPIRICAL ANALYSIS

Our approach in this paper is eclectic in the following sense. Rather than trying to postulate a single ‘correct’ model of household consumption and savings behaviour and fit complex structural models, we use both the so-called Euler equation approach and the savings function specifications. The approaches are complementary to each other and by using both we avoid taking a stand on the question of what is the ‘correct’ model to use. Though the Euler equation approach has certain advantages, the econometric evidence has not completely supported it. Therefore, also experimenting with another approach seems worthwhile.

2.1. *The Euler Equation Approach*

Assuming a constant real interest rate and a quadratic utility, Hall (1978) showed that under the permanent income hypothesis, consumption follows random walk; if rational agents maximize utility function, which is additive across periods, then all currently available information will already be included in current consumption. In the case of constant intertemporal elasticity of substitution ($u(c) = c^{1-(1/\sigma)}$, $\sigma > 0$) and allowing for a variable interest rate leads to

$$c_t = a_0 + a_1 c_{t-1} + a_2 r_t + u_t, \quad (1)$$

where c is the log of consumption, r the real rate of interest and u_t is the white noise error term. In (1) $a_1 = 1$ and $a_2 = \sigma$ = the intertemporal elasticity of substitution and should be positive. According to this, agents defer more

consumption when the reward for doing so is higher. This means that, *ceteris paribus*, higher interest rates reduce the last period's consumption relative to current consumption, thereby raising the growth rate of consumption.

Much of the recent debate has centered on the observation by Flavin (1981) that consumption is excessively sensitive to anticipated changes in income in the sense that it has a positive and significant effect when included into Equation (1). This can be interpreted by supposing that some fraction of consumers face liquidity constraints. Consider an economy where there are groups of agents who receive income C_{1t} and C_{2t} , and where the first group is liquidity constrained and consume their current income so that $C_{1t} = Y_{1t}$ and receive a fixed share λ of total income. If agents in the second group follow the Hall hypothesis, then the aggregate consumption can be written as

$$c_t = a_0 + a_1 c_{t-1} + a_2 r_t + a_3 \Delta y_t + u_t, \quad (2)$$

where $a_3 = \lambda$ and Δy indicates the log of real income and where $a_2 = (1 - \lambda)\sigma$ (see, e.g., Jappelli and Pagano, 1989). A problem with the income variable in Equation (2) is that it is based on an assumption and does not directly measure liquidity constraints. The variable Δy_t can be alternatively interpreted as reflecting income innovations which should affect consumption, even in the presence of perfect capital markets. Finally, it should be pointed out that using the value of λ as an indicator of capital market imperfections is problematic. If $\lambda = 1$, we would basically have $\Delta c_t = \Delta y_t$ and, thus, the saving rate would be zero. But, on the other hand, one could argue for a strictly positive saving rate in this 'liquidity constrained' situation. The presence of borrowing constraints will not, in general, lead to the simple Keynesian consumption behaviour $\Delta c_t = \Delta y_t$. Alternatively, one may use the unemployment rate U as a proxy for liquidity constraints (see, e.g., Flavin, 1985; King, 1985).

Liquidity constraints, however, are not the only form of capital market imperfections. One can argue that the wedge between the borrowing rate and lending rate is potentially at least equally important and should be taken into account. This has been done recently by King (1986). More specifically, he assumes that agents' future endowments are uncertain and that lenders cannot observe the total amount borrowed by agents. By using otherwise similar assumptions to Hall (1978), King ends up with the nonlinear budget constraint which is characterized by the wedge between the borrowing and lending rates. Moreover, and importantly, since consumers are heterogenous in terms of future endowments, the 'representative agent' assumption no longer holds; the aggregate Euler equation depends negatively on the wedge W and may be unstable over the business cycle when consumers may move

from one regime to another.⁴ In what follows, we use the wedge as an additional explanatory variable for simplicity and do not try to evaluate the possibility that coefficients of the aggregate Euler equation are functions of the wedge variable W .

Economic theory indicates that social security programmes – which vary widely across countries – may affect household saving in a number of ways, e.g., via taxes, wealth accumulation, and retirement behaviour. Partly because there are some conflicting views about how social security should be modelled, economic theory does not give a clear answer concerning the effect of social security on household saving. Unfortunately, empirical analysis with international aggregate time-series and cross-section data has so far yielded unclear results (see, e.g., Smith (1990) for a recent survey).

In order to control potential social security programme effects, we finally introduce the social security variable S in a difference form as an additional explanatory variable. This can be interpreted as an innovation variable. Alternatively, to the extent that social security expenditures are known beforehand, i.e. they are perfectly predictable, then ΔS or the lagged S should not affect c in the Euler equation with perfect capital markets, while in the case of liquidity constraints, predictable changes should affect consumption (see Wilcox, 1989a). Our data and framework does not allow us to distinguish between these two interpretations. One should also mention that if Ricardian equivalence holds, an even stronger conclusion follows: changes in social security benefits should have no effect on spending, even if the changes are a surprise.

We can now write the extended Euler equation for consumption as follows

$$c_t = a_0 + a_1 c_{t-1} + a_2 r_t + a_3 \Delta y_t + a_4 \Delta U_t + a_5 W_t + a_6 \Delta S_t + u_t, \quad (3)$$

where U is the unemployment rate and where the following *a priori* signs can be expected: $a_1, a_2, a_3, a_6 > 0$ and $a_4, a_5 < 0$. As mentioned earlier, the sign of the ΔU term can result from the fact that a rise in unemployment means tightening liquidity constraints and thereby decreases consumption.

2.2. The Saving Function Approach

In addition to the Euler equation specifications, we also use the saving function approach to shed additional light on saving and consumption behaviour. This means that we do not stop at the first-order conditions for utility maximization, but develop its qualitative implications for saving behaviour. Here we start from the misperception hypothesis presented by Deaton (1977). During the 1970s, this turned out to be useful in understanding the

relationship between the household saving and inflation. According to the misperception hypothesis, economic agents have insufficient information to distinguish between relative and general price movements, when both are changing simultaneously. Under these circumstances, unanticipated inflation is misinterpreted as the rise in the relative prices of goods agents are currently buying, so that real saving increases. If we are prepared to assume constant real income and inflation expectations, then we can end up, after some steps, with the following basic specification

$$s_t = b_0 + b_1 s_{t-1} + b_2 \Delta y_t + b_3 \Delta p_t + e_t, \quad (4)$$

where s is the household saving ratio, p is the log of the price level, and e_t refers to the error term. In the specification (4) $b_1, b_2, b_3 > 0$ so that inflation and real income ('surprises') will have a positive effect on the household saving ratio.

As we indicated earlier, the role of inflation in the household savings function can be justified in a number of other ways as well (see note 1). In the context of the Euler approach to consumption behaviour, capital market imperfections of various types were proposed as important additional explanatory variables. The same applies here as well. Jackman and Sutton (1982) have shown how, in the presence of liquidity constraints, inflation should positively affect saving. The mechanism through which inflation can reduce consumption is by reducing the real amount of credit available in the economy. This happens if financial institutions do not fully and instantaneously adjust borrowing limits in line with inflation.⁵

Capital market imperfections may also have effect via other channels than inflation. One can argue, partly relying on King (1985) and Wilcox (1989b), that the aggregate amount of liquidity constraint is associated with unemployment and nominal interest rate R . As either rises, liquidity constraints both bind more tightly on previously constrained households and start to bind on more households; each aspect drives the consumption further below the unconstrained value obtained in the case of perfect capital markets. To the extent that financial institutions follow a practice of restricting consumer borrowing so as to keep current payments-to-current income ratios below some ceiling level, then a rise in the nominal interest rate and unemployment tend to increase the fraction of loan applications which are rejected. The unemployment rate, particularly in a difference form ΔU , has another interpretation as a proxy for uncertainty (of course, this argument also applies to the Euler equation (3)).

Like in the case of the Euler equation approach, we also control for the potential saving effects of social security programmes by adding a change in the social security variable ΔS to the savings function specification. This

augmented savings function now reads

$$s_t = b_0 + b_1 s_{t-1} + b_2 \Delta y_t + b_3 \Delta p_t + b_4 R_t + b_5 \Delta U_t + b_6 \Delta S_t + e_t, \quad (5)$$

where $b_1, b_2, b_3, b_4, b_5 > 0$, where b_6 remains ambiguous *a priori*. If $b_4 = -b_3$, Δp_t and R_t can be replaced by the real interest rate, r_t .

Thus far, we have neglected taxes altogether, though they may play a major role, in particular if we try to understand the long-term differences in the levels of household saving ratios across countries. Taxes may affect household saving at least via the after-tax rate of return on saving, via the tax deductibility of interest expenses on loans and by changing the after-tax income distribution.⁶

As for the rate of return channel, we have the conventional Slutsky equation ambiguity for savers; due to the conflicting substitution and income effects the rate of return and the tax rate affect saving, *a priori* ambiguously. On the other hand, for borrowers, the substitution and income effects reinforce each other; a rise in the tax rate with deductibility will increase borrowing and thus have a negative effect on aggregate saving. Moreover, if the consumers are distributed into savers, borrowers, and ‘hand-to-mouth’ consumers, a rise in the income tax rate – if it is interpreted as temporary – tends to decrease aggregate saving (see Koskela and Virén (1990) for details). The mechanism is the following: a rise in the income tax rate will decrease aggregate savings by increasing willingness to borrow. It has an ambiguous or no effect on savers depending on whether the income tax rate affects the real after-tax rate of return or not. The effect clearly depends on the details of the tax code. Finally, a rise in the income tax rate tends to decrease aggregate saving by shifting consumers from savers to ‘hand-to-mouth’ consumers, and from ‘hand-to-mouth’ consumers to the group of borrowers. As a result, aggregate savings also tends to decrease via these switching effects.

Unfortunately, it is difficult to incorporate all these considerations into the empirical analysis because of the lack of time-series data for some of the relevant variables. We do have some cross-section data on the degree of progressivity of the direct taxation available. So we can evaluate very crudely the saving effects of taxes by using the measure of progressivity as an additional explanatory variable in the cross-section specification for household saving. In the case of cross-section data (which we have from 14 OECD countries), we have to control variables which vary widely across countries, but may be moving slowly in time-series. This kind of variable is the variable describing the demographic structure of population. Another potentially important variable is self-employed persons as a percentage of total civilian employment. Self-employed persons often have an income level that varies to a greater extent than that of wage and salary earners. We would therefore

expect to observe a higher saving ratio in a country with a higher fraction of self-employed persons. The household saving specification now reads

$$\begin{aligned} s_i &= c_0 + c_1 \Delta y_i + c_2 \Delta p_i + c_3 P15_i + c_4 P65_i + c_5 \text{OWN}_i \\ &\quad + c_6 \text{TAX}_i + v_i, \end{aligned} \quad (6)$$

where $P15$ ($P65$) = the population aged 0–15 (65 and over) as a percentage of total population and OWN = self-employed persons as a percentage of total civilian employment. TAX describes the income tax variable and v_i is the error term. Now, Δy_i represents the growth effect of the LCH and Δp_i controls for (long-run) inflation effects like mismeasurement of saving under inflationary conditions. Now, we may assume that $c_1, c_2 > 0$ and while c_6 is generally ambiguous *a priori* and depends on the details of the tax code. It is likely, though, that $c_6 < 0$. It can be argued that saving should depend negatively on the ratio of retired persons to total population as well as negatively on the ratio of the portion of the population which has not yet reached working age to population (see Modigliani, 1970). On this account, both c_3 and c_4 should be negative. Finally, the effect of the self-employed persons' share should be positive (i.e. $c_5 > 0$).

After these considerations, we next move on to consider empirical results using the specifications (3) and (5) for time-series cross-section (pooled) data and the specification (6) for cross-section data.

3. ESTIMATION RESULTS

3.1. Data

Before turning to estimation results, some comments and explanations should be made about the data and data sources we have used. Annual cross-country data from 17 OECD countries are used in this study. The data cover the period 1979–1988. The consumption and income variables are the following: CV = private consumption at current US dollar prices (national currencies are transformed to US dollars (USD) prices by using the same average exchange rate as the denominator), C = private consumption at constant 1985 USD prices, P = the implicit price deflator of private consumption expenditure, i.e. $P = CV/C$, SH = households' net saving at constant USD prices, SG = the general government net saving in constant USD prices, SF = the corporate sector net saving in constant USD prices, $YH = C + SH$ = households' (net) real disposable income at constant USD prices, $YHT = YH + SF$ = households' real 'broad' income at constant USD prices, $c = \ln(C)$, $y = \ln(Y)$; $Y = YH$ or YHT , $s = (SH/Y)$, and $p = \ln(P)$. The ad-

ditional variables, in turn, are the following: U = the unemployment rate, S = the social security measure which is derived by dividing the social security expenditure by GDP, R = nominal interest rate which corresponds to the government bond yield, r = corresponding real interest rate which is simply $R - \Delta p$, $W = RL - RD$ = the interest rate wedge RL being the borrowing rate and RD the deposit rate, POP = the estimate of mid-year population, $P15$ ($P65$) population aged 0–15 (65 and over) as a percentage of total population, OWN self-employed workers (i.e. employers and persons working on own account) as a percentage of total civilian employment, and, finally, the tax variables TAX_1 the average income tax rate and TAX_2 the Musgrave measure of income tax progressivity (see, e.g., OECD Studies in Taxation (1990)).

The data sources are the following: for CV , C , SH , SG , SF , YH , YHT , and P : OECD National Accounts; Volume II: Detailed Tables (OECD 1990), for S : The Cost of Social Security; preliminary unpublished data for the 1980s (ILO 1990), for U , POP , $P15$, $P65$ and OWN : OECD Labour Force Statistics (OECD 1990), for R , RL , RD : International Financial Statistics: Yearbook 1990 (IMF 1990), and for TAX_1 and TAX_2 Income Taxation in OECD countries (OECD 1990).

3.2. Estimation Results

Before turning to consider estimation results of specifications (2), (3) and (6), we have to consider the issue of what is the proper income concept for the household sector in the light of empirical evidence. Clearly, an obvious candidate is the households' disposable income concept according to the standard System of National Accounts definition. It is not, however, quite clear whether we can simply disregard the saving which takes place in firms and in the public sector. It has been pointed out by Feldstein (1973) and Feldstein and Fane (1973) among others, that corporate sector saving is, to a large extent, a substitute to personal saving. As pointed out by Koskela and Virén (1985), for example, a similar result might apply to public sector saving as well, although the degree of substitution seems to be much smaller (see also discussion in Section 2).

This is why we first estimated a very simple old-fashioned consumption function of the type:

$$C_t = c_0 + c_1 YH_t + c_2 SF_t + c_3 SG_t + c_4 C_{t-1} + u_t, \quad (7)$$

where C denotes private consumption at constant prices (all prices being constant US dollar prices), YH households' real disposable income, SF corporate sector real saving and SG general government (i.e. public sector) real saving. The estimation results for this model given the cross-country data for

Table 1a. Testing for the relevant income concept: OLS estimates

	Aggregate data			Per capita data			Data scaled by YH		
	n.w.	\sqrt{N}	N	n.w.	\sqrt{N}	N	n.w.	\sqrt{N}	N
YH	0.605 (18.914)	0.606 (19.173)	0.570 (17.685)	0.319 (7.380)	0.535 (13.349)	0.635 (18.527)	0.283 (7.370)	0.332 (7.681)	0.345 (7.530)
SF	0.513 (12.00)	0.521 (12.087)	0.551 (12.741)	0.277 (5.048)	0.420 (8.704)	0.483 (10.847)	0.359 (8.278)	0.507 (9.616)	0.664 (10.226)
SG	-0.125 (-6.029)	-0.158 (-8.650)	-0.189 (-10.420)	0.125 (3.037)	-0.085 (-2.766)	-0.157 (-7.411)	0.181 (4.263)	0.007 (0.152)	-0.165 (-4.334)
C_{t-1}	0.436 (13.45)	0.428 (13.692)	0.457 (14.608)	0.760 (18.726)	0.562 (14.260)	0.445 (13.366)	0.712 (16.721)	0.646 (13.431)	0.618 (12.180)
R^2	1.000	1.000	1.000	0.998	0.999	0.999	0.966	0.953	0.948
$D-W$	1.968	2.398	2.648	1.386	1.447	1.953	1.256	0.997	1.022
$\ln(\hat{L})$	-1645.64	-1796.78	-1974.76	149.46	138.93	46.67	507.14	467.93	348.67
\hat{h}	46.77	0.04	0.00	0.00	0.00	49.24	0.00	0.00	0.00
LRY	10.16	16.59	77.73	55.98	6.14	1.21	13.68	0.43	0.01
D84	-0.21	-0.90	-2.74	2.09	0.10	-2.11	5.05	7.17	8.86

Numbers in parenthesis are t -ratios. In (\hat{L}) is the maximized value of the log likelihood function, \hat{h} the percentage marginal probability of Durbin's h -statistic and LRY the percentage marginal probability for the null hypothesis $c_1 = c_2$. D84 denotes a t -test statistic for the coefficient of an additional dummy variable which is equal to 0 for 1979–1983 and 1 for 1984–1988. The dependent variable is private consumption expenditure at constant 1985 prices which is expressed either in aggregate (US dollars) form, in per capita (US dollar form) or scaled by households' real disposable income (YH). All equations also include 17 country intercepts (i.e. dummies) which are not, however, reported. When the data are scaled by YH , the coefficient estimated of YH (which is reported above) is derived from the coefficient estimates of the country intercepts. n.w. indicates that the data are unweighted, \sqrt{N} that the data are weighted by the square root of population and N that the data are weighted by population.

17 countries are reported in Table 1. The model was also estimated using individual country data. The corresponding results are reported in Koskela and Virén (1991). The individual country results were qualitatively similar to those presented in Table 1. Still, it turned out the pooling restrictions in the case of pooled cross-country data with country dummies could be rejected. Unfortunately, the sample size with individual country data is so small that testing for pooling restrictions can be done only very roughly. Estimation is carried out by both the OLS and POOL estimators. In the latter case, a cross-sectionally heteroskedastic and time-wise autoregressive model is estimated (the autoregressive parameter is set either to zero or it is constrained to be equal for all countries).

The results indicate that the standard SNA concept of household disposable income does not seem to be the relevant concept. Here we have abstracted from potential mismeasurement of YH associated with inflation. Corporate sector saving seems to affect household consumption in the same way as personal income. The role of public sector saving is somewhat ambigu-

Table 1b. Testing for the relevant income concept: POOL estimates

	Aggregate data		Per capita data		Data scaled by YH	
YH	0.511 (15.514)	0.510 (15.457)	0.452 (11.185)	0.408 (10.762)	0.387 (10.410)	0.314 (9.100)
SF	0.367 (9.770)	0.366 (9.726)	0.262 (6.896)	0.269 (8.147)	0.326 (7.636)	0.354 (9.418)
SG	-0.048 (-1.563)	-0.466 (-1.521)	0.104 (2.569)	0.083 (2.222)	0.167 (3.726)	0.170 (4.074)
C_{t-1}	0.555 (16.774)	0.555 (16.774)	0.623 (16.548)	0.684 (19.198)	0.586 (14.546)	0.678 (17.752)
R^2	1.000	1.000	0.999	0.999	0.944	0.967
$D-W$	1.320	1.329	1.579	1.230	1.493	1.138
ρ	0.008	0	0.321	0	0.370	0
$\ln(\hat{L})$	-1519.82	-1519.44	197.92	189.62	540.94	527.10
\hat{h}	0.17	0.21	18.83	0.06	2.46	0.00
LRY	0.53	0.13	0.13	0.84	21.06	37.04
D84	-0.47	-0.47	1.55	2.19	3.96	5.18

Notation is the same as in Table 1a. Now, only ρ is the first-order autoregressive parameter which is used in the Cochrane–Orcutt Procedure. R^2 is here Buse's R -square.

ous. The effect is in some cases (in particular, when the data are weighted by population) negative. It is not at all clear what might explain this perverse result. One possible explanation has to do with taxes: an increase in income tax rate (which, *ceteris paribus*, increases public sector saving) might have a negative direct effect on private consumption (see Koskela and Virén (1990) for details).⁷

Although the results suggest that there is some substitution between household saving on the one hand and corporate and public sector saving on the other hand, one can clearly reject the hypothesis that this substitution is perfect. Thus, the parameter restriction $c_1 = c_2 = c_3$ could be decisively rejected in all cases.⁸ However, the parameter restriction $c_1 = c_2$ managed much better. Still, in the case of the POOL estimator (and level-form data), this restriction could also be rejected. Therefore, we continue to work with the SNA concept of household income (i.e. YH), but also in order to check the robustness of results, we also carry out the analysis using the 'broad' income concept YHT which equals to $YH + SF$.

The estimation results for the specification (3) are reported in Table 2a. The following features of the results merit attention. First, the equation fits the data very well and there are no obvious diagnostic problems. In particular, there seems to be no stability problems within the sample period 1979–1988 (cf. the coefficient estimates of the D84 dummy-variable). The coefficient of the lagged consumption is close to one. In fact, $(1 - \alpha_1)$ divided by the respective standard error is about 2 (in the case of the broad income

Table 2a. Cross-country estimation results for the unrestricted Euler equation

	Narrow income concept					Broad income concept				
	n.w.	\sqrt{N}	N	POOL	POOL	n.w.	\sqrt{N}	N	POOL	POOL
c_{-1}	0.969 (52.18)	0.975 (77.08)	0.977 (104.13)	0.962 (62.88)	0.963 (63.64)	0.983 (51.04)	0.989 (80.09)	0.996 (110.89)	0.974 (59.66)	0.979 (64.68)
r	0.163 (3.17)	0.155 (3.73)	0.219 (6.41)	0.162 (3.53)	0.163 (3.57)	0.108 (1.94)	0.030 (0.68)	0.089 (2.24)	0.117 (2.29)	0.120 (2.40)
Δy	0.409 (5.95)	0.526 (7.44)	0.596 (7.92)	0.413 (7.74)	0.413 (7.74)	0.254 (5.29)	0.413 (8.10)	0.492 (8.97)	0.277 (6.81)	0.269 (6.42)
ΔU	-0.876 (6.11)	-0.679 (5.28)	-0.594 (4.57)	-0.803 (7.87)	-0.808 (7.94)	-0.984 (7.00)	-5.94 (5.94)	-0.509 (4.02)	-0.877 (8.31)	-0.917 (8.78)
W	-0.015 (0.19)	-0.028 (0.35)	-0.176 (1.75)	0.014 (0.25)	0.014 (0.25)	-0.020 (0.24)	0.027 (0.35)	-0.072 (0.75)	0.044 (0.64)	0.041 (0.62)
ΔS	-0.013 (0.11)	0.259 (2.04)	0.675 (4.44)	0.088 (0.74)	0.092 (0.78)	0.015 (0.12)	0.226 (1.84)	0.600 (4.13)	0.081 (0.69)	0.111 (0.91)
ρ	0	0	0	0.020	0	0	0	0	0.139	0
R_2	1.000	1.000	1.000	1.000	1.000	0.999	1.000	1.000	1.000	1.000
SEE	1.361	1.084	1.082	-	-	1.389	1.058	0.847	-	-
D-W	2.043	2.041	2.190	1.840	1.815	1.697	1.848	1.823	1.843	1.680
h	27.49	37.67	1.08	37.55	39.15	2.12	17.83	22.04	35.93	25.01
t_s	-0.94	-2.34	-2.67	-1.27	-1.28	-1.03	-2.33	-3.33	-1.65	-1.81
D84	0.18	0.76	1.28	-0.31	-0.31	-0.23	0.07	1.63	-0.82	-0.73

Numbers in parentheses are t -ratios. The dependent variable is the log of private consumption (c) in per capita terms and in US dollars. t_s denotes the t -ratio for the lagged S -variable which is included in the estimating equation instead of ΔS . The narrow concept of income corresponds to households' real disposable income while the broad concept also includes corporate and public sector real saving. All equations also include 17 country dummies which are not, however, reported. The number of observations is 170. The coefficients of r , ΔU , W and ΔS have been multiplied by 100. Also the standard errors of estimate (SEE) have been multiplied by 100.

concept, the figure is still much smaller). Thus, it seems that the unit root restriction cannot be rejected. Therefore, we also present estimation results in terms of the growth rate of the consumption later on in Table 2b. Second, the coefficient of the real interest rate variable is positive and rather precisely estimated. As pointed out earlier, this lies in conformity with what one should expect on the basis of utility maximizing behaviour and means that the slope of the consumption growth path becomes steeper, when the real interest rate increases. In other words, the intertemporal elasticity of substitution is positive – the value of $(1 - \lambda)\sigma$ being about 0.16 (however, if the private sector income innovations are used for Δy , it is about 0.10). Thus, the 'permanent income' consumers' elasticity of substitution σ is not completely insignificant as suggested by Campbell and Mankiw (1989). Third, the income variable – which can be interpreted either as a fraction of liquidity constrained consumers or as an income innovation term – is consistently positive and precisely estimated. The magnitude of the coefficient corresponds rather well to the results obtained by, e.g., Campbell and Mankiw (1989, 1990) with

Table 2b. Cross-country estimation results for the restricted Euler equations

	Narrow income concept					Broad income concept				
	n.w.	\sqrt{N}	N	POOL	POOL	n.w.	\sqrt{N}	N	POOL	POOL
r	0.125 (2.67)	0.131 (3.25)	0.208 (6.05)	0.113 (2.76)	0.114 (2.80)	0.084 (1.70)	0.018 (0.40)	0.085 (2.20)	0.084 (1.83)	0.091 (2.05)
Δy	0.415 (5.99)	0.520 (7.30)	0.579 (7.66)	0.414 (7.51)	0.415 (7.51)	0.262 (5.51)	0.417 (8.17)	0.495 (9.06)	0.280 (6.86)	0.272 (6.50)
ΔU	-0.808 (5.80)	-0.600 (4.81)	-0.480 (3.87)	-0.714 (6.97)	-0.718 (7.03)	-0.941 (7.05)	-0.671 (5.99)	-0.480 (4.18)	-0.823 (8.01)	-0.867 (8.63)
W	-0.043 (0.55)	-0.050 (0.63)	-0.184 (1.81)	-0.013 (0.21)	-0.713 (0.21)	-0.036 (0.45)	0.016 (0.20)	-0.081 (0.84)	0.026 (0.37)	0.027 (0.40)
ΔS	-0.041 (0.36)	0.217 (1.72)	0.585 (0.92)	0.040 (0.33)	0.043 (0.36)	0.000 (0.00)	0.210 (1.72)	0.589 (4.18)	0.551 (0.46)	0.086 (0.71)
ρ	0	0	0	0.015	0	0	0	0	0.134	0
R_2	0.607	0.687	0.752	0.715	0.719	1.595	0.706	0.777	0.680	-
SEE	1.372	1.094	0.896	-	-	1.392	1.123	0.849	-	1.700
D-W	1.898	2.055	2.167	1.831	1.812	1.715	1.854	1.812	1.812	-1.99
t_s	-1.56	-2.79	-2.97	-1.56	-1.55	-1.30	-2.43	-3.08	-1.90	-1.42
D84	-0.92	-0.90	-1.25	-1.82	-1.81	-0.73	-0.56	0.61	-1.62	

Numbers in parentheses are t-ratios. The dependent variable is the log difference of private consumption (Δc). For other details, see Table 2a.

postwar US data. The same is true for the difference in the unemployment rate which is consistently negative and mostly precisely estimated. Quite obviously, the use of OLS in estimating the coefficient of Δy , is not appropriate and, thus, the tabulated coefficient estimates should be evaluated with care. Unfortunately, because of the data, more appropriate IV estimation could not be carried out.

Fourth, while the earlier results are sensitive neither to whether the narrow or broad income concept is used – though we marginally prefer the narrow concept – nor to the question of whether data is unweighted or weighted by population, the remaining results are slightly sensitive to the weighting procedure of country observations. The interest rate wedge variable is consistently negative, but not very precisely estimated. Its sign is, however, what one should expect *a priori*; the higher the interest rate wedge, *ceteris paribus*, the steeper the slope of the consumption path. Thus, we have some evidence, though very weak, for the potential role of the wedge variable according to which the higher the wedge, the higher the household saving. Finally, as for the social security variable, it is also sensitive to the weighting procedure of country observations. It is mostly positive; a way to interpret this is to say that social security expenditures have a similar effect as households' real disposable income. Of course, we cannot say what is exactly the reason for this result – partly because we cannot say whether the nonzero social security effect is related to the behavior of the 'permanent income' consumers or the

Table 3. Cross-country estimation results for the saving function

	Narrow income concept					Broad income concept				
	n.w.	\sqrt{N}	N	POOL	POOL	n.w.	\sqrt{N}	N	POOL	POOL
s_{-1}	0.750 (18.31)	0.650 (17.17)	0.518 (14.74)	0.706 (17.83)	0.732 (19.72)	0.768 (19.72)	0.719 (18.31)	0.643 (19.68)	0.766 (21.59)	0.789 (24.78)
r	0.548 (9.97)	0.471 (9.56)	0.462 (10.37)	0.535 (12.47)	0.529 (12.40)	0.628 (16.35)	0.502 (12.81)	0.435 (12.46)	0.601 (19.31)	0.613 (19.96)
Δy	0.172 (4.61)	0.225 (7.80)	0.296 (14.04)	0.188 (5.80)	0.189 (6.17)	0.152 (3.97)	0.158 (4.48)	0.223 (8.38)	0.151 (4.62)	0.155 (5.00)
ΔU	0.074 (1.19)	0.064 (1.66)	0.068 (2.45)	0.81 (1.68)	0.062 (1.37)	0.012 (0.19)	0.024 (0.58)	0.024 (0.84)	0.020 (0.40)	0.012 (0.25)
W	0.606 (5.22)	0.529 (6.17)	0.557 (7.82)	0.473 (5.41)	0.496 (5.78)	0.502 (4.44)	0.348 (4.02)	0.234 (3.17)	0.387 (4.50)	0.427 (5.02)
ΔS	0.065 (0.72)	-0.152 (1.78)	-0.352 (3.97)	-0.021 (0.25)	-0.059 (0.67)	0.056 (0.61)	-0.107 (1.18)	-0.306 (3.31)	0.025 (0.28)	-0.019 (0.21)
ρ	0	0	0	0.141	0	0	0	0	0.188	0
R^2	0.978	0.982	0.987	0.977	0.982	0.972	0.978	0.986	0.975	0.983
SEE	10.63	7.33	5.08	-	-	10.63	7.85	5.33	-	-
D-W	1.741	1.929	2.123	1.822	1.650	1.578	1.605	1.692	1.768	1.530
h	5.47	40.83	14.39	40.51	28.05	0.09	0.16	1.40	42.42	7.72
t_s	-0.27	2.06	1.71	1.57	1.88	0.56	3.42	4.65	2.57	2.85
LR_r	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.04	0.02
D84	0.63	1.94	1.89	2.93	13.19	0.53	1.49	1.28	3.46	3.57

Numbers in parentheses are t -ratios. The dependent variable is the saving ratio (s). LR_r denotes a LR test statistic for the hypothesis that the coefficients of Δp and R correspond to the real interest rate variable (the reported numbers are percentage marginal probability values). For other details, see Table 2.

'rule of thumb' consumers (see discussion in Section 2.2). If the ΔS -variable is replaced by S_{-1} (i.e. by the lagged social security measure), the coefficient turns out to be negative, although not always statistically significant. The result is somewhat perverse (for instance, if it is compared with Wilcox's (1989a) results), though the roughness of the proxy for S should be kept in mind.

The estimation results, reported in Table 2b, where the dependent variable is the log difference of private consumption, are very similar to those presented in Table 2a.⁹ But it is not completely obvious whether the results can be interpreted from the Euler equation point of view. The consumption and saving function specifications – as distinct from the first-order conditions for utility maximization – lead partly to similar specifications.¹⁰ Therefore, it is useful to look at data from a slightly different angle. This is done by estimating the saving function specification (5). The respective results with pooled cross-country data are presented in Table 3. The results with individual

country data, where the saving function includes s_{-1} , Δy , Δp and $\Delta \bar{p}$ and ΔU are reported in Koskela and Virén (1991). They are qualitatively similar to those presented in Table 3. Unfortunately, due to the same degree of freedom, testing for pooling restrictions in this case is not very meaningful. The following features of results in Table 3 merit attention: first, the results indicate that household saving behaviour can be reasonably well modelled using the augmented saving rate equation (5). The only diagnostic caveat concerns parameter stability. Particularly, the POOL estimation results suggest that household saving behaviour might have changed in the late 1980s after financial market liberalization, though the overall evidence is not very strong. Second, both inflation and real income growth are precisely estimated and affect the saving ratio positively. This is in line with the misperception hypothesis by Deaton (1977), but of course does not eliminate other interpretations for the inflation variable. The inflation rate seems at least partially to explain the fall in the saving ratios in the late 1980s, but the explanation is far from sufficient as one can see by looking at the individual country results. Third, the coefficient of the unemployment variable is significantly positive; it can be interpreted either as a proxy for income uncertainty, which should increase precautionary saving, or as a channel for liquidity constraints in the way which has been explained in Section 2.2. Fourth, and important, the nominal interest rate affects the saving ratio positively and is statistically significant. This also conforms with the liquidity constraint interpretation to the extent that financial institutions follow a practice of restricting consumer borrowing so as to keep payment-to-income ratios below some ceiling level, a rise in nominal interest rates tends to increase the fraction of loan applications which are rejected. Hence, the saving goes up. Notice also that the results do not support the idea that inflation and the nominal interest rate just represent the real interest rate variable. The respective parameter restrictions can be clearly rejected (cf. the LR_r test statistic). Finally, as for the social security variable, here as earlier in the context of the Euler equation approach, the results are sensitive to the weighting procedure of country observations; there is some weak evidence for the negative relationship between the household saving ratio and the social security variable.

Earlier, we discussed the potential role of taxation in the determination of household saving behaviour. Unfortunately, lack of time-series data prevents us from incorporating tax variables into the pooled time series cross-section data we have used. We have available limited cross-section data from 14 OECD countries concerning the income tax variable. In the case of aggregate data, the average marginal tax rate would be the relevant income tax variable. In what follows, we use both the average tax rate and Musgrave's progressivity measure¹¹ as alternative proxies for the average mar-

Table 4. Saving function estimates with cross-section data

	(1)	(2)	(3)	(4)	(5)	(6)
Const.	0.813 (5.32)	0.148 (1.44)	0.866 (1.85)	1.010 (4.14)	0.831 (7.82)	1.042 (5.43)
P15	-2.191 (4.70)		-2.122 (3.51)	-2.543 (3.87)	-2.304 (7.80)	-2.721 (2.747)
P65	-1.984 (3.87)	-0.381 (0.57)	-2.299 (3.31)	-2.550 (3.55)	-2.160 (5.82)	(4.80) 0.162
OWN	0.349 (2.33)	0.334 (1.26)	0.395 (1.75)	0.221 (0.86)	0.436 (6.43)	(0.68) -0.270
TAX	-0.299 (2.51)	-0.263 (1.26)	-0.083 (0.24)	-0.340 (2.32)	-0.219 (2.21)	(2.40) -1.775
Δy				-1.998 (1.39)		(1.39) 0.476
Δp				0.189 (0.35)		(1.01)
R^2	0.824	0.390	0.702	0.862	0.920	0.938
SEE	2.557	4.51	3.33	3.33	1.37	

Numbers in parentheses are *t*-ratios. The dependent variable is the saving ratio (*s*). The average income tax rate is used in Equations (1)–(2) and (4)–(6) while Musgrave's measure of income tax progressivity is used in Equation (3). The data are sample averages for 1979–1980. Unweighted data are used in Equations (1)–(4) while with Equations (5)–(6) the data are weighted by the square root of population.

ginal tax rate. The estimation results from the cross-section household saving specification (6) are reported in Table 4.

According to estimation results, demographic variables are both significant and of sign that can be expected *a priori*; the higher the fraction of both young and old population from the total population, the lower the household saving ratio, *ceteris paribus*. This finding lies in conformity with the prediction of LCH by Modigliani (1970), (1986). A similar finding is reported in Koskela and Virén (1989) from a larger sample of countries both in the early 1970s and in the early 1980s so that this seems to be a rather robust result. While the coefficient estimates of DEP and RET are of correct sign in terms of the LCH, they are unreasonably high, particularly if one intends to interpret them as independent variables. But this is clearly not the case because DEP, RET and population aged 16–64 (as a percentage of total population) sum up to unity. Thus, in the data sample the coefficient of correlation between DEP and RET is -0.71 which indicates a multicollinearity problem. If one of these variables is dropped, the coefficient of the remaining variable decreases dramatically and the corresponding *t*-ratio fails to exceed the standard critical values (see, e.g., Equation (2) in Table 4). Also, the self-

employed persons' employment share variable OWN behaves in an intuitively expected way. The corresponding coefficient is systematically positive suggesting that these persons tend to save more.

What does not conform with the prediction of LCH is the negative sign of the income growth variable, though here the evidence is relatively weak.¹² Similar effects with larger cross-section data were found in Koskela and Virén (1989), (1990). Inflation does not work so well as in the case of pooled data; from the viewpoint of the misperception hypothesis this is understandable. There is no particular reason why inflation should matter in the long run. The weak inflation effect in the cross-section data may have to do with the mismeasurement of real income under inflation. Finally, the income tax variable is consistently negative, but in the case of Musgrave's measure of income progressivity, it is not precisely estimated. Table 4 thus provides some weak evidence for the view that the higher the marginal income tax, the lower the household saving. Similar evidence for the role of tax incentives for US and Canada savings has been presented by Carroll and Summers (1987). This suggests, while it does not fully demonstrate, that taxation which has thus far been mostly neglected, may be an important determinant of the cross-country differences in the levels of household saving rates.

4. CONCLUDING REMARKS

In this paper we have used cross-country data from 17 OECD countries over the period 1979–1988 to review recent empirical evidence about the determinants of household saving behaviour. We have estimated both the Euler equation and the saving function specifications by using the pooled time series cross-section data as well as the cross-section data. In addition to conventional variables we have evaluated the potential role of the interest rate wedge, the nominal interest rate and proxy variables for liquidity constraints like income and unemployment. We have also made a preliminary evaluation of the role of income taxation as a long-term determinant of the household saving ratio.

The main features of results can be summarized as follows: first, despite large institutional changes in the functioning of capital markets as a result of liberalization, the households' consumption and saving behaviour in the 1980s can still be reasonably well modelled using a rather standard Euler equation and saving function specifications. Second, as for the Euler equation results in the case of pooled data, the real rate of interest and the change in the real income positively affects consumption, while the change of unemployment affects it negatively. This means that the slope of the consumption

path becomes steeper when the real rate of interest rises.¹³ The income and unemployment variables can – but need not – be interpreted as reflecting liquidity constraints. Very importantly, we have used the interest rate wedge between borrowing and the deposit rate as a proxy for capital market imperfection; weak evidence has been found for the hypothesis according to which the higher the wedge, the higher the household saving.¹⁴

As for the saving function specifications, both inflation and real income growth are precisely estimated and positive which is in line with the misperception hypothesis by Deaton (1977) but does not eliminate other interpretations.¹⁵ The unemployment rate positively affects saving. The new finding here is that the normal interest rate positively affects the household saving ratio, which also conforms with the liquidity constraint interpretation to the extent that financial institutions follow a practice of restricting consumer borrowing so as to keep payment-to-income ratios below some ceiling level, a rise in nominal interest rate increases the rejected fraction of loan applications and thereby raises saving. Finally, the cross-section-time series country data evidence is partly in line with LCH – in the case of the demographic variables – and partly contradicts it, in the case of the income growth variable. Moreover, cross-section data provides some weak evidence for the hypothesis that the marginal income tax tends to negatively affect the level of household saving.

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NOTES

1. Deaton (1977) argued as follows: since no consumer is ever aware at any one instant of the prices which prevail for all goods he sometimes purchases and since consumer price indices are published after a delay, one can mistake an increase in the general price level for an increase in some relative prices. Hence, consumers purchase less of everything and unanticipated inflation results in (involuntary) saving. The observed relationship may largely be a statistical mirage, however. This is because income, as measured in national accounts, includes interest payments on financial assets, which is not really income at all during inflation. Thus measured savings tend to rise with inflation. One can also be shown that the

- practice of fixing nominal wages for a finite period can help to create a connection between household saving and anticipated inflation (Bulkley, 1981).
2. Recently, by using US data, Auerbach and Hassett (1989) have argued that previous tests for the existence of corporate veil have lagged proper focus, identifying influences of corporate saving on personal saving that are entirely consistent with a complete piercing of the corporate veil. Their Euler equation tests with US data reject the hypothesis of the existence of corporate veil.
 3. This is not to say that these are the only candidates, so the wealth effects associated with rising stock market and house values as well as improvements in the living standards of the elderly may have played an important role. Unfortunately, however, lack of international data prevents us from evaluating the potential role of these variables.
 4. The idea here is simple. The wedge between the borrowing and lending rates is a form of capital market imperfection; the higher this imperfection is, the lower is the willingness of consumers to borrow, *ceteris paribus* and, thus, the higher is the aggregate saving. In fact, the wedge is itself an endogenous variable. In what follows we do not, however, account for this complication. Recently, Charpin (1989a, 1989b) also stressed the fact that, particularly in the presence of capital market imperfections, heterogeneity of consumers (debtors, creditors, and liquidity-constrained ones) prevents the modelling of aggregate consumption directly through a single representative agent. She has also presented numerical simulations of the life-cycle models with observed French labour income profiles representing several wage-earner categories. The simulation results, reported in Charpin (1989b), support the wedge specification, while the perfect capital market specification leads to excessive indebtedness for all agents.
 5. This suggests that the role of inflation should depend negatively on the tightness of credit markets; the higher the fraction of liquidity constrained households, the higher should the coefficient estimate of inflation be in the savings function and vice versa! This is an interesting issue for further research. This suggests more generally that there may be cyclical variations in the degree of credit rationing, which should be estimated by using variable-parameter estimation techniques. For an example of how to do this, see Ogawa (1990), who estimates cyclical variations in liquidity-constrained consumers by using aggregate time-series data from Japan. For recent micro evidence about liquidity constraints, see Zeldes (1989). Finally, one should mention, that household recognition which they may be subjected to in future constraints, may also influence their current behaviour, even though they are not subject to binding liquidity constraints. Deaton (1989) has recently developed this view of savings as a 'buffer stock' for contingencies, see also Koskela and Virén (1984).
 6. For some evidence about the role of nominal interest rates in the US consumption function, see Blinder and Deaton (1985).
 7. Here we should point out the critique by Auerbach and Hassett (1989), see note 2 (above). Thus, the results should be interpreted with caveats.
 8. There is at least one serious problem with the cross-country results which are reported in Table 1. It is the fact that when working with the level form data, the implied long-run propensities to consume in some cases exceed unity. When the data are scaled by personal income, this problem does not arise and, therefore, we tend to consider these scaled results as being more reliable.
 9. In addition to these innovation variables, we also experimented with some demographic variables, P15, P65 and OWN but the coefficients of these variables turned out to be completely insignificant and, thus, they are not reported here. A complete set of results is available from the authors upon request.
 10. Take into account that (approximately) $s = \Delta y - \Delta c$. Thus, one should expect that there is a close relationship between the Euler equation and the misperception specification of the saving function.

11. See Norregaard (1990) and OECD Studies in Taxation (1990). Musgrave's progressivity measure is based on the Gini coefficient and is defined as follows

$$EP = (1 - G^a)/(1 - G^b),$$

where G^a is the Gini coefficient of after-tax income and G^b is the Gini coefficient of before-tax income. By this measure, if $EP > 1$, the tax is progressive, the marginal tax rate being higher than the average tax rate.

12. Thus, this finding does not support Modigliani's (1986) claim that "by now it is generally accepted that growth is a major source of cross-country differences in the saving rate", (p. 303).
13. According to the estimation results, the intertemporal elasticity of substitution is about 0.3. This finding implies that the uncompensated rate of return elasticity is negative. In the case of the saving function specification, however, the use of the real interest rate variable is not appropriate. See Sheshinski and Tanzi (1989) for another explanation.
14. The issue of whether consumers are liquidity constrained or not is very important from the policy point of view. See, e.g., Hubbard and Judd (1986) for an interesting analysis of some of the policy issues associated with the tax policy.
15. For the Euler equation, Koskela and Virén (1987) has presented evidence for the role of inflation as well. A way to interpret this is to introduce money in the utility function as in Charpin (1989a).

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Part C

**Imbalances in Public Sector Budgets
and their Impact on Financial Systems**

IX. Imbalances in public sector deficits: the Dutch experience

S. K. KUIPERS

1. INTRODUCTION

Between the early 1970s and the early 1980s, public sector deficits of almost all European countries increased considerably. In this respect, The Netherlands did not deviate from other European countries. As is shown in Table 1, it did deviate from other European countries in two other respects. First, the rise was considerably stronger: about 8 percentage points of national income compared with about 4 percentage points in EC-12. Secondly, after a slight decrease between 1982 and 1985, the public sector deficit remained at its 1985 level in the second half of the 1980s. In contrast to this, the EC-12 budget deficit continued to decrease in the latter period. As a result, the public debt ratio in The Netherlands rose steadily in the 1980s, from 45.9 per cent of GNP in 1980 to 81.8 per cent in 1990, whereas, as is shown by Table 2, the public sector debt ratio of the total of European countries started to fall after 1987. Moreover, the public sector debt ratio in The Netherlands exceeded that in the total of European countries during the whole period 1980–1990.

The overall conclusion is that compared with Western Europe as a whole, the state of public finance in The Netherlands has deteriorated. This gives rise to the question as to the causes and the consequences of the bad performance of the public sector. These issues will be addressed in Sections 2 and 3. The analyses in these sections also make it possible to draw some conclusions with respect to the disciplinary influence of financial markets on budgetary policy. Finally, in Section 4, some arguments will be given, why – notwithstanding the fact that the financing of budget deficits has occurred without any trouble in the past decade – a further decline of the budget deficit has to be considered inevitable.

2. CAUSES

In order to gain some insight into the causes of the growth of the budget deficit in the 1970s and the persistence of this deficit in the 1980s, Tables 3

Table 1. Budget balances in some European countries, 1971–1990 (net lending of total government in percentages of gross domestic product)^a

Year	The Netherlands	Belgium	Germany	United Kingdom	EC-12
1971	-0.5	-3.1	-0.2	+1.3	-0.6
1972	+0.0	-4.2	-0.5	-1.3	-1.5
1973	+1.1	-3.9	+1.2	-2.7	-0.9
1974	-0.1	-2.9	-1.3	-3.8	-2.1
1975	-2.6	-5.4	-5.6	-4.5	-4.9
1976	-0.5	-6.2	-3.4	-4.9	-3.5
1977	-1.8	-6.4	-2.4	-3.2	-3.0
1978	-2.8	-6.8	-2.4	-4.3	-3.8
1979	-3.7	-7.6	-2.6	-3.2	-3.5
1980	-4.0	-9.8	-2.9	-3.4	-3.5
1981	-5.5	-13.4	-3.7	-2.6	-4.9
1982	-7.1	-11.4	-3.3	-2.5	-5.1
1983	-6.4	-11.7	-2.5	-3.3	-5.0
1984	-6.3	-9.3	-1.9	-3.9	-5.0
1985	-4.8	-8.6	-1.1	-2.7	-4.8
1986	-6.0	-8.8	-1.3	-2.4	-4.5
1987	-6.5	-7.0	-1.9	-1.3	-4.0
1988	-5.0	-6.5	-2.1	+1.0	-3.4
1989	-5.6	-6.0	+0.2	+1.9	-2.5
1990	-4.8	-5.5	-1.0	+1.8	-3.0

^a + surplus, – deficit.

Source: Central Planning Bureau (1990a).

Table 2. Gross public debt of some European countries, 1980–1990 (in percentages of GNP/GDP)

Year	The Netherlands	Belgium	Germany	United Kingdom	Total of European countries
1980	45.9	79.9	32.5	54.6	42.6
1981	50.3	93.3	36.3	54.5	45.2
1982	55.5	102.4	39.5	53.1	48.8
1983	61.9	113.3	40.9	53.3	51.8
1984	66.1	118.6	41.5	54.8	54.5
1985	69.6	122.7	42.2	53.3	56.7
1986	71.3	127.2	42.4	51.9	57.7
1987	75.0	132.5	43.7	49.5	58.9
1988	77.7	134.3	44.4	44.0	58.6
1989	80.1	133.0	42.7	39.6	57.6
1990	81.8	132.1	42.1	37.0	57.1

Source: OECD (1989, 1990).

Table 3. Public outlays, public revenues and the public sector deficit, 1970–1990 (as percentage of net national product)

	1970	1980	1985	1990
Outlays	44.4	58.5	60.6	58.4
Taxes and social security premiums	40.8	49.1	48.4	49.2
Non-tax revenues	2.2	5.0	6.9	3.7
Total revenues of which natural gas revenues	43.1	54.0	55.3	52.8
0.5	3.9	5.9	1.6	
Budget deficit (net lending)	1.3	4.5	5.3	5.6
Net provided credits	1.7	3.1	1.6	-0.2
Budget deficit (net borrowing)	3.0	7.6	6.9	5.4

Source: Central Planning Bureau (1990b), *op. cit.*, Table 2.2.

and 4 give information about the course through time of public outlays and public revenues in the period 1970–1990.

Especially in the 1970s, public outlays showed a huge increase, by about 14 percentage points of national income. The increase was for one-third due to increases in volume and for two-thirds to price increases.¹ Between 1980 and 1985, the increase slowed down, mainly as the result of the price squeeze measures taken by the Dutch government. After 1985, public outlays began to rise slower than the net national product, mainly due to a deceleration of volume growth. Price increases again exceed the increase of the NNP deflator somewhat. The increase in public outlays between 1970 and 1985 is covered

Table 4. Public outlays by policy clusters, 1970–1990 (as percentage of net national product)

	1970	1980	1985	1990
Defence	3.6	3.4	3.2	3.1
Education	6.3	7.0	5.7	5.2
Public administration	8.1	10.2	9.6	9.1
Infrastructure	3.1	2.2	1.9	1.6
Public health and social service	5.1	8.0	8.2	8.8
Social security	13.7	20.5	21.3	19.4
Subsidies	1.1	3.0	4.4	3.9
Transfer payments to foreign countries	1.1	1.7	1.8	2.2
Net interest payments	2.3	2.5	4.7	5.1
Public outlays	44.4	58.5	60.6	58.4

Source: Central Planning Bureau (1990b), *op. cit.*, Table 2.3.

Table 5. Social security outlays, 1970–1990 (as percentage of net national product)

	1970	1980	1985	1990
Labour disability (including sickness)	3.8	7.4	6.5	6.4
Demographic regulations	7.9	9.8	9.2	9.0
Unemployment regulations	0.6	1.8	3.8	2.5
Individual aid and other	1.4	1.5	1.7	1.5
Total	13.7	20.5	21.3	19.4

Source: Central Planning Bureau (1990b), *op. cit.*, Table 8.

for 50 per cent by an increase in taxes and social security premiums, for 25 per cent by an increase in non-tax revenues (in particular, non-tax natural gas revenues), and for another 25 per cent by an increase in the budget deficit. Since 1985, the natural gas revenues have fallen drastically, mainly as a consequence of the fall in (real) energy prices. This decrease, amounting to 4 per cent of the net national product, has been compensated by a reduction in public outlays for only 50 per cent. The remaining 50 per cent has been compensated by an increase in taxes and other non-gas revenues, and by a slight increase in the budget deficit.

Table 4 shows that the increase in public outlays is entirely due to the growth of transfer payments. Public consumption as a percentage of the national product has not increased between 1970 and 1990, whereas public investment as a percentage of the national product has almost halved between these two years. Within the category of transfer payments, 40 per cent of the increase is caused by the rise in social security benefits. Net interest payments and subsidies have also grown considerably, the former mainly as a consequence of the rise in the public debt ratio.

Table 5 shows that the increase in social security outlays is particularly caused by the increase in labour disability benefits (including sickness benefits) and the increase in unemployment benefits. In the 1970s, both these benefits increased sharply, on the one hand due to the stagnation of the private sector of the Dutch economy, and on the other hand due to discretionary policy measures aimed at diminishing income inequality.

During the first half of the 1980s, the volume growth of unemployment benefits continued to increase as a result of the strong rise of unemployment in the early 1980s.² The volume growth of labour disability benefits showed a slow-down during this period. During the second half of the 1980s, economic recovery caused the volume of unemployment benefits to decline again. The volume growth of labour disability benefits tended to accelerate again, however. During the whole period 1980–1990, the price increase in social

Table 6. Public outlays in The Netherlands and Germany, 1970–1990 (as percentage of GDP)

	The Netherlands				Germany			
	1970	1980	1985	1990	1970	1980	1985	1990
Consumption	14.7	17.2	15.5	14.1	15.3	19.4	19.1	17.5
–Wages and salaries	11.1	13.0	11.1	10.0	8.8	11.0	10.5	9.7
–Other	3.7	4.2	4.4	4.1	6.5	8.5	8.6	7.8
Transfers	16.0	26.2	27.2	27.6	14.1	18.8	18.5	17.6
–Social security	13.8	21.1	19.8	21.2	13.1	16.8	16.3	15.6
–Other (social provisions, welfare non-profit, other)	2.2	5.1	7.4	6.4	1.1	2.0	2.1	2.1
Subsidies (including EC-subsidies)	1.3	2.5	3.0	2.9	1.7	2.1	2.1	1.9
Interest payments	3.1	3.7	6.2	5.9	1.0	1.9	3.0	2.6
Total current outlays	35.1	49.6	52.0	50.5	32.6	42.8	43.4	40.3
Investments and capital transfers	5.6	5.5	5.0	3.9	6.1	5.4	3.8	3.4
Total public outlays	40.7	55.1	57.0	54.4	38.7	48.2	47.2	43.7
Budget balance (net lending)	-1.1	-4.1	-4.8	-5.1	0.2	-2.9	-1.1	-0.8

Source: Central Planning Bureau (1990b), *op. cit.*, Table 1A.

security benefits was very moderate and less than the increase in the NNP deflator.

The very strong rise in public outlays during the last two decades has made The Netherlands one of the countries with the highest public outlay ratios in the industrialised world.³ As may be evident from the preceding discussion, this top position is not so much due to high government expenditures (government consumption and government investment) but rather to high transfer payments. This conclusion is confirmed by Table 6, which compares public outlays in The Netherlands with those in Germany.

Two other conclusions which can be drawn from Table 6 are:

- in the 1970s public outlays rose much less strongly in Germany than in The Netherlands. The difference is 5 percentage points of GDP;
- Germany was able to reduce its public outlays in the 1980s by almost 5 percentage points of GDP, whereas in 1990 The Netherlands was still at the same level as in 1980.

Hence, the gap is about 10 percentage points between the two countries. It seems rather difficult to attribute this to a difference in growth perfor-

mance. In the 1970s, gross domestic product was growing on average at yearly rates of 2.7 and 3.0 per cent in Germany and The Netherlands, respectively. In the 1980s, the respective growth rates were 2.2 and 1.9 per cent.⁴ It seems more likely that differences in social security regulations have to be considered mainly responsible for the gap. From a study by the Central Planning Bureau, it indeed appears that in general these regulations are significantly more generous in The Netherlands than in its neighbour countries.⁵ This does not only hold with respect to the level of the benefits and the subsidies, but also with respect to the entry conditions of the regulations and the time period during which one can make use of the provisions.

Moreover, the growth performance itself is not independent of the characteristics of the social security and subsidy system. In the first place, growth may be hampered by a generous social security and subsidy system because high tax rates and benefit-wage ratios diminish incentives of workers to search, to lower reservation wages and other demands with respect to job characteristics, and to enter training programmes. To what extent this has been the case in The Netherlands in the last two decades is difficult to establish definitely. However, phenomena such as the strongly rising number of vacancies, although unemployment remains on a high level, and the acceleration of the growth of labour disability, which can be observed in the booming years of the late 1980s,⁶ are indications that the incentives of the unemployed to accept new jobs and of people to reject entrance in the labour disability regulation are, in fact, quite weak. In the second place, a rise in tax rates and social security premiums may be passed on to wages. According to the wage equation in the Cesam model, an increase in taxes and social security premiums paid by workers as a percentage of the wage sum of 1 per cent led to an increase in nominal wages of 0.43 per cent during the period 1958–1985.⁷ Under these circumstances, autonomous expansion of the public sector or increases in unemployment due to exogenous demand and supply shocks may seriously hamper economic growth: the resulting increases in real wages will not only lead to lower investment growth but also to the accelerated scrapping of old vintages of machinery which, in turn, will lead to a further slow-down of employment growth. The resulting increase in unemployment makes a further increase in tax rates and social security premiums necessary, and will thus lead to a further rise in real wages. The destabilising nature of this adjustment process may be clear.

In the 1970s and the early 1980s, The Netherlands experienced the negative effects of a strongly expanding public sector on economic growth. These experiences led the Lubbers I cabinet in 1982 to attempt to curb the expansion of the public sector by means of a squeeze of public sector wages and salaries and social security benefits, in order to prevent a further rise in taxes and social security premiums. The policy has been successful in that it has

indeed resulted in stabilising public outlays relative to national income. Notwithstanding the recovery of output and employment growth, this policy has not resulted in a substantial decline in the relative size of the public sector. For this, the following reasons may be considered. First, the government considered a substantial decline in the purchasing power in the public sector income recipients either undesirable or impossible from a political point of view. Secondly, the squeeze of public sector incomes may have led to an acceleration of the volume growth of various subsidies, for instance, the individual rent subsidy. Thirdly, the mitigating influence of economic recovery on the volume growth of public outlays may have been limited because of the occurrence of hysteresis effects, in the sense that the equilibrium level of the volume of unemployment and labour disability depends on its realised level in the past.

The assumed occurrence of hysteresis is in line with the main explanations of the persistence of unemployment in Western Europe in the 1980s, according to which the persistence of unemployment may be due to hysteresis in the labour market or to hysteresis in the goods market. The hypothesis of hysteresis in the labour market is most prominently propagated by Blanchard and Summers (1986) by using Lindbeck's and Snower's (1988) insider-outsider theory of unemployment. The hypothesis of hysteresis in the goods market is contained in the capital shortage explanations of the unemployment persistence.⁸ A third foundation of the hysteresis hypothesis of the persistence of inactivity is connected with the drawbacks of a generous social security and subsidy system on the micro level, as mentioned before. The severe supply shocks of the mid 1970s and the late 1970s and early 1980s may be considered to have caused considerable structural shifts. These shifts differ from the normal cyclical changes in the relatively long duration of the adjustment process, and in the necessary reschooling efforts and possibly the downgrading of the potential jobs of the workers who have become unemployed. In case of small differences between disposable wages and benefits – in The Netherlands the statutory disposable minimum wage is equal to the minimum level of the benefits – and no hard obligations to accept vacant jobs, the incentives for reschooling or for accepting lower-skilled jobs will be minimal. Under these circumstances, the recovery of the economy may only have a minor influence on the number of people who are disabled or unemployed. In the extreme case in which the recovery has no influence at all, the effective working population is equal to the *actual* level of employment (plus short-term unemployment). In this case there exists hysteresis in the labour market proper.

The above comprises the answer to the question as to the causes of the rising budget deficit until the early 1980s and the persistently high level of the deficit in the second half of the 1980s. As far as the story that has been

told in the preceding pages is correct, the change in the social security and subsidy system which took place in the 1950s and 1960s is at the heart of the matter. This change has made the economy quite vulnerable to the severe supply shocks which have occurred in the 1970s and the early 1980s. Together with the policy measures aimed at a reduction of income inequality, these shocks consequently led to a strong increase in public outlays. In order to suppress somewhat the unstable process that is set in motion by the shifting on of the increase in taxes and social security premiums, the government allowed part of the increase in public outlays to be financed by an increase in the budget deficit. The attempts in the 1980s to curb the expansion of public outlays, which were aimed mainly at reducing the increases in public salaries and social security benefits, only resulted in a stabilisation of the public outlay ratio. The recovery of output and employment growth had – possibly due to hysteresis effects at the supply side of the labour market – only a minor influence on the volume of public transfer payments. In order to prevent a further rise in tax rates and social security premiums, the government had hardly any room to reduce the public sector deficit. On the contrary, falling natural gas revenues and increasing interest payments on the increasing public debt meant that it could not prevent the public sector deficit in 1990 to exceed its 1980 level.

3. CONSEQUENCES

3.1. *The financial sphere*

With the exception of the early 1980s,⁹ the financing of the budget deficits of total government in general and the central government in particular did not give rise to considerable problems.

- (1) In 1980, the Minister of Finance agreed with the Board of Directors of De Nederlandsche Bank that the central government budget deficits should be financed only by borrowing on the capital market. Table 7 shows that this has indeed been achieved. It was even possible to reduce short-term financing of the central government debt.
- (2) The increasing deficits in the 1970s and the early 1980s and the persistently high deficits in the second half of the 1980s did not give rise to deficits on the current account of the balance of payments in the 1980s. Table 8 shows that on the contrary the 1980s were characterised by high surpluses on the current account. A comparison of the 1980s with the 1970s reveals the following.
 - (a) Household savings relative to national income are rather constant

Table 7. Financing of the central government gross debt, 1980–1989 (billion of guilders)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<i>Long-term debt</i>										
Bonds	28.9	38.2	54.8	76.1	99.0	114.7	123.2	136.6	160.6	180.8
Private placements	49.2	58.6	68.0	77.2	84.3	93.8	96.3	97.7	103.4	106.4
Treasury certificates	0.1	—	—	—	—	—	—	—	—	—
Presubscription account state pension fund	1.3	1.5	1.6	2.2	1.7	1.8	1.6	1.5	1.2	0.9
Total long-term debt	79.4	98.4	124.4	155.4	185.0	210.3	221.1	235.9	265.2	288.1
<i>Short-term debt</i>										
Treasury notes	14.2	16.5	18.5	18.3	17.4	17.1	15.6	13.5	6.8	3.3
Other domestic short-term debts	5.9	3.6	1.8	1.1	0.7	0.9	2.0	1.7	2.6	2.5
Total short-term debt	20.1	20.1	20.3	19.4	18.1	18.0	17.7	15.2	9.3	5.8
Total gross debt	99.5	118.5	144.6	174.8	203.1	228.3	238.7	251.2	274.5	293.8

Source: De Nederlandsche Bank (1990), *op. cit.*, Table 5.4.

at a level of 10 per cent of national income. The rise in contractual savings in the 1970s is compensated by a fall in free savings. In the 1980s, about 80 per cent of household savings consisted of contractual savings.

- (b) The profit squeeze led to a serious fall in corporate savings in the second half of the 1970s and the first half of the 1980s. In the late 1980s corporate savings were restored to their early 1970s level.
- (c) The fall in the national savings rate in the 1980s as compared with the 1970s was entirely due to the decrease in public savings between these two periods by 4.5 per cent of national income. In contrast with the 1970s, public savings were negative in the 1980s.
- (d) Private and public net investments were on a significantly lower level in the 1980s than in the 1970s. The differences are about 4.5 and 1.5 per cent, respectively. In the second half of the 1980s, net private investment in fixed assets tended to approach its early 1970 level, although it did not quite reach this level.
- (e) The fall in private and public investments was such that the fall in public savings did not lead to deficits in the current account of

Table 8. Savings, investments and current account of the balance of payments, 1970–1989 (in percentages of net national income)

	1970/ 1979	1980/ 1989	1980	1985	1986	1987	1988	1989
Savings households	10.4	10.4	9.0	10.1	10.6	10.0	10.2	10.8
– contractual	6.9	8.6	8.3	8.7	8.6	8.4	8.5	8.2
– free	3.5	1.8	0.7	1.4	2.0	1.6	1.7	2.6
Corporate savings	3.9	4.2	1.7	5.5	5.1	3.8	5.3	6.3
Savings private sector	14.3	14.6	10.7	15.6	15.7	13.8	15.5	17.1
Savings public sector	2.9	-1.4	0.9	-0.5	-1.5	-2.1	-1.5	-1.8
Total national savings	17.2	13.2	11.6	15.1	14.2	11.7	14.0	15.3
Net private investments in equipment, means of transport and buildings	6.1	4.1	4.6	4.0	5.3	5.0	5.9	6.2
Net investments in dwellings	5.2	4.2	5.2	3.7	3.8	3.9	4.5	4.3
Investments in stocks and work in progress	1.1	-0.3	0.6	0.7	-0.5	-1.2	-1.7	-0.5
Total net investments private sectors	12.4	8.0	10.4	8.4	8.6	7.7	8.7	10.0
New public investments	3.5	2.2	2.8	2.2	2.0	1.9	1.8	1.8
Total net investments	15.9	10.2	13.2	10.6	10.6	9.6	10.5	11.8
Balance current account of the balance of payments (+ surplus; - deficit)	1.3	2.9	-1.6	4.6	3.0	1.5	2.9	4.0

Source: De Nederlandsche Bank (1991), *op. cit.*, Table 3.

the balance of payments. As the former fall exceeded the latter, the current account showed an improvement.

- (3) As appears from Table 9, only in the period 1976–1982, i.e. in the period in which the current account of the balance of payments and the budget balance were deteriorating and the guilder was depreciating *vis-à-vis* the German mark by, on the average, 1 per cent a year, did the Dutch capital market interest rate significantly exceed (on the average by about 1.3 percentage points) the German level. After 1982, the difference between the two capital market interest rates was rather small, although the Dutch capital market interest rate never fell below the German rate. This gives rise to the premise that in case of stable exchange rates and surpluses on the current account of the balance of payments investors are prepared to finance a high *but constant* deficit

Table 9. Interest rates on the capital markets in The Netherlands and Germany, 1971–1989 (in percentage points)

	The Netherlands	Germany	Difference
1971	7.6	8.0	-0.4
1972	7.4	7.9	-0.5
1973	7.9	9.3	-1.4
1974	9.8	10.4	-0.6
1975	8.8	8.7	0.1
1976	9.0	8.0	1.0
1977	8.1	6.5	1.6
1978	7.7	6.1	1.6
1979	8.8	7.6	1.2
1980	10.1	8.5	1.6
1981	11.5	10.1	1.4
1982	9.9	8.9	1.0
1983	8.2	8.1	0.1
1984	8.1	8.0	0.1
1985	7.3	7.0	0.3
1986	6.4	6.2	0.2
1987	6.4	6.2	0.2
1988	6.1	6.5	-0.4
1989	7.2	7.0	0.2

Source: Central Planning Bureau (1990a), *op. cit.*, pp. 230–1.

without requiring a high risk premium. Simulations by means of macroeconomic models also point in the direction of relatively small interest rate effects of increases in the budget deficit. According to simulations with Freia-Kompas and Cesam, an increase in the budget deficit of 1 per cent of national income leads to a rise in the capital market interest rate of 0.3 percentage points and 0.2 percentage points after 4 years and 6 years, respectively.¹⁰

- (4) The small differences between the Dutch and the German capital market interest rates show that after 1983 investors had sufficient confidence in the Dutch government's ability to meet its obligations, notwithstanding the high and still increasing government debt ratio. As appeared before, this certainly has to do with the strong Dutch external position, as well as with the exchange rate policy of the Dutch central bank, which links the guilder rigidly to the German mark. This confidence also appears from the facts that the Dutch government has always been able to finance its debt in its own currency – even in the critical early 1980s – and from the increasing demand for Dutch central government debt by foreigners. Table 10 shows that the share of long-

Table 10. Holdings of long-term central government debt by banks, institutional investors, foreigners, and the non-financial private sector, 1980–1988 (as percentages of the total)

	1980	1985	1987	1988 ¹
Banks	11	21	18	20
Institutional investors	64	50	50	47
Foreigners	11	10	12	15
Non-financial private sector	13	20	19	18

¹ June.

Source: Studiegroep begrotingsruimte (1989), *op. cit.*, Table 3.

term government debt held by foreigners has increased from 11 per cent in 1980 to 15 per cent in 1988,¹¹ while the share of new issues of long-term central government debt allotted to foreigners has increased from 30 per cent in 1980 to 35 per cent in 1988.¹²

Although the financing of the budget deficits and the refinancing of matured government debt did not give rise to serious problems in the 1980s, it should be observed that in the late 1980s the government faced a less stable financial position than existed two decades before:

- (1) the government was not able to prevent the time to maturity of new long-term loans from falling from 12.2 years in 1970 to 8.4 years in 1988.¹³ The average time to maturity of long-term central government debt fell from about 12 years in 1970 to about 5 years in 1988.¹⁴ The consequence is a high level of the public sector borrowing requirements during the next two decades.¹⁵ This makes the government budget quite sensitive to rises in interest rates, as occurred, for instance, in 1990 following German unification. Moreover, it increases uncertainty with respect to the conditions under which future refinancing of the debt will be possible.¹⁶ It is likely that the European economic and monetary unification will lead to a weakening of the bargaining position of the Dutch government relative to its main creditors, the institutional investors, as unification enlarges the investment possibilities of the latter without increasing investment risks to an unacceptably high level. Under these circumstances, the government may become more dependent on foreign investors. Both tendencies may force the government to pay higher interest rates. Tables 7 and 10 show that the process of internationalisation of lending had probably already begun in the 1980s:

- (a) the share of institutional investors in central government debt has fallen and the share of foreigners has risen;
- (b) under the influence of the increasing foreign interest in government bonds and the somewhat lower costs of bond finance compared with private placement finance the share of bonds in the financing of long-term central government debt rose from 36 per cent in 1980 to 63 per cent in 1989, while the share of private placements, which are to a considerable extent held by institutional investors, fell from 62 per cent in 1980 to 37 per cent in 1989. The shortening of the average time to maturity of central government debt is also related to this shift, as the time to maturity of bonds is considerably lower than that of private placements, with respect to new issues 7.7 and 10.5 years, respectively, in 1988;
- (2) the shortening of the average time to maturity and the shift from private placement financing to bond financing have moreover led to an increase in the liquidity of the economy, and so to a decrease in the effectiveness of monetary policy. Not only has it become more difficult for the monetary authorities to reach their domestic targets, but also, the increased possibilities of speculation against the guilder may impair the effectiveness of exchange rate policy. By emphasising the significance of the stability of the exchange rate *vis-à-vis* the German mark and by subordinating the money stock policy to the exchange rate policy, the monetary authorities have proven that they are well aware of the weakening of the instruments of monetary control;
- (3) although direct monetary financing of the public sector deficits did not occur in the 1980s, the large public deficits have resulted in an increase in the money stock as far as these deficits have been financed by foreigners and banks, and the lending by foreigners and banks has not been compensated by induced sales of other domestic assets or, in case of banks, by increased borrowing on the capital market. Simulations by means of the Cesam model show that the indirect monetary financing of the budget deficit may have been quite considerable: an increase in the budget deficit of 1 per cent of national income, after a fall in direct taxes by the same amount, results in an increase in the liquidity ratio (M_2 relative to national income) of 0.9 per cent after 4 years.¹⁷ In this way the high budget deficits of the 1980s may also have undermined the effectiveness of monetary policy during this period.¹⁸

3.2. The real sphere

Large budget deficits can have a negative effect on the real sphere in different ways:

- (1) the induced increases in interest rates may crowd out investment. It has been concluded earlier that the effects of increases in the budget deficits on interest rates seem to be rather minor as long as investors have sufficient confidence that the government can meet its obligations. Simulations with macro-econometric models show that the effects of changes in interest rates on private investment are also small: simulation with the Cesam model points to an average fall in the growth rate of private investment of 0.15 percentage points over a period of 4 years following an increase in interest rates of 1 percentage point;¹⁹
- (2) increasing budget deficits may also lead to excess demand in the goods market and hence via negative wealth effects crowd out private expenditure. In The Netherlands, the rate of inflation fell from about 7 per cent in 1980 to 1 per cent in 1989. One may therefore also doubt the relevance of this transmission channel in the 1980s;
- (3) high budget deficits may make the economy encounter its external budget constraint, which may force the government to take a restrictive stance on its macroeconomic policy. The persistently large public deficits, the strong external position and the extremely strong rise in the liquidity ratio, however, do not indicate that the external budget constraint has already become effective;
- (4) a more serious threat of a large public sector deficit for the growth performance of the economy lies in the unstable dynamics of the public sector itself that it sets in motion. If the interest rate exceeds the growth rate of national income the public debt ratio will increase permanently, unless the government is able to reduce the primary public deficit either by a reduction of its outlays or by increasing taxes and social security premiums. In Section 2 it has already been made clear that the latter may seriously hamper private investments by inducing a rise in real labour costs. The former may impair the productive capacity of the economy if it is realised by a reduction in productive expenditure such as public investments and outlays for education. As these outlays can be reduced more easily than transfer payments and public administration outlays in the present world of strong pressure groups, it is likely that a government which is forced to carry out expenditure cuts first of all resorts to a cut in these expenditures. Table 4 shows that in this respect the Dutch government is not an exception to the general rule: the rising interest payments in the 1970s and the 1980s involved falling outlays for education and infrastructure and left social security and other transfer payments unimpaired.

The above implies that it is not so much the large budget deficit as the high level of public expenditure that may have impaired the productive

capacity of the Dutch economy. Large budget deficits are more a symptom of inefficient management of the economy than its cause.

3.3. The disciplinary influence of financial markets

The overall impression that arises from the foregoing observations is that the government has been able to finance its relatively strongly rising debts in the 1980s rather easily.

- (1) The Dutch government has been able to finance its budget deficits by capital market lending in domestic currency.
- (2) With respect to interest rates macroeconomic simulations show that persistently high budget deficits have only a small upward effect on the interest rates on government loans. Furthermore, the relatively strong demand for funds by the government has led to only a small increase in the difference between the interest rates on government loans and private loans,²⁰ which implies that the investors have not demanded a substantially higher risk premium for investment in government debt than for investment in private debt. The same conclusion has been drawn from a comparison between Dutch and German capital market interest rates: after 1982, under conditions of stable exchange rates and large surpluses on the current account of the balance of payments in both countries, the Dutch capital market interest rate exceeded the German capital market interest rate by only 0.1 percentage point (on average).
- (3) Although the time to maturity of newly issued debt was much shorter in the 1980s than in the early 1970s, there are indications that this fall had more to do with changes in the general environment than with the deterioration of public finance in The Netherlands. First, the fall in the time to maturity began already in 1974, long before the budget deficits in The Netherlands began to approach the high levels of the 1980s. Secondly, the fall in the time to maturity of newly issued private debt had already begun a year earlier, which indicates that the fall in the time to maturity of newly issued government loans was more a general capital market phenomenon,²¹ induced by the strong increase in uncertainty after the first oil crisis.

The above implies that the disciplinary influence that has been exerted on government financial behaviour by the financial markets has been rather weak. The Dutch government has been able to maintain large budget deficits and continuously rising debt ratios without investors demanding high-risk premiums in the form of high interest rates and markedly favourable secondary lending conditions. This conclusion does not mean, however, that

the position of government finance is stable in the sense that it is able to absorb external shocks, and that financing and refinancing is possible irrespective of other policies. With respect to the latter, it has been pointed out in Section 3.1 that the experiences in the late 1970s and the early 1980s made it likely that after 1982 serious problems with the financing and the refinancing of government debt could only be avoided because Dutch monetary policy gave apparent priority to maintaining a fixed exchange rate with respect to the German mark, and because incomes policy was effective in restoring the Dutch competitive position and thus improving the balance on the current account of the balance of payments. Fiscal policy as pursued in the 1980s therefore drew heavily on the success of monetary and incomes policy. Failures in these policy fields to meet external shocks may impair investors' confidence and, hence, confront the government with reactions in the financial markets which may make the financing of government debt possible only at extremely high costs, or make it impossible to avoid monetary financing or financing in foreign currencies. In Section 3.1, it was also pointed out that the liberalisation of the capital markets and the shortening of the time to maturity of the debt has made the maintenance of investors' confidence even more important than in the past decade. If the confidence that the government is able to meet its obligations is lost, market discipline makes itself felt. But then it may be too late to move with the times without the economy incurring considerable damage.

4. REDUCING THE PUBLIC SECTOR DEFICIT

The analysis in Sections 2 and 3 provides the main arguments for a substantial reduction of the public sector deficit in The Netherlands. First of all, the persistently large deficit reflects the instability of the Dutch public sector, as it arises from the existing social security and subsidy regulations. These regulations make the economy quite sensitive to demand and supply shocks in the sense that the period of time that is necessary to recover from these shocks may indeed be quite prolonged. Reduction of the public sector deficit by fundamentally reconsidering the social security and subsidy regulations, in the sense of making them conform more with the regulations in the neighbouring countries, may be thought to strengthen the recuperative power of the Dutch economy. Secondly, a substantial reduction of the public sector deficit will – by the ensuing fall in the public debt ratio – diminish the vulnerability of government finance by making public outlays less sensitive to interest rate movements, and by increasing the robustness of the confidence of the investors that the government is able to meet its obligations.

The latter may give rise to lower interest rates and to a smaller threat that external shocks will enable the government to meet its future borrowing requirements only under extremely unfavourable conditions. It also means the restoration of a balanced policy mix aimed at the maintenance of investors' confidence by lessening the need to draw too heavily on monetary policy and incomes policy. Finally, a reduced vulnerability of government finance makes it possible for the government budget to regain its role of buffer between outlays and revenues and to discard the, in the present situation inevitable from a welfare point of view, harmful practice²² of immediately reacting to financial setbacks by increases in tax rates or cuts in expenditure. Thirdly, a reduction in the public sector deficit may contribute to the alleviation of the present and the future savings shortage in Europe arising from the completion of the internal market in Western Europe and the restructuring of the Eastern European economies, and may thus contribute to a strengthening of the adjustment to higher growth rates in the European economies. A specific advantage for The Netherlands is that national savings are invested more in physical capital and foreign assets and less in Dutch public assets, so that under future conditions of an ageing population, pensions won't have to be provided by the then young generations.

The adjustment to significantly smaller public deficits need not go entirely smoothly. It has been argued in Section 3 that in so small and open an economy as that of The Netherlands, the effects of a reduction in the public sector deficit on interest rates are small, and that private expenditure is very interest-inelastic. Under these circumstances, a slow-down of national expenditure growth and, hence, of output growth, is not just a hypothetical consequence of a reduction of the budget deficit. The analysis of Section 2 has shown that hysteresis – like features of the labour market – may make underspending rather prolonged and even take on structural features. Simulations with the Freia-Kompas model of the Central Planning Bureau show that a restrictive fiscal policy stance has indeed a downward influence on the economy. The deflationary impact is minor however: a fall in output of the private sector by 0.5 per cent consequent to a cut in transfer payments to households by 1 per cent of national income after 4 years.²³ Moreover, a cut in outlays, by making the conditions for obtaining social security benefits and subsidies more restrictive, may improve the working of the labour market and, hence, involve a stronger downward pressure on real wages. In this way, the fall in consumer expenditure may be compensated, to a certain extent, by larger increases in private investments and net exports than would have been the case if the functioning of the labour market had remained unchanged. Finally, it may be noticed that the risk of prolonged underspending is limited if the policy of fiscal restriction is carried out during a period

of a flourishing world economy. In this respect, the Dutch government has missed a good opportunity to change to a more restrictive fiscal policy stance in the boom years of 1988 and 1989 instead of postponing it to 1992.²⁴

The present government which has been in office since 1989, aims to reduce the central government budget deficit (net borrowing) to 3.25 per cent of national income in 1994 and to stabilise public revenues in terms of national income. In view of the central government debt ratio not being stabilised until 1993,²⁵ the target with respect to the budget deficit looks rather minimal. At the start of the Lubbers III cabinet, one would have done better to agree on a stronger decrease in the budget deficit, for instance to 1 per cent of national income. The upper turning point of the central government debt ratio would then have been reached earlier, while this target, in contrast with the 3.25 per cent target, would have made the Dutch debt ratio tend to the German ratio of the late 1980s,²⁶ and thus have led to an adjustment of the incongruousness of Dutch public finance, not only in terms of flows but also in terms of stocks.

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NOTES

1. Central Planning Bureau (1990b), p. 5.
2. Central Planning Bureau (1990b), p. 8.
3. Budget Memorandum (1989), p. 371.
4. Central Planning Bureau (1990a), *Bijlage E2*.
5. Central Planning Bureau (1990b), esp. p. 14.
6. The yearly average volume growth rates of labour disablement were 1.2 and 2.3 per cent in the periods 1980–85 and 1985–90, respectively (Central Planning Bureau (1990b), p. 8). In 1990, the number of vacancies was about 125000 persons, whereas unemployment was about 525000 persons. The vacancies not only involved high-skilled but also low-skilled labour (Social-Economic Council (1991), p. 28 and *Bijlage 3*; Central Planning Bureau (1990a), pp. 202–3).
7. Kuipers *et al.* (1990), p. 215.
8. See, for instance, Burda (1988) and Bean (1989).
9. In the early 1980s the central government had to offer additional favourable conditions, apart from higher interest rates, such as, for instance, a possibility for the lender to lengthen the time to maturity if he desired to do so, and the abandonment by the central government of its right to accelerate redemption, in order to be able to finance its sharply increasing deficits in these years (Studiegroep begrotingsruimte (1989), p. 16).

10. Sterken (1990), p. 154. For the Freia-Kompas model see Van den Berg *et al.* (1988) and Van Erp *et al.* (1989).
11. In 1989 this share was 23 per cent. See De Kam *et al.* (1990), p. 63.
12. De Kam *et al.* (1990), p. 104.
13. Studiegroep begrotingsruimte (1989), p. 16.
14. De Kam *et al.* (1990), p. 65.
15. Under the assumptions of a reduction of the budget deficit to 3.25 per cent of national income in 1994 and after, a growth rate of nominal national income of 4.5 per cent a year and a nominal interest rate of 6.5 per cent, it can be calculated that the public sector borrowing requirement would fall to 8.7 per cent of national income in 1993 and then would show a tendency to rise again, in order to stabilize during the first decade of the next century at the present level of 10.5 per cent of national income. Studiegroep begrotingsruimte (1989), pp. 21–3.
16. De Kam *et al.* (1990), p. 65.
17. Jongbloed *et al.* (1990), p. 28.
18. The liquidity ratio showed an extremely strong rise in the 1980s: from 34.9 per cent in 1980 to 53.6 per cent in 1989. Central Planning Bureau (1990a), pp. 202–03.
19. Jongbloed *et al.* (1990), p. 22.
20. From 1980 to 1984 the demand for funds by the government relative to the total supply of funds in the capital market rose from 33.7 to 68 per cent. During these years the difference between the interest rate on bonds issued by the central government and the interest rate on bonds issued by private banks rose from –0.4 percentage points to –0.1 percentage points. In the late 1980s both the relative government demand for funds and the interest differential returned to their 1980 levels. De Nederlandsche Bank (1990), Statistische bijlage, pp. 35 and 37.
21. The weighted average time to maturity of the three largest private debt issues in the Dutch capital market fell from 15 years in 1972 to 8 years in 1973 and remained in that neighbourhood in the following years. Goudswaard (1990), p. 44.
22. See, for instance, Barro (1979) and Keuzenkamp and Van der Ploeg (1990).
23. Central Planning Bureau (1986), p. 240.
24. In its mid-term review in the Spring of 1991, the Dutch government will announce the measures of further fiscal restriction which it thinks necessary to realize its targets of a decrease in the central government budget deficit to 3.25 per cent of national income in 1994 and a stable ratio of public revenues with respect to national income.
25. Studiegroep begrotingsruimte (1989), p. 21.
26. Budget Memorandum (1988), p. 70 and Budget Memorandum (1989), p. 72.

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X. The Italian public debt problem

LUIGI SPAVENTA

INTRODUCTION

It is difficult to find anything original to say on the Italian public debt problem. The purpose of this paper is modest. The first section is devoted to an illustration of the size of the fiscal imbalance and of its proximate causes and to an analysis of past and current debt management. The second section first considers the problem of sustainability in somewhat general terms. It then examines the size of the required adjustment, illustrating the assumptions concerning the relevant variables; it also rejects a number of suggestions which are or may be advanced to solve the problem without going along the painful road of raising revenues and cutting expenditure. Finally, the problem is examined in a European context: it is argued that the case for fiscal conditionality for membership of a European Monetary Union should be made especially from the point of view of the country experiencing a structural imbalance.

I. ITALIAN DEBT GROWTH: A PRIMER

Debt Growth

Chart 1 has become sadly familiar, internationally no less than domestically. It shows the almost uninterrupted growth of the ratio of Italian gross public debt to the GDP since 1970: from 40.9 per cent to 98.3 in 1989 – and to over 100 per cent in 1990. The level is impressive, but not after all so important, as we shall also argue later: debt ratios are still higher in Belgium and Ireland, while history provides several examples (the UK – to quote one – not only after wars, but also in the period between the two world wars) of ratios as high as 200 per cent or more. What is striking in the Italian case is, first, that the rise cannot be imputed to ‘wars’, second, that it has continued unchecked in the late 1980s and is still continuing: before the Second World War and after the depression, the debt ratio, though still very

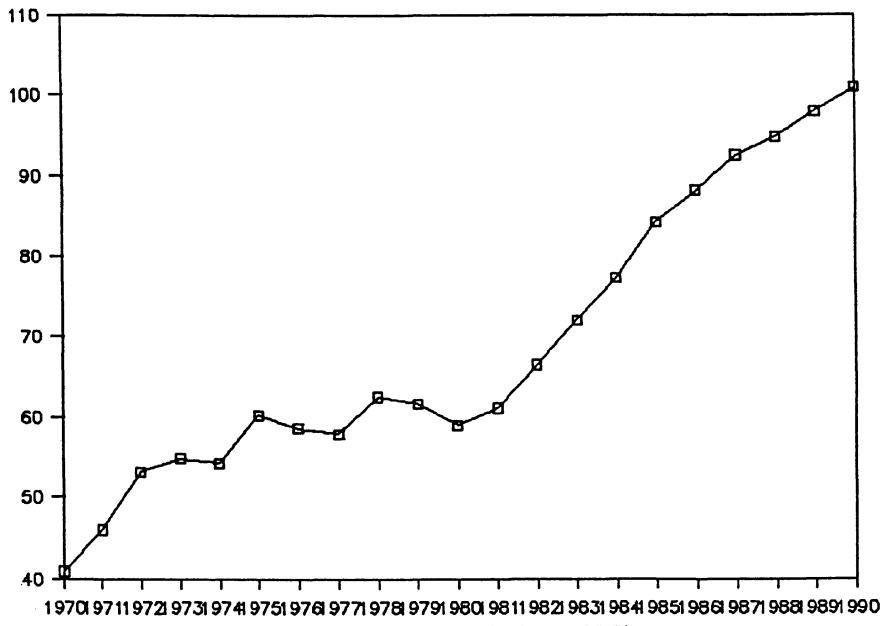


Chart 1. Italian public debt (ratios to GDP).

high, was falling in Britain; other high-debt countries now exhibit primary surpluses sufficient to stop the growth of the ratio and even to allow its decline.

Table 1 and Chart 2, displaying some of the relevant data of Chart 1, spell out the algebra of Italian debt growth. Consider the simple budget identity

$$d_t - d_{t-1} = \frac{i_t - g_t}{1 + g_t} d_{t-1} - a_t, \quad (1)$$

where d_t is the ratio of total gross debt to GDP at time t (including debt with the central bank), i is the *average* nominal cost of outstanding debt, g the nominal growth rate of GDP, a the budget surplus net of interest payments, or primary surplus. For the debt ratio to remain constant between each two periods, the primary balance should be

$$a_t^* = \frac{i_t - g_t}{1 + g_t} d_{t-1}, \quad (2)$$

a surplus or a deficit, according to whether i_t exceeds or is less than g_t . The change in the debt ratio between each two periods is thus given by $(a_t^* - a_t)$.

The significance of this measure¹ is, of course, very limited for a number of reasons. First, it tells what the primary balance should be at time t to

Table 1. Debt growth

Year	<i>i</i>	<i>g</i>	<i>a*</i>	<i>a</i>	<i>a - a*</i>	<i>D(d)</i>	<i>I/Y</i>
1971	5.75	8.66	-1.06	-5.97	4.91	5.05	2.40
1972	5.52	9.34	-	-6.99	6.99	7.19	2.62
1973	5.73	21.21	-6.01	-7.67	1.64	1.69	2.83
1974	6.69	26.31	-6.28	-5.72	-0.56	-0.58	3.27
1975	7.66	13.46	-3.07	-8.79	5.72	5.95	4.14
1976	8.70	26.14	-6.96	-5.42	-1.55	-1.62	4.62
1977	9.38	22.60	-4.60	-3.91	-0.69	-0.73	4.95
1978	9.67	18.25	-2.56	-6.96	4.40	4.62	5.39
1979	9.37	22.20	-5.86	-5.06	-0.80	-0.84	5.28
1980	9.84	25.12	-6.68	-4.13	-2.55	-2.68	5.32
1981	11.24	19.70	-3.00	-5.02	2.02	2.14	6.20
1982	12.18	17.48	-1.56	-6.56	4.99	5.32	7.21
1983	11.74	16.20	-1.49	-6.75	5.26	5.58	7.58
1984	11.66	14.58	-0.86	-5.93	5.06	5.37	8.18
1985	10.66	11.69	0.82	-5.72	6.53	6.90	8.19
1986	10.48	11.02	0.12	-3.59	3.71	3.92	8.60
1987	9.29	9.32	0.64	-3.53	4.16	4.37	8.05
1988	9.24	10.98	-1.09	-3.25	2.16	2.26	8.23
1989	9.79	9.24	0.88	-2.11	2.99	3.15	9.04
1990	10.25	9.57	1.60	-1.19	2.79	2.94	9.75

Sources for debt, interest payments, and PSBR: Morcaldo (1990), Marotta and Pagliano (1990); after 1980, Banca d'Italia, various issues.

Notes to Table 1

- i*: Average cost of total gross public sector debt as defined in the text.
- g*: Nominal growth rate of GDP.
- a**: Primary balance compatible with a stable debt/GDP ratio (see appendix).
- a*: Actual primary balance.
- D(d)*: Change in the debt/GDP ratio.
- I/Y*: Ratio of public sector interest payments to GDP.

stabilize the debt ratio at the level i_t had reached at $t-1$: it gives no information as to whether the ratio will rise, fall, or remain constant at $t+1$, as this depends on the values of i and g at that date. Second, the measure relates to *total* debt: hence also to public debt held by the central bank, the counterpart of which is the issue of high-powered money. Third, and related, the average cost of outstanding debt may be, and usually is, different from the marginal cost of new debt, the relationship between the two depending on the changes in the share of debt with the central bank (which costs less than market debt), and on the nature (floating or fixed rates) and average life of outstanding debt.²

Even leaving these problems aside, the measure of i , the average interest rate, only represents an approximation. First, i is obtained as the ratio between interest payments and the stock of debt: but which stock? In the

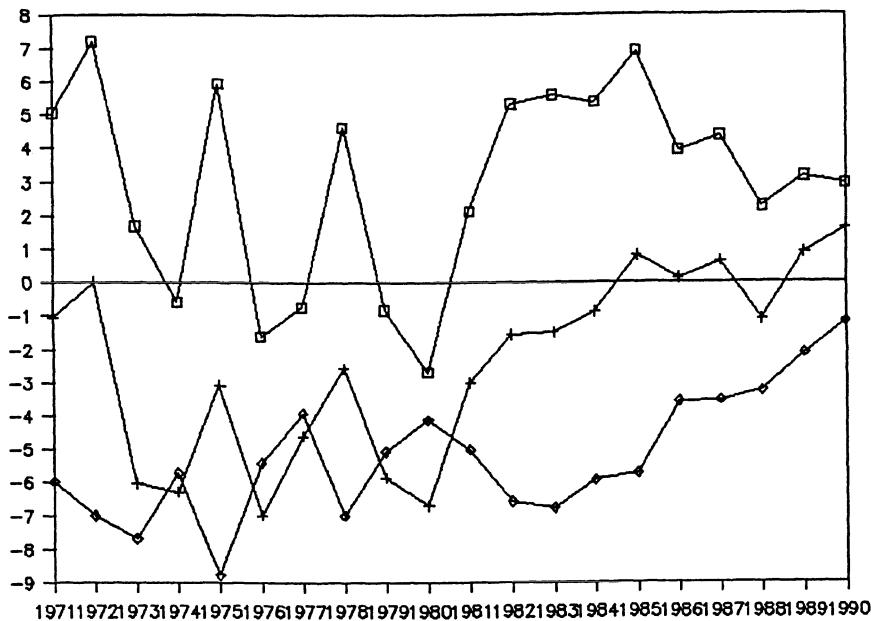


Chart 2. Factors of debt growth (ratios to GDP). □ ratio changes, + stabilising PSBR, ◇ actual PSBI.

course of period t new debt is issued on which interests are paid, while some of the debt outstanding at $t-1$ is redeemed. A rough way to allow for this is to set, as we did, $i_t = I_t / [(D_t + D_{t-1})/2]$, where I_t is total interest expenditure at t . As shown in the Appendix, this slightly alters (1) and (2) above. Second, if, as is normally the case, bonds are issued at less than their redemption value, the change in nominal debt stock exceeds the PSBR, as interest payments do not include the difference between the nominal redemption value and the issue price.³ It follows, first that i underestimates somewhat the true average cost of debt, second that the difference between the change of the stock of debt and the PSBR (as a ratio to GDP) must be added to the right-hand side of (1) and (2).

In spite of all these shortcomings, the table and the figure provide some useful information on the Italian debt story. Until the early 1980s, a^* , the debt-stabilizing primary balance, was consistently negative: a constant debt ratio would have been compatible with primary deficits of the order of 4 per cent. Actual primary deficits were, however, huge and such as to exceed the (negative) value of a^* in most years: only the years in which accelerating inflation widened the gap between the average nominal cost of debt and the nominal growth rate were the exception. In the 1980s, the debt stabilizing

Table 2. General government: revenues and expenditures (ratios to GDP)

	Changes				Levels 1990
	1970–76	1976–80	1980–85	1985–90	
Direct taxes	+1.7	+2.8	+3.4	+1.5	14.6
Indirect taxes	-1.9	+0.1	+0.3	+1.7	10.6
Social security contributions	+1.4	-	+0.8	+0.9	14.5
Total	+1.2	+3.0	+4.5	+4.0	39.7
Total revenues	+0.7	+3.0	+5.6	+3.7	44.0
Current primary expenditures	+3.9	+0.9	+5.5	+1.0	40.2
Total primary expenditures	+3.8	+1.3	+6.8	+0.2	45.3

primary deficit shrank, to become a surplus in the second half. In the first half of the decade, however, there was no parallel decline in the actual primary deficit so that debt growth accelerated. Only in the last five years did a correction occur, but only in the last two the difference ($a - a^*$) fell sizeably.

Let us take a closer look at the two components of the rise in the debt ratio: the primary balance and the difference between the nominal cost of debt and the nominal growth rate. Table 2 reports changes in revenues and expenditures between 1970 and 1989. The table refers to general government, a narrower aggregate than the public sector; it must further be noted that the primary PSBR constantly exceeds the difference between expenditures and revenues because it includes the public sector's 'acquisition of financial assets', i.e. the State's contributions to the capital of publicly owned holdings of industrial enterprises and credit institutions.

There are two periods – 1970–76 and 1980–85 – of fast growth of public expenditure: in the first, revenues were stagnant; in the second, the rise of revenues was remarkable, owing to a steep increase in the direct tax burden, but still insufficient to keep pace with expenditure. A correction of this trend has occurred only since 1985, as the tax burden has continued rising, while the growth of expenditures has remained roughly in line with that of GDP.⁴ Such correction, however, has done little more than match the increase in the debt-stabilizing primary surplus and has therefore been insufficient to redress the fiscal imbalance accumulated over the previous fifteen years.

In Chart 3, we plot the average cost of debt, as computed in Table 1, the average rate of interest of Treasury bills – a proxy of the marginal cost of market debt – and the private consumption deflator. In Table 3 we report the share of the PSBR financed by the Bank of Italy – through the Treasury's

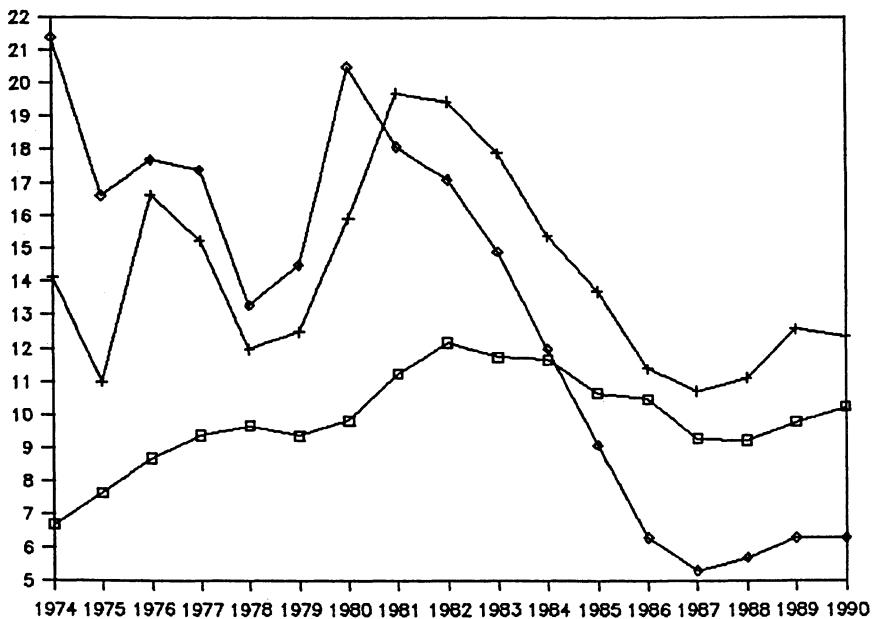


Chart 3. Debt cost and inflation. □ debt cost, + T-bills rate, ◇ inflation.

overdraft and through the purchase of bills and bonds – and the share of the public sector's debt with the Bank of Italy on total debt.

As shown by the chart, in the 1970s inflation constantly exceeded not only the average cost of debt, but also the rate of interest on T-bills. After 1980, with a structural change in the stance of monetary policy, real interest rates became positive and kept rising until recently. Bank of Italy financing, after reaching a peak in 1975–76, progressively declined so that the share of the (less expensive) debt with the Bank of Italy on total debt fell by almost three-quarters between 1976 and 1990. As a result, the nominal cost of debt rose until 1983–84, in spite of the decline in inflation and in the T-bill rate; more importantly, it has exceeded the inflation rate since 1984, while its gap with the marginal cost has shrunk consistently. Negative values of the debt stabilizing primary balance definitely belong to the past: primary surpluses are required to stop further rises of the debt ratio in the 1990s.

Debt Management

The steep rise of monetary financing of the PSBR, and of monetary debt in the first half of the 1970s was the result of a debt crisis. The crisis was, in turn, caused not by a debt overhang – the debt/GDP ratio was around 40

Table 3. Monetary financing of the PSBR and share of monetary debt

Year	Share of Bank of Italy financing on total PSBR			Share of monetary debt
	c/account	other	Total	
1970	42.7	26.0	68.7	24.2
1971	-3.5	20.7	17.2	22.1
1972	6.9	13.5	20.4	22.1
1973	9.9	36.9	49.5	27.3
1974	0.4	58.8	59.2	34.4
1975	3.1	46.1	49.2	36.6
1976	9.6	46.9	56.6	40.0
1977	-2.2	-18.9	-21.1	30.7
1978	6.1	9.9	16.0	27.2
1979	10.8	-9.8	1.1	22.6
1980	24.4	2.7	27.1	23.2
1981	11.9	14.4	26.3	23.5
1982	8.8	8.0	16.8	21.7
1983	-9.5	10.9	1.4	17.5
1984	18.1	-4.7	13.4	16.5
1985	5.6	18.8	24.4	17.6
1986	4.1	5.9	10.0	16.5
1987	8.1	-2.0	6.2	15.2
1988	3.4	-1.3	2.1	13.6
1989	1.4	3.8	5.2	12.6
1990	2.0	-1.4	0.6	11.2

Sources: Morcaldo (1990) and Banca d'Italia.

Note: The PSBR is net of the settlement of debts previously incurred by public entities.

per cent in 1970 – but by an acceleration of inflation not matched by a corresponding rise in nominal interest rates. While the real value of outstanding market debt, which consisted wholly of long-term fixed interest rate bonds, plummeted, the rise of nominal interest rates was not sufficient to make new bond issues attractive. What happened in the 1970s caused a long-lasting diffidence towards fixed interest rates bonds. Debt management since then has had to face three problems: first in time, and foremost, ensuring the financing of the deficit through debt issues on the market, rather than through the central bank; second, lengthening the maturity of outstanding debt, in order to reduce its turnover and the size of gross issues; third, making the cost of debt less dependent upon the short-term effects of monetary policy on interest rates, while freeing the hands of monetary policy from the economic and political constraints arising from its effects on interest payments.

Two major innovations provided a solution to the first two problems. Since 1976 short-term Treasury bills, reserved until then to banks, were made available to the public – and were well accepted as a higher yielding but not

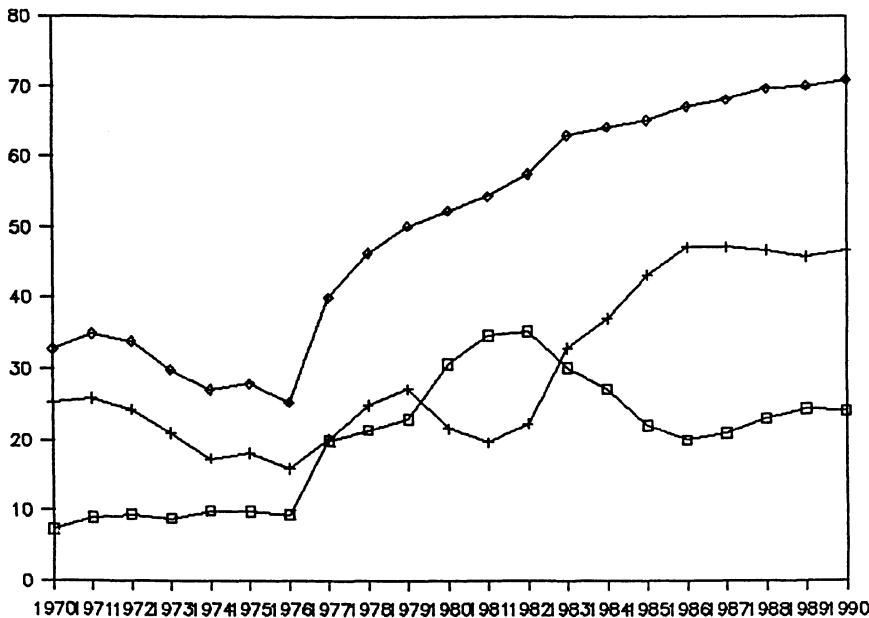


Chart 4. Share of bills and bonds. □ T-bills, + bonds, ◇ total.

riskier alternative to bank deposits. The second innovation, at the beginning of the 1980s, was a floating rate medium-term certificate, with a yield indexed to that of the Treasury bills plus a spread generous enough to overcome the public's reluctance to lengthen its investment horizon. Chart 4 portrays these developments. The share on total debt of bills and bonds on the markets fell until 1976, along with that of bonds. It rose after 1976, together with the bills' share. The share of bonds, which include the floating rate certificates, rose again after the latter were accepted by the market.

Though floating rate bonds served to reduce the turnover of debt – a very relevant issue considering that the average life of debt had fallen below 12 months in 1981 – the problem of extending the yield curve beyond short durations remained unsolved: in 1985 the share of fixed interest rate bonds on total government paper on the market was 6.9 per cent and it was still 12.3 per cent in 1987.⁵ It is not an easy problem to solve as long as inflation expectations remain high, and especially as long as they diverge from the inflation targets pursued by monetary authorities: the high yields required by the market on fixed interest rates–medium term bonds either undermine the credibility of the inflation target or, if the latter is attained, cause a steep increase in the real cost of debt at a later date.⁶ The return to fixed interest rate issues was thus gradual – and hesitant, at least until recently – and it

was first confined to two- and three-year bonds. The task was complicated by the structural backwardness and the resulting imperfections of the Italian bond market – a surprising feature considering, on the one hand, the ever-growing size of gross and net debt issues and, on the other, the speed of the innovations in the menu of debt instruments, in the methods of issue and in the organization of markets which were being introduced elsewhere in Europe. In Italy, markets were thin and illiquid and the bid-ask spreads high; prices lacked transparency and were highly volatile. Things went well as long as interest rates declined with inflation; but any change in this trend, due to the external constraints on domestic monetary policy, would cause havoc in the markets, inflict heavy capital losses even on floating rate bonds and compel the authorities either to offer unjustifiably high yields on the new issues or to finance the deficit mostly with short-term bills.

Only during the past three years has the situation improved considerably as important innovations were introduced.⁷ First, overcoming some initial difficulties, an effective screen-based dealers' market was created. Second, the auction system was extended to all state bonds (though a base price is still set for those with a fixed nominal rates). Third, new debt instruments were offered: ECU denominated bills and bonds proved attractive especially to foreign investors; fixed interest rate six-year certificates with a redemption option at the expiry of the first three years provided a transitory solution to the problem of lengthening the maturity of debt without having to pay high premia. Fourth, and importantly, marked segmentation was substantially reduced by issuing subsequent *tranches* of bonds having the same characteristics in terms of coupon and maturity. The effects of these innovations have been far greater liquidity, a reduction in the spreads, smoother changes in prices, and remarkable increase in volumes. The Treasury has benefited from this in two ways: first, the signals which can be extracted from a well-functioning market help debt management when it comes to deciding the size, composition and terms of new issues; second, an efficient market attracts new investment, thereby contributing to reducing the cost of debt.

More remains to be done in the field of debt management, the most important item in the agenda being perhaps the creation of a futures market for government securities. Still, the progress made has been the necessary condition to reap the benefits arising from three developments affecting Italy's position in the EMS in the past few years: a growing credibility in the authorities' commitment to maintain stable parities and avoid realignments, the liberalization of capital movements, and the option to accept the narrow band. As the expectations of devaluation (with a change of the central parity) have fallen below inflation rate differentials, the first of these developments has made high-yielding domestic securities attractive to foreign investors (and even more so to domestic investors borrowing at lower rates in foreign

currencies).⁸ The narrowing of the band has limited the depreciation which may be expected for a given central parity. The liberalization of capital movements, together with the increased efficiency of the government securities market has played a further very relevant role, allowing lira denominated assets to be accepted in international portfolios. We are probably witnessing in this case a stock adjustment process which may last for some time, as some fraction of such portfolios is diversified into liras. Government debt will benefit from this process, for two reasons: first, Italy's foreign debt, unlike that of other high-debt European countries, is relatively small and consists mostly of syndicated loans in foreign currency; second, the supply of lira assets consists almost entirely of government debt.⁹ As a result, foreign demand for Italian debt instruments is increasing and will probably increase further for a while.

Foreign demand has proved to be a decisive factor for the success of the Treasury's first attempt, last year, to provide the market with a benchmark, which had been missing for two decades. Seven-year and later ten-year bonds have been underwritten mostly by foreign investors, who have welcomed these new instruments. The presence of a benchmark has in turn affected the yield curve favourably, by reducing its slope.

Table 4 provides the available information on the composition of Italian public debt, by type of instruments and categories of owners, at the end of 1989. As can be seen from it, the share of short term and floating-rate debt is still very high (a point to which we shall return in the next section). The share of debt owned by banks is relatively low, while the overwhelming share is held by households.

II. PROBLEMS, REMEDIES AND PROSPECTS

The notion of sustainability

Section I provides a contradictory picture of the Italian public debt story. The dark side is the persistence of a fiscal imbalance: in spite of a rapid rise in the tax burden, debt growth has slowed, but not stopped owing to the inability to curb expenditures and to the increase in the cost of debt relative to the growth rate. Debt management offers a less discomforting prospect, as there have been considerable improvements in the structure of and the market for Italian debt: in spite of the size of gross issues,¹⁰ their placement seems to meet no particular difficulty. Can we draw any conclusion as to the sustainability of the Italian fiscal position?

Economic theory does not provide precise answers to this kind of question.¹¹ The government's intertemporal budget constraint requires that the

Table 4. Composition of public debt by instruments and by ownership: 1989

	Market			Bank of Italy	Total
	Banks	Others	Total		
Short tem bills	<u>1.93</u>	<u>22.47</u>	<u>24.39</u>	<u>0.88</u>	<u>25.27</u>
- Lira	-	21.43	-	-	24.30
- Ecu	-	0.89	-	-	0.97
State Bonds	-	<u>31.28</u>	-	-	<u>50.41</u>
- Floating rate	-	<u>19.23</u>	-	-	<u>30.69</u>
- Fixed rate	-	-	-	-	17.64
Straight	-	11.32	-	-	14.69
Option	-	-	-	-	1.39
0 Coupon	0.19	0.11	0.30	0.11	0.41
Others	-	-	-	-	1.15
- Indexed	-	-	-	-	0.14
- Ecu bonds ^a	0.34	1.44	1.78	0.04	1.81
- Others	-	-	-	-	<u>0.13</u>
Other public sector	0.16	0.73	0.89	0.17	1.06
Total bonds	11.23	34.57	45.80	5.67	51.47
Total bonds and bills	13.16	57.04	70.19	6.55	76.74
Loans from credit inst.	4.53	0.00	4.53	0.00	4.53
Postal saving	0.00	9.41	9.41	0.00	9.41
Other ^b	0.00	0.25	0.25	0.24	0.49
c/a Bank of Italy	0.00	0.00	0.00	5.83	5.83
Domestic Debt	17.68	66.70	84.38	12.62	97.00
Foreign Debt ^a					3.00
Total					100.00

Sources: Banca d'Italia (1990), tables aC4, aC8, aD25; Ministero del Tesoro (1991).

Notes

'Others' include households, enterprises, insurance companies, mutual funds, and foreign ownership of domestically issued bonds.

- data unavailable. In the case of state bonds, unavailability of data for banks and the Bank of Italy is due to the different treatment of repurchase agreements in different sources.

^a Ecu bonds issued for non-residents are not included in Ecu bonds but are included in the Foreign Debt figure.

^b Arbitrarily allocated to 'Others'.

Memorandum Items

- Nominal value of public sector gross debt in 1989, in billion lira: 1 168 319.

- Households' share: short-term bills: 77.35; State bonds: 47.08.

present value of future government revenues equal the sum of the present value of the future stream of non-interest expenditures and of the outstanding stock of debt: thus the higher the latter, the higher is the required present value of future primary surpluses. The constraint however gives no indication as to the time path of the primary surplus and, hence, as to whether there exists a limit to the growth of the debt ratio. We can derive sufficient conditions for the constraint to be satisfied: such is the existence of a stationary debt ratio. In turn, a constant ratio of overall PSBR (inclusive of interest payments) to GDP is sufficient to attain a stationary ratio at some time in the future and hence sufficient to fulfill the constraint. This condition however sets no limit on the ratio: supposing for example that the PSBR is kept at 10 per cent of GDP and the average nominal growth rate is 7 per cent, stationarity would be reached at a debt ratio of 1.53 per cent with a nominal cost of debt of 10 per cent, the primary surplus associated with the stationary debt ratio would be around 5.3 per cent of GDP.¹²

The intertemporal budget constraint cannot provide any information regarding the sustainability of debt levels, unless we introduce distortionary taxation (instead of the usual fiction of lump-sum taxes) and heterogeneity of agents (instead of the no less usual fiction of a representative agent). If there are increasing marginal costs of taxation, a positive theory of debt requires tax smoothing:¹³ temporary increases in expenditures or shortfalls of revenues can be financed by borrowing, but permanent changes in exhaustive expenditures should be matched by changes in taxation, leaving debt unaffected. This result is extended to seigniorage¹⁴ allowing for increasing marginal costs of inflation. Thus optimization requires, first, that the debt ratio should not rise for prolonged periods, at least in 'peace' times, second, that the tax rate and seigniorage should move together and rise with the level of outstanding debt and with the (discounted) stream of future permanent expenditure. Accurate empirical tests fail, however, to confirm the prediction of the optimal taxation model in several cases and find no evidence for its corollary concerning optimal seigniorage.¹⁵ In the Italian case, in particular, permanent increases in expenditure were not, as we saw, matched by revenue increases at the time, and subsequent tax increases occurred too late to catch up with growing interest payments (while seigniorage decreased over time).

If facts do not conform to the positive theory of debt, we cannot, however, conclude that insolvency is around the corner. What we can say with certainty is that, as debt grows, the cost of solvency rises with time, because the primary surplus and, hence, the overall tax burden, required to stop debt growth increase with the level of debt. Not only are most taxes distortionary. No less important are inequalities in wealth and income distribution, and differences in the effective rates of taxation on income from different sources due to differences in formal rates and/or to the fact that some categories of

income can evade or elude taxation more easily than others. When the tax base does not reflect the actual distribution of income, increases in the average tax burden, as required by the solvency constraint, have deep distributional effects¹⁶ and meet, therefore, with growing political resistance, while attempts to extend the tax base meet with rising costs of collection and compliance. There may thus be an effective upper limit to tax collection. Current policies, even if they are in principle compatible with future debt stabilization at some higher level (imposing for instance a constant PSBR/GDP ratio), may be unsustainable because the implied level of future taxation exceeds that limit. If and when the markets perceive the inconsistency between the ability to raise taxes (and/or the inability to cut expenditures) and the solvency requirement, the outcome of unsustainability will be growing risk premia on government bonds or an open financial crisis due to the fear of monetization or of administrative measures affecting the stock of debt.

The size of the adjustment

Is the Italian situation anywhere near to this critical point?

Let us first consider the size of the adjustment required to stabilize the debt ratio, say in two years. This, as we have seen, depends on three variables: the current level of the debt ratio, the nominal cost of debt and the nominal growth rate. On present policies the debt ratio will reach 1.03–1.04 in two years' time. An estimate of plausible values of the other two variables is far more uncertain, as it depends, amongst other things, on the inflation prospects and on the composition of new issues domestically, and on interest rate developments in the EMS.

As for inflation, EMS membership requires that it gradually converges to the European average. It may still be higher than that in two years' time, but we must set a target compatible with lasting stabilization and consider therefore medium-term values of the relevant variables. Bearing this in mind, and assuming a real growth rate of 2.5–3 per cent, an acceptable projection of the nominal growth rate could be 6.5 per cent, or three points less than the current value.

We can hardly expect a similar fall in the nominal cost of debt, for at least three reasons. First, the average nominal cost, still below the marginal cost, will keep rising for a while, also considering the further decrease in the share of debt with the Bank of Italy in the total. Second, the behaviour of short-term rates is now dictated by external considerations: the current differential of 2–3 points with German short rates is unlikely to decline at the same pace as the inflation differential as long as the stability of central parities is the outcome of a sum of unilateral commitments on the part of individual

governments, rather than part and parcel of an institutional change.¹⁷ Third, the success in lengthening the maturity of debt is a mixed blessing: insofar as it reduces debt turnover, it makes the task of debt management easier, because high gross issues may be a cause of financial fragility in the presence of shocks; on the other hand, if inflation declines, it is bound to keep the cost of debt high in the future. Considering all this, it is prudent to assume that the average nominal cost of debt may peak at 11 per cent, or slightly above, before it begins diminishing, so that an acceptable medium-term value may be 10–10.5 per cent.

If we take the aforementioned values of the three crucial variables, we obtain a medium-term target value of the primary surplus of the order of 3–4 per cent of the GDP. How feasible is it?

Taxes and social security contributions as a ratio to the GDP are in Italy near to the Community average, and so are they in per capita terms (the ratio being higher for direct taxes and lower for indirect taxes). Tax rates are however higher than the European average and it is accepted that they can hardly increase further: in the case of direct taxes, because of the inequitable distribution of the tax burden; in the case of indirect taxes, because of the inflationary effects of higher rates and in view of tax harmonization in the EEC. In principle, there would be plenty of room to lower the rates *and* increase revenues: according to recent estimates,¹⁸ tax evasion and tax erosion (due to preferential tax treatment), relative to the tax base inferred from national accounts, are as high as 80 per cent for agricultural and real estate incomes, and 50 per cent for the self-employed. All considered, a further increase of 2 points in the tax burden may be feasible: but hardly more than this, unless there occur deep changes of administrative efficiency in tax collection together with an improvement in the quality of services provided by the public sector.

The ratio of expenditure net of interest to GDP is slightly higher than the European average, especially in per capita terms. Keeping the rise of expenditures in line with GDP has been an achievement, in view of past trends; but this has been obtained by curbing capital rather than current expenditures. Still, if the target of debt stabilization is to be attained, current expenditures must decline by some two points of GDP: salaries, transfers to households and subsidies to public utilities are respectively 28, 36, and 3 per cent of total current expenditures and are the obvious candidates for such cuts.

We must next ask whether there are ways to reduce the size of the required correction: if there are, they must affect either the size or the cost of outstanding debt. Privatization of public sector assets is the most popular prescription. The targeted borrowing requirement in the 1991 budget includes proceeds of Lit 5600 billions from such sales. This is, incidentally, incorrect

accounting (though it follows the British precedent): the proceeds of the sales reduce the stock of debt and the effect on the (flow) expenditure and revenues account is the corresponding saving of interest – say 600 billions. Let us be optimistic, and suppose that 20 000 billion of public sector assets can be sold in three years and, moreover, that the yield of such assets to the public sector is now zero. This would represent no more than 1.5 per cent of the average debt outstanding: as a result, the debt-stabilizing primary surplus would only decline by a fraction of a percentage point. This is not to say that privatizations are useless: there may be plenty of other reasons in their favour, including their effects on market confidence in the government's commitment to fiscal adjustment. It would however be remiss to believe that privatizing is a way to obtain a sizeable reduction in the adjustment required on the expenditure and revenue side.

One hears, or reads, every now and again that fiscal adjustment at this stage requires parallel measures, administratively or by legislation, to change the terms at which outstanding debt was issued or to place new debt at a lower cost. Such measures are unspecified, but one can guess what they may consist of: consolidation of short-term debt into a long-term loan with lower yields, for instance; or constraints on the composition of banks' assets, so that more public debt would be placed in their portfolios. It is difficult to take any such proposal seriously, though, if taken seriously by the markets, they may cause considerable harm. There have been in Italy examples of successful voluntary consolidations¹⁹ and one of forced consolidation of the floating debt in 1926. The latter can hardly be invoked as a precedent. The overall (and not only the primary) budget was then in surplus and the non-floating debt had all long maturities: hence the size of gross issues after the measure was very limited. The current situation is very different. A debt-stabilizing primary surplus would still leave an overall PSBR of the order of 6 per cent of GDP, while bonds, whether fixed-rate or convertible, have very low maturities, with a high share coming to redemption in the next few years. In these conditions any compulsory measure affecting the terms of the outstanding stock or imposing constraints on the intermediaries would be the surest and quickest way to unleash a run on Italian debt (and on the lira), to send the yields sky-high and eventually to make the situation far worse. If on the other hand it is proposed that budget balance be reached prior to those measures, the latter would be quite unnecessary.

An inflationary solution to high debt situations is often predicted in the academic literature.²⁰ Once more, this is a solution of which the costs would by far exceed the benefits in the Italian case. As can be seen from Table 4, short-term, floating rate and indexed debt represents 75 per cent of outstanding bills and bonds: thus the cost of three-quarters of the debt would rise with inflation and the fall in its real value would only be temporary.²¹

Furthermore, due to the persistence of a borrowing requirement and to the high turnover of outstanding debt, the nominal cost of new issues would promptly reflect higher current and higher expected inflation. A return to a higher share of monetary financing of the deficit would be less disruptive than ‘inflating the debt away’ at one stroke: if it implied a permanent rise in the inflation rate, however, it would yield no benefits in an open economy with integrated capital markets.

The Italian yield curve is an indirect proof that inflation is no cure for the debt problem. The slope of the curve remains stubbornly positive, even when it is negative in the rest of Europe. While the evidence of risk premia (for fear of default or other administrative measures) is, to say the least, shaky,²² this more likely reflects inflation premia. Higher inflation expectations would sharply increase the cost of lengthening the maturity of the debt.

There is thus no short-cut avoiding the need for substantial fiscal adjustment of the order indicated above. This is not to say that no attention should be paid to the cost of debt nor that there is no room for further improvements in debt management. It would thus be possible and desirable to cut both the banks’ high fees on the subscription of new issues and the excessive spread of the yield of floating rate bonds on the short-term reference rate. A futures market would improve efficiency and make long-term issues more attractive. The existing gaps in the yield curve should be filled with appropriate instruments. The auction system should be improved. In the end however raising revenues and curbing expenditures is the obvious but no less indispensable solution.

Discipline and Europe

A fiscal adjustment of the order of 4 per cent of GDP in two years is not an impossible feat to accomplish: it has been done before in a number of European countries (Denmark, Belgium, the UK, Ireland). The question of why adjustment has been so late and so hesitant in Italy and why the debt problem was allowed to become so acute in the first place belongs to the political economy of deficits and debt²³ and will not be examined here. It is clearly a particularly striking example of political myopia, owing to which the costs of debt for tomorrow’s citizens are not internalized in today’s preferences. Short-sightedness may in turn depend on the political and institutional system, and more broadly on the lack of an appropriate set of incentives to fiscal discipline and sanctions of indiscipline.

Monetary rigour and the exchange rate constraint do not appear to provide either incentives or sanctions. Monetary rigour can go hand in hand with fiscal laxity.²⁴ In their careful empirical analysis of a number of countries, Grilli *et al.* (1990), “find no evidence that budget deficits lead to lax monetary

policies" and show that "central bank independence may bring about monetary stability and low inflation even if there are political incentives towards lax monetary policies". As we saw in the first section, monetary financing of the government deficit has steadily declined in Italy, to become almost negligible. The point is that, after the experience of the 1970s and the early 1980s low inflation ranks high in the politicians' preferences. This is consistent with their myopia: unlike the costs of debt, the costs of inflation are borne by today's voters. The same applies to exchange-rate discipline. Paradoxically, a well disciplined and independent central bank, by delivering credibility in the exchange rate parity and by resisting any attempt to devalue, removes an effective potential sanction on undisciplined fiscal policies. Liberalization has also had somewhat unexpected effects:²⁵ as we saw in the first section of this paper, it has opened a new outlet for the placement of government debt. The conclusion is that one can hardly rely on monetary, exchange-rate and market discipline to introduce the necessary constraints on fiscal policy.²⁶

The next question is whether the presence in the club of a member beset by a structural fiscal imbalance can jeopardize the progress towards, and the orderly working of, a monetary union having price stability as its explicit target. If we assume that direct monetary financing of the Treasury is forbidden by the statutes of the union's central bank and that national central banks conform to this prescription, as they will have to, the answer is not obvious. Giovannini and Spaventa (1990) have examined the effects on the union of a debt crisis in one country: propagation may occur through several channels, the more so the more money and interbank markets are integrated and the greater is the share of the country's debt held by foreigners. If financial spillovers are high, the ban on monetary financing of deficits and a no-bailout clause may be insufficient to immunize the union's central bank from the impact of the domestic crisis, as the bank would feel compelled to increase its money supply in order to avoid systemic effects on the financial industry. There may thus be a case for imposing fiscal conditionality for joining the union, though the case must rest on the potential occurrence of a financial crisis.

The case is, however, much stronger if it is considered from the point of view of the country in need of fiscal discipline. Whatever the external effects of its fiscal imbalance on the union, there is little doubt that adjustment is required for its own sake. If the internal system of incentives and sanctions is insufficient, and if the external sanction of devaluation has been removed by the credibility of its central bank's commitment, fiscal conditionality may be the effective way to re-introduce the missing trade-off between high deficits and high debt and monetary stability. Taking part in the process of European integration has a high domestic political value in some countries, especially in weaker economies where it is considered a sign of international

distinction and respectability. Further, the growing credibility of the exchange rate commitment also depends on the presumption that the country will be a member of the union. Being denied access to the union because of the persistence of a fiscal imbalance would thus represent a dramatic loss of prestige with the electorate and would at the same time ignite expectations of currency devaluation. This threat may thus represent the effective way to cure political myopia and to make governments perceive the long-run consequences of their fiscal behaviour.

APPENDIX

The public sector borrowing requirement, expressed as a ratio of GDP is

$$f_t = \frac{I_t}{Y_t} - a_t,$$

where f is the deficit, a is the primary surplus (borrowing requirement minus interest expenditures), I is interest expenditure. We compute the average cost of debt, i , as

$$i_t = \frac{I_t}{0.5(D_{t-1} + D_t)}.$$

Let

$$s_t = \frac{S_t}{Y_t} = \frac{(D_t - D_{t-1})}{y_t} - f_t$$

be the difference between the change in nominal debt and the borrowing requirement (mostly due to the difference between the nominal and the issue value of bonds).

Then

$$d_t - d_{t-1} = \left(\frac{i_t}{1 - 0.5i_t} - g_t \right) \frac{D_{t-1}}{Y_t} - \frac{a_t - s_t}{1 - 0.5i_t},$$

where d is the debt to GDP ratio and g is the nominal growth rate of GDP.

The debt-stabilizing primary balance, as computed in Table 1, is

$$a_t^* = [i_t - g_t(1 - 0.5i_t)] \frac{D_{t-1}}{Y_t} + s_t,$$

a surplus or a deficit, according to the sign of the r.h.s. expression.

NOTES

1. Alternative measures are examined in Horne (1991). In the same paper, different values for $(a - a^*)$ are reported without specifying the data and methods used: a possible cause of difference is the use of general government primary balances instead of the primary PSBR, which is the relevant variable for public debt formation.
2. The measure could of course be improved by considering separately debt with the central bank and market debt.

Interest paid on central bank debt is not, however, zero. Until 1985, the Treasury paid 1 per cent on its overdraft on the current account with the Bank of Italy and market interest rates on the bills and bonds held by the Bank; the Bank in turn paid back to the Treasury the excess of interest payments received on short-term bills and on some bonds over the remuneration (5.5 per cent) on the commercial banks' compulsory reserve requirements. Since 1985, the interest paid back to the Treasury is computed as follows:

$$P = \left(\frac{0.01C + rB}{C + B} - 0.055 \right) R,$$

where P is the interest paid by the Bank to the Treasury, C is the overdraft, rB is the interest received by the bank on the bonds and bills (B) in its portfolio, R are the commercial banks' compulsory reserves. For lack of reliable data it is impossible to separate the net interests paid on debt with the Bank of Italy from total interest payments. The equally unsatisfactory alternative would therefore be to impute all interest payments to market debt.

3. There are two more factors contributing to the difference between the change in the nominal stock and the PSBR. If there is debt issued in foreign currencies, any change in exchange rates alters the valuation of the nominal stock. Second, a change in the nominal stock of debt may occur because of the recording of previously unrecorded debt of some public sector entities.
4. Careful and detailed analyses of trends in expenditures and revenues and of their causes are in Ceriani *et al.* (1991), Franco (1990), Morcaldo (1990).
5. The existence of a positively sloped yield curve on floating rate certificates is, in a way, an oddity of the Italian bond market. It obviously reflects risk premia. But a premium for what risk? An inflation premium is a more likely candidate than a default premium (see Section II), considering, first, that the certificates' yield is linked to the short-term yield of 6 to 12 months earlier, second, that the short-term reference rate is now that of the twelve-month bills (it was that of the six-month bills on earlier issues), third, that on longer-term certificates issued later the indexed coupon is paid once, rather than twice a year.
6. See Ministero del Tesoro (1989) (English transl., 1989).
7. At the end of 1988, after the start of the dealers' market, the Treasury Minister appointed an advisory committee on debt management. A large part of the proposals contained in the committee's final report were implemented later. See Ministero del Tesoro (1989) (English transl., 1989).
8. This is a mild version of the so-called Walters effect: for an analysis, see Giavazzi and Spaventa (1990).
9. In 1989, the share of government bonds on total medium- and long-term bonds was 76.6 per cent in Italy, 37.6 per cent in France, 38 per cent in Germany: see Fazio (1991).
10. In 1989 the size of gross issues of government debt was second only to that of the US: 447 billion dollars in Italy, 1095 billion in the US, while the corresponding figures for France, Germany and Japan were, respectively, 109, 36 and 209 billion. See Fazio (1991).

11. The following draws on Giovannini and Spaventa (1991).
12. Let f be the (constant) ratio of the PSBR to GDP and g the nominal growth rate. Then, from the budget identity, $d^* = f \cdot [g/(1+g)]$, where d^* is the stationary debt ratio associated to f . The primary surplus associated with b^* is $a^* = ib^* - f$.
13. The first formulation is in Barro (1979).
14. See Mankiw (1987) and Grilli (1989).
15. See Grilli, Masciandaro and Tabellini (1990).
16. In a world described by a representative agent distributional effects are ruled out by definition: higher taxes to serve the debt are equally distributed, and so are the receipts of the interest payments on outstanding debt. Thus, provided the intertemporal budget constraint is fulfilled, it does not matter how high the debt ratio is allowed to go, except for the distortionary effects of rising taxes on output.
17. The interest rate differential with Germany is broadly within the band consistent with the 2.25 per cent fluctuation band up to 12-month maturities; it exceeds the band for longer maturities. This reflects lack of credibility in a long-term commitment to the existing central parity.
18. See Ceriani *et al.* (1991).
19. See De Cecco (1990).
20. The existence of debt provides a classical example in the literature on time consistency: while it may be optimal to issue debt at an earlier period, it may be optimal to inflate it away at a later period. This would be equivalent to a lump-sum tax, to be preferred to distortionary taxation.
21. This is a point which is often neglected: see Calvo and Guidotti (1990).
22. See Alesina, Prati and Tabellini (1990), Cottarelli and Mecagni (1991).
23. There are numerous contributions in this vein: see Roubini and Sachs (1989), Alesina and Tabellini (1990), Grilli, Masciandaro and Tabellini (1990).
24. On some of the points touched in this paragraph see Giovannini and Spaventa (1990).
25. An analysis of recent developments in the EMS is in Giavazzi and Spaventa (1991).
26. Bishop (1989, 1990) takes a somewhat different view and proposes a number of measures to enhance market discipline.

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XI. The EC's public debt disease: discipline with credit spreads and cure with price stability

GRAHAM BISHOP

SUMMARY

For the first time in a generation or more, most EC savers will soon be free to decide where to put their money once the Single European Market (SEM) is in full operation. There will be no exchange controls to prevent them placing their money abroad, and the liberalisation of financial services should enable the financial institutions, which act as the conduit for most savings, to invest outside their home country as well. As investors scan the European markets, they will realise that the advent of the single currency will create a fundamental change in the nature of government debt. It will no longer be an automatic safe haven for their savings: risk and reward will have to be assessed.

Until a few years ago, the only way for investors to judge the relative merits of the bonds of European governments was to use the 'currency spread' benchmark – government bonds in different currencies should carry different interest rates to allow for the risk of devaluation. Now that European monetary union appears to be a growing probability, investors must grapple with the question of the relative credit risks of the European Community (EC) governments, and attention has begun to focus on their domestic currency debt.

These credit risks must be assessed in the context of the governments giving up the power to print the money with which they will repay their bonds. In monetary union, this power will be ceded to an independent central bank whose objective will be 'price stability'. If this bank turns out to be credible, investors will not need to fear that the real value of their government debt holdings will suddenly be reduced by 'surprise inflation' resulting from an expansive monetary policy.

Table 1 shows the rise of gross EC debt in aggregate. That average conceals a range today from about 7 per cent in Luxembourg to about 130 per cent in Belgium. Should this average be of concern to investors? Should investors really be worried about the credit risks of the most heavily indebted coun-

Table 1. Indebtedness of the EC Member States, 1974–91E (As a percentage of GNP) gross general government debts

	1974–82	1983–85	1986–88	1989	1990	1991E
EC	39.8%	54.6%	59.3%	59.0%	58.9%	59.2%

Source: European Commission.

tries? Should there be a ‘credit spread’ between the bonds of EC governments to reflect this risk?

Analysis of the credit standing of the EC governments should focus on the proportion of income that must be devoted to paying interest on debts – as if they were ‘private sector’ obligations. ‘Income gearing’ is a key factor in assessing credit quality, as it defines the political trade-off between interest groups competing for public expenditure – bondholders are merely one group.

Importantly, income gearing can readily be used as a market-driven tool to enforce budget discipline. As an example, the US rating agencies use this measure as one of the key variables when awarding a credit rating, and many financial institutions use the rating to decide whether a bond is an eligible asset, given its credit risk. For the EC’s purposes, the concept neatly encapsulates the results of the absolute size of the government’s accumulated debts, the taxes actually collected, the level of interest rates, and the cost of the credit spread, which measures the market’s perception of financial policy.

The simplicity of the data required – taxes collected and interest paid – suggests this measure will be a credible and prompt statistic. It would be used simply to enhance the prudential supervision of the Community’s financial system. There should also be limits on the acquisition of additional risk assets by the financial system. These limits should be imposed fairly soon to ensure that the system does not become overexposed – and thus vulnerable to a threatened default – even at an early stage of European monetary union (EMU).

In practice, this approach will limit the access of less creditworthy Member States to the whole Community’s pool of savings and makes it less likely that such a State will achieve ‘a considerable degree of alignment of interest rates on the capital markets’. This credit test is laid down as a prerequisite for the move to Stage Three of EMU by the German draft Treaty. It goes on to propose that the European Council may make arrangements for later participation by those not meeting these requirements.

Credit spreads would be the market-driven element in what would amount to a test for Stage Three eligibility. For now, the capital markets have already recognised the decreased currency risk between many countries – although not all. In effect, therefore, a two-speed Europe already exists. Within that

group, however, there is little evidence to suggest that the markets have paid any systematic attention to the difference that will exist in credit standing of these Governments when they have given up the power to print money and become more like private sector entities.

The disparity in gearing ratios suggests that savers may well want to use their new freedom from exchange control and the like to take their money and escape from the tyranny of the voters who prefer to spend rather than tax. However, for the cynical bond investor, the first question to be considered is whether the EC's proposed no bail-out rule can, or will, be made to operate. If the answer is negative, then assessing potential credit spreads becomes entirely theoretical – interest rates will simply converge towards those of the nations seen as the ultimate guarantors of the Community, and political federation will inevitably result.

However, this outcome is not necessary. The 'best' policy would be to convince savers that the surprise inflation solution will not be used to solve debt problems; that governments see their own interests served best by price stability; and that they will adopt policies likely to achieve these goals, thus lowering nominal and real interest rates. The key to this policy is undoubtedly the creation of a suitable and independent European Central Bank dedicated to price stability. A remarkable benefit of price stability is that its probable impact on interest rates will reduce debt servicing costs sufficiently to remove any fear of a public debt crisis. Only Greece and Italy would continue to see significantly rising debt ratios, and successful implementation of the ambitious February 1991 adjustment programme would solve Greece's debt problem.

Even with price stability, mutual surveillance procedures should no doubt encourage a permanent shift to lower fiscal deficits. If debt levels continue to rise, in the long run, Member States could find that any tightening in Community monetary policy would push their bonds outside the bounds of eligibility for EC financial institutions. If the benefits of a once-in-a-generation bonus – such as the move to price stability – were squandered, then the next generation might inherit an unbearably penal debt burden.

CREDIT OR CURRENCY SPREADS?

Table 2 ranks the EC Member States into broad groups according to indicators of expected currency risk and credit risk. Long-term government bond yields (where available) are used to indicate the market's view of currency risk, because government bonds in their own currency can be regarded as credit risk-free until the European Central Bank takes control of monetary policy.

Table 2. Ranking of EC Member States by currency and credit criteria, 1990–91

Long-term bond yields	22 Apr 91	Debt/GNP ratio, 1990	Adjusted income gearing
Above Average			
Greece	20.9% ^a	Belgium	Greece
Portugal	15.4 ^b	Ireland	Italy
Italy	13.3	Italy	Belgium
Spain	11.8	Greece	Portugal
United Kingdom	10.2		Ireland
Near Average			
Ireland	9.2	Netherlands	Spain
Belgium	9.1	Portugal	Netherlands
Denmark	9.0	Denmark	United Kingdom
Ecu	9.0		Denmark
France	8.9		
Below average			
Netherlands	8.6	Spain	Germany
Germany	8.4	Germany	France
		United Kingdom	
		France	

^a Average Treasury bill yield. ^b 1990 data.

Note: Luxembourg has been excluded from this analysis because its debt levels are negligible.

During 1990, European Community political leaders accomplished a crowded Euro agenda: they committed themselves to signing a Treaty for economic and monetary union; began Stage One of the EMU process; agreed major parts of the EMU Treaty before the start of formal discussions; removed a significant source of uncertainty by fixing the sterling rate; and declared that the Ecu would be the eventual single currency of the EC, to be supervised by a European Central Bank that will be set up in 1994, at the earliest. Investors have taken note of these developments, and the convergence of long-term interest rates has been little short of remarkable.

In terms of currency risk, capital market investors appear to have concluded that 'two-speed Europe' is a reality today rather than a possibility for the future. Only 80 basis points in yield separate the long-term bonds of Ireland, Belgium, Denmark, France, the Netherlands, and Germany – the original signatories of the Schengen Agreement, together with Denmark and Ireland. *The financial markets have recognised the decreased currency risk component, but appear to have paid no attention to the credit risk aspect.* On the conventional criteria of debt/GNP ratio, as well as our preferred measure of income gearing adjusted for the effects of the Single European Market, Belgium and Ireland are both in the 'above-average' credit risk group (see

Table 2). France is ranked even lower than Germany, yet its bonds yield virtually the same as the above-average countries.

THE LINKAGE BETWEEN MONEY CREATION AND CREDIT RISK

For the first time in a generation, or more, in 1993 most EC savers will be free to decide where to put their money once the Single European Market (SEM) is in full operation. There will be no exchange controls to prevent them placing their money abroad, and the liberalisation of financial services should enable the financial institutions, which act as the conduit for most savings, to invest outside their home country as well. As investors scan the European markets, they will realise that the advent of the single currency will create a fundamental change in the nature of government debt. It will no longer be an automatic safe haven for their savings: risk and reward will have to be assessed.

The key to this change is that governments will no longer be able to print the money with which they repay their debts. Currently, perceptions about the safety of the nominal value of government debt reflect their ability to print the money that is used to satisfy the bondholders' claim. Hence, government bonds denominated in domestic currency are theoretically a perfect credit, so there is no need for a premium related to credit quality. In the future, the safety in nominal terms of government debt will hinge only on the power to tax. The inflation adjustment will result from the Community's overall monetary policy.

This factor underlines the critical role of the European Central Bank in pursuing price stability. It must be free of political pressure that would prompt it to print so much money that a default would result – through inflation – on government debt. Yet it must be responsive to democratic control. The debate on political union already involves a discussion on the powers of the European Parliament. A possible solution might separate the politicians who have the power to spend taxpayers' money from those who have the power to print new money. As the European Parliament is directly elected, democratic accountability would be maintained if the European Central Bank reported to European parliamentarians. They do not need the power to spend, as that would be retained by the existing national parliaments. This division of powers would make it difficult to generate the political will that would be necessary for any future attempt to dilute the European Central Bank's statutes.

The markets do not perceive public debt as the residual of Keynesian demand management techniques – they are merely the intermediary for

collective saving. The question posed by the saver is simple: 'will that government pay the interest and principal on this loan on the due date?'

This question will be asked more urgently when the governments, as part of the SEM, agree to give up their old mechanisms of exchange controls and money printing. If policies go wrong, then the only solution will be a formal rescheduling of debt – amounting to a default – rather than devaluation of the currency. The markets will attempt to measure this default risk with credit spreads, rather than the currency spreads appropriate for the risks of devaluation resulting from excessive money creation.

BUTTRESSING THE NO BAIL-OUT RULE

A no bail-out rule will be enshrined in the Treaty to ensure that neither the Community nor its members assume collective responsibility for the debts of any of the members. The attempts to encourage fiscal discipline by peer pressure will be strengthened by prohibiting the European Central Bank from providing credit to any government and by the removal of 'privileged access' by governments to the financial markets. However, a policy shift is necessary to make the no bail-out rule credible.

The elimination of privileged financing opportunities will force governments to compete in the open market with all other borrowers. Investors no longer adopt a 'buy and hold' strategy, and have demonstrated a desire for liquidity in the secondary market to minimise primary yields. Many European governments have recognised this need and responded – the creation by the French authorities of the Obligations Assimilables du Tresor (OAT) market in 1985 signalled the beginning of this trend. It was illustrated again by the recent leap forward in the Ecu market, as jumbo issues of Ecu 1–2 billion were launched. Thus, Governments that have to give up other sources of privileged 'cheap' funding are likely to turn to an efficient public bond market as the next cheapest source.

The independence of the proposed European Central Bank is one of the crucial points in the debate on monetary union. This independence, it is argued, will free the central bank from the Treasury pressure to fund expenditure with money creation. There is a corollary – the national Treasuries will be free to pursue an optimal debt management strategy. The German draft Treaty proposes that the 'golden rule of finance' be included in the Treaty itself – borrowing should not exceed investment spending. Over time, this condition should bias debt maturities towards the longer term – matching the assets financed. Many EC governments – especially the most heavily indebted – have relatively short debt maturities and are consciously trying

to lengthen them to remove any risk of a liquidity crisis. Both factors point towards increased reliance on long-term debt markets.

The EC also has a public policy interest in encouraging greater use of government bonds – the market's assessment of the creditworthiness of individual governments should be absolutely transparent. Public bond issues make the scale of debt creation abundantly clear. If it is excessive, then a fall in the credit standing of the issuer should be reflected in a rise in relative yields – a credit spread. A vital mechanism to enforce market discipline on profligate governments is the requirement that all financial institutions value government debt at the current market price. Losses will induce – or force, through capital adequacy standards – the lenders to cut off new credit supplies. This is the mechanistic discipline of the market – discipline is not exerted by a rise in yields inducing governments to moderate their spending and thus borrowing. This effect can readily be enhanced by setting capital adequacy – or similar concepts for nonbanks – based on an objective rating of creditworthiness.

A credit risk will exist once governments give up the power to print the money with which they repay bonds. Although this risk will usually be very small, the normal principles of prudential regulation of financial institutions should be applied. In particular, there should be limits on the maximum exposure of an institution to the obligations of any group of debtors – a 'large exposure' limit. This will protect the Community's financial system against the domino effects of any member's default. As an excessive borrower finds that institutions are unable to lend more, then a credit spread will inevitably begin to open up. The mark-to-market procedure will reinforce the unwillingness of potential leaders to lend – thus completing the exercise of the market's discipline.

The greater the proportion of debt that is issued publicly in the bond market – and at the market clearing interest rate – the more transparent the process. Moreover, there can be no argument – on the grounds of a 'small market' – that the market price does not reflect a proper evaluation of the credit risk. These arguments amount to a powerful reason to fund all debt in the public financial markets – unless there is a specific social reason to do otherwise.

LESSONS FROM HISTORY

After World War I

World War I created a massive build-up of debt in many countries, not only the UK. France, Belgium, and Italy all experienced crises of various types.¹

The UK's debt problem crystallised as an excessive level of interest payments relative to government revenues. Interest rates were pegged at a low level, resulting in surprise inflation, and tax levels were subsequently doubled. The government was always willing to pay the interest rates required to attract new loans, although the presence of exchange controls from 1939–79 may well have kept this market clearing rate lower than would otherwise have been the case. Controls on institutional investment also existed, which perhaps gave the government a significant privileged access to finance.

The financial crises elsewhere in Europe were largely funding crises, where the governments pegged their interest rates below market clearing levels and found investors less willing to purchase longer-term securities. Eventually debt maturities shortened, setting the stage for a 'run' out of government debt.

New York City, 1975

If the financial markets are to be persuaded that the no bail-out rule will operate successfully, then careful and detailed thought must be given to all the implications that will surround the inevitable crisis. The best case study in modern times of a major default within a sophisticated financial system was the New York City crisis of 1975 (discussed in detail in the Appendix).

The New York crisis provides several lessons that are relevant to the design of the EC's Monetary Union, and two, in particular, stand out.

- The bond market proved capable of recognising that a severe crisis for one of the largest issuers was a specific, rather than general, problem that had no long-lasting impact on the overall market.
- The crisis teetered on the brink of becoming a union-wide problem, because of the systemic risk to the financial system – in particular, six of the 12 New York City banks held New York City debt that amounted to 70 per cent of their equity. Thus, a failure of New York City to honour its obligations carried the risk of undermining the entire banking system of the US monetary union.

The UK Solution to Debts – An Inflationary Default

The history of public finance in the UK provides an interesting object lesson during the period from 1914 – the beginning of World War I – up to 1991. Figure 1 shows the debt ratio rising from 43 per cent of GNP, peaking at nearly 250 per cent of GNP, and then falling back again, according to EC data, to about 43 per cent currently. Was this decline achieved by astute

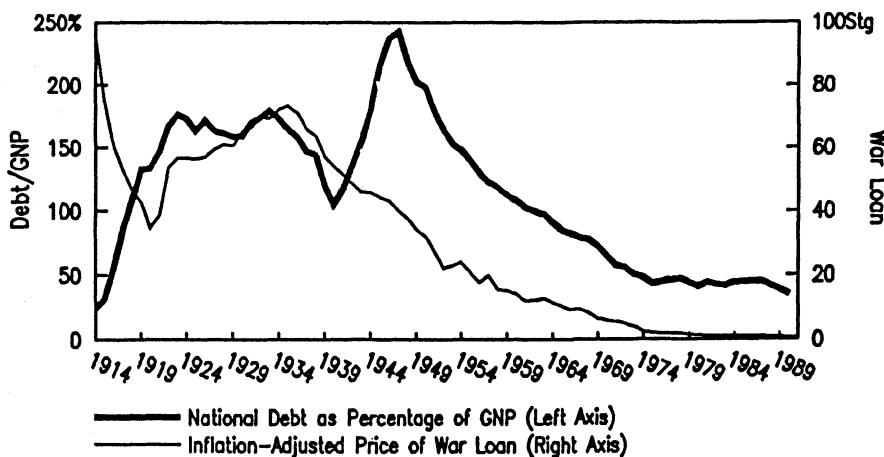


Figure 1. National debt ratio and real war loan, 1914–91.

financial management and the running of large budget surpluses, or should investors learn some lessons from history? We believe these extraordinary fluctuations warrant a detailed study.

A government bond known as War Loan was issued initially in the UK in 1914, and similar bonds were raised periodically during the remainder of the war. In 1917, £2 billion of a 5 per cent bond, due 1929–47, was issued, an amount that represented more than 40 per cent of GNP at the time. The build-up of wartime debt took the UK's debt/GNP ratio from 24 per cent in 1913 to 109 per cent by the end of the war. Correspondingly, interest costs rose from 9 per cent of tax revenues to 30 per cent in 1918.

The wartime inflation continued until 1920 – when prices were 2.5 times their prewar level. Government borrowing also continued to surge, taking the debt ratio to 133 per cent of GNP in 1920 – when the national debt peaked in cash terms, even though inflation had cut the burden of debt servicing back to 23 per cent of government revenues. From 1920 onwards, consumer prices started to fall – eventually declining by 33 per cent, to the low point in 1932, before remaining unchanged until 1935. Although the cash value of the national debt fell 5 per cent from 1920 to 1932, falling price levels pushed the debt ratio to a peak of 179 per cent in 1933. Long-term fixed-rate debt magnified the impact on the burden of debt servicing – which reached 38 per cent of revenues in 1926, before declining slightly to 34 per cent in 1932. At that stage, the pressure of debt servicing on government finances was considered intolerable, especially during a period of economic depression.

During the late 1920s, a series of minor debt conversions occurred as other

issues matured. However, the major War Loan issue was first callable in 1929; the government, on three months' notice, could call the bond at any time until 1947. Accordingly, the market was unwilling to bid the price of War Loan much above par, despite the 5 per cent coupon and declining consumer prices. As the largest single issue, it put a floor under long-term interest rates at about 5 per cent. According to the official history,² the possibility of a conversion was mooted during the summer of 1931 – reducing the coupon from 5 per cent to 4 per cent and extending the maturity to 1951 and after. This discussion coincided with a disastrous period for the economy – associated with the end of the gold standard. Bank Rate had to be pushed up to the crisis level of 6 per cent, and other government bond yields moved up to 4.4 per cent. Thus, a conversion did not seem feasible.

However, by 1932 the situation improved, and Bank Rate fell from 6 per cent in mid-February to 3 per cent by end-April, with Treasury bill yields falling below 2 per cent. At this stage, a decision was taken to push rates even lower by the Bank of England purchasing securities and pursuing an 'easy money' policy. Apparently separately, the idea of conversion was revived, and by early June, a $3\frac{1}{2}$ per cent coupon and a '1952 and after' redemption date was settled.

At the end of June 1932, Bank Rate was lowered to 2 per cent for the first time this century and, shortly after, a conversion offer was announced. Bondholders were given a cash bonus of 1 per cent if they agreed within a month to convert their existing 5 per cent 1929–47 bond into a $3\frac{1}{2}$ per cent '1952 and after' bond. Through powerful appeals to patriotism and technical measures such as a comprehensive embargo on any other new issues or competing financial instruments, market interest rates fell so much that the lack of available investment alternatives persuaded about 90 per cent of holders to accept this conversion offer.

In legal terms, the Government simply utilised its call option to refinance the issue on better terms. Nonetheless, the result of the economic policy associated with these events was detrimental to the bondholders. The easy money policy led to a rise in the narrow money stock by 13 per cent during the course of 1932, while consumer prices fell 3 per cent. This policy was continued during the rest of the decade, and by the outbreak of the Second World War, the money stock had risen by 52 per cent from the level before the conversion offer was made. Prices started to rise during the period, but had only gained 13 per cent before the outbreak of the Second World War masked developments. Figure 1 sets out the results of these policies on the purchasing power of £100 invested in a War Loan, or equivalent, at the beginning of World War I.

Rising interest rates and inflation cut the purchasing power to one third

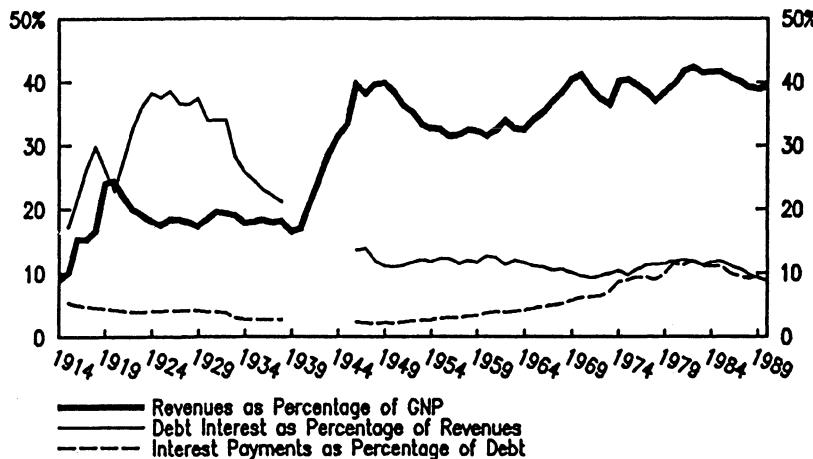


Figure 2. Relationship between GNP, revenues and interest on debt, 1914–91.

by 1920, but it doubled from that level, because of falling prices, by 1932. The sustained pressure of interest payments within the budget prompted the 1932 conversion and, initially, the easy money policy led to a further modest rise in the real bond price. After an interval, ‘surprise inflation’ duly appeared. Three-month Treasury bill yields fluctuated between 0.5 per cent and 1 per cent from 1933 until ‘easy money’ was abandoned in 1951. During this period, investors in War Loan lost two-thirds of the real value of their asset.

Although budget surpluses amounted to about 5 per cent of GNP between 1987 and 1990, it was the ‘surprise inflation’ – launched in 1932 and never recaptured – that has been the most powerful influence on the UK’s debt problem. In March 1991, the real value of £100 lent to the UK government at the outbreak of World War I – is worth just £0.78. For all practical purposes, there has been a complete default on the real value of the loan.

However, Figure 2 shows that there was no need for another conversion – even when the debt burden reached extraordinary peaks in 1947: the combination of a doubled tax burden and halved interest rates since 1932 led to a debt service ratio 60 per cent lower than the crisis level. Debt servicing has fallen progressively and has not been a political problem since. Indeed, by 1990, the burden had fallen to the lowest level this century.

This is the key lesson: if the level of interest payments takes too large a fraction of tax revenues, then the bondholder should pay careful attention to the political weight of other claims on government expenditure.

WHAT IS DEBT?

This report deals with straightforward bond issues. If Ecu 1 billion of 10-year, 9 per cent annual coupon bonds were sold in the market now – May 1991 – an investor has only to answer two simple questions: (1) will they pay Ecu 90 million of interest payments each May for the next 10 years; and (2) will they repay that Ecu 1.0 billion in May 2001?

Governments can assume other financial commitments that have many characteristics of debt, but are less clear cut and may even be ‘off balance sheet’ – a very vexed item in corporate accounting. Banking supervisors are grappling with this problem as well. Government debt analysts will no doubt face the same problem in the future, for example, with the question of pensions for civil servants.

The Netherlands takes a very conservative approach and has a funded pension scheme, *Algemeen Burgerlijk Pensioenfonds* (ABP), properly based on the usual actuarial assumptions of mortality and rates of return. By early 1990, the Dutch government's total debt exceeded Dfl300 billion, of which nearly Dfl80 billion was held by the ABP in the form of marketable bonds and direct, formal loans. Dutch government debt is 78 per cent of GNP, well above the EC average. If the government were to default on its bond debt, it is impossible to envisage it differentiating between the bonds held by pensioners and others, foreigners, for example. Thus, the pension commitment is absolutely clear and is manifested in the legal form of a portfolio of bonds.

The UK takes the opposite approach and operates a pay-as-you-go policy for most public servants. A recent report entitled *Financing Teachers' Pensions*, prepared by one of the UK teachers' trade unions, pointed out that the government has funded the teachers' pension scheme with ‘notional’ government bonds – so notional that they are not even reported as part of the national debt. Without considering the merits of the case, it is worth noting the teachers' claim that, if their pension scheme had been properly set up, they would now have a formal bond fund worth £80 billion. This one claim from a comparatively small group of employees would raise the UK's debt/GNP ratio from 43 per cent to 58 per cent.

The general pension problem in Italy is already acute. The country's INPS pension system is in heavy deficit – representing more than 25 per cent of total Italian public sector borrowing. Demographics suggest that the problem will only get worse. In fact, the demographics for the whole of the EC are deteriorating, as shown in Table 3.

The problem of funding pensions will become severe for Europe during the early years of next century³ – precisely the time when the value (or otherwise) of European integration, both political and economic, will be

Table 3. Estimated dependency ratios^a, 1980–2050E

	1980E	1990E	2000E	2010E	2020E	2030E	2040E	2050E
France	21.9%	20.9%	23.3%	24.5%	30.6%	35.8%	38.2%	37.8%
Italy	20.8	20.1	22.6	25.7	29.4	35.3	41.0	37.9
Spain	17.2	19.4	21.8	22.9	25.3	31.1	38.2	38.6
United Kingdom	23.2	23.0	22.3	22.3	25.5	31.1	33.1	30.0
West Germany	23.4	22.3	25.4	30.6	33.5	43.6	48.2	41.6

^a Dependency ratio proportion of population above 65 relative to those between the age of 15 and 64.

E = Estimate.

Source: Organisation for Economic Cooperation and Development (OECD), Demographic Data File: Medium Fertility Variant.

apparent to the voters. Although Governments have some clear and powerful moral obligations towards the current generation of pensioners-to-be, that obligation is a good deal less clear cut than simply paying Ecu 90 million of interest in May each year. It is quite conceivable that a method could be found to reduce the burden of these claims from pensioners – a euphemism for default – leaving the bondholder even more secure. However, these methods represent a series of future political decisions. In some cases, the Netherlands for example, the question may already have been faced and properly funded, while the result is a relatively unflattering debt profile. The sheer scale of these unknown, and perhaps unquantifiable, obligations underlines yet again the fundamental importance of the no bail-out rule if EMU is to be durable.

There is also the example of the whole range of publicly-owned companies, whether utilities, industrial holding companies, banks or insurance companies. The entities may be subject to large subsidies or simply guarantees, and those guarantees can extend to noncorporate entities. In any case, they pose a set of obligations that may conflict with the interests of bondholders at some stage. That conflict will be resolved through an examination of the legal status of the entities, which can be changed depending upon the political imperative involved.

How big are all these potential claims? Full information is necessary – and on a worst-case basis, because that is the only time that it becomes relevant to bondholders. The Prospectus Directive (89/298/EEC) requires publication of “information necessary to enable investors to make an informed assessment of the financial position of the issuer”. However, Articles 2 and 5 exempt Member States and their subsidiary bodies from this requirement. There are severe sanctions in most national laws for breaches of prospectus laws. An excellent beginning to ‘glasnost in public debt’ would be an immedi-

ate repeal of Articles 2 and 5 in the Directive, leaving officials, and their political masters, fully liable for any misleading statements.

ANALYTICAL APPROACH

The analytical approach adopted in the following section of this report relies on the observation that once governments are unable to print money, they will resemble private corporations. An analysis is therefore required of the income and expenditure of a government relative to its borrowing. Moreover, the analysis must recognise the fact that 'the government' as a debtor is quite distinct from 'the country'. The government can default without causing the end of civilised life – as demonstrated on several occasions in the 1920s. Rescheduling the maturity of the government's debts, for example, will reduce the value of the bonds, but may have limited impact on public services and should have no implications for the creditworthiness of individual citizens.

However, the analogy with a private sector corporation cannot be taken to an extreme, because there is no doubt that the power to tax is fundamentally different from selling even the necessities of life. Perhaps the best analogy would be with an electric power utility. Its product is fundamental to civilised life, and it is impossible to avoid paying the electricity bill – they simply cut off additional supplies. For most individuals, and large-scale commerce, charges for electricity may have many of the characteristics of taxes.

There are two relevant concepts to consider when analysing the credit of companies:

- the gearing of the stock capital; and
- the gearing of the flow of income.

The traditional public debt concept of debt/GNP ratio rather unhelpfully compares the stock of debt and the flow of national income.

Capital gearing

Capital gearing is not relevant, in practice, for a country, even if 'free market' economists could make it theoretically operational. The concept of capital gearing relates to insolvency and a subsequent liquidation of assets to satisfy the creditors. There are no realistic and believable figures for many of the assets of national governments. Even if they did exist, bondholders do not have the option of seizing, for example, a nuclear missile system and auctioning it off to the highest international bidder. If an investor were contemplating seizing a government's assets, then a serious credit risk would already

exist. For practical purposes, we can dispense with this concept of capital gearing. In the EC context, the potential problem is not insolvency but illiquidity – the inability (or unwillingness) to make an interest or principal payment when due.

Income gearing

- Interest payments could be calculated either gross or net. The use of net payments may flatter the calculation, but the obligation is to pay the gross payment so that it is more relevant, presuming that 'excess' cash is not being held unnecessarily by the government. Governments may hold large cash balances – as does the German social security system, for example – but a reduction in these balances may simply change the group that suffers the default, rather than solve the problem. The object of the analysis is to highlight any pressures to change government behaviour that might prejudice the full and prompt satisfaction of lenders' claims.
- Provided a government is seen as able, and willing, to pay the market interest rate, then its credit standing will remain good, and there should be no difficulty in rolling over old debt, or financing fresh deficits. Therefore, capital repayments should not be a problem, leaving the ability to make interest payments as the relevant factor. If doubts do arise about capital repayments, then a liquidity crisis is probably imminent (see the example of New York City in 1975 – Appendix).

EFFECTIVE INTEREST RATES

Table 4 shows the comparison between the long-term interest rates in a particular country and the effective interest rate paid on the government's debt. Since 1983, the EC governments' effective interest charge was, on average, 19 per cent below the long-term market rate for the corresponding year. In 1990, market rates were 27 per cent higher than the effective charge on EC governments that year. Naturally, this reflects the mixture of maturities within the debt portfolio. However, it is clear that the governments' effective interest charge was consistently below the long-term market rate. This level would appear to be the relevant maturity to use as a benchmark, given the probable desire to lengthen maturities.

Undoubtedly, the difference between market and effective rates is partly explained by 'seigniorage' – the central bank's income from noninterest-bearing cash. This is probably not a complete explanation, as governments have 'privileged access' to the financial markets through a variety of tax and accounting techniques. In Germany, as a specific case, its 'cheap' funding

Table 4. Effective interest rates paid by EC Member States, 1990

	Belg.	Denmark	Germany	Greece	Spain	France	Ire.	Italy	Neth.	Port.	UK
Effective rate	8.6%	12.1%	5.9%	12.4% ^a	8.1%	8.3%	8.4%	9.6%	7.6%	12.7%	7.9%
Long-term market rate	10.1%	11.0%	8.9%	17.9% ^b	14.8%	10.0%	10.1%	13.3%	9.0%	15.4%	11.2%
Market rate as % of effective rate	117%	91%	151%	144%	183%	120%	120%	138%	118%	121%	142%

^aIncludes interest rates applicable to foreign borrowing.

^bShort term.

Source: European Commission.

prior to unification will mature and be replaced – at much higher interest rates, if current trends persist. A significant proportion of UK debt is inflation-linked and therefore has a low nominal interest rate. Success in reducing inflation expectations will make it difficult to maintain such low nominal interest charges – rather than indexed capital compensation – unless there is a general fall in real interest rates. In Spain, for example, the policy steps have already been taken to remove these benefits.⁴ The exact definition of debt, for example, will also change this calculation: the EC data for the UK puts the 1990 debt/GNP ratio at 43 per cent, whereas the Bank of England estimates it to be about 35 per cent.

It appears to be agreed that 'privileged access' should be removed and an appropriate provision is contained in the European Commission's draft Treaty (Article 104a paragraph 1(a)). Presumably, these requirements will be phased in once the Treaty has been ratified by the end of 1992. Accordingly, perhaps as early as 1994, some countries may experience a sharp rise in their debt interest burden, reflecting the loss of these privileges and seigniorage gains. Variation between national and EC data definitions may alter the details but will not obscure the picture of a significant rise in interest charges.

This trend is likely to be exacerbated by the impact of the SEM on opening up competition for retail deposits. This competition may pose a problem to the banking system, as its retail deposit interest costs are driven much closer to market rates. It could pose just as big a problem for governments that have large amounts of funding from unsophisticated retail investors.

WHAT IS THE 'RIGHT' INCOME GEARING RATIO?

Academic literature has yet to answer this question definitively. However, investors must make some judgement about the relative security of different bonds and, thus, the yields they will demand as compensation. One approach to the question of the potential magnitude of the credit spreads between the EC governments is to make an analogy with other markets.

As discussed earlier, it can be argued that the electric utility industry has some of the characteristics of a taxing authority. This is a key feature of government and makes the industry comparable, as its monopolistic nature generally requires regulation by the public sector. Accordingly, the analogy with the US electric power industry seems relevant once EC governments give up the power to print their own money to repay debts. With revenues of \$145 billion in the 12 months to 30 September 1990, the industry has an output roughly equivalent to the GNP of Denmark. For the past few years, interest charges have remained stable at 10.8 per cent of revenues.

Table 5. US electric utility income gearing ratios – by rating category US electric utilities

Rating category	AA	A	BBB	BB
Pretax interest coverage	More than 3.5	2.5–4	1.5–3	Less than 2
Interest expense as % of revenue ^a	Less than 10%	14–9%	23–11%	More than 17%

^a Converted using industry tax and expense ratios.

Interest coverage is of such fundamental importance to investors that the rating agencies naturally accord it one of the highest priorities in the process of providing a rating. However, it is far from being the only relevant characteristic. The Standard & Poor's rating agency provides a set of 'utility financial benchmarks', and pretax interest coverage⁵ is the first benchmark. Table 5 shows these pretax interest coverage ratios for different rating categories, converted into percentages of revenue using the industry's aggregate tax and expense ratio. This conversion modifies the concept to suit a public sector entity where revenues, rather than profits, are relevant.

For stockholder-owned electric utilities, Standard & Poor's does not provide benchmarks for AAA bond ratings, as there would be too few to be statistically significant. Clearly, a substantial improvement in credit quality would be expected compared with an AA-rated bond.

The bond market differentiates between the credit risks inherent in these categories – as shown in Figure 3. During the period 1985–91, AA bond yields averaged 15 basis points above AAA-rated bonds, while A averaged

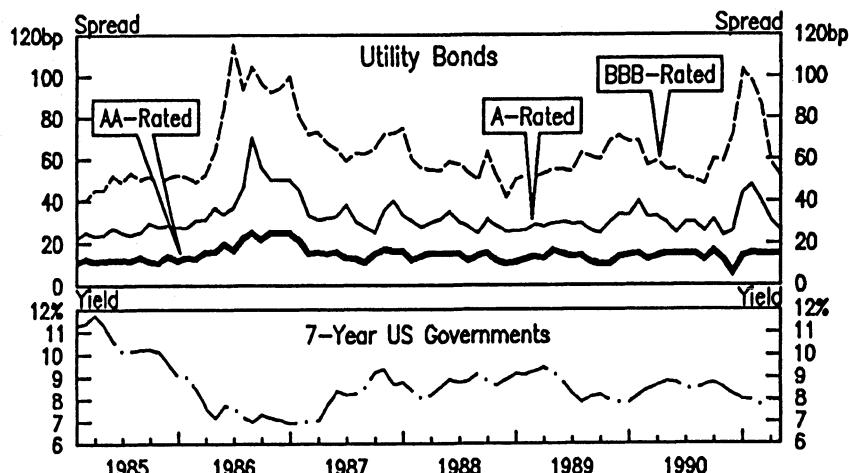


Figure 3. US electric utility bonds: credit spreads over AAA-rated paper (basis points) versus seven-year US government bonds (Percentage), 1985–91.

32 basis points and BBB were 63 points higher. Importantly, the spreads for lower-grade bonds widened sharply in time of trouble – for example, touching 100 basis points during the Gulf War earlier this year.

'RATING' THE EC MEMBER STATES

The willingness of the financial markets to distinguish so sharply opens up a number of possibilities for a market-based system of applying fiscal discipline within the EC's monetary union. Income gearing is an excellent test, because it captures the key variables in one single number: the total volume of debt, the ability to pay and the market's risk perception over and above the general level of interest rates. The market pays careful attention to the potential for rating category changes and may anticipate these well in advance. Over a period, a narrower, or wider, credit spread can influence interest costs sufficiently to help change the formal rating. For the EC's purposes, the set of rating criteria used could emphasise the role of market perceptions.

In Table 6, tax and other revenues are shown as a percentage of GNP. As the measure of income gearing, interest expense is then calculated as a percentage of the revenue. During the 1980s, revenues hardly changed – measured as a percentage of GNP. Yet interest expense – under 3 per cent of GNP in the 1970s – has now leapt to 5.2 per cent of GNP. Therefore, nearly 12 per cent of the EC's tax revenues are already committed to interest payments. This level of income gearing has already reduced future spending flexibility.

If interest rates persist at current levels for the next few years, and privileged access to financial markets is removed, it seems certain that interest charges will surge to new highs. For the EC in aggregate, charges could rise from 12 per cent of revenues to 15 per cent. Current revenues, for EC governments in aggregate, have scarcely changed for nearly a decade. Although the position varies from country to country, there may not be any great potential for tax increases. With downward pressure on budget deficits, sharp cuts in noninterest expense will be necessary.

For this broadbrush exercise, we assign the EC Member States' bonds to rating categories using only income gearing criteria, and exclude all other factors that would be considered when awarding a formal rating. The categories are based on the same break-point for gearing that Standard & Poor's use. States will be assigned to the AAA category where their income gearing is substantially – for example, 25 per cent – lower than the maximum for an AA category.

Accordingly, the EC in aggregate ceased to be AA in the early 1980s. The

Table 6. Interest expense and current revenues, 1983–1991E (as a percentage of GNP)

	1983	1984	1985	1986	1987	1988	1989	1990	1991E
Interest expense	4.4%	4.7%	5.0%	5.1%	4.8%	4.8%	5.0%	5.0%	5.2%
Current revenues	43.4	43.5	43.9	43.7	43.8	43.5	43.7	43.5	43.8
Interest expense as a % of revenues	10.1	10.8	11.4	11.7	11.0	11.0	11.0	11.5	11.9

Source: European Commission.

adjustment to full market rates of interest would place the Community squarely in the BBB category today.

In the US, rating categories are used by many institutions as criteria for the eligibility of assets. These trigger points may be set by external prudential regulators or by internal guidelines. Nonetheless, bonds rated BBB or above are usually regarded as 'investment grade' and those below may only be held, if at all, subject to special constraints. Several EC Member States would already fall outside the 'investment grade' category if this approach were the only criterion. This hurdle could be used as a test for sufficient convergence of public finance to permit Stage Three to begin, or as a test for membership of the first tier of a multi-tier Europe.

INCOME GEARING IN THE FUTURE

Moving these calculations forward to the future world of the single currency inevitably requires hypotheses and assumptions – some of which may be arguable. Therefore, our calculations can only be illustrative of the general magnitudes involved.

Scenario I: Impact of the Single European Market

Table 7 shows these concepts applied to the individual Member States. First, the 1990 income gearing is calculated. Scenario I then attempts to remove both the effects of privileged access and the maturity distribution of the debt by substituting the current long-term interest rate (the rationale for using this rate was discussed on page 221) for the effective rates shown in Table 4, and adjusting the income gearing accordingly.

When the SEM becomes fully effective, there will be a wide range of income gearing ratios. Before allowing for the modest seigniorage distributions from the European Central Bank, these ratios will range from 7 per cent of tax revenues in France up to – applying the published data – 49 per cent in Greece. Such a dramatic disparity in gearing ratios suggests that significant credit spreads will exist between the best and the worst countries.

Based only on income gearing, five Member States might find their debt unrated. If income gearing was used as one of the criteria for the prudential regulation regime, these States might find that nondomestic Community financial institutions might be required to limit their holdings or have an additional capital requirement to reflect the risk. These policies would likely result in significantly higher yields being required from bonds issued by these States.

Table 7. Scenario I – Actual and adjusted income gearing and impact of single European market, 1990

	Belg.	Denmark	Germany	Greece	Spain	France	Ire.	Italy	Neth.	Port.	UK
<i>Income gearing</i>											
Actual gearing	24.4%	13.2%	5.9%	32.9%	9.3%	6.1%	21.6%	22.8%	11.5%	23.0%	8.8%
Adjustment ^a	26	10	8	49 ^b	14	7	24	32	13	28	11
Implicit 'Rating'	–	A	AA	–	A	AAA	–	–	A	–	A
Debt Ratio											
% of GNP	129.4	62.8	43.7	89.5	44.7	36.1	101.4	100.9	77.8	67.8	43.0
Interest expense	11.1	7.6	2.6	11.1	3.6	3.0	8.5	9.7	5.9	8.6	3.4
Current revenues											
% of GNP	45.4	57.5	43.7	33.7	38.9	48.9	39.4	42.6	51.4	37.4	38.8

^a Adjustment: effective interest rate changed to current long-term rate as shown in Figure 2.

^b Includes drachma devaluation effects on foreign borrowing costs.

Sources: European Commission, Salomon Brothers estimates.

Scenario II: Single European Market plus EMU (Table 8)

Participation in Stage Three will eliminate currency spreads completely, but credit spreads should remain, or become, significant. The hypothetical calculations in Table 7 assume that the entire debt is financed at the new rate. In practice, there will be a lengthy and variable period as old debt matures and rolls over at the new rate. This process will be accelerated with floating rate debt.

If Ecu bond yields remain unchanged at perhaps 9 per cent for the top rated, AAA country then, by analogy with the utility industry, AA bonds would yield perhaps 9.1 per cent, A about 9.3 per cent and BBB perhaps 9.6 per cent. Unrated bonds could well yield 10 per cent or more – as demonstrated by the 10.25 per cent coupon for the recent issue by Greece. These interest rates are used instead of the effective rates, shown in Table 4, to calculate income gearing. Not surprisingly, the biggest gainers from this transition are the high-yield countries – Portugal would move into the ‘investment grade’ category.

*Scenario III: Single European Market plus EMU and price stability
(Table 9)*

The ultimate goal of the process of monetary integration in Europe is price stability. If the proposed arrangements do not realistically seem likely to achieve that goal, then several countries – most notably Germany – may legitimately doubt the value of the process. Given the high income gearing of the Community countries, the impact of achieving price stability could have a powerful influence on public finances – if savers really believe it can be sustained.

What long-term interest rate would be associated with this achievement? With open capital flows and a firm commitment to price stability, Germany saw ten-year government bond yields fall to 5.5 per cent in late 1986. This probably marks the nearest prototype for the best outcome for the EC. Other countries, the UK for instance, have recorded lower yields, but these were achieved when exchange controls prevented savers from diversifying their portfolios efficiently. If the EC's commitment to price stability proved fully credible in the long run, it is possible that bond yields, for the best-rated governments, could be 5 per cent after incorporating a substantial reduction in real interest rates. With a greatly-reduced perception of risk, BBB bond yields could well be only 5.5 per cent. Therefore, income gearing in this scenario is calculated using these yields, rather than the effective rates.

Table 8. Scenario II – Single European market plus EMU

	Belg.	Denmark	Germany	Greece	Spain	France	Ire.	Italy	Neth.	Port.	UK
Adjusted income gearing	28%	10%	9%	26%	11%	7%	26%	24%	14%	17%	14%
New 'rating'	-	A	AA	-	A	AAA	-	-	A	BBB	A

Table 9. Scenario III – Single European market plus EMU and price stability

IMPLICATIONS

Naturally, the results of such a fall in interest rates are dramatic. This optimum scenario would lead to all Member States' bonds being rated as 'investment grade'. The narrowing of credit spreads associated with such a process should satisfy any requirement for a 'considerable degree of alignment' of capital market rates.

These calculations, though hypothetical, illustrate some of the pressures at work on the Member States and highlight their rationale for participating in EMU. For France and Germany, the political arguments probably dominate all other issues. However, for Portugal and, especially, Greece, the financial benefits that flow from Scenario III are very substantial. If price stability is achieved, the impact would be so massive that these countries should be among the most powerful advocates of a rapid move to the Ecu as the single currency, combined with a highly independent central bank.

Many countries have long since recognised the inflexibility imposed by high levels of debt, and a number of adjustment programmes were implemented in the second half of the 1980s. However, the financial benefits of such a programme generally appear long after the political costs have been incurred. Stabilising the debt/GNP ratio only leaves the income gearing ratio at the mercy of cyclical swings in monetary policy – albeit with lags reflecting the maturity structure of the debt portfolio. Significant reductions in income gearing require a reduction in the debt/GNP ratio – unless the general level of interest rates changes.

The UK has reduced its debt ratio by nearly 30 per cent since the 1984 peak. Denmark has cut indebtedness by 20 per cent and income gearing by even more. Among the more indebted countries, Ireland has already reduced its debt burden by 14 per cent and income gearing by 11 per cent. Belgium has now checked its debt rise. A modest decline has begun already, but, despite these efforts, debt servicing has continued to edge up. The vigour, and potential benefits, of these adjustment programmes will be carefully considered by market participants and should be reflected in any 'rating' process.

The debate on the conditions that are necessary for Stage Three – the irrevocable locking of exchange rates – has focused on the need for convergence, in particular, of inflation rates and public finance. The reason for specifying sound public finance is the fear that the no bail-out rule might have to be invoked – perhaps creating a political crisis that could wreck the Community.

A remarkable benefit of price stability is that its probable impact on interest rates will reduce debt servicing costs sufficiently to remove any fear of a public debt crisis. Accumulated debt levels and new deficits could vary

widely, yet low income gearing would reduce any risk of the operation of the no bail-out-rule, removing the fear of political crises.

The fiscal bonus from lower debt service costs ideally would be utilised to pay off maturing debt, but the highly-taxed countries – Denmark, Netherlands, and France – might well use some of the savings to move their tax burden towards the Community average. Nonetheless, mutual surveillance procedures should undoubtedly encourage a permanent shift to lower fiscal deficits.

Price stability may not, by itself, solve all fiscal problems. If the budget deficit – after allowing for lower interest charges, exceeds real GNP growth, then the debt ratio will continue to rise. If scenario III had occurred in 1990, then only Belgium, Greece, and Italy would have been stable and other countries' ratios would have declined significantly. A further minor adjustment would have stabilised Belgium's indebtedness and, in reality, this was achieved. Italy would have required a substantial reduction in its budget deficit to achieve stability. If Greece had met the very ambitious targets specified in the adjustment programme agreed in February 1991 then it would have had the most rapidly declining debt ratio in the Community. If debt levels continue to rise, in the long run, Member States could find that any tightening in Community monetary policy would push their bonds outside the bounds of eligibility for EC financial institutions. If the benefits of a once-in-a-generation bonus – such as the move to price stability – were squandered, then the next generation might inherit an unbearably penal debt burden.

APPENDIX: THE 1975 NEW YORK DEBT CITY CRISIS⁶

This section analyses one of the incidents often cited as an example of the failure of market discipline: New York City's fiscal crisis of 1975. This crisis involved specific factors that seem unlikely to be present in the EC or can readily be avoided by proper structuring of the monetary union of Europe.

The Delors Committee Report specifically refers, in paragraph 30, to the risk that market forces will be too weak and slow or, alternatively, too sudden and disruptive. We believe that a study of this leading example provides valuable lessons on how market discipline can be used as a genuine and simpler alternative to binding budgetary rules.

The Lessons Relevant for EC Monetary Union.

- Probably the most powerful lesson is that a determined administration could circumvent any prudent constitutional arrangements. In this case, the "check" of the superior legislative body – New York State – failed

entirely, because New York State systematically permitted its checks to be avoided by abuses of borrowing powers. Looking at the growth of European 'pork barrel' politics – perhaps exemplified by the EC's Common Agricultural Policy – there can be little confidence that late night, budget cooperation deals would not fall into the same trap. That would be the precise moment when 'vital national interests' were at stake and could easily warrant a threat to leave the union.

- The speed and severity of the crisis, when it ultimately arrived, can be traced directly to the progressive increase in the proportion of short-term debt. This occurred partly because it was easier to avoid the statutory debt limits with short-term debt, but also partly because of the fatal illusion that it was 'cheaper', because of the positive yield curve. This problem underlines the need for stable debt servicing expenditure. Public policy should always favour stability and the avoidance of a liquidity crisis, even at the cost of higher, current interest costs. The nature of the debt portfolio should be disclosed – fully and in a readily accessible and comprehensible form – so that the markets can make a proper judgement.
- As New York City was part of a monetary union, it had no possible escape through printing more money. Therefore, its default could not be along an inflationary route – it had to threaten a formal failure to pay obligations, when due. This move puts its financial system directly at risk, rather than indirectly via the problems of inflation. Although this risk did not crystallise, there would have been even less of a reason for the central authority of the political federation to contemplate the need for a bailout if its financial system had possessed a more widely-diversified portfolio of assets.

New York City's fiscal crisis is particularly instructive, because it happened to the public authority in one of the world's most sophisticated financial markets. Moreover, the higher legislative body was, systematically and publicly, persuaded to override the constitutional checks intended to prevent exactly this type of crisis. The persuasion was not difficult, because that higher body was also in financial difficulties. The EC's binding budgetary rules could well be as vulnerable.

NOTE: The Appendix is published in full in 'The EC's Public Debt Disease: Discipline with Credit Spreads and Cure with Price Stability', Salomon Brothers Inc., May 1991.

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NOTES

1. Excellently described by Makinen and Woodward, in *Public Debt Management: Theory and History*, edited by Dornbusch and Draghi, CEPR 1990.
2. See R. S. Sayers (1976) *The Bank of England, 1891–1944*, Cambridge University Press.
3. See Robin Mitra (1991) *European Pensions*, Salomon Brothers Inc.
4. See Rafael Repullo, *Financing Budget Deficits by Seigniorage and Implicit Taxation: the Cases of Spain and Portugal*, SUERF Colloquium, May 1991.
5. Pretax interest coverage: income from continuing operations, adjusted for nonrecurring items before taxes, plus minority interest, income tax, and interest expense, divided by interest incurred.
6. See *Market Discipline CAN Work in the EC Monetary Union*, Salomon Brothers Inc, November 1989.

XII. Financing budget deficits by seigniorage and implicit taxation: the cases of Spain and Portugal

RAFAEL REPULLO

1. INTRODUCTION

At the beginning of the 1970s, public finances in Spain and Portugal were characterized by balanced budgets and a low level of public indebtedness. This situation changed in the second half of the decade, due not only to the unfavourable macroeconomic conditions associated with the first oil shock, but also to the economic consequences of the change of political regimes. Thus, in the late 1970s and early 1980s, both countries went through similar experiences of increases in government expenditures which were not accompanied by corresponding increases in tax revenues.¹ The resulting budget deficits were financed to a great extent through automatic access to the central banks (at zero or very low interest rates). The monetary authorities of the two countries were then faced with the problem of an increasing monetary base fuelling the existing inflationary pressure.

In this somewhat similar context, the response of the Spanish and Portuguese central banks was, however, very different. At the risk of oversimplifying, one can say that while in Spain reserve and investment requirements were used to freeze the banks' excess liquidity generated by the monetization of the budget deficits, in Portugal a system of credit ceilings was set up to control the growth of credit to firms and households as well as to ensure the cheap financing of the government (by using the resulting excess liquidity of the banking system to place public debt at very favourable interest rates).

Both control mechanisms amount to an implicit tax on financial intermediation,² whose revenue can be added to seigniorage from currency in the hands of the public to obtain the total revenue due to the operation of monetary policy. The purpose of this paper is to evaluate the contribution of both seigniorage and this kind of implicit taxation to the financing of the budget deficits in Spain and Portugal during the 1980s. In order to perform this evaluation, I propose an analytical framework, based on a particular formalization of the government intertemporal budget constraint, that justifies the measures that are computed for the two countries for the period 1980–90.

The paper is organized as follows. Section 2 presents a simple model of the banking sector which is used to derive two sets of comparative static results related to the main policy instruments used by the Spanish and Portuguese central banks in the 1980s. In Section 3, I set up the analytical framework and derive from it (and the results of Section 2) the corresponding measures of seigniorage and implicit taxation for Spain and Portugal, which are then computed in Section 4. Our concluding remarks are contained in Section 5.

2. A SIMPLE MODEL OF THE BANKING SECTOR

Consider a partial equilibrium model of an economy with three types of private economic agents, called consumers, firms, and banks, and three assets, namely bank deposits (D), public debt (B) issued by the government, and currency (H) issued by the central bank. The characteristics of the agents are described as follows:

- (i) Consumers have a deposit demand function $D(i_D, i_B)$, which is assumed to be increasing in the deposit rate i_D and decreasing in the bond rate i_B , and a bond demand function $B(i_D, i_B)$, which is decreasing in i_D and increasing in i_B .³
- (ii) Firms have a loan demand function $L(i_L)$, which is decreasing in the loan rate i_L .
- (iii) Banks are modeled as (local) monopolies setting the deposit rate and the loan rate but taking the bond rate as given. Thus, without loss of generality, we can think of a representative bank which faces the entire deposit demand function $D(i_D, i_B)$ and the entire loan demand function $L(i_L)$ of the economy. The bank is subject to a reserve requirement, so that a fraction ϕ of its deposits has to be held in the form of currency. The balance sheet of the bank is then given by

$$L + BB + R = D + E, \quad (1)$$

where L denotes the volume of loans, BB is the public debt held in its portfolio, $R = \phi D$ is the currency held to comply with the reserve requirement,⁴ D is the volume of deposits, and E represents the bank's own funds.

Given the bond rate i_B , the bank is assumed to choose the deposit rate i_D and the loan rate i_L in order to maximize its profits, which are given by

$$i_L L(i_L) + i_B BB - i_D D(i_D, i_B) - Z,$$

where Z represents operating expenses which are assumed to be fixed. Substi-

tuting BB from the balance sheet identity (1) into this expression, and using the equation $R = \phi D$, yields the following objective function:⁵

$$(i_L - i_B)L(i_L) + [(1 - \phi)i_B - i_D]D(i_D, i_B) + i_B E - Z. \quad (2)$$

Thus, the profits of the representative bank are the sum of four terms. The first is the net revenue from the bank's loans, which is equal to the difference between the loan rate and the bond rate multiplied by the volume of loans. The second is the net revenue from the bank's deposits, which is equal to the difference between the net return on the bond market of the bank's deposits and the deposit rate multiplied by the volume of deposits. The third gives the revenue from the bank's own funds. And the last one, with a negative sign, subtracts operating expenses from the other three terms.

As in the models of Klein (1971) and Monti (1972), the exogeneity of the bond rate i_B brings independence between the bank's deposit and loan rate decisions. Thus, we have the following first-order conditions for, respectively, i_L and i_D :

$$i_L(1 - \sigma_L^{-1}) = i_B, \quad (3)$$

and

$$i_D(1 + \sigma_D^{-1}) = (1 - \phi)i_B, \quad (4)$$

where $\sigma_L = \sigma_L(i_L)$ and $\sigma_D = \sigma_D(i_D, i_B)$ represent, respectively, the elasticity of the demand for loans and the elasticity of the demand for deposits (with respect to i_D). Equations (3) and (4) are just the standard equalities between the marginal revenue on loans $i_L(1 - \sigma_L^{-1})$ and its opportunity cost i_B , and between the marginal cost of deposits $i_D(1 + \sigma_D^{-1})$ and its marginal return $(1 - \phi)i_B$. Assuming that σ_L and σ_D are both constant (with $\sigma_L > 1$) yields

$$i_L = \left[\frac{\sigma_L}{\sigma_L^{-1}} \right] i_B, \quad (5)$$

and

$$i_D = \left[\frac{\sigma_D}{\sigma_D^{-1}} \right] (1 - \phi)i_B, \quad (6)$$

so that equilibrium loan and deposit rates are determined by constant mark-ups applied, respectively, to i_B and $(1 - \phi)i_B$.

The remaining equilibrium equation of the model is that requiring the equality between the total demand for bonds (by the consumers and the bank) and the supply of bonds B net of the ones BC held in the portfolio

of the central bank:

$$B(i_D, i_B) + BB = B - BC.$$

Substituting the bank's demand for bonds BB from the balance sheet identity (1) into this expression, and using the equation $R = \phi D$, yields the following equilibrium condition

$$B(i_D, i_B) + (1 - \phi)D(i_D, i_B) - L(i_L) - E = B - BC. \quad (7)$$

Equations (5)–(7) constitute a system of three equations which can be solved for the equilibrium values of the deposit rate i_D , the bond rate i_B , and the loan rate i_L .

One can now use this model to analyze the effects on the equilibrium interest rates of (i) an increase in the reserve requirement ϕ , and (ii) the establishment of a credit ceiling \bar{L} for the bank. As explained above, these measures roughly correspond to the decisions of the monetary authorities of Spain and Portugal, respectively, when they tried to counteract the consequences of the monetization of their budget deficits.

As for the first of these changes, we can totally differentiate the system (5)–(7) to get the following results:⁶

$$\frac{di_D}{d\phi} \geq 0, \quad \frac{di_B}{d\phi} > 0 \quad \text{and} \quad \frac{di_L}{d\phi} > 0.$$

Thus, an increase in the reserve requirement raises both the bond rate and the loan rate, while the effect on the deposit rate is ambiguous. These results can be explained as follows. The increase in ϕ reduces the amount of funds that banks want to invest in the bond market. This reduction in the demand for bonds increases the bond rate and so, by Equation (5), the loan rate also goes up. From Equation (6), it is also clear that although the increase in ϕ tends to reduce the deposit rate, the increase in the bond rate works in the opposite direction, so that the final result is uncertain.

The introduction of a credit ceiling \bar{L} which is binding clearly increases the loan rate (since in the new equilibrium we must have $L(i_L) = \bar{L}$). As for the effect on the bond rate and the deposit rate, we can totally differentiate Equations (6) and (7) to get

$$\frac{di_D}{d\bar{L}} > 0 \quad \text{and} \quad \frac{di_B}{d\bar{L}} > 0.$$

Thus, the credit ceiling, while having the desired effect on the loan rate, reduces both the deposit rate and the bond rate (since $d\bar{L} < 0$). These results can be easily explained. The credit ceiling increases the amount of funds that banks can invest only in the bond market. This increase in the demand for

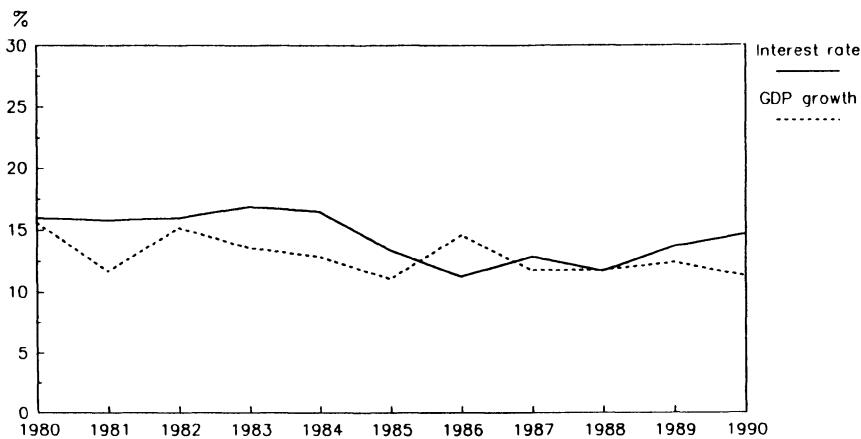


Figure 1. Interest rate of public debt and rate of growth of nominal GDP in Spain.

bonds reduces the bond rate and so, by Equation (6), the deposit rate also goes down.

Another feature of the Portuguese regulation of banking in the 1980s, namely minimum interest rates for certain types of deposits, can also be introduced into the model. Assuming that a credit ceiling \bar{L} is in operation, the effect on the bond rate of establishing a (binding) minimum deposit rate \bar{i}_D can be derived by totally differentiating Equation (7) which gives

$$\frac{di_B}{d\bar{i}_D} < 0.$$

Thus, the minimum deposit rate further reduces the bond rate, since it increases the volume of deposits, and so the bank's demand for bonds.

To summarize, in this section I have set up a simple model of the banking sector, and I have used it to derive two sets of comparative static results related to the main policy instruments used, respectively, by the Spanish and Portuguese central banks in the 1980s, namely reserve requirements and credit ceilings. While the direction of the effect on loan interest rates of both instruments is identical, we have shown that they have opposite effects on the interest rates of the public debt. In particular, bond rates increase with the level of the reserve requirement, while the tightening of credit ceilings reduces them. This seems to correspond to what has actually happened in Spain and Portugal during the last decade. Figures 1 and 2 depict the behaviour of a representative interest rate of (domestic) public debt for these two countries, together with the corresponding rates of growth of nominal GDP. While in Spain, interest rates have been on average more than two percentage

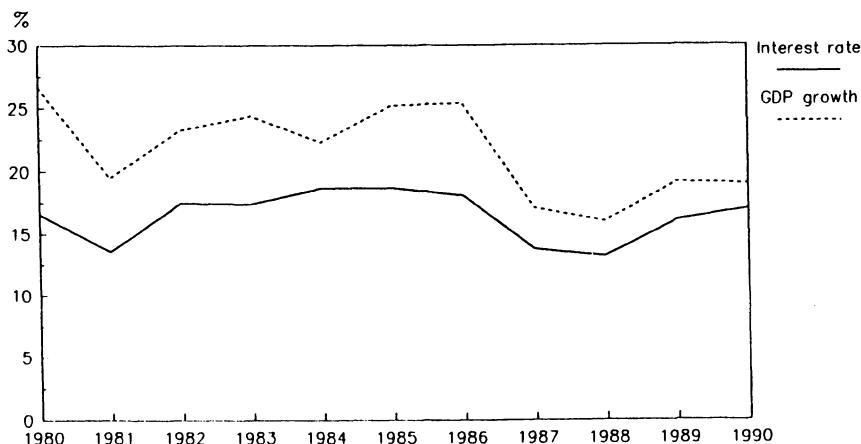


Figure 2. Interest rate of (domestic) public debt and rate of growth of nominal GDP in Portugal.

points higher than the rate of growth of nominal GDP, in Portugal they have been more than five percentage points lower.

The implications of these results for the measuring of seigniorage and implicit taxation on financial intermediation in both countries will be taken up in the following section.

3. MEASURING SEIGNIORAGE AND IMPLICIT TAXATION: ANALYTICAL FRAMEWORK

In order to evaluate the contribution of reserve requirements and credit ceilings to the financing of the public sector it is convenient to establish an analytical framework that provides a rationale for the measures of implicit tax revenues which are going to be used. For this, let us consider an economy in which the government has in each period $t = 1, 2, \dots$ a volume of nominal expenditures G_t (excluding interest payments on the public debt) which finances with (explicit) tax revenues T_t , profits from the central bank in the previous period Π_{t-1} , and (net) debt issues $B_t - B_{t-1}$, so that we have the government budget identity

$$G_t + i_{t-1}B_{t-1} = T_t + \Pi_{t-1} + B_t - B_{t-1}, \quad (8)$$

where i_{t-1} is the nominal interest rate of the public debt in period $t-1$ (which is paid in period t).

The balance sheet of the central bank in period t is given by

$$F_t + BC_t = H_t,$$

where F_t denotes the assets other than public debt held by the central bank, BC_t is the public debt in the portfolio of the central bank, and H_t is the monetary base (high-powered money) in period t . Assuming that i_t is the interest rate earned on all the assets held by the central bank,⁷ and that no interest is paid on bank reserves,⁸ we get the following expression for the profits of the central bank in period t :

$$\Pi_t = i_t(F_t + BC_t) = i_t H_t.$$

Lagging this expression one period, substituting it into (8), and rearranging yields the following expression for the government budget identity:

$$G_t - T_t - i_{t-1}H_{t-1} = B_t - (1 + i_{t-1})B_{t-1}. \quad (9)$$

In order to move from this accounting identity to a budget constraint that limits the deficit spending of the government, we introduce the following assumptions

$$0 \leq \frac{B_t}{\text{GDP}_t} \leq \bar{b}, \quad \text{for all } t, \quad (\text{A1})$$

and

$$\lim_{t \rightarrow \infty} d_t \text{GDP}_t = 0, \quad (\text{A2})$$

where GDP_t denotes the economy's (nominal) gross domestic product in period t , and d_t is the discount factor $[(1 + i_0) \dots (1 + i_{t-1})]^{-1}$. Assumption (A1) states that the government is constrained to keep the dynamic behaviour of the debt to GDP ratio bounded. (A2), on the other hand, requires that nominal GDP does not grow asymptotically at a rate greater than (or equal to) the nominal interest rate.⁹

Multiplying the budget identity (9) by the discount factor d_t , adding up the identities corresponding to $t = 1, 2, \dots$, and making use of (A1) and (A2) yields the following intertemporal budget constraint:¹⁰

$$\sum_{t=1}^{\infty} d_t [G_t - T_t - i_{t-1}H_{t-1}] + B_0 = 0. \quad (10)$$

This expression provides a rationale for the standard opportunity cost definition of seigniorage: $i_{t-1}H_{t-1}$ is the interest saving in period t due to the placing by the central bank in period $t-1$ of an amount H_{t-1} of zero-interest liabilities. Thus, Equation (10) states that the present value of future primary surpluses excluding the profits of the central bank ($T_t - G_t$) plus seigniorage revenues ($i_{t-1}H_{t-1}$), has to equal the initial value of the public debt B_0 .

However the opportunity cost definition of seigniorage is not the one most commonly used in the literature. The alternative cash flow definition (usually

computed as the change in reserve money, line 14 in the IMF's *International Financial Statistics*) can be justified by first rewriting the budget identity (9) as follows

$$G_t - T_t - (H_t - H_{t-1}) = (B_t - H_t) - (1 + i_{t-1})(B_{t-1} - H_{t-1}).$$

Multiplying this expression by the discount factor d_t , adding up the identities corresponding to $t = 1, 2, \dots$, and making use of (A1), (A2), and

$$0 \leq \frac{H_t}{\text{GDP}_t} \leq \bar{h}, \quad \text{for all } t, \tag{A3}$$

yields the following intertemporal budget constraint

$$\sum_{t=1}^{\infty} d_t[G_t - T_t - (H_t - H_{t-1})] + B_0 - H_0 = 0.$$

Here the term $H_t - H_{t-1}$ gives the revenue from money creation (seigniorage) in period t .

Although the two definitions are, under (A2) and (A3), intertemporally equivalent,¹¹ it is clear that in any period t they will in general differ, sometimes quite substantially. Which one should be chosen depends on the particular case under study. In what follows, I will use the opportunity cost definition. There are two reasons for this choice. First, for countries in which the monetary base experiences large changes (as in Spain and Portugal during the 1980s), the use of the cash flow definition may yield negative tax revenues for certain periods and extremely large positive revenues for others (see, e.g., Gros (1980), Table 1). For this reason, it seems better to use an alternative measure that does not produce such large swings in the seigniorage to GDP ratio. Secondly, in this paper I want to evaluate the implicit revenues due to the existence of investment requirements (in Spain) and credit ceilings (in Portugal), and it can be argued that the measure used for this purpose should be consistent with the one used for seigniorage revenues. As we shall see below, this is the case for the opportunity cost but not for the cash flow definition of seigniorage, and so in what follows I will use the former.

A minor shortcoming of the opportunity cost measure given above ($i_{t-1}H_{t-1}$ for period t) is that it reflects the effects of any change in the monetary base with a lag of one period. This periodification problem can be easily solved by considering an alternative opportunity cost measure which can be derived as follows. First, rewrite the budget identity (9) as

$$G_t - T_t - \frac{i_t H_t}{1 + i_t} = \left[B_t - \frac{i_t H_t}{1 + i_t} \right] - (1 + i_{t-1}) \left[B_{t-1} - \frac{i_{t-1} H_{t-1}}{1 + i_{t-1}} \right].$$

Multiplying this expression by the discount factor d_t , adding up the identities corresponding to $t = 1, 2, \dots$, and making use of (A1), (A2) and (A3), now yields the intertemporal budget constraint

$$\sum_{t=1}^{\infty} d_t \left[G_t - T_t - \frac{i_t H_t}{1+i_t} \right] + B_0 - \frac{i_0 H_0}{1+i_0} = 0. \quad (11)$$

In this expression the term $i_t H_t / (1+i_t)$ provides the desired opportunity cost definition of seigniorage: it is the value in period t of the interest saving in period $t+1$ due to the placing by the central bank in period t of an amount H_t of zero-interest liabilities.¹²

The payment of interest on bank reserves can be readily introduced into this framework by first writing $H_t = C_t + R_t$, where C_t denotes currency in the hands of the public and R_t bank reserves in period t . Then if $i_{R,t-1}$ denotes the nominal interest rate of bank reserves in period $t-1$ (which is paid in period t), it can be seen immediately that the budget identity (9) becomes

$$G_t - T_t - i_{t-1} C_{t-1} - (i_{t-1} - i_{R,t-1}) R_{t-1} = B_t - (1+i_{t-1}) B_{t-1}.$$

From here, and proceeding as before, one obtains the following intertemporal budget constraint:

$$\sum_{t=1}^{\infty} d_t \left[G_t - T_t - \frac{i_t C_t}{1+i_t} - \frac{(i_t - i_{R,t}) R_t}{1+i_t} \right] + B_0 - \frac{i_0 C_0}{1+i_0} - \frac{(i_0 - i_{R,0}) R_0}{1+i_0} = 0.$$

In this expression, the term $i_t C_t / (1+i_t)$ corresponds to the seigniorage in period t from currency in the hands of the public, while the term $(i_t - i_{R,t}) R_t / (1+i_t)$ is the seigniorage in period t from bank reserves remunerated at below-market interest rates. It should be noticed that this second term would be zero if $i_{R,t} = i_t$, that is if bank reserves were remunerated at market interest rates. Conversely, when $i_{R,t} = 0$, the sum of both terms reduces to $i_t H_t / (1+i_t)$, as obtained above.

In addition to paying interest on bank reserves, a second feature of the regulation of banking in Spain since 1984 has been the existence of an investment requirement in a special type of public debt, called *pagarés del Tesoro* (Treasury notes), with a very low interest rate.¹³ To evaluate the implicit tax revenue from an investment requirement of this kind we note that the budget identity (9) now becomes¹⁴

$$G_t - T_t - i_{t-1} H_{t-1} - (i_{t-1} - i_{N,t-1}) N_{t-1} = B_t - (1+i_{t-1}) B_{t-1},$$

where $i_{N,t-1}$ denotes the nominal interest rate of Treasury notes in period $t-1$, and N_{t-1} is the amount of such notes held by the banks in period $t-1$

to comply with the investment requirement. From here, and proceeding as before, one gets the following intertemporal budget constraint

$$\sum_{t=1}^{\infty} d_t \left[G_t - T_t - \frac{i_t H_t}{1+i_t} - \frac{(i_t - i_{N,t}) N_t}{1+i_t} \right] + B_0 - \frac{i_0 H_0}{1+i_0} - \frac{(i_0 - i_{N,0}) N_0}{1+i_0} = 0.$$

In this expression the term $(i_t - i_{N,t}) N_t / (1 + i_t)$ may be defined as the implicit tax revenue in period t from the investment requirement: it is the value in period t of the interest saving by the government in period $t+1$ due to the compulsory placing in the banks in period t of an amount N_t of Treasury notes at the low interest rate $i_{N,t}$. It should be noticed that this term would be zero if $i_{N,t} = i_t$, that is if Treasury notes were remunerated at market interest rates.

To sum up, we have so far obtained the following measure of seigniorage and implicit taxation for the case of Spain:

$$\frac{i_t C_t}{1+i_t} + \frac{(i_t - i_{R,t}) R_t}{1+i_t} + \frac{(i_t - i_{N,t}) N_t}{1+i_t} \quad (12)$$

The first term corresponds to the seigniorage from currency in the hands of the public, the second to the implicit tax revenue from bank reserves, and the third to the implicit tax revenue from the investment requirement in Treasury notes.

As for Portugal, we have seen in the model of the previous section how credit ceilings (and minimum deposit interest rates) reduce the market interest rate of the public debt, thereby contributing to the cheap financing of the public sector. To evaluate the implicit tax revenue which can be attributed to the existence of credit ceilings, we have to distinguish between the observed market interest rate of the public debt, denoted by $i_{M,t}$, and the rate of interest i_t that would prevail without the credit ceilings.¹⁵ The government budget identity is that given by

$$G_t + i_{M,t-1} B_{t-1} = T_t + \prod_{t-1} + B_t - B_{t-1}. \quad (13)$$

Assuming that i_t is the interest rate earned on the assets other than public debt held by the central bank, and that no interest is paid on bank reserves, we have

$$\prod_t = i_t F_t + i_{M,t} B C_t = i_t H_t - (i_t - i_{M,t}) B C_t.$$

Lagging this expression one period, substituting it into (13), and rearranging

yields the following expression for the government budget identity:

$$\begin{aligned} G_t - T_t - i_{t-1}H_{t-1} - (i_{t-1} - i_{M,t-1})(B_{t-1} - BC_{t-1}) \\ = B_t - (1 + i_{t-1})B_{t-1}. \end{aligned}$$

From here, and proceeding as before, one obtains the following intertemporal budget constraint:

$$\begin{aligned} \sum_{t=1}^{\infty} d_t \left[G_t - T_t - \frac{i_t H_t}{1 + i_t} - \frac{(i_t - i_{M,t})(B_t - BC_t)}{1 + i_t} \right] \\ + B_0 - \frac{i_0 H_0}{1 + i_0} - \frac{(i_0 - i_{M,0})(B_0 - BC_0)}{1 + i_0} = 0. \end{aligned} \quad (14)$$

In this expression, the term $(i_t - i_{M,t})(B_t - BC_t)/(1 + i_t)$ may be defined as the implicit tax revenue in period t which derives from the existence of credit ceilings and minimum deposit rates: it is the value in period t of the interest saving by the government in period $t+1$ due to the placing outside the central bank in period t of an amount $B_t - BC_t$ of public debt at the artificially low interest rate $i_{M,t}$. It should be noticed that this term becomes zero when $i_{M,t} = i_t$, that is in the absence of credit ceilings and minimum deposit interest rates.

The measure that we have just obtained is however different from the one proposed by Beleza and Macedo (1988), and used by Macedo (1990) and Torres (1990). Their concept of 'implicit intermediation taxes' is defined as the difference between the average loan rate and the average deposit rate (plus a given intermediation margin m) multiplied by the total volume of loans, that is $(i_L - i_D - m)L$ in the notation of Section 2. This term gives one of the components of the profits of the banking system, which accrued to the government in Portugal, since the system was almost entirely nationalized. However, there are three problems with this approach. First, it certainly does not measure (nor proxy) the interest saving term that we have identified in (14), so that at best we have an additional revenue term corresponding to the supernormal profits of the nationalized banking system (which are partly due to regulation). Second, it should be noticed that this term should already be counted in T_t as property income to the government. Finally, it is the case that although borrowers have faced high interest rates and depositors have received a poor return on their saving, "... bank profitability has been very low or negative" (Borges (1990), p. 312). In fact, according to Branson (1990), the Portuguese banking system was for most of the 1980s effectively bankrupt, with an estimate of non-performing loans anywhere from 3 to 5 times the level of equity. In this situation, the intermediation margin in the expression for the implicit intermediation tax should wipe out

the differential between loan and deposit rates, so that the implicit tax revenue of Beleza and Macedo in fact disappears.

The preceding discussion thus leads to the following measure of seigniorage and implicit taxation for the case of Portugal:

$$\frac{i_t C_t}{1 + i_t} + \frac{(i_t - i_{R,t}) R_t}{1 + i_t} + \frac{(i_t - i_{M,t})(B_t - BC_t)}{1 + i_t}. \quad (15)$$

The first term corresponds to the seigniorage from currency in the hands of the public, the second to the implicit tax revenue from bank reserves, and the third to our measure of the implicit tax revenue from credit ceilings and minimum deposit interest rates.¹⁶

4. MEASURING SEIGNIORAGE AND IMPLICIT TAXATION: EMPIRICAL RESULTS

In this section, I compute, for the period 1980–90, the measures of seigniorage and implicit taxation (12) and (15) that I have proposed, respectively, for Spain and Portugal.

To perform this exercise, I have taken for each year and each country the average values (not end-of-year values) of currency in the hands of the public C_t and bank reserves (including vault cash) R_t . The variable R_t for Spain also includes, for the period 1980–84, the compulsory deposits, and, for 1990, the certificates of deposit issued by the Banco de España, neither of which are officially counted as part of the monetary base. In addition, I have taken for Spain the average value of the treasury notes held by the banking system to comply with the investment requirement N_t , and for Portugal the average value of the domestic public debt outside the Banco de Portugal $M_t = B_t - BC_t - BF_t$, where BF_t denotes the average external public debt in year t .¹⁷

The average interest rate of the public debt i_t is measured for Spain as the rate of return of government bonds with maturities of more than two years (the series depicted in Figure 1). $i_{R,t}$ is the computed average remuneration of bank reserves (taking into account our definition of R_t), and $i_{N,t}$ is the average interest rate of Treasury notes in year t .

For Portugal, the most difficult part is to find a proxy for the rate of interest i_t that would have prevailed without the credit ceilings. The close relationship between public debt interest rates and the rate of growth of nominal GDP shown in Figure 1 for Spain suggests that a reasonable proxy for i_t might be the rate of growth of nominal GDP depicted in Figure 2. As for the average interest rate $i_{M,t}$ of the domestic public debt outside the central bank I have used an estimate provided by the Banco de Portugal (the

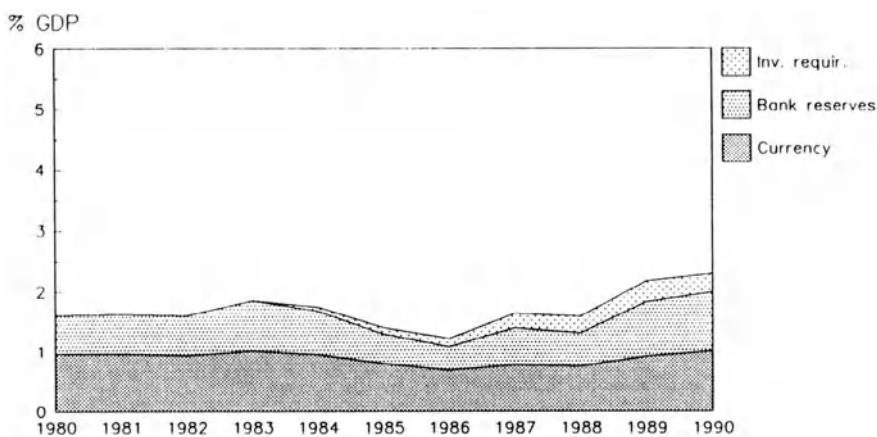


Figure 3. Seigniorage and implicit taxation in Spain (as percentage of GDP).

interest rate series depicted in Figure 2). Finally, the average remuneration of bank reserves $i_{R,t}$, which has been zero except for the last two years, has also been constructed from the data provided by the Banco de Portugal.

The results obtained by evaluating the measures of seigniorage and implicit taxation for Spain and Portugal with these data are depicted in Figures 3 and 4; see also the Appendix. Each of these figures represents first (in dark) the seigniorage from currency in the hands of the public, then adds the implicit tax revenue from bank reserves, and finally the implicit tax revenue from either the investment requirement in Treasury notes (for Spain) or the

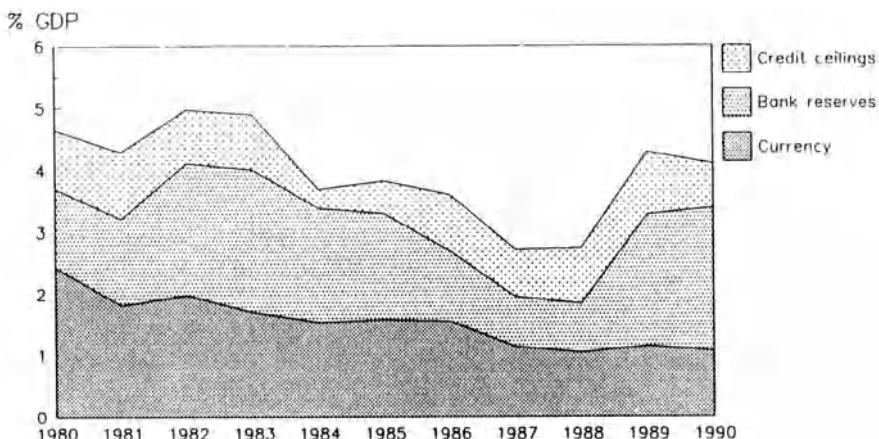


Figure 4. Seigniorage and implicit taxation in Portugal (as percentage of GDP).

Table 1. Explanatory factors of the difference in average seigniorage and implicit taxation for Spain and Portugal, 1980–90

Difference in average seigniorage (%)	Explanatory factors						Resid.
	Δi	$M - N$	$i_M - i_N$	Δi_B	ΔC	ΔR	
2.27	1.65	0.94	-0.89	0.41	0.24	-0.02	-0.06
(100)	(73)	(41)	(-39)	(18)	(11)	(-1)	(-3)

implicit tax revenue from credit ceilings and minimum deposit interest rates (for Portugal), all of these as percentages of each country's GDP.

Figures 3 and 4 show that the contribution of seigniorage and implicit taxation of financial intermediaries to the financing of the budget deficits in Spain and Portugal during the 1980s has been quantitatively very different. While in Spain the average value of this contribution for the decade has been 1.71 per cent of GDP (with a minimum of 1.22 per cent for 1986 and a maximum of 2.30 per cent for 1990), the average value for Portugal has been 3.98 per cent of GDP (with a minimum of 2.72 per cent for 1987 and a maximum of 4.96 per cent for 1982).

In order to identify the main factors that explain these differences one can totally differentiate (12) (or (15)) with respect to its arguments, and evaluate the corresponding partial derivatives at the average values for the two countries of all the variables.¹⁸ The results are summarized in Table 1.

It follows from these results that the single most important factor explaining the difference in the average value of seigniorage and implicit taxation during the 1980s between Spain and Portugal (accounting for 73 per cent of the 2.27 percentage points of difference) is the interest rate differential – specifically the fact that the average interest rate for the decade in Portugal (proxied by the rate of growth of nominal GDP) has been 21.6 per cent compared to 14.4 per cent for Spain.¹⁹ In second place, we have the difference between the base of the implicit tax derived from the existence of credit ceilings in Portugal (the value of M_i) and the base of the tax associated with the investment requirement in Spain (the value of N_i), which accounts for 41 per cent of the difference. However, if we take into account the fact that the average interest rate of the domestic public debt outside the Banco de Portugal has been greater than the average interest rate of the Spanish Treasury notes, the net contribution of this factor becomes negligible (2 per cent = 41 per cent – 39 per cent). Finally, we have the difference in the remuneration of bank reserves, which accounts for 18 per cent of the difference in seigniorage and implicit taxation between Spain and Portugal, and the different levels of currency in the hands of the public, which account for 11 per cent of this difference.

As for the main features of the evolution of the components of seigniorage and implicit taxation in Spain during the 1980s we can mention the following. First, the relative stability of the currency to GDP ratio, which implies that the variations in the seigniorage from currency in the hands of the public are dominated by changes in the level of interest rates. Second, the significant fluctuations in the average remuneration of bank reserves, which compensated (from a tax revenue point of view) the sharp increase of the reserve requirement in 1984. Finally, the relatively minor share of the implicit tax revenue from the investment requirement in Treasury notes.

By contrast, the main features of the evolution of the components of seigniorage and implicit taxation in Portugal are the following. First, the steady decline in the currency to GDP ratio, which reinforces the effect of the fall in the level of interest rates during the decade. Second, the high variability in the reserves to GDP ratio, which dominates the evolution of the implicit tax revenue from bank reserves. Finally, the huge increases in 1987 and 1988 of the amount of domestic public debt outside the Banco de Portugal, which have been compensated (from a tax revenue point of view) by the reduction in the differential between the rate of growth of nominal GDP and the market interest rate of the domestic public debt.

5. CONCLUDING REMARKS

In this paper, I have set out an analytical framework, based on a particular formalization of the government intertemporal budget constraint, that justifies the measures of seigniorage and implicit taxation of financial intermediation for Spain and Portugal that I have computed for the period 1980–90. The results show the significance of this source of revenue for both countries, and very especially for Portugal, with an average value for the decade of 1.71 per cent of GDP for Spain and 3.98 per cent of GDP for Portugal. However, the expected fall in the level of nominal interest rates, which should accompany the reduction in the rate of inflation in the process of convergence towards EMU, and the unification of the European banking market will lead to a substantial reduction in these revenues.

As far as Spain is concerned, most of the required regulatory changes have already been made; in particular, the 1989 reform of the investment requirement (which established its gradual elimination according to a timetable ending in December 1992), and the 1990 reform of the reserve requirement (which reduced it from 17 per cent to 5 per cent of eligible liabilities, while freezing the funds released through the compulsory subscription of low-yield certificates of deposit redeemable under a set timetable²⁰). As for Portugal, the transition from a system of monetary control based on credit

ceilings and administered interest rates to a system based on open market operations started in 1989. In the process, reserve requirements have been substantially increased (to 17 per cent from an average of 5.6 per cent). For the medium run, defined by the time of the full liberalization of capital movements, it is clear that reserve requirements should be reduced to the levels existing in other EEC countries.

To give a rough estimate of the revenue losses implied by these regulatory changes, one can take for the medium run a ratio of high-powered money to GDP of around 10 per cent and a nominal interest rate of the public debt of 9 per cent, which yields (assuming that bank reserves are not remunerated) seigniorage revenues of approximately 0.8 percentage points of each country's GDP. The compensating fiscal adjustment required by the corresponding reduction in implicit tax revenues appear to be not too large for Spain but quite substantial for Portugal.

DATA APPENDIX

SPAIN

Year	<i>C</i>	<i>R</i>	<i>N</i>	<i>i</i>	<i>i_R</i>	<i>i_N</i>	<i>SC</i>	<i>SR</i>	<i>SN</i>	<i>S</i>
1980	7.03	5.71		16.0	2.8		0.97	0.65		1.62
1981	7.10	5.82		15.8	2.7		0.97	0.66		1.63
1982	6.85	5.86		16.0	2.7		0.94	0.67		1.62
1983	7.03	6.97		16.9	3.0		1.02	0.84		1.85
1984	6.78	11.45	3.51	16.5	9.2	13.5	0.96	0.72	0.07	1.74
1985	6.79	12.10	6.29	13.4	8.7	11.5	0.80	0.50	0.11	1.41
1986	6.76	11.05	5.41	11.3	7.4	8.5	0.69	0.39	0.14	1.22
1987	6.89	11.84	5.39	12.9	6.9	7.9	0.78	0.62	0.24	1.64
1988	7.15	10.91	5.28	11.7	6.0	5.6	0.75	0.56	0.29	1.60
1989	7.63	11.43	4.74	13.7	4.5	5.5	0.92	0.92	0.34	2.19
1990	7.88	10.56	3.86	14.7	4.2	5.5	1.01	0.98	0.31	2.30
Aver.	7.08	9.43	3.13	14.4	5.3	8.3	0.89	0.68	0.14	1.71

PORUGAL

Year	<i>C</i>	<i>R</i>	<i>N</i>	<i>i</i>	<i>i_R</i>	<i>i_N</i>	<i>SC</i>	<i>SR</i>	<i>SN</i>	<i>S</i>
1980	11.59	6.01	11.84	26.7		16.6	2.44	1.27	0.94	4.65
1981	11.14	8.55	21.50	19.5		13.6	1.82	1.40	1.07	4.28
1982	10.47	11.26	18.32	23.3		17.5	1.98	2.13	0.86	4.96
1983	8.73	11.73	15.68	24.4		17.4	1.71	2.30	0.88	4.89
1984	8.49	10.09	10.14	22.3		18.7	1.55	1.84	0.30	3.69
1985	7.91	8.51	10.17	25.2		18.7	1.59	1.71	0.52	3.82
1986	7.71	5.55	15.68	25.4		18.1	1.56	1.13	0.92	3.61
1987	7.82	5.58	27.54	17.1		13.8	1.14	0.81	0.77	2.72

1988	7.62	5.72	36.97	16.0		13.2	1.05	0.79	0.90	2.74
1989	7.14	13.65	39.12	19.1	0.6	16.1	1.15	2.13	1.00	4.27
1990	6.71	15.06	42.66	19.0	0.7	17.0	1.07	2.32	0.71	4.10
Aver.	8.67	9.25	22.69	21.6	0.1	16.4	1.55	1.62	0.81	3.98

Notes:

C = currency in the hands of the public (% GDP)

R = bank reserves (% GDP)

N = Treasury notes held to comply with the investment requirement (% GDP)

M = domestic public debt outside the Banco de Portugal (% GDP)

$$i = \begin{cases} \text{rate of return of government bonds (for Spain)} \\ \text{rate of growth of nominal GDP (for Portugal)} \end{cases}$$

i_R = average remuneration of bank reserves

i_N = average interest rate of Treasury notes

i_M = average interest rate of domestic debt outside the Banco de Portugal

SC = seigniorage from currency in the hands of the public (% GDP)

SR = seigniorage from bank reserves (% GDP)

SN = implicit tax revenue from investment requirement (% GDP)

SM = implicit tax revenue from credit ceilings (% GDP)

$$S = \begin{cases} SC + SR + SN & \text{(for Spain)} \\ SC + SR + SM & \text{(for Portugal)} \end{cases}$$

ACKNOWLEDGEMENTS

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NOTES

1. To give an idea of the orders of magnitude, (gross) public debt went from 18.9 per cent of GDP in 1980 to 49.3 per cent in 1985 in Spain, and from 37.2 per cent of GDP in 1980 to 69.4 per cent in 1985 in Portugal. This amounts to an increase in the debt to GDP ratio of around 6 percentage points per annum.
2. The idea that a reserve requirement remunerated at a zero (or below-market) interest rate is a form of taxation dates back to Black (1970) and Fama (1980). More recently, Romer (1985) has shown that, under perfect competition, a reserve requirement is equivalent to a combination of a tax on deposit interest rates and an open market operation. No similar result is, however, available for credit ceilings – but see Section 3 below.
3. Consumers should also have a currency demand function which would be decreasing in both the deposit rate and the bond rate. However, as we shall see below, this is not needed for the equilibrium analysis of the model.
4. Since this is a model without uncertainty, there is no reason for the bank to hold any excess reserves.
5. To simplify the presentation we ignore the constraint $BB \geq 0$.

6. Assuming that $(1 - \phi)D_1 + B_1 > 0$ and $(1 - \phi)D_2 + B_2 > 0$, that is that the own-rate effects are greater than the absolute value of the cross-rate effects.
7. If the interest rate on F_t were below i_t , then an additional expenditure term related to the costs of managing the exchange rate would appear in the government intertemporal budget constraint. On the other hand, if the interest rate on BC_t were below i_t (e.g. because of the borrowing from the central bank at below-market interest rates), the lower interest payments on the public debt would be *exactly* offset by the reduction in the profits of the central bank, so that no additional term would appear in the government budget constraint.
8. This assumption will be relaxed below.
9. Although (A2) is usually assumed in the literature (see, e.g., Barro (1979) or Blanchard (1990)), there is no solid empirical justification for it. As noted by Blanchard and Weil (1991, p. 1), "in all major OECD countries, the average realized rate of return on government debt over the last 20 years has been smaller than the growth rate". If we were to drop (A2) a 'growth factor' would appear in the government intertemporal budget constraint, but this would not make any difference for the measures of implicit taxation proposed below.
10. Notice that (A1) and (A2) are used to show that $\lim_{t \rightarrow \infty} d_t B_t = 0$, which is the standard sustainability condition requiring that the public debt does not grow asymptotically at a rate greater than the nominal interest rate; see, e.g., Barro (1989).
11. In the sense that

$$\sum_{t=1}^{\infty} d_t i_{t-1} H_{t-1} = \sum_{t=1}^{\infty} d_t (H_t - H_{t-1}) + H_0.$$

12. The difference in the initial debt terms in (10) and (11) is easy to explain: in (10) the interest saving due to the placing of H_0 is imputed to period 1, so that the initial debt is just B_0 , while in (11) the value in period 0 of this interest saving is subtracted from B_0 .
13. In addition to the investment requirement in Treasury notes, Spanish banks have had until the reform of 1987 very substantial investment requirements in certain kinds of low yield assets (in order to promote exports, investment, employment, and so forth). In this paper, however, I will restrict attention to the investment requirement in Treasury notes, which was set up to help financing the budget deficit.
14. To simplify this expression I ignore the payment of interest on bank reserves.
15. Obviously, i_t is not observable. In the following section we discuss what might be a reasonable proxy for it.
16. It should be noted that this measure leaves out an additional term which arises from the central bank sales of public debt, under repurchase agreements, in the interbank securities market. The interest rates corresponding to these operations "... have remained far below the would-be leading rates" (Torres (1990, p. 235)). However, I do not have the data required to compute this term, which might have had some importance during the period 1985–88.
17. The reason for excluding the external public debt is that its interest rate is not distorted by domestic regulation.
18. Thus, the contribution of the different levels of currency in the hands of the public is given by $[i/(1+i)] \Delta C$, and so forth.
19. This difference can in turn be justified in terms of the inflation differential between the two countries: the average rate of inflation (measured by the GDP deflator) has been 18.4 per cent for Portugal and 9.9 per cent for Spain.
20. See Repullo (1990) for a discussion of the reform of the reserve requirement.

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XIII. Note on UK experience with a budget surplus and implications for financial markets

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At the outset, please note that I wish to address myself to the implications of UK experience with a budget surplus (as in the financial years 1987/88, 1988/90) for financial *markets* in the UK – *not* its financial system.

The emergence of a budget surplus was preceded by an increasing degree of discipline in controlling government expenditure, but there were also a number of other factors. In the earlier years – and, indeed, later, too – there was an *increase* in government expenditure (even it was argued by Ministers in real terms), but in the earlier years it could at least be said that the constraints that were applied were such that expenditure grew less rapidly than would otherwise have been the case. In the 1980s, too, once the recession of 1980/81 was out of the way, there was growth in the economy – rising to well over 4 per cent in 1987 and 1988 – and a relatively low rate of inflation. With a higher level of activity and lower unemployment, there was a significant increase in Gross Domestic Product (GDP) and – even at existing rates of tax – a higher level of tax receipts – both from personal income tax and from corporation tax. In addition, there were the receipts from the privatisation programme, whereby wholly or partly-owned state enterprises were floated off to the public (and institutions) on the stock exchange; there were also council house sales. It was soon discovered that the Public Sector Borrowing Requirement (or PSBR) – based on a target set by the government – was likely to undershoot the mark – there was a combination of buoyant tax revenues and low Treasury borrowing.¹ A surplus began to develop in government finances and borrowing became negligible.² Then came a net repayment of government debt of £340 million in February 1987. By April 1987, the level of public borrowing was the lowest since 1972/73.³ For 1986/87, the PSBR was £3.3 billion, less than half the original projection of £7.1 billion. This was largely due to the quite extraordinary buoyancy of tax revenues. For 1987/88, borrowing remained subdued – privatisation receipts also helped to reduce PSBR. Indeed, there was a budget surplus in the financial year 1987/88 of £3.6 billion (for the first time since 1969/70) and a repayment of debt of £3.5 billion. Again, in 1988/89, there was a budget surplus of £14.5 billion and a repayment of debt of £14.3

billion. For 10 years the government had applied the screw to public spending, but by October 1989 a gradual weakening of the government's fiscal position was becoming apparent, with a budget surplus for 1989/90 – at £7.9 billion – only half the size budgeted for. By 1990/91 – excluding privatisation receipts – there was approximate balance.

At the same time as net repayments of debt were being made, and because there was little need to borrow, there was a running down of the Treasury bill issue, which almost atrophied. Thus, by August 1988, during a period of budget surplus it was down to £100 million per week for 91-day bills and (with a 5-week interruption in September/October 1988) this continued until May 1989, when it was raised first to £300 million and then to £500 million; this obtained until November 1989, after which it varied (usually) from £300 million to £500 million until September 1990, reducing thereafter to £250 million per week⁴. Meanwhile, 182-day Treasury bills (with occasional misses) were £100 million per week from May 1989 to October 1989, raised then to £200 million per week. Clearly, even during the 'dark days' of budget surpluses, the authorities had felt it desirable to maintain a Treasury bill issue because of its utility as a money market instrument (e.g. as an ingredient, or part of the mix, together with local authority bills, when taking out a shortage, or for sale in the money markets when 'mopping up' a cash surplus).

Latterly, the government suffered a deteriorating fiscal position. The developing deficit was due to a combination of factors – the clear necessity to spend more money on the social services (including health) and education, poll tax relief (which came to be described as a 'black hole') and later unemployment benefit; then there was the advent of recession (recognised as such by September/October 1990, but increasing in severity thereafter) – this meant lower incomes and lower profits, not infrequently losses, and therefore lower income tax and corporation tax receipts, with higher expenditure on unemployment benefit (as above); there was also after August 1990 – and especially after January 1991 – the heavy extra defence costs of the Gulf crisis and war (offset to some extent by reimbursements from allies); privatisation continued, but subject at times to certain delays.

Initially, the financing of the deficit was to be met by borrowing. Indeed, even prior to new issues of gilt-edged securities, the government during the summer of 1990 had resumed making direct sales of gilts to the market – since May 1990, it was estimated (by Greenwell Montagu) that the Bank of England may have quietly dribbled out £1 billion into the market.⁵ In January 1991, the first conventional gilts issue⁶ since August 1988 was made – £500 million of 10 per cent conversion stock 1996 (with a further sum of £200 million of the stock reserved for the National Debt Commissioners). This issue was subject to tender at a minimum price of £97.75 per cent. Then at the beginning of February, three tranches (not subject to formal tender)

totalling a further £500 million were announced – £200 million 9^{3/4} per cent Exchequer Stock 1998, £150 million 9 per cent Conversion Stock 2000, and £150 million 9^{1/2} per cent Conversion Stock 2004. The significance of this was that (a) there was more stock for the market to trade – a drought that had lasted for 28 months had been broken; and (b) it assisted the Bank of England – as an ‘insider trader’ – to manage the market.⁷ It was estimated that there would be further new gilts issues in 1991/92 of £12 billion, of which £6 billion would be needed to redeem existing gilts.⁸ These expectations were strengthened when another new stock – again of £500 million – carrying a rate of 10 per cent at a price of around 99 15/16 and maturing in 2001 was announced.⁹

From what has been outlined above, it is clear that there had been some drying up of money market instruments as a result – over a period – of greatly reduced issues of Treasury bills, as also of shorter-dated gilts. Fortunately, in the UK, and for some time now, the Bank of England has tended to place its emphasis in money market operations on eligible bank bills. Nonetheless, Treasury bills are the chosen medium when ‘mopping up’ and, at all times, can be useful when establishing the desirable mix (e.g. of maturities) when taking out a shortage.

Possibly more important in analysing the impact of budget surpluses on financial markets is what happened in the market for gilt-edged.¹⁰ In addition to net repayment of debt by the government, Bank of England purchases of government stocks were disproportionately weighted towards purchases of long-dated stocks.¹¹ In the result, the average maturity of the government’s debt continued to shorten and the gilts market to contract. Furthermore, following ‘Big Bang’ in October 1986, which resulted in major structural changes in the gilts market,¹² it was found that there were too many gilt-edged market-makers attempting to make a living, given the intense competition, and in the course of the next few years, the number dropped by one-third – from 27 to 19 (there was a further withdrawal in 1991); inter-dealer brokers (which had fallen from 4 to 2) were restored to 3 (in November 1990). The capital of the gilt-edged market-makers fell from £595 million in October 1986 to £395 million by 1990.¹³ Operating losses from October 1986 to end-1989 were £202 million. Profits returned to the market in 1990 – £40 million for the year – with turnover of £4 billion a day.¹⁴ Activity was expected to revive further as the government resumed heavy borrowing and the market was now thought to have attained a degree of stability. Moreover, according to the Bank of England, “the absence of any withdrawals from the gilt market should not be taken to indicate that there has been any reduction in competition among the remaining firms or that they have lowered the quality of the market-making service provided to investors”.¹⁵ Hence, after some years of difficulty due to curbs on government expenditure

and budget surpluses resulting in a cutback in borrowing, the gilts market seems again to be in a relatively healthy state with some guarantee of an adequate supply of new issues and an appropriate number of strongly capitalised dealers to take advantage of it.

Nor is the experience of the UK during its years of budget surplus by any means unique. For both Japan and Australia a similar story could be told. Thus, because of the Japanese government's policy of favouring a budget surplus, it is disinclined to issue Treasury bills in large amounts and resort to Finance bills for open market operations is limited so long as the Ministry of Finance insists on their issue at below market rates. Hence, there has been a shortage of paper on the basis of which to conduct such operations. To overcome this difficulty, the Bank of Japan has more recently resorted to transactions based on Negotiable Certificates of Deposit and commercial paper. There is no market in domestic bankers' acceptances in Japan. Moreover – and despite their name – limitations on the negotiability of NCDs makes them less than ideal as an instrument for open market operations and, despite its varying quality, BOJ has favoured greater use of commercial paper for this purpose. Again, in Australia, as a result of large Federal government budget surpluses, the supply of Commonwealth government securities has begun to be eroded. Since the Federal government had no need to borrow domestically (it had also paid off some external debt), there was a drying up of new bond auctions. In addition to which, in December 1989, there was a reverse bond tender, i.e. the buying back of domestic government bonds. There were no more reverse bond tenders, but there was considerable further consolidation of the stock of Treasury bonds through operations of the Reserve Bank. Consolidation continued in 1991.

The Reserve Bank also put in a lot of work on possible changes to its operating methods. There was an increasing resort to repurchase agreements (Repos). This enabled the market to trade in long-term bonds without requiring the buyers of bonds under Repo to assume the capital risks (which are large for long-term securities) associated with changes in yields. Nevertheless, despite the resort to Repos, there was a danger – if large fiscal surpluses were maintained over the long term – that by the mid-1990s the supply of bonds might become extremely limited. Because of this, both the Federal government and the Reserve Bank explored the possibility of dealing in private sector securities, even to issue central bank paper, as a basis of open market operations. Debentures, promissory notes (P-notes),¹⁶ and certificates of deposit (CDs) were considered. Such instruments had an advantage over movements of deposits with the central bank, since they could be traded in secondary markets.¹⁷ In the result, because of the impact of recession, the Australian government cut its budget surplus forecast for 1990/91 from A\$8.1 billion to A\$1.7 billion. The revision meant the PSBR was likely to

be around A\$7 billion for the financial year to the end of June, compared with a budget forecast of zero. Beginning in April 1991, the government was also forced back to the bond market for the first time since July 1989. It was thought that it would probably raise up to A\$3.5 billion in 1991 and A\$5 billion the following year. Mr. Paul Keating, the Federal Treasurer, further stated that Federal government debt would remain steady over the two-year period. Previously, he had forecast a repayment.¹⁸

NOTES

1. See *Financial Times* and *Independent* 20/1/87.
2. *Financial Times* 18/2/87 and 18/3/87.
3. *Financial Times* 18/4/87.
4. With the odd amount of £181 million for June 16, 1989.
5. See *Independent* 19/1/91.
6. An indexed gilt was sold in October 1988.
7. See *Independent* and *Daily Telegraph* for 19/1/91.
8. *Financial Times* 19/1/91.
9. See *Financial Times* 16/2/91.
10. For a more detailed discussion, see 'The gilt-edged market: developments in 1990', Bank of England *Quarterly Bulletin*, February 1991, pp. 49–52.
11. See J. S. G. Wilson, *The London Money Markets*, SUERF 1989, p. 56; also Chart 1 in Bank of England *Quarterly Bulletin*, February 1991, p. 49.
12. See Wilson, *The London Money Markets*, pp. 41ff.
13. Bank of England *Quarterly Bulletin*, February 1991, Table B, p. 50.
14. According to the Bank of England, the 6 largest market-makers in gilt-edged have over 60 per cent of the business in terms of gilts turnover. See *ibid.*, Chart 5, p. 51.
15. *Ibid.*, p. 50.
16. Similar to commercial paper in other countries. See J. S. G. Wilson, 'The Australian money market', *Banca Nazionale del Lavoro Quarterly Review*, June 1990, pp. 200–1.
17. See *ibid.*, p. 212. In this context, see also M. J. Phillips, 'A central banking triptych', *Reserve Bank of Australia Bulletin*, October 1989, and R. Rankin, 'Some recent developments in Australian money and government securities markets', being a paper presented to the Melbourne Money and Finance Conference, Ballarat, 24–25 November, 1989.
18. See *Financial Times* 23/2/91.

Part D

**International Resource Transfers and the
Respective Roles of Governments and
Private Capital Flows**

XIV. Labour mobility, fiscal solidarity and the exchange rate regime: a parable of European union and cohesion

JORGE BRAGA DE MACEDO*

INTRODUCTION

In spite of an apparent coincidence between relatively lower income per head and greater distance from Brussels, the European Economic Community has become a pole of attraction worldwide. Its 12 Member States are preparing Political, Economic and Monetary Union (PEMU) at the same time as other European nations wish to have ever-closer links with the Community (EC). From Austria, Sweden, and other partners in the European Free Trade Association (EFTA) to Turkey; from the former German Democratic Republic to other ex-Soviet satellites in Eastern Europe and to Albania, there are more than 12 European countries wishing to join the Community sooner or later.

The single market programme, to be completed by 1993, is gaining added momentum from the drive towards a single currency while the negotiation of a European Economic Space (EC and EFTA) and the end of the Cold War raise the prospect of further enlargements, perhaps doubling the number of Member States. The coordination by the EC of assistance to Eastern Europe, cooperation with the Soviet Union, and a number of initiatives aimed at helping the countries worst hit by the Gulf crisis, show the successive if not simultaneous pursuit of EC deepening and widening.

A search for greater Community operability is felt in the twin Intergovernmental Conferences (IGC), which started at the end of the Italian Presidency of the Council of Ministers and is supposed to close with the Dutch Presidency. This is not surprising in light of the acceleration registered two years ago with the Spanish Presidency, and maintained by France and Ireland. Will such acceleration make it easier or harder for poorer Community members to catch up? This is the issue of economic and social cohesion. While cohesion is seen by Portugal as decisive for the stability and, hence, the durability of PEMU, the parable told here is not specific to

* The views expressed here are the author's own.

Portugal, but applies to all catching-up countries inside and outside the Community.

The basic point is that acceleration will only facilitate cohesion in poor economies if there is a change in economic regime. In Spain and Portugal, such change began with accession in 1986 but it must be still consolidated. Aside from structural adjustment, Portugal requires a substantial reduction in inflation. In Greece, however, the change in regime has hardly begun, 10 years after accession.

It is of course possible to disregard economic and social cohesion in the drive for PEMU and to consider that it is a sufficient condition for the success of European integration if that integration guarantees a democratic political system in Greece, Portugal or Spain. Such a view, which is commonly held in countries seeking accession, makes it harder to change the economic regime when such a change is required for a catching-up country to benefit from PEMU. Even if joining the European Community could act as a bulwark against dictatorship, it would clearly be unable to offer any insurance against poverty.

If the Government cannot bring about the structural changes that are needed in order to narrow the gap between the joining poorer economy and those of the more prosperous European countries, then integration with them cannot guarantee anything whatsoever. What is worse, PEMU could lead to a situation of divergence in which traditional exports and transfers from abroad are used to finance public sector deficits, thus squandering Community solidarity and the development aid provided through it. This argument applies to any of the divergent countries that still need to catch up and is therefore receiving transfers from the Community.

After the 1988 reform, Community solidarity involves transfers of resources which could build up to as much as 3 per cent of gross domestic product in Ireland and Greece and 4 per cent of GDP in Portugal by 1993. Will this be enough for the three poorest Member States to benefit from PEMU and, consequently, lend their support to the deeper integration called for at the current IGCs, thus enabling the Community to be subsequently widened? The answer depends on the effectiveness of the instruments used for achieving such solidarity, which in the final analysis has to do with the mobility of the factors of production that are labour and capital. The international mobility of financial capital has been achieved across the Community, including, somewhat surprisingly, the poorer members that have not yet fully liberalized capital movements. The converse is true of labour, where mobility across regions or nations is the exception rather than the rule.

To argue that for the benefits actually to accrue there must be a change in economic regime is tantamount to saying that a better mix of labour mobility and fiscal solidarity needs to be achieved. This proposition, which

is borne out by examination of the transition of the Spanish, Greek, and Portuguese economies is also confirmed by the transition efforts made in Eastern Europe.¹

MOBILITY AND SOLIDARITY

Solidarity in an economic regime has to do with the provision of public goods through taxation. The effectiveness of taxation is determined by the mobility of the tax base. This is how an economic regime ends up being largely determined by the mobility of its underlying factors of production. If all goods could be privately owned, there would be no strictly economic argument in favour of fragmentation, along national or other lines: the whole world would be the optimum size for a single market. The same would be true if there were only world-wide public goods. In the first case there would be no taxes, in the second taxes ought to be levied at the world level. As there is no world tax authority, these world-wide public goods could only be provided by a coalition of large governments. Moreover, as private and public goods mix, not even nuclear deterrence and the global warming environment can be seen as pure worldwide public goods.

The larger the distance between a taxpayer and the public good, the easier it is for taxation to be avoided. The threat of a 'free ride' by distant taxpayers leads to smaller communities, where solidarity, expressed through majority vote, limits tax evasion. Between the village and the world, the nation has emerged as a combination of market and state, which attempts to trade off mobility and solidarity. In the village, there is solidarity but the tax base is outwardly mobile. The tax base cannot move out of the world but there are no citizens of the world and no state either. From an economic standpoint, the specificity of nations lies in the combination of personal mobility between social classes and geographical regions and the supply of public goods, whose consumption is determined by the electorate and has to be financed through taxes paid, either in principle or in fact, by the residents of the country in question.

The social cohesion implicit in shared public goods is, all in all, a reflection of the legitimacy of the State's political (and taxation) powers, essential to the concept of a democratic nation. The rules governing the functioning of the market, among which the observance of contracts and individual mobility loom large, are public goods. Since technology and personal preferences vary, new opportunities emerge for exchanging information. In such transactions, public and private goods intermingle, justifying a hierarchy between the levels of government underpinning the market.

In accordance with the principle of subsidiarity (expressed by the Catholic

Church in *Quadragesimo Anno* and embodied in the Treaty of Rome), public goods should be supplied at the level that is closest to their consumers and consistent with economic efficiency – which itself depends either on the state of technology or on individual and collective preferences. Given that the latter are normally expressed by the electorate, it can be seen that economic efficiency cannot be separated from collective choice.²

The nation state is the sum total of persons who have more or less homogeneous preferences and agree, through the electoral process, to consume certain public goods, which requires that they pay the same taxes. The nation tends to be associated with the concept of the State because the latter is the organization which, by exercising political power, levies taxes to finance expenditure – or, in other words, supply public goods. The limit to present taxation is undoubtedly enforcement by the competent court, but this does not necessarily mean that the tax has to be paid by the voter, since it may fall on non-residents or indeed future residents. The limit to future taxation is thus the expectation of social mobility and of the provision of public goods, or in other words, the decision to maintain residence within a particular tax territory.

In a situation where residence is not fixed, if the public goods supplied are not sufficient, taking account of the level of taxation, so that net taxes are too high, some residents will feel poorer and vote to raise gross taxes, while others, who do not wish to consume more public goods, will want net taxes to remain low. When a new equilibrium has been established, there is still a possibility that the rich person will emigrate to a country where gross taxes are lower and the poor person to a country where there is greater provision of public goods. The domain of the stable trade-off between mobility and solidarity may therefore be smaller or larger than the nation, and it will certainly increase if mobility overcomes solidarity as expressed in a majority vote. Now mobility varies a great deal across people and factors of production. If the dichotomy labour/capital is kept, the problem can be illustrated with greater clarity.

The tax on the income from capital – an internationally mobile factor – is seen as a good example of the need for each nation to maintain tax competitiveness, and there are even fears that competition may eliminate altogether the tax on mobile factors, so as to lower the provision of goods at the national level without a compensating increase at community or world levels. The strategic interaction between nations changes when a voting mechanism exists, however because voters know the danger of ‘competitive tax avoidance’ and will try to minimize it by electing governments with less of a propensity to lower taxes. As the argument applies to all countries, the political economy equilibrium will have higher taxes on the mobile factor than the pure economic equilibrium. Strategic interaction is dampened by

the vote. The political system weakens the required changes in the economic environment. Nevertheless, it turns out that a greater mobility on the tax base implies greater economic and political convergence.

Despite the fact that there is a positive relationship between mobility and political and economic convergence, the mobility of persons and capital can result in either convergence or divergence, economic and political. The example of divergence comes from a situation where labour, rather than capital, is taxed and where the political and economic equilibrium can exhibit convergence or divergence between integrating economies. If an economy with high wages in the export sector integrates with an economy where high wages occur in the import competing sector, then inter-sectoral divergence of wage rises as a consequence of integration, and the same is true of taxes.³

The analysis can be refined by recognizing that there is not such a clear difference between labour and capital, as some forms of capital will be incorporated in land and are therefore immobile, whereas skilled labour is highly mobile across nations. More relevant to cohesion is, however, to recognize the social and political implications of labour mobility. In effect, mobility tends to be restricted when human rights are curtailed so that divergence is exacerbated and solidarity must be centralized. This, however, makes solidarity ineffective. In centrally planned economies, centralized fiscal solidarity was based on the forced mobility of the tax base. In centrally planned economies, therefore, when the ban on mobility is defied, the system rapidly collapses, as was the case in the former GDR in the summer and autumn of 1989 and perhaps Albania in 1991. Given the erosion of centralized state solidarity, international assistance – German national in the case of GDR – was called for. The international assistance effort was coordinated by the EC and has already shed new light on the parable of union and cohesion.

DEVELOPMENT ASSISTANCE

The mobility of the vote and of the tax base is thus at the centre of efforts to promote convergence and ensure that development aid is effective. Moves to reduce inequalities in the distribution of wealth between nations are occasionally criticized on the grounds that they merely incite either the donors or the recipients to corruption and do not bring about a real change in the situation as regards the supply of public goods or improve national cohesion in the recipient countries. On the contrary, they can interfere with social mobility, leading to the squandering of foreign aid and the misappropriation of tax revenue for the authorities' own benefit.

For these reasons, aid should not be managed by the governments of the recipient countries, and could instead be regarded as a private good which can be appropriated by entities which do not belong to the state, such as autonomous regions or local communities, on the one hand, and multi-national entities, such as the EC or the World Bank, on the other. The regionalization of Community assistance, initiated by the reform of 1988, is a case in point.

As a rule, foreign aid is subordinate to foreign policy, which is conducted on a government-to-government basis. Foreign aid has thus traditionally been viewed in the same way. Apart from considerations of political expediency, the underlying rationale was that in the developing countries, investment in infrastructures was more socially cost-effective than in other areas, particularly productive activities carried on by the private sector.

Yet the experience accumulated over the last few decades by the World Bank, the Community and major donors in the 24 members of OECD (which are known as the G24) has shown that this is frequently not the case – quite the opposite. Thus, where the State acts wrongly or fails to do what it should, public aid comes to be associated with both inefficiency and injustice. Hence, the desirability of a type of aid which would be arranged with and be channelled directly to individual private agents or groupings of such agents. The conditions under which it would be possible to convince the recipient state to accept this approach involve a certain proximity with the donor. In other words, they require a certain solidarity.

Moreover, one should be aware of the difficulties involved in identifying recipient groups, difficulties which would be compounded by the need for those groups to manage the machinery established. Aid expectations induce rent-seeking behaviour on the part of would-be recipients. As a culture of dependence is induced on aid recipients, the ethical argument for assistance ceases and solidarity is as threatened as it was under central planning. This is why machinery must be set up for monitoring the effectiveness of aid granted. In that case, a certain amount of resistance is to be expected from the recipient administrations, which prefer to receive funds directly and escape scrutiny.⁴

This underscores the important role played by national policies in changing the economic regime and the need for democracy to make the change permanent. The existence of adequate national policies is a necessary condition for economic and social cohesion in a PEMU. Moreover, the problems of identification of recipients and of their absorption capacity without perverse changes in behaviour suggest common supervision rules such as ones introduced in the reform of Community structural funds in 1988. In the meantime, new pressures of convergence and divergence emerged, which suggest the need to adapt Community solidarity even before the 1988 reform has borne fruit.

NOMINAL AND REAL CONVERGENCE

As the preparation for PEMU proceeds, the deepening and widening forces of European integration have become apparent. The acceleration visible in the PEMU project induces additional pressures for convergence and divergence. These additional pressures should not suggest that the poorer regions and countries are already poised to narrow the gap that separates them from the rest of the Community. Automatic convergence is as erroneous a view as automatic divergence. The less prosperous Member States must succeed in boosting per capita disposable income relative to the Community average. But such an increase in spending must be underpinned by a rise in production and this, in turn, requires successful action to enhance competitiveness, promote national savings and attract foreign private investment.

In these circumstances, diverse national economies would reap the benefits of a unified market. Even if that were the case for a time, however, it does not follow that inflation rates would immediately converge to the lowest one. For macroeconomic policy to be consistent with price stability, this stability must be imported through a fixed exchange rate with the strongest currency – which ends up becoming the single currency. Or, to put the problem differently, even if one accepts that the overall costs of EMU will be outweighed by the benefits, one still needs to look into the distribution of those benefits and costs through time and space. The basic question is to determine under what conditions and for which horizon does the mobility of individuals and firms promote cohesion.

Within countries, there is a fixed exchange rate (a single currency), labour mobility and fiscal solidarity, whereas between countries there is less mobility, less solidarity and exchange-rate flexibility. This flexibility is greatest for those countries which have not joined the exchange rate mechanism (Greece, Portugal) or even for those who keep a wide band (Spain, United Kingdom) but potential flexibility does exist until a single currency is introduced across the Community. The current anxiety about Italy, whose currency has been in the exchange rate mechanism from the beginning and in the narrow band since early 1990, illustrates the point. According to some counts, these are the five divergent countries, according to other counts, only Greece, Italy, and Portugal might threaten the process of nominal convergence required for the second phase to begin sometime in the mid-1990s.

NATIONAL AND COMMON POLICIES

According to the traditional theory of international trade, based on the concept of comparative advantage, economic integration leads to an equili-

zation of the prices of goods and factors of production across nations, even though by definition these only move within a nation. Trade is seen as requiring a lasting difference between industries (inter-industry specialization) but not between national incomes. In other words, the more uniform the level of consumption, the more diversified the production structure will become. On this traditional view, it is a uniform prosperity combined with the diversity of Member States which will act as a catalyst for the emergence of more advanced forms of integration. Reaching these advanced forms will, in turn, enable the frontiers of the European economy to be extended still further.

Such optimistic view has, however, always been pitted against a different school of thought which holds that integration will be achieved at the expense of the outlying regions and the greater specialization of production will distort the level and pattern of consumption. On this second view, therefore, diversity would be incompatible with unity, and there would not be much hope for the least-developed countries and regions, since cumulative out-migration would frustrate the catching-up process, thereby discouraging investment at the periphery in favour of investment at the center. The best that might be hoped would be an equalization of living standards achieved through the desertification of the regions and countries further away. While this solution might be acceptable in terms of economic convergence, it would certainly prevent political convergence because it would exacerbate the asymmetry between regions and threaten cohesion.

Whatever the conditions for any particular low-income territory to catch up, the horizon is sufficiently distant for the emergence of a compromise between the optimistic and pessimistic views. The most frequent compromise is to recommend that the different stages on the road to integration should be accompanied by transfers of resources to the regions lagging behind. But such transfers should not aim at buying the immobility of peripheral populations through subsidies to their consumption. Rather, they should have the effect of maintaining cohesion within the Community; that is to maintain competitive production, to prevent cumulative out-migration, and to attract capital. The Treaty of Rome, as amended by the Single European Act, thus states that the Community should aim at reducing the backwardness of the least-favoured regions by implementing common policies (Article 130b). This should not cause one to overlook the fact that the responsibility for the catching-up process rests first and foremost with the Member States themselves. Only they can adopt national policies designed to promote the catching up process.

NATIONAL AND REGIONAL CATCHING-UP

The structural funds and the Community's other financial instruments (including operations financed by the European Investment Bank) are thus

Table 1. Gross national disposable product per capita (as % of the average for the Community of Twelve)

	Spain	Ireland	Portugal	Greece
1960	60 (0)	64 (+3)	40 (+1)	40 (+1)
1970	75 (+1)	62 (+2)	53 (+4)	54 (+2)
1980	73 (0)	65 (+1)	60 (+5)	62 (+4)
1985	72 (0)	62 (-3)	55 (+3)	59 (+2)
1986	72 (0)	60 (-4)	56 (+3)	58 (+2)
1987	74 (0)	62 (-3)	58 (+4)	57 (+3)
1988	75 (0)	61 (-4)	58 (+4)	57 (+3)
1989	77 (+1)	62 (-5)	60 (+5)	57 (+3)
1990	78 (+1)	66 (-3)	62 (+6)	56 (+3)
1991	79 (+2)	66 (-3)	62 (+5)	56 (+3)
Max	82.0	65.8	62.3	62.1
Year	1975	1975	1991	1978

Source: The GDP values (adjusted for purchasing power standards) used in calculating gross national disposable product are taken from the blue pages of *European Economy* No 46. The figures for 1990 and 1991 are Commission forecasts.

Note: Gross national disposable product = GDP + figure in brackets (= net return on factors + current transfers).

intended to support the process. The reform of the structural funds decided in 1988 and the objective of doubling the level of assistance by the time the internal market is completed are responses to the new threats to the cohesion of a Community – which has become increasingly heterogeneous. With German unification and the two most recent enlargements, the new north-eastern, south-eastern, southern, and south-western fringes of the European economy have joined the North Atlantic fringe, represented by Ireland, as low-income areas. The apparent coincidence between the wealth gap and the distance from Brussels politicizes the catching-up process.

Although such politicization makes the comparison of composite indicators such as per capita income particularly risky, some light can be shed on the subject by Table 1, which only deals with Member States rather than regions therein, and shows the relative position of the four poorest from 1960 to the present day. The indicator used is gross national disposable product per capita (adjusted for purchasing power standards) as a percentage of the average for the Community of Twelve. Unlike gross domestic product, which is a more commonly used composite indicator, gross national disposable product excludes resources intended to remunerate foreign factors of production (such as repatriated profits or interest on foreign debt) but includes private and public current transfers from abroad. The difference between the two indicators is given in the table in brackets, again as a percentage of the Community average.⁵ It is justifiable to include Spain. Even though the economy's size is over twice as large as the size of the other three together,

and even though several regions in Spain are rich, one half of the population lives in poor lands.

Regardless of the composite indicator chosen, the table reveals an initial situation in which Ireland and Spain stood at around 60 per cent of the Community average, compared with only 40 per cent in Portugal and Greece. Over the following three decades, the catching-up process favoured the south-western fringe. Spain has settled at around 80 per cent after reaching a peak of 82 per cent in 1975, when the Community average declined as a result of the recession that followed in the wake of the first oil shock. Ireland, on the other hand, has always remained below 70 per cent, having peaked at 66 per cent in 1975 too. Portugal has consistently hovered around 60 per cent, its peak figure being 62 per cent as long ago as 1973, while the figure for Greece, which touched 62 per cent in 1978, shortly before the country joined the Community, has been edging downwards ever since. If the trends were to continue, the position of these countries on the eve of the single market would be as follows: Spain out in front and Greece bringing up the rear, with Ireland and Portugal vying with each other for the middle ground.

On average, Spain is relatively close to the average, that is over three-quarters of Community per capita income. Furthermore, the size of the Spanish economy tends to situate the problem of the spatial effects of monetary union at regional as opposed to national level. This is even more true when the quasi-federal nature of Spain's constitutional organization is acknowledged. In that sense, central, southern, and northwestern Spain ought to be put on a par with southern Italy and eastern Germany, which are, respectively, the earliest and most recent of the Community's peripheral regions.

Table 2 shows the poorest regions in comparison with the poorest countries for the period 1986/88, that is before German unification. For reference, national averages of the countries in Table 1 plus Italy are also recorded as a percentage of the Community average. The comparison shows well the convergence of Portugal and the divergence of Greece. As for regions, Calabria's rank is above Portugal's average, but not Lisbon's, which is the 30th poorest region. Ireland is a single region, and the Community's 25th poorest. It is noteworthy that data for Portugal's Atlantic autonomous regions, Azores and Madeira, are not available.

Given the low average income of Portugal and of the Spanish meseta, the similarity in the Lisbon and North Portugal pattern is remarkable, both with high unemployment and high population density. The contrast with Alentejo and Extremadura, both with high unemployment and low population density, is reminiscent of the coast/hinterland distinction found, for example, in the United States. This distinction reveals the attractiveness of the southwestern and eastern Iberian coast, in contradiction with the apparent importance of

Table 2. The 10 least-developed regions (as percentage of EC average)

Ranking Region	Member State	Average 1986-88		1988 Population density (inhab/km ²)
		GNP (in PPS)	Unemployment rate (%)	
1 Northern Aegean	GR	40	64	35
2 North	P	42	36	117
3 Ipiros	GR	42	50	24
4 Alentejo	P	46	141	15
5 Algarve	P	46	43	47
6 Western Macedonia	GR	47	65	22
7 Crete	GR	49	32	43
8 Extremadura	E	49	289	18
9 Western Greece	GR	50	81	40
10 Centre	P	50	36	53
Other				
(15) P		54	59	78
(15) GR		55	83	53
21 Calabria	I	59	259	99
25 Ireland	IRL	65	187	35
28 Mainland Greece	GR	67	71	25
30 Lisbon and Tagus Valley	P	70	85	201
(35)E		74	200	53
(118) I		104	118	132
129 Balearic Island	E	109	118	93
171 Groningen	NL	183	135	131
Community average		14 730	9	144

Sources: GDP: cf. Table 1. Other variables: Commission of the European Communities, *Fourth Periodic Report on the Regions of the Community*, 1991.

N.B.: There are 174 NUTS Level 2 regions, but no figures for the French overseas departments or the Portuguese Autonomous Communities. This reduces the figure to 171. The ranking for P, GR, E and I (shown in brackets) is not taken into account.

With the exception of Lisbon, the Norte region and Ireland, the regions listed make up less than 1% of the total population of the Community. At country level, Ireland accounts for 1% of the Community's population. Portugal and Greece 3% each, Spain 12% and Italy 18%.

distance from Brussels mentioned at the outset. The relevant distance is economic and it is measured by time rather than space travelled. The intermediate pattern of Algarve (lower unemployment and lower density) is similar to Greek regions: it may well be closer to the low density equilibrium than to the high unemployment equilibrium but it would be difficult to go further with the indicators available in Table 2.

The rough classification of countries and regions by output per head masks the balance that may be struck between optimism and pessimism as to the

impact of integration on cohesion, especially for the three poorest Member States. Rather than one apparent failure and two borderline cases, what we have is a catching-up process punctuated with advances and setbacks. Relative income is flat in Ireland and in decline in Greece. Indeed, only Portugal has matched and is now set to exceed its peak figure of the 1970s.

EFFECTS THROUGH TIME AND SPACE

It is within this analytical framework, as applied to all 12 Member States of the Community, that the Commission's report on the benefits and costs of monetary union concluded that a single European currency was indeed desirable both for the Community as a whole and in terms of the distribution of the net gains over time and space.⁶

The way in which the gains materialize over time and space obviously depends on other conditions – where national policies are prominent. As regards the nature of the transition to monetary union, the report recalls that the main macroeconomic costs arise at the beginning, while the main microeconomic benefits will be felt at the end of the process – so that only a swift changeover to a single currency will avoid speculative attacks on more vulnerable currency parities. Alongside this unfavourable profile over time, the report draws attention to the fact that the spatial distribution of the effects will necessitate a change in economic regime that is all the more comprehensive the more the national structure and system diverge from the Community average.

The implications of the analysis are clear for the three countries which recently joined the Community. Has there been a change of economic regime in Greece, Spain, and Portugal? The answer would appear to be no, yes, and perhaps, in that order. As for Ireland, which has been a member for longer, the answer is also yes, but the turning-point dates from more than 10 years after accession and took the form of a vigorous budgetary consolidation exercise in 1986, 13 years after accession and seven years after pegging the exchange rate. Thus we cannot exclude that the change in economic regime that is necessary in order to bring about the favourable effects of integration will take time.

Ten years after accession, can it be said that the change in regime has occurred in Greece? Probably not, even though the Community loan of February 1991 explicitly calls for such a change. On the other side, the example of the Spanish peseta, which entered the exchange rate mechanism on the eve of the Madrid summit, that is to say three and a half years after accession, shows awareness of the urgency of regime change, even though it may also indicate haste in obtaining political dividends from the measure.

For Portugal, one may have a quasi-change in economic regime, soon to be consolidated by the pre-pegging float initiated in October 1990.

PEMU may therefore unleash forces of disintegration, both in space and over time. Even overlooking the problems that are bound to arise during the transitional phase, it can be argued that, for a small peripheral state, the effects of EMU are likely to follow a U-shaped curve, like that traditionally used to depict equality in income distribution during the economic development process, i.e. a decline at the outset followed by an increase.⁷ It has been demonstrated how increased trade initially depresses relative wage levels in small peripheral countries relative to the centre, before allowing them to catch up. The relative effect of comparative advantages and economies of scale causes the benefits to depend as much on initial conditions as on national and regional policies, and particularly the degree of integration attained.⁸

Once the implications of the U-shaped curve for economic union have been understood, it would appear that monetary union would not change matters much as the forces of cohesion are real and not nominal. It is worth recalling here some of the results of the survey which was conducted among 9000 enterprises in 1989 by the Institut für Wirtschaftsforschung (IFO) into the effects on competitiveness of national and regional factors and which demonstrated how little importance was attached to exchange rates in comparison with the cost of credit and with infrastructure endowment. This clearly echoes the conclusion concerning the hierarchical structure of domestic money markets and the multiplier effect which credit restrictions at the centre exert on the solvency of enterprises at the periphery.

The hierarchical relationship between the central, outward-looking money market and the closed local and regional money markets, on which small and medium-sized enterprises depend, exerts a multiplier effect which, through restrictions on the central money market, works to the detriment of such enterprises. The monopoly power enjoyed by local intermediaries is reflected in an additional premium on the difference between borrowing and lending rates. That premium is intended to compensate for the higher risk but also reflects the likelihood of a local financial collapse.

The financial weakness of a particular region or country can be aggravated by a link with a strong currency, since such a link will not permit a corresponding reduction in the risk premium.⁹ Such reduction is of course the signal of the credibility of the change in regime. It is difficult to measure but is often inferred from the real interest differentials with respect to some numeraire currency. These differentials should not be zero, however, when changes in relative prices are expected, so that covered interest differentials are perhaps a better measure of obstacles to international capital mobility. In this regard, Portugal and Spain's differentials with respect to the dollar

Table 3. Real interest differentials of the escudo against the Deutsch mark (% p.a.)

	$r - r^*$	$f - e$	$e + p^* - p$	$i - i^* - f$
1987	1.3	0.2	-2.9	-1.8
1988	0.6	5.0	-4.4	-0.8
1989	-2.9	5.8	-7.7	-0.9
1990	-3.2	2.2	-5.4	-0.0

Source: Commission of the European Communities.

Note: i (i^*) 3 months interbank rate in Portugal (Germany); p (p^*) consumer price inflation in Portugal (Germany); f , e 3 month forward (spot) rate of escudo/Dmark. $r = i - p$ ($r^* = i^* - p^*$).

fell significantly in 1987, Table 3 shows the same result with respect to the Deutsch mark.¹⁰ The decline in the risk premium is less than it appears, however, because of the sizable implicit intermediation tax which makes lending rates much higher than deposit rates, therefore preserving some local monopoly for financial intermediaries and using them as (implicit) tax collectors. Nevertheless, this implicit tax has also declined in the last few years.¹¹

COHESION FACTORS

How can we identify the factors that will enable us to secure cohesion and, hence, stability in the Community as we move towards EMU? The first question is whether the economic regime has changed sufficiently to allow the catching-up process to take place so that the main condition laid down in Article 130b is met.

Apart from per capita income, which we have already discussed, factors relating to economic distance also matter, and these include not only the number of kilometres but also the travelling time and cost and the ease of communication. This poses the problem not only of physical infrastructures, especially means of communication, but also of social infrastructures, human capital and skills. Actually, training matters both in general terms and in its specific application to the firm. The results of the IFO survey also confirm the infrastructure challenges facing the reformed structural funds and German efforts in connection with unification.

Industrial structure is at the root of the optimistic and pessimistic views referred to earlier. In cases where trade is based on traditional inter-industry specialization, the adjustment costs can be significant. This applies to Greece, which exports goods with a high unskilled-labour content. Intra-industry trade based on economies of scale, which is a feature of the situation in Spain and Ireland, is already less likely to generate high adjustment costs.

The way in which the factors of production respond to economic union will thus depend on the pattern of trade, with greater resistance being expected from national producers where traditional inter-industry trade predominates. It may be that Portugal is closer now to Spain than Greece, although the situation is still unclear. The situation is not clear either in the case of Ireland, whose aggressive commitment to attracting direct foreign investment has created a pattern of development that appears to discriminate against domestic capital, resulting in payments in respect of foreign capital that will amount to over 10 per cent of GDP in 1991.

Financial hierarchy is also liable to affect the costs of adjusting to monetary union. Countries whose financial system is still heavily regulated and whose financial fragility is thus less visible are those more likely to suffer credit restrictions during the transition: Portugal is perhaps closer to Greece than Spain in this respect, while a great deal of diversity is to be expected in the countries' regions – even in the two small economies.

The variable importance of these factors in particular countries and regions clearly demonstrates the role of national policies in the catching-up process. The three fundamental criteria have to do with labour mobility, structural policies and interventions to support the catching-up process, and the role played by exchange rate policy. If high emigration eliminates poverty in a region or country by drawing out people, the political and social base of self-determination vanishes, even though there would be no barrier to investment. Under these conditions, public transfers without a sound macroeconomic and microeconomic basis may lead the least productive workers not to emigrate, inducing shifts in behaviour which would make backwardness cumulative and which would endanger economic and social cohesion. Finally, the seriousness of the problem will depend on the mechanism to accommodate the real appreciation resulting from an inflation differential, once the decision to fix the nominal exchange rate has been taken.¹²

The varying combinations of the three criteria highlight the diversity of situations encountered. High labour mobility coupled with fixed exchange rates necessitates the transfer of greater resources than when coupled with flexible exchange rates. This having been said, the situation of central, southern, and northwestern Spain inspires greater confidence than that of southern Italy, simply because the former has been recognized more recently. Indeed, the combination of the three criteria is the same (high nation-wide labour mobility, substantial transfer of resources, fixed exchange rate). Does the future hold an Extremaduran or Calabrian (respectively, 50 and 60 per cent of Community average as shown in Table 2) fate for eastern Germany?

In the same vein, Ireland displays less marked international labour mobility and receives fewer transfers from outside than a region within Italy, Spain, or Germany, but maintains a fixed exchange rate. Greece and Portugal, for

their part, also have a low degree of international mobility of labour and receive less by way of transfers from the EC than underdeveloped regions in Spain, Italy or Germany receive from their central government and the EC combined. Yet, unlike Ireland, Portugal and Greece have kept a flexible exchange rate. The relative confidence inspired by Ireland and Portugal contrasts with the concern felt about the situation in Greece. Spain argues in the IGC that Community solidarity is not sufficient, given the desired degree of deepening involved. Yet, there is no evidence that the absorption capacity of the three small countries could be greatly increased.

CONCLUSION

In approaching the current IGCs with a mixture of enthusiasm and caution, Portugal is one example of special interest, among the poorer and divergent Member States because it seems to be combining unity with diversity. Whatever its merits in the IGCs, such constructive ambiguity should not, however, characterize the fight of the Portuguese monetary and fiscal authorities against inflation. Fortunately, inflation is no longer favoured by the government which now refrains from collecting hidden taxes through the fall in the purchasing power of the currency. Despite the transitory cost of disinflation, it inevitability warns us against the temptation of believing that the change in regime can be consolidated without nominal convergence. From that standpoint, reducing inflation to a level close to the Community average is a necessary condition for a sustainable catching-up process.¹³

This message is also relevant for the interaction between the issues in the two IGCS but making the catching up process an issue for political union risks backfiring, especially for recipient countries where the regional and federal dimensions are largely absent, such as Greece, Ireland, and Portugal. The parable of union and cohesion suggests instead that the regime change needs to be initiated by strong budgetary adjustment in Greece and consolidated by continued budgetary and monetary restraint in Portugal. In Ireland, nominal convergence was achieved faster but structural adjustment for real convergence has been slower.

The only reason to doubt that the change in regime can be deep enough to achieve both nominal and real convergence is the widespread idea that it takes a long time to acquire the reputation for price stability, whereas it is lost very quickly. In spite of the popularity of this assumption in the theoretical literature, there are limitations to an argument based almost exclusively on the passage of time. Making the limitations of pure time seniority apparent to all by acquiring a good reputation quickly is perhaps the greatest contribution the new Member States can provide to the construction of PEMU.

Indeed, the lesson of the Southern regime change can have profound incentive effects on the path of reform in Central and Eastern Europe, thereby contributing to secure an ever-widening Eastern frontier to the European economy.

NOTES

1. The approach draws on a book which I edited with Christopher Bliss for the Centre for Economic Policy Research, *Unity with Diversity in the European Economy Southern Frontier*, Cambridge University Press, Cambridge, 1990.
2. See Torsten Persson and Guido Tabellini, 'The politics of 1992: fiscal policy and european integration', National Bureau of Economic Research Working Paper No. 3460, October 1990. Also Dieter Helm and Stephen Smith, 'The assessment: economic integration and the role of the European Community', *Oxford Review of Economic Policy* 5(2). See also 'Subsidiarity and economic and monetary union', unpublished document, Directorate General for Economic and Financial Affairs, where the quotation from the 1931 Papal encyclica is reproduced.
3. See Alessandra Casella and Jonathan Feinstein, 'Public goods in trade: on the formation of markets and political jurisdictions', Centre for Economic Policy Research Discussion Paper No. 511, February 1991.
4. See Bliss, 'Adjustment compensation and factor mobility in integrated markets', Chapter 2 of *Unity with Diversity*, and the commentary by Michael Emerson, *ibid*.
5. Per capita gross domestic product in Ireland stood at 64 per cent in 1980, the same level as in 1986, whereas gross national disposable product had fallen from 65 to 60 per cent of the Community average. I am grateful to Sean Berrigan, who is responsible for Ireland in the Directorate for National Economies, for drawing this significant difference to my attention.
6. Published in *European Economy* No. 44, entitled 'One market, one money – an evaluation of the potential benefits and costs of forming an economic and monetary union'. The impact over time and space is described in Chapters 8 and 9, respectively.
7. This traditional theory, developed by Simon Kuznets, has been challenged. See *The State of Development Economics: Program and Perspectives*, edited by Gustav Ravis and T. Paul Schultz, Basil Blackwell, Oxford 1990, Chap. 15.
8. Paul Krugman in Chapter 3 of *Unity with Diversity*.
9. William Branson in Chapter 5 of *Unity with Diversity*.
10. See the chapter on Portugal in *Unity and Diversity*, especially Table 9.16. I am grateful to João Paulo Carvalho, who is responsible for Portugal in the Directorate for National Economies, for the computations underlying Table 3. Comparing these figures with the current interest differential against the dollar we see a specific premium for the Dmark of 1.3 per cent in 1989 and 0.8 per cent in 1988.
11. See the chapter on Portugal in *Unity with Diversity*, especially Table 9.15. The implicit intermediation tax has been calculated by José Fernando Matos of the Ministry of Finance of Portugal, using the international borrowing rate of the public sector as a benchmark. It then drops from 3.1 per cent of GDP in 1984 to zero in 1985 and rises to 1.4 per cent in 1988, with small negative values in 1986 and 1987. This is due to the fact that the domestic interest rate on public debt rose above the foreign rate plus the realized effective depreciation of the exchange rate, which was very small from 1985 to 1987 and rose again in 1988.

- even though the escudo did not greatly depreciate against the Deutsch mark during that year.
12. This question is tackled by Krugman in Chapter 6 of *Unity with Diversity*.
 13. The same conclusion is reached in the report on the latest multilateral surveillance exercise for Portugal, which is available as No. 2 in the new series of *Country Studies*, published by the Commission's Directorate-General for Economic and Financial Affairs. A comprehensive list of the expected effects of monetary union on the 12 national economies is to appear in this series.

XV. International resource transfers and the respective roles of governments and private capital flows: economic and political reforms in Eastern Europe

HELEN B. JUNZ*

Over the past 18 months or so, the economic picture in Europe has undergone a sea change: European integration – ‘1992’ – no longer is an idea to work toward, but a very concrete step toward the creation not only of a European market, but also of a European economy. At the same time, the countries of Central and Eastern Europe have embarked on a historic move toward systemic transformation that will once again make them an integral part of the world economy. However, in the time since the unprecedented decision of these countries to change their economic orientation fundamentally toward guidance by market signals, the stark realities of that decision have become clear. They are the more apparent as the efforts at economic reform break decisively with the past. Previous such attempts generally sought to find ways of cohabitation for what remained essentially different economic systems, including a way to operate within a multilateral trading framework. Today, these countries no longer seek a way to live in a world while retaining their different economic orientation, but rather to adapt themselves to be part of that world and to regenerate linkages that have been stunted during decades of politically determined, inward-looking economic development. In short, they look to political and economic transformation. Thus, the fundamental question no longer is ‘why cannot they be more like us?’ but, now that they have decided to be like us, ‘what is the most efficient, therefore least painful, way of doing so?’. In that context, the question arises of what can be learned from post-war experience and, for that matter, how relevant are such comparisons.

Central and Eastern Europe is looking to be integrated into a world that is very different from that ruling the reintegration efforts of post-World War II Europe and Japan. Today’s world is one that has adopted – on a virtually worldwide basis – a policy orientation based on allowing market signals to allocate resources. Consequently, the prevailing climate is one of deregulation and increasing sectoral and international interlinkages. This is es-

* The views expressed are those of the author and do not necessarily reflect those of the International Monetary Fund.

pecially apparent in financial markets, where domestic deregulation and globalization of capital flows have gone hand in hand. Thus, domestic policies both reflect and guide the utilization of savings globally. This contrasts sharply with the trends that prevailed in the first quarter century after World War II. During that time, the focus was on liberalizing real flows, i.e., the exchange of goods and services, and consequently, on removing payments restrictions on current account transactions and on increasing foreign suppliers' access to domestic markets. Indeed, in reflection of these priorities, the Fund's Articles of Agreement provide for restrictions on capital flows. By the early 1970s, progress in these directions was largely complete; virtually all industrial countries were operating under the obligations of Article VIII of the Fund's Articles of Agreement, i.e., without restrictions on current payments, and successive rounds of trade negotiations under GATT auspices had reduced their average tariff rates to around 5 per cent (although sensitive areas remained protected through tariff peaks and escalation and quantitative restrictions agreed bilaterally).

The relative shift to freeing capital flows emerged in the mid-1970s, partially related to the large waves of capital movements associated with the oil shocks of the 1970s, but given a real foundation with the growing trend toward reducing government intervention in the economy. This move toward internationalization, together with the resulting push to innovation in the financial sector and in the communication system, has made financial market participants into global citizens.

The sharp expansion in the scale of net and gross capital flows among industrial countries, a consequence of the increased participation of foreign individual and institutional investors in major domestic financial markets, has led to much questioning about the resultant efficiency of utilization of world financial resources. Some of this questioning stems from the fact that the scale of *gross capital flows* has dwarfed that of *net flows*. For example, the stock of international loans (net of redepositing by banks) rose from \$175 billion at the end of December 1973 (5 per cent of industrial countries' GNP) to \$2.5 trillion at the end of September 1989 (17 per cent of industrial countries' GNP). Thus, it appears that the expansion of capital flows has been significantly greater than the growth in international trade flows over the same time period. A consequence of this expansion of cross-border banking and securities flows is that effects of unanticipated real sector shocks are transmitted rapidly worldwide. Moreover, markets respond quickly to changed perceptions concerning macroeconomic and financial policies, political stability, and prospective rates of return.

These factors have tended to impact the balance sheets of financial institutions adversely, affecting the composition of international capital flows profoundly, especially with respect to spontaneous, i.e., non-subsidized or

guaranteed, investment. This has had two consequences, essentially mirror images of each other: especially for developing countries, there has been a marked relative shift, both on the demand and the supply side, away from cross-border bank lending – the dominant financing vehicle of the late 1970s – toward greater reliance on non-debt creating capital flows (e.g., direct investment flows) and on long-term borrowing from official creditors. The concerns about access to longer-term investment flows and assurance that external borrowing – as well as the commitment of domestic financial savings – support high quality investment, have focused policy attention on how best to foster a savings and investment climate that will support economic growth worldwide.

This financial sector climate explains in part why the political enthusiasm to support the historic changes in Central and Eastern Europe has not quickly been followed by a large thrust of investment flows into these countries. More specifically, uncertainties about growth perspectives in the western industrialized countries and a negative perception of the creditworthiness of Central and Eastern Europe and the Soviet Union have tended to restrict private sector flows; this was exacerbated by the effects of the Gulf crisis, which affected adversely the region's established trading relationships (including barter arrangements for delivery of petroleum) with the Middle East. Thus, the more difficult external environment was added to the growing realization of the severity of the problems associated with the transformation of command economies to market oriented ones.

Transformation of these economies and their integration into the world's trading structure involves the whole complex of structural adjustment policies, including the need to surface and then to eliminate the subterranean inflation and unemployment, and to reverse the misinvestment accumulated during more than a generation of command economy management. Thus, the problem is how to do away with multiple pricing, direct and cross subsidization, absorption of resources by noneconomic activity, and lack of managerial economic accountability; in short, stripping away the administrative economic cocoon to reveal the butterfly of comparative advantage. A formidable task indeed which raises two related questions:

- (1) what is the best institutional environment in which comparative advantage can be revealed, uneconomic activities weeded out, and policy credibility and public support – the two being essentially mirror images of each other – maintained? and
- (2) at what speed should adjustment take place?

In considering these questions, the economies in process of transformation often have been viewed as a cohesive group, i.e., a bloc, susceptible to a generalized policy prescription. Clearly, this 'bloc mentality' belongs to the past. Each of these countries has different characteristics, e.g., with respect

to resource endowment and to the institutional and political capacity to support and sustain change; these differences impact the structure and possible speed of economic transformation. Even so, some general points apply.

First, any policy reform package must be comprehensive. This is so because the main elements of a market economy are interrelated: for example, successful price reform is not possible if channels for transmission of price signals do not exist or are clogged. This means that wage reform, acceptance of financial responsibility by enterprises and reform of the financial sector must go hand-in-hand with the move to market prices. Experience shows that piecemeal reform, such as tried by Hungary and Poland prior to 1989, does not succeed. In fact, a piecemeal approach carries the seeds of policy reversal within itself; such reversal, in turn, progressively undermines effective policy implementation because each such episode erodes policy credibility and, thereby, increases reaction lags by reform-minded entities, while shortening those of vested interests. Thus, clarity of purpose and predictability of policy action are a *sine qua non* for the success of reform strategies.

Second, it is obvious that comprehensive reforms, particularly when distortions are deeply rooted, cannot be implemented overnight. While too fast a speed could undermine policy support, it also is true that too slow a speed provides fertile ground for counter forces to grow. The need to find the realistically safe and sustainable speed for implementation of reforms, however, must not be confused with the tendency to delay politically and socially difficult actions under the name of 'gradualism'. Thus, the natural uncertainties of the market must not be compounded by uncertainties about policy action; and the pace of implementation must be sufficiently fast to allow an early harvest, but not so fast as to outpace the institutional change without which operational measures cannot have their intended effect.

The need for the reform effort to move forward on a broad front is rooted in the need to generate an investment structure adapted to today's and to future economic facts. But some imperatives of reform are more equal than others. If the reform effort is to succeed, economic accountability at all levels, enterprise management, government and individual, is a must, particularly as sanctity of contracts generally has not been a feature of the command economy. De facto accountability has to be accompanied by the development of a judicial system that governs private sector transactions and provides predictability. These are the preconditions for sound longer-term investment and the generation of investable savings. They are the more urgent as the scarcity of available resources, financial, budgetary and real, leaves virtually no room for mistakes.

Third, reform must be accompanied by trade liberalization to help break down domestic monopolies and to gain the efficiencies from the division of labor across borders. In increasing links to the rest of the world, Central and

Eastern Europe has looked to close involvement with the three international economic organizations – the IMF, the World Bank and the GATT. Most Central and Eastern European countries are GATT members of long standing.¹ But their economic systems did not allow them fully to meet the GATT's requirements on reciprocity, non-discrimination and transparency and, in the absence of market pricing, caused adoption of special safeguards by other members to guard against possible dumping by state-trading organizations. With adoption of a relative price structure that reflects market realities, countries should become fully-functioning members.

This raises a set of problems, but also opportunities, some of which are closely intertwined with the reform process, e.g. how fast can subsidies be dismantled and what are the consequences of shifting from essentially barter to trade in convertible currencies? In this respect, a central question is whether half-way houses provide positive help toward making these economies internally and externally competitive. As long as a significant part of the existing capital stock remains in use some sizeable intra-CMEA trade,² if only in spare parts, will continue to exist. In addition, the existing infrastructure – transport links, ability to off-load and process raw materials, especially oil – also mandates continuation of CMEA trade. Finally, the shift to market pricing will improve the USSR's terms of trade and associated potential financial strains could affect adversely the intended move away from countertrade. This potential has given rise to proposals ranging from a system of regional preferences to a Central European Payments Union (CEPU) among a varying number of ex-CMEA countries (excluding the USSR). This is seen as easing the road to external convertibility and maintaining what are thought to be natural economic links among neighboring countries. However, as the main regional payments problems arise *vis-à-vis* the USSR and the need is to build channels to markets and suppliers outside rather than within a truncated CMEA, the rationale for a CEPU seems not soundly based. Similarly, regional preferences – temporary or otherwise – often proposed on the basis of European post-war experience, do not appear to accord with today's realities. Such preferences, of their nature, involve cross-subsidization and, therefore, tend to support the *status quo*. The rationale for temporary subsidies of this type would be that a large part of the current regional trading linkages would in the end be preserved. As this is by no means a given as demonstrated both by the collapse of intra-CMEA trade and the loss of confidence in the quality of CMEA tradables and the importance of the global rather than the regional markets to the viable enterprises in the region, preferential trading arrangements would not seem to be a useful way station to global integration. In effect, both these approaches might lead to permanent occupation of the halfway house. This in no way means to minimize the financing problems that are likely to arise once normal production levels

are re-established and import demand recovers from its currently depressed levels. However, more direct avenues would seem to provide better solutions.

Developments in 1990 bear this out. The fast integration of East Germany into a unified Federal German Republic, which has cut deeply into CMEA flows, efforts by reforming countries to reorient their trade toward western markets and the sharp falls in domestic output and demand, all have caused intra-CMEA trade to contract. The volume shrinkage in 1990 is estimated at some 20 per cent. And this trend may have accelerated with the formal dissolution of the traditional CMEA (with the shape of a largely administrative successor organization not yet agreed) and the move, in principle, to trading at world market prices and in convertible currencies as of January 1991. In anticipation, a large number of bilateral barter deals were being concluded, both government to government and enterprise to enterprise. However, future trends in intra-CMEA trade are likely to bear little relation to current deals as input needs over the medium-term and legal and managerial decision-making ability of enterprises are uncertain and given the past history of elastic interpretation of contracts.

On the whole, anticipation of changes in the regional trade and payments system has aimed to reduce bilateral imbalances, particularly, but not exclusively, *vis-à-vis* the USSR. This included both exchange rate and administrative measures. The basis for new contracts largely involves cash settlements and supplier credit arrangements, rather than, as earlier anticipated, special clearing arrangements that emphasize regional ties. But, with inter-enterprise relations still embryonic, barter deals may continue to dominate for some time. Even so, the effects of changes in the relative prices of intra-regional trade will put further pressure on the pace of adjustment: obsolescence of whole branches of production will surface more clearly and, consequently, also the need to restructure capital stocks; this, in turn, may complicate the digestibility of adjustment efforts as social pressures, particularly those associated with rising unemployment and inflation, will be exacerbated.

At the same time that old trading relationships disintegrate faster than anticipated, integration into the world trading system remains time-consuming. The 'early harvest' that followed removal of disincentives to market-oriented trade – particularly in agriculture and consumer goods – probably is beginning to run its course; further export growth, consequently, must rely on restructuring of production, including the ability to respond flexibly to emerging and changing demand stimuli.³ This is the more urgent as the events in the Persian Gulf have shrunk some traditional markets and may have accelerated the move to cash settlement at market prices for energy. Although the latter should help rationalize energy use, it may overload the adjustment circuits.

As recent developments show, the region cannot really look to intra-

regional trade to cushion the process of integration of its production structures into the world economy. This makes a durable acceleration of expansion of trade relations with the rest of the world yet more pressing. Therefore, it is not surprising that these countries, with Poland, Hungary, and the Czech and Slovak Federal Republic (CSFR) in the vanguard, are seeking special access to the markets closest to them. Thus, they are in the process of negotiating association agreements with both the EC and EFTA. More broadly, adoption of market pricing and abrogation of state-trading, as noted above, provide the basis for full integration into the GATT. This involves introduction of non-discriminatory and largely bound tariffs at economically justifiable levels and, for other GATT members, abolition of their special safeguard clauses. A rational tariff structure for Central and Eastern Europe obviously requires that relative prices reflect comparative advantage domestically and externally. This goal is undercut by the external trade restraints that exist in many markets as these are an impediment to rational resource allocation, especially important during the transition period.

Equally important, the ability to increase exports in the face of large import-intensive investment requirements is crucial if external viability is not to be compromised by excessive levels of external debt. Central and Eastern Europe has a known comparative advantage in agriculture and in certain soft goods and, once barriers to technological transfers are lowered, will compete in high-tech areas on the basis of a highly educated labor force. These are exactly the trading areas that are rife with structural barriers in the most promising markets in Europe and elsewhere and where head-on competition is likely to engage producers in both developing and industrial countries. This is an additional element in the effort of Central and Eastern European countries to negotiate special agreements with the EC, which in turn has raised fears on the part of current suppliers – EC-associated, such as the Maghreb countries, and non-associated. It surely would be ironic if the Central and Eastern European countries, having recognized that ‘bloc mentality’ leads to misallocation of resources and that globalization is the way of the future, were to be pushed back into thinking defensively and regionally – even if in an expanded way – by the fact that their role model ‘market economies’ are not allowing market principles to work in those areas where their own structural adjustment needs are the greatest.

In the short-run, the ability to switch resources to compete in foreign markets, to restructure and modernize capital stock at home and to meet domestic consumption demand that has become significantly more selective depends both on the breadth and speed with which adjustment effects materialize and on the availability of foreign financing. Unfortunately, the ability to attract foreign private investment flows of any size depends, in turn, on the demonstration that a successful transformation of the economy in question is

already well-rooted. The chosen paths toward transformation differ substantially among countries, although the basic elements remain the same. To some extent these differences are explained by the difference in starting points, to some extent by differences in approach. Thus, the Polish authorities chose a major, broad-based 'shock' approach, Hungary an acceleration of the gradualist approach pursued earlier and the CSFR something in between. In Bulgaria and Romania efforts, largely reflecting the political situation, started later and went through a number of evolutions toward increasingly broad-based adjustment programs.

The difficulties shared in all these efforts perhaps can best be illustrated by distilling some of the experiences that can be gleaned from the most radical transformation of all, that of the former GDR (East Germany). In moving from a command economy to one based on market signals, East Germany acquired overnight, so to speak, a market-directed allocative system by virtue of opening itself to the full competitive force of the West, by dismantling its distortive tax and subsidy system – with only a few socially mandated temporary exceptions – and by removing all barriers to the mobility of resources regarding production, employment and investment decisions. At the same time, East Germany acquired a transparent and predictable institutional setting, including a fully fledged, functioning legal system governing contracts among market participants, access to the strong currency and fiscal positions of West Germany and to a continuous flow of managerial and technological assistance.

In East Germany's economic transition, therefore, two of the major requirements were in place very quickly, i.e., the availability of an institutional infrastructure and the opening of channels for transmission of market signals. The third, however, incentives to capitalize on the entrepreneurial orientation of the population, including administrative support, was lagging. Accordingly, the shake-out effects of correcting long-standing market distortions were both stark and immediate, leading to precipitous falls in output⁴ and large increases in unemployment, with only little of the cushioning that a more flexible infrastructure might have facilitated in shifting resources. This situation was exacerbated by the high level of East-German expectations regarding their ability to attain the wage levels and living standards that obtain in the rest of Germany. In fact, wage increases through 1990 may have brought East-German wage levels to about 60 per cent of those in West Germany, outstripping productivity levels significantly. This, in turn, discourages new investment, particularly the establishment of small and medium-sized enterprises as cost levels are reckoned to represent excessive risks. In addition, despite large scale administrative and financial support, privatization is progressing only slowly. In part, this reflects questions regarding possible property claims by previous owners, but also, and more impor-

tantly, the inability to determine the real value of assets and liabilities and future prospects of enterprises in the process of restructuring. These two factors also help explain some of the hesitations that keep a large number of initially keen foreign interests from being translated into actual investment commitments. A side effect of the lesser-than-expected job creation in East Germany has been continued movement of labor into the western part of Germany, be it to seek permanent residence or as commuters. All this, despite immediate access to West Germany's social safety nets, is giving rise to political and social tensions. With these trends, there is considerable question whether the savings balances, that reflect the basically high propensity to save in East Germany, and that currently are accumulating in German savings institutions, will in fact be employed in the transformation process.

The lessons to be drawn from this experience show first the importance of not allowing production costs to rise for noneconomic reasons. The legacy of shifting resources from profitable activities to support non-profitable ones and the fiction of full employment in the command economies must not cast their shadow over the transformation process. Second, although gradualism as such is to be eschewed, complete opening up to outside competitive forces may need to be accomplished over time – however, as noted above, with the time path set out very clearly. Third, institution building, including the transmission of market signals (price structure, financial system, and enterprise accountability) must go hand in hand with stabilization efforts so as to create a credible climate in which domestic investors can assess risks appropriately. Fourth, administrative priorities need to aim at supporting the initiative of investors seeking to establish small and medium-sized firms. Fifth, privatization efforts need to focus on managerial transformation as well as the spreading of assets among the population. Sixth, perhaps most important, confidence in the financial system and in the predictability of economic policies, particularly tax and financial policies, must be such as to help channel innate high propensities to save into savings in financial assets.

The last point is certainly not the least. The success or otherwise of economic transformation depends on the ability to generate savings in financial assets that are efficiently employed within the economy. This is why in the sequencing of reform measures considerable emphasis is placed on up front reform of the financial sector. In a situation where intermediation traditionally has been run through the State budget, with the State Bank providing mainly a channelling function, where the population's financial savings tended to be unemployable as repressed inflation manifested itself in supply scarcities, and enterprise savings tended to be expropriated by the tax system from time to time, there neither is a tradition of nor are there instruments for saving in financial assets. The task thus is one of building confidence, transparency and predictability in both the financial institutions

and the authorities' financial and tax posture. The difficulties in crafting a commercial banking system and spinning it off unit banking, that essentially was banking only in name, reflect the difficulties of assessing the worth, contingent liabilities and future viability of enterprises and the legal and administrative problems relating to the establishment and exchange of private property. Thus, in most countries that are in the process of restructuring their financial sector, the former unit bank's portfolio has been divided among the new second-tier banks, including the nonperforming assets. Obviously, this division tends to make some of these banks either captives of major customers – burdening their balance sheets further – or creates the presumption that the State will remain involved in the banking sector's business more extensively and longer than its declared intentions. All this does not provide a strong basis for instilling the building of confidence, particularly as individual savers now have a greater range of choice – both in terms of flight into real assets and financial savings across borders. There may well be room for the international community to consider joint incentives to help the building of personal financial assets and their intermediation to quality investment at home. This is the more important as the current emphasis on bringing in foreign capital tends to make the generation and utilization of domestic financial assets, perhaps excessively, a domestic policy question.

NOTES

1. Bulgaria is in process of accession and the USSR became an observer in early 1990.
2. For convenience, continued CMEA-patterned trade is designated as CMEA trade.
3. The rise in relative importance of exports to the West in Central and Eastern Europe's total exports owes more to the shrinkage of intra-CMEA trade rather than an above average acceleration of the growth of exports to the West. Poland was a clear exception in this respect in 1990, but this may have been an 'early harvest' phenomenon.
4. By almost 50 per cent in industrial production between the third quarters of 1989 and 1990.

XVI. German economic and monetary union: impact on private and public capital flow

HANS-PETER FRÖHLICH

INTRODUCTION

Clearly, German economic and monetary unification (GEMU) was the most severe real shock by far to affect either German economy in their post-war history. In terms of economic theory, what happened was the integration of two neighbouring regions with vastly differing factor endowments and productivity levels. Productivity in eastern Germany, for instance, is generally assumed to have been only one-third of the western standard at the time of unification. Given virtually perfect factor mobility between the two parts of the country, persistence of this situation would be unsustainable economically, socially, and politically. Hence, it is imperative for the East to significantly reduce the productivity and income gap relative to the West within no more than a few years.

Capital flows are a crucial element in the adjustment process. At the same time, it is obvious that most of the investment needed for economic recovery in eastern Germany has to be provided by the western part of the country rather than by international investors, although of course these are welcome to join in the reconstruction effort. Due to the size of the flows involved, they will have a profound impact on the German economy – affecting overall business activity as well as capital market developments or government finances.

The consequences will also be felt abroad. From the point of view of partner countries Germany essentially acts like the US in the early 1980s: both the sharp increase in the domestic absorption of capital, and the combination of expansionary fiscal policy and tight monetary policy, are reminiscent of the ‘Reagonomics’ of 10 years ago. The ensuing interest rate and exchange rate effects will be felt most strongly in EC partner countries.

This paper takes a closer look at these issues. It is divided into two parts: the first deals with the implications for domestic capital flows of GEMU, while the second part is devoted to international aspects. Quite deliberately, the paper does not intend to provide a detailed analytical treatment of the subject, but rather offers a somewhat eclectic overview: how does GEMU

affect the size and the direction of capital flows? Which are the important policy choices? What are the implications of alternative courses of action?

The reader should bear in mind that GEMU is virtually without precedent, and that the whole process is still very much in its infancy. So this paper by nature is highly tentative and speculative. It reflects the present state of affairs which may be subject to rapid change.

1. THE GERMAN DIMENSION OF THE PROBLEM

GEMU implies a profound change for virtually all facets of the German economy. The most obvious short-term effect concerns business activity. At present the country is split: the western part is working at full capacity, whereas in the eastern part real GDP is expected to decline by 20 per cent in 1991 after a 13 per cent fall in 1990 (DIW, 1991, p. 255). Most experts hope that the trough of the transition process will be over by early 1992. By then output and, eventually, employment too should start to recover. The intensity and the speed of the economic expansion in eastern Germany will critically depend on capital transfers from the West.

1.1. *The scale of eastern Germany's financing needs*

The quintessential question is: how much new capital does eastern Germany need in the foreseeable future? At the present time it is virtually impossible to answer this question with any degree of accuracy. One may try nonetheless to arrive at some educated guess, at least regarding the orders of magnitude involved – just to get an idea of the scale of the problem.

The present level of GDP in eastern Germany, estimated at approximately DM240 bill. in 1990 (DIW, 1991, p. 255), may serve as a starting point for this kind of back-of-the-envelope calculation. It is widely assumed that during the 1990s eastern Germany can duplicate West Germany's so-called 'economic miracle' of the 1950s. This would imply a doubling of real GDP by the year 2000 or an average annual growth rate of roughly 7 per cent over the 1991–2000 period. Moreover, one may realistically expect gross investment to account, on average, for one-third of total GDP over this same time.¹ Based on these assumptions, accumulated gross investment in eastern Germany would total DM1–1.2 trillion over the 1990s, or slightly more than DM100 billion per annum (all figures in 1990 prices).

Alternatively, the calculation exercise may be based on the capital/output ratio which, in 1989, stood at 5 for the western German economy as a whole. Applying this figure to eastern Germany yields a hypothetical capital stock there of approximately DM2.5 trillion by the end of the decade. By contrast,

the present east German capital stock under realistic assumptions may be estimated to be DM1 to 1.5 trillion. Against the DM2.5 trillion projection for the year 2000 this would require additional gross investment of DM100–150 billion annually over the 1990s.² Note that this result is similar to the one obtained by applying the first method. At the same time, it is basically in line with investment projections obtained elsewhere (e.g., IMF, 1991).

Obviously, not all of this investment will have to be financed by external capital. Most observers assume that one-half to two-thirds of the total capital requirement will be covered by domestic savings in eastern Germany as the recovery gets under way. Consequently, some DM40–60 billion investment annually would have to be provided from the West.

In order to determine the total flow of financial resources to eastern Germany, one must also take account of unilateral transfers from the West. While these transfers can be expected to decline over time, they are certain to assume huge proportions during the transitional period. So a realistic figure for overall capital flows in the foreseeable future may be in the range of DM100–150 billion annually or 4–6 per cent of GDP.

There is a broad consensus that capital transfers of this size can be handled by the financial markets; the sheer order of magnitude does not seem to pose unsolvable problems (e.g., Siebert, 1990, p. 14). The main reason is the state of Germany's external balance. Prior to GEMU West Germany recorded unprecedented capital outflows, reflecting record surpluses in the current account balance. In both 1988 and 1989, for example, net annual capital exports to the rest of the world totaled almost DM130 billion. In principle at least these capital outflows can now be diverted to eastern Germany. Furthermore, GEMU has provided a major stimulus to economic activity in the western part of the country, and in all likelihood will continue to do so in the years ahead. The extra growth will generate additional savings augmenting the pool of financial resources available for eastern Germany.

Financial market participants too seem to share this rather optimistic assessment. Only in the weeks immediately following the fall of the Berlin Wall and the subsequent plans of the Bonn government to establish GEMU did the financial community show any sign of increased uncertainty. Between September 1989 and March 1990, the average yield on bonds outstanding in the German securities market increased by almost two percentage points, up to 9.0 per cent from 7.1 per cent. This reaction, it appears, was related to perceived risks as the precise terms of GEMU were still unknown at the time.

Long-term interest rates have fluctuated around the 9 per cent level for quite a while. More recently they have declined to about $8\frac{1}{2}$ per cent, in line with international interest rate trends. Since inflation is running at $2\frac{1}{2}$ –3 per cent, the real rate of interest is approximately 6 per cent. This is extremely

high, both by German historical standards and by international comparison. It would be a mistake to conclude, however, that GEMU continues to be a major psychological burden for German capital markets. Persistently high interest rates, to a large extent at least, rather seem to reflect a rise of the marginal productivity of capital in united Germany. This is due to new investment opportunities in the East as well as improved business expectations in the West.

1.2. The composition between private and public capital flows

In addition to the overall size of the projected capital flows the composition between private and public transfers is a major issue. To the extent that investment in the east is financed by private capital, GEMU essentially implies an increase in total investment spending. This tends to fuel aggregate demand at a time when the economy is operating at full capacity. Yet potential problems, e.g. with respect to price stability, should be limited by the expansionary effect on production potential of investment. However, if a large fraction, or even the bulk of the financing will have to be provided by official sources, the outlook would seem bleaker. In that case, issues related to a major increase in public debt, such as crowding-out or adverse psychological effects, would come into play.

A look at West Germany in the 1950s may serve as a reference point. At that time the public sector accounted for no more than 10 to 15 per cent of total gross fixed capital formation, of which almost 90 per cent was devoted to construction. Both shares incidentally have been remarkably stable ever since. Therefore, in the long run one may expect to see a similar composition between private and public investment spending in eastern Germany, or, for that matter, between private and public capital flows from West to East. During the transitional period the picture is certain to look quite different though. In the immediate future most notably, public capital flows are going to dominate.

The reason clearly is not a general reluctance of the private sector to invest in the East. To the contrary, various surveys show western German industry is eager to expand into the East. According to a nationwide poll conducted recently by local Chambers of Industry and Commerce, 45 per cent of the companies questioned have definite plans for capital investment in the former GDR in 1990/91 (DIHT, 1990). Another survey, covering more than 2000 companies in the manufacturing industry, found an even higher propensity to invest in the East (Ifo, 1991). Two investment motives seem to dominate: first, establishing a direct presence on the eastern German market; and second, gaining access to the markets of eastern Europe.

Another factor supporting the flow of private capital to eastern Germany

is public subsidies. Western companies may receive funds from a variety of specially designed programs. For example, the federal government currently grants a 12 per cent investment allowance for spending on machinery and equipment destined for use in the East. Similarly, the entire area of the former GDR is eligible for maximum assistance under Germany's system of regional investment promotion, amounting to a 23 per cent grant on investment spending which is subject to taxation though.³

Despite the apparent attractiveness, private investment in the East so far has been slow to get off the ground. A major reason is simply the time it takes to devise and implement specific investment projects. One has to keep in mind after all that GEMU took effect only less than one year ago. In addition, numerous obstacles still impede on a more rapid flow of investment. Among the factors cited most often by potential investors are:⁴

- legal problems, particularly with respect to the acquisition of property;
- difficulties in evaluating existing assets and liabilities of potential joint-venture partners;
- inadequate public infrastructure, e.g. communications and transportation;
- administrative delays and bureaucratic incompetence;
- unsolved problems concerning the cost of environmental clean-up operations.

Additional problems are connected with the working of the Treuhandanstalt, the trustee agency in charge of privatizing some 8000 formerly state-owned enterprises.⁵ However, most of these impediments will be overcome gradually. It seems realistic to assume, therefore, that capital flows to the East will rise sharply in the near future. This expectation is in fact confirmed by recent survey data (Ifo, 1991). Equally important, capital spending has started to shift increasingly from mere sales and distribution outlets to production facilities.

In a long-term perspective, large-scale inflows of external capital are conditional on realistic prospects for a self-sustained growth process in eastern Germany. One must not under-estimate the potential risks involved here. One of them relates to developments in the rest of central and eastern Europe. In case the other former Soviet bloc countries should not succeed in revitalizing their domestic economies, the attractiveness of eastern Germany would clearly deteriorate from an investor point of view.

A potentially much more serious problem is wage developments in eastern Germany. At the end of 1989, eastern wages in nominal terms were about one-third of the western German level. In the meantime, they have risen to about 60 per cent, and are scheduled in key industries to catch up with

western wages by 1994. Thus, wage increases clearly are well ahead of productivity growth.

Admittedly, surveys among potential external investors indicate that wages have never been a major motive to invest in the East, since no-one would realistically expect the eastern part of united Germany to indefinitely act as a low wage region. But this doesn't mean there is no problem. For one thing, the high level of real wages may result in an overly capital intensive structure of investment, leaving labor structurally unemployed. For another, strong real wage pressure makes it much more difficult for existing companies in eastern Germany to adjust to the new market economy situation. In the worst case scenario, eastern Germany may end up as a new Mezzogiorno type of region, unable to provide adequate employment opportunities for its population and therefore indefinitely depending on large-scale public transfers from the West.

While at present such a dismal long-run outlook does not seem very likely, huge public transfers are inevitable in the short and medium-term future. As a matter of fact, official sources currently make up the largest share by far of total capital flows to the East. In 1990, all public transfers combined totaled approximately DM50 billion. The 1991 figure is currently estimated by official sources at DM140 billion (Issing, 1991, p. 5). Note that this would be equivalent to almost two-thirds of eastern German GDP.⁶ Essentially there are four reasons accounting for this staggering amount of public transfers:

- investment in public infrastructure;
- financial liabilities of the East stemming from pre-GEMU times;
- subsidies to private investors;
- social security spending.

Social expenditures at present account for the bulk of government transfers to the eastern part of the country. These transfers too are an inescapable consequence of GEMU: given the high degree of intra-German labor mobility, eastern Germans must be allowed initially to overspend their incomes in order to create a situation which is sustainable over the medium-term.

From a budgetary point of view these transfers imply a heavy burden on the public finances. As a consequence the budget deficit is swelling rapidly. According to present projections the overall fiscal deficit (excluding social security funds) for 1991 will be DM140–150 billion or some 5 per cent of GDP (DIW, 1991, p. 245). This compares to 1.2 per cent in 1989, i.e. the last year prior to GEMU. Unsurprisingly, therefore the state of the public budget has become a major economic policy issue.

1.3. *The public budget: deficit vs. tax financing*

Financing GEMU is an exceptional historical challenge. There is no way to avoid a major departure from the previously protected time path for public expenditure and revenue. More specifically, policy-makers and the public at large are willing to tolerate a substantial increase in government borrowing. So the real question is not whether the deficit should be allowed to go up, but rather by how much it may rise without causing damage to the economy.

Proponents of largely unrestricted government borrowing argue the present situation is a textbook case for deficit financing. For one thing, it is said to be essentially temporary in nature; for another, additional spending in connection with GEMU is alleged to represent an investment promising higher tax returns in the future. This is undoubtedly true as far as public investment for infrastructure or financial assistance to private investors is concerned. In a very broad sense, one may even argue that many kinds of social transfers to eastern Germany are a long-term investment in human capital, or Germany's future for that matter.

The current capital market situation too seems to support a rather lenient view towards large budget deficits. Over the past year availability of credit has not constrained public borrowing. In fact, German banks as well as non-banks apparently were eager to invest liquid funds at prevailing real interest rates (Deutsche Bundesbank, 1990, p. 18). For instance, net sales of government bonds in 1990 were DM86.4 billion, as compared to DM27.5 billion for 1989. Most recently even foreigners have shown renewed interest in German securities after shunning them since the inception of GEMU.

Finally, the pre-GEMU state of the public finances also appears to warrant a temporary deterioration in the years ahead. In 1989, the general government budget, which includes the social security system, was in surplus for the first time since 1973. Similarly, in 1989 net public debt in Germany at 22.1 per cent of GDP was lower than in any other major industrial country except Japan. Thus, fiscally, the country seemed well prepared to take on the cost of GEMU.

On the other hand, however, there are powerful arguments suggesting a more prudent course for fiscal policy. One may doubt, for instance, that the present deficits are truly transitional. Instead they may well prove to be rather sticky over time, as the German Council of Economic Experts convincingly has pointed out (Sachverständigenrat, 1990, pp. 187–9). Moreover, unchecked deficit financing is out of step with aggregate demand developments. Since the economy is operating at full capacity, any additional major fiscal stimulus may put price stability at risk (Deutsche Bundesbank, 1990, p. 8). In either event adverse confidence effects are likely to arise, pushing

up interest rates and depressing the foreign value of the D-Mark, thus potentially creating a vicious circle.

When it comes to closing the budget gap the first priority clearly should be expenditure cuts. A natural candidate would be subsidies, totaling over 5 per cent of GDP. Unfortunately, the government so far has failed to come up with substantive proposals to this effect. When in January of 1991 Bonn officials announced 'spending reductions' of DM35 billion, closer inspection revealed that, in actuality, these largely consisted of higher telephone fees and unemployment insurance contributions. Likewise, there were no determined efforts to close the budget gap by means of privatization of public companies in the West as had been widely suggested.

Instead, the government has chosen to increase taxes. On 1 July, 1991, the gasoline tax will be raised by up to DM0.25 per litre. A 7.5 per cent surcharge on the personal and corporate income tax, which is limited to one year, will also become effective on 1 July. Additionally, the government has indicated it may increase the VAT rate in 1993, up to 16 per cent from 14 per cent. These measures are expected in 1991 and 1992 to yield additional revenues of DM31.7 billion and DM40.4 billion, respectively.

It should be noted that these are quite substantial figures, amounting to over one per cent of GDP. Nonetheless they were hardly sufficient to lower previous deficit projections. Instead they mainly served to cover additional spending requirements which had not been anticipated when the 1991 budget originally was put together earlier this year. So the issue of fiscal consolidation still is very much on top of the economic policy agenda.

2. THE INTERNATIONAL DIMENSION OF THE PROBLEM

The capital flow implications of GEMU are by no means a purely domestic affair. Even before unification, Germany was the largest economy in Europe, accounting for roughly one-quarter of aggregate EC output. What is more, Germany has traditionally been heavily outward-oriented with close international ties both in the goods and capital markets. Financial developments inside Germany thus will be transmitted through a variety of channels to the rest of the world. This holds especially true for Germany's partners in the European Monetary System (EMS).

2.1. *Reversal of the policy pattern of the 1980s*

The working mechanisms of the EMS provide a direct interest rate link among the system's member states. As a matter of fact, interest rates throughout the EMS area tended to rise in the wake of GEMU. Initially,

however, the increase was fairly moderate compared to the situation inside Germany. The reason was D-Mark weakness *vis-à-vis* EMS currencies as international market participants seemed apprehensive for price stability in Germany after initial plans for GEMU were made public.⁷ When, in the second half of 1990, it became evident that GEMU did not create any major inflation problems, confidence in the D-Mark returned. As a consequence, upward pressure on interest rates throughout the EMS area has significantly increased since the fall of 1990.

At the same time, the supply of external financing from German sources has declined. Prior to GEMU Germany used to export capital to neighbouring countries on a large scale, thus enabling them to raise investment above the level of domestic savings. Due to the dramatic increase in Germany's own absorption of capital, future investment there may now be constrained by scarcity of funds.

Thus, there can be no arguing about the financial burden resulting from GEMU for Germany's partner countries; borrowing has become more expensive outside Germany too. It should be noted, however, that the present situation is exactly what had been called for during much of the 1980s. Back then Germany was widely criticized for under-absorption. By refusing to stimulate domestic demand, the argument went, Germany ran record trade and current account surpluses, thus creating an artificially tight balance of payments constraint for neighbouring countries willing to expand at home.

This accusation may well have been justified. What the critics of some years ago often failed to acknowledge, however, was the positive aspect of low absorption in Germany. The trade surpluses were reflected in unprecedented capital exports, providing a sizeable amount of investment funds for the EC partners and thus helping them to keep domestic interest rates low. This was an important supply side contribution to economic growth.

By the same token, the decline of Germany's capital exports in the wake of GEMU and the accompanying upward pressure on foreign interest rates is only one side to the coin. The other side is the expansionary demand stimulus. For once, Germany acts as an international growth locomotive. In 1990, domestic demand in real terms rose by 4.5 per cent as opposed to 3.1 per cent for the EC as a whole. This trend is likely to continue for some time to come (OECD, 1990, p. 109). As a result, Germany today provides a significant boost to world trade: the 1989 record surplus in the current account of DM105 billion was down by one-third in 1990 already. In 1991, the current account is expected to record even a slight deficit (DIW, 1991, p. 246). There has in fact been a DM8.9 billion deficit in the first quarter, which compares to a DM31.3 billion surplus in the same period of 1990.

The reason is surging imports. According to OECD projections German imports will almost double over the 1989–92 period, up to \$444 billion from

\$247.4 billion (OECD, 1990, p. 63). In 1990, for instance, merchandise imports from EC partner countries were up 10.8 per cent in nominal terms while, at the same time, exports actually experienced a small decline. In more recent months the annual rate of increase for imports was even 20 per cent or more. Trading partners thus clearly benefit from surging German absorption in terms of improved net exports and, ultimately, higher growth.

The net impact on the rest of the EC of Germany's increased internal absorption of capital therefore is not easy to determine in advance. The negative supply side effect, i.e. higher interest rates and scarcity of capital, has to be balanced against the positive demand effect, i.e. higher net exports. For Germany's neighbours, the benefits of GEMU may well outweigh the costs. But this is not necessarily so. The EC Commission (1990, p. 171), for example, estimates Community GDP to rise by an additional 0.5 percentage point during the first two years of GEMU. Simulations performed at the IMF (1991, p. 100) at worst indicate a small negative impact on partner countries. Other commentators, however, are less optimistic (e.g., CEPR, 1990).

The ambiguity of the net effect of developments inside Germany on partner countries can be illustrated by focusing on fiscal policy. While foreign governments clearly have a stake in the tax versus deficit financing issue, it is by no means evident how their interests are served best.

2.2. Deficit vs. tax financing: an external perspective

The volume of government borrowing plays a key role in determining the overall capital market repercussions of GEMU throughout Europe. The question of how public transfers to eastern Germany by the Bonn government are financed therefore concerns the whole of the EC. In the final analysis, the issue boils down to this: the higher the share of tax financing in Germany, the less will there be upward pressure on domestic interest rates, and, indirectly, on foreign interest rates too. Conversely, exclusive reliance on deficit financing will tend to further increase the scarcity of capital and drive up real interest rates in Europe. This, in turn, may force a number of European governments to tighten their own fiscal policy in an effort to increase savings. Such a situation obviously would be highly unwelcome in the face of a general slowdown in economic activity as seems imminent today.

Put differently, there is an important distributional element to the budget issue. Tax financing essentially means Germany alone has to bear the budgetary burden associated with GEMU. By contrast, deficit financing shifts part of this burden to the rest of the world, particularly the European partner countries. Against this background it is hardly surprising to find numerous foreign observers severely criticize Germany's heavy reliance on deficit

financing. They strongly recommend a much tighter stance of fiscal policy as currently projected.

Ironically, this puts those critics into an odd alliance. They are in effect taking side with the Bundesbank in its own quarrel with the Bonn government. While in the past the Bundesbank has often aroused foreign criticism because of its priority for monetary stability at the expense of fiscal expansion, its insistence on fiscal discipline in present circumstances is generally regarded abroad as the safest bet against even higher interest rates.

It should be noted, however, that the ultimate impact on trading partners of tighter fiscal policy in Germany largely depends on how this objective is achieved. If the budget gap is reduced by means of spending cuts, the net effect would seem to be unambiguously positive. The verdict is far less clear-cut in the case of a tax increase. More fundamentally, there is reason to question the underlying assumption that a significantly higher share of tax financing is really in the best interest of Germany's neighbour countries. A 50 per cent reduction of the 1991 fiscal deficit, for instance, would require at least DM70 billion in additional tax revenue.

Quite obviously, a tax increase of this size would imply a substantial drag for the economy. Domestic economic growth would be stifled, and so would be Germany's demand for imports. From a general EC perspective this scenario, it appears, can be hardly more attractive than large-scale deficit financing. If Germany is to continue to act as a European growth locomotive, the present economic policy mix must not be fundamentally changed.

Arguably, the various EC partners may have differing views as to the optimum German fiscal policy response. The reason is heterogeneity with respect to their present macro-economic performance. On the one hand there is what may be called the 'Latin-British' group of countries (e.g. France, Italy, Spain, and Britain), characterized in the recent past by declining rates of economic growth. On the other hand there are the D-Mark zone countries (e.g. the Netherlands, Belgium, Denmark, and – outside the EC – Austria and Switzerland), continuing to enjoy fairly robust economic growth. The latter countries seem to draw substantial direct benefits from the boom situation in Germany, the high level of interest rates notwithstanding. By contrast, the Latin-British economies seem to be affected much less by surging German import demand, whereas the interest rate effect is a more pressing problem there. Not surprisingly, most if not all foreign calls on Germany to tighten fiscal policy originate from these latter countries.

2.3. The issue of EMS realignment

Another potential option to reduce the burden of GEMU, from the point of view of EC countries, would be a formal D-Mark revaluation within the

European Monetary System. Such a move has been suggested repeatedly on the basis of two different lines of argument⁸

- Germany faces a strong exogenous increase in aggregate demand which, given present capacity constraints, is larger than it can cope with. Hence it should take what it can comfortably digest, and pass on the rest to its European partners. Due to the asymmetric nature of the demand shock the situation may in fact be considered as a textbook case for an EMS realignment (CEPR, 1990, p. 53).
- the changing pattern of capital flows in Europe has pushed the D-Mark to its upper limit *vis-à-vis* EMS partner currencies, forcing the respective central banks to tighten domestic monetary policy. D-Mark revaluation presumably would remove these intra-EMS tensions, thus providing some scope for interest rate reduction outside Germany (Siebert, 1990, p. 32). At the same time, DM-revaluation would remove upward pressure on EMS currencies *vis-à-vis* third currencies such as the US dollar.

In the light of this reasoning the case for D-Mark revaluation within the EMS looks quite compelling. Still, a note of caution seems appropriate. Empirical evidence indicates nominal exchange rate changes may be far less effective in influencing trade flows than standard textbooks suggest. This is especially true for the modest kind of parity adjustments which in the past have been typical in the EMS context. The main reason would seem to be price effects associated with realignments. The devaluing country is faced with imported inflation, while the revaluing country enjoys increased price stability. These price effects tend to mitigate the nominal exchange rate change, thus leaving real exchange rates largely unaffected.

The alleged interest rate reduction likewise may be elusive. It is evident of course that other things being equal, D-Mark revaluation would imply a higher degree of freedom for central banks elsewhere in Europe. The *ceteris paribus* clause may not hold though. The last comprehensive EMS realignment took place more than four years ago on 12 January 1987. Over time markets have come to expect future parity changes with diminishing likelihood. Widespread confidence in the persistence of the present parity grid, among the EMS core countries at least, has been reflected in lower nominal interest rates for the currencies concerned. In most countries the interest rate differential *vis-à-vis* the D-Mark at present is at a historic low.

Unilateral official D-Mark appreciation within the EMS is likely to change that dramatically. International investors may come to believe that despite numerous official denials in the past, intra-European exchange rates again will be used as a policy instrument. Consequently, they may fear still further revaluations of the D-mark in the future, and, conversely, further devaluations of partner currencies. This adverse confidence effect may thwart official

efforts in weak currency countries to lower interest rates. Nominal interest rates there in fact might have to rise due to higher risk premia (IMF, 1991, p. 107).⁹ An EMS realignment therefore may not be as attractive as it looks at first sight.

Real D-Mark appreciation can alternatively be effected by a positive inflation differential between Germany and its neighbour countries. This in effect is about to happen. Projections for 1991 and 1992 indicate a substantial acceleration of price inflation in Germany, as measured by the GDP deflator, relative to the EC average. In view of the opposite trend of real D-Mark depreciation since the last realignment, there appears to be quite a bit of room for changing relative prices in favour of Germany's trading partners without official exchange rate action.¹⁰ At the same time, freezing nominal exchange rates, and thus stabilizing exchange rate expectations, may be the best strategy for Europe to keep nominal interest rates as low as possible given the present pattern of capital flows in the wake of GEMU.

Finally, there is an important distributional element involved here too. Real D-Mark appreciation caused by inflation differentials implies Germany is the country which primarily has to cope with price pressures resulting from GEMU. Formal D-Mark revaluation within the EMS, by contrast, would shift part of the inflation problem to partner countries while providing Germany with an external element of price stability. EC countries would seem to be well advised to refuse such a deal. The present situation in effect may be a historic opportunity for them to reduce their inflation gap relative to Germany.

CONCLUDING REMARKS

This paper may have raised more questions than it has answered. Given the nature of GEMU this seems hardly surprising, as developments are still in a flux and policy-makers are travelling in essentially uncharted waters. Nonetheless, important policy choices have to be made. One should not overestimate, it seems, the consequences of any particular course of action though. GEMU has been a major real shock for the German economy, or the European economy for that matter. Hence the pattern of capital flows in Europe inevitably is going to change. This is largely irrespective of how the German government decides to react. Fiscal policy, in particular, may serve to choose a particular point along an unpleasant trade-off curve between high real interest rates and a slowdown in economic activity. But it can hardly escape this trade-off.

Past experience may provide some reason for cautious optimism that the European economy can cope with the challenge without major disruptions.

When in the early 1980s, the US started on a large scale to import capital, there was widespread concern about the sustainability of the situation and the consequences for the rest of the world. In retrospect, much of that pessimism turned out to be premature. Barring an unforeseen deterioration in the external environment the same may well be true for today's 'Reagonomics on the Rhine'. This, incidentally, is what econometric modelling exercises currently are suggesting (e.g., IMF, 1991, p. 108).

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NOTES

1. West Germany's maximum ratio of investment relative to GDP in the 1950s was 28 per cent. It would seem realistic to assume this figure to be considerably higher in eastern Germany in the future due to large-scale external investment.
2. The present stock of capital there, according to official pre-GEMU statistics, is said to be DM1.8 trillion. Much of that capital, however, is totally obsolete in a market economy context. Most experts agree that as much as two-thirds of the book value has to be written off. This would put the present figure at DM600 billion. On the other hand, the official capital stock data for eastern Germany do not include housing and infrastructure. Assuming similar proportions as in western Germany, the total stock of capital currently existing in the East thus may be estimated to be twice as large, i.e. DM1.2–1.3 trillion.
3. For a comprehensive survey of public assistance measures see, e.g., Deutsche Bundesbank (1991, pp. 24–6).
4. For an illustrative case study of how companies are often discouraged from investing in eastern Germany, see *Financial Times* of 9 January, 1991.
5. For details, see Schnabel (1990).
6. The size of these transfers is put into perspective when compared to assistance to West Germany under the Marshall Plan: in the 1948–52 period those funds on average amounted to no more than 2 per cent of German GDP.
7. For the first time in years the Bundesbank in July of 1990 was even forced to intervene under EMS rules in support of its own currency.
8. A minority view holds the D-Mark will rather have to depreciate in the long-term. See, e.g., Wyplosz (1991).
9. French officials seem to be well aware of this danger. In recent months they have repeatedly confirmed their earlier position that whatever parity changes may take place in the EMS the French Franc will move in line with the D-Mark.
10. In the worst case scenario, involving persistently large budget deficits, German inflation

rates in fact may rise so high as to shake foreign confidence in the D-Mark, thereby provoking even nominal DM-depreciation.

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XVII. Synergy between public transfers and direct investments in the reconstruction of central Europe

CONRAD REUSS*

The proof of foreign aid is not in the giving, but in the launching of economic growth.

* * *

“... Western governments should quickly prepare and institutionalize a common strategy for helping to democratize and develop the whole post-communist area.

First, the strategy should approach the region's needs as those of a single unit, and treat them as a single systemic problem through the promotion of supranational economic systems.

This would help avoid the growth of political nationalism, which can harm the economic interests of all, and of political tensions in today's period of economic insufficiency.

Second, the region should be helped to help itself. Before seeking economic aid from abroad, Central and East European countries must prove to themselves and others that they are able to mobilize all of their domestic resources as well as the resources that can be organized regionally.” Jan Urban, ‘Eastern Europe – divided it will fail’, *International Herald Tribune*, 23 November 1990.

The outlook for central Europe's reconstruction has deteriorated since July 1990. International public transfers of resources, with a view to inducing an inward flow of private capital, have become more necessary. The efficiency of these transfers will depend on their content, size, and speed. The area is in need of public transfers that will act as catalysts and help create a stimulating and stable structural framework, inspired by a new overall vision of the area's development.

* The views expressed in this paper are those of the author.

This paper will focus on the transfer problem during the transition period. The transition may be divided into three phases on the basis of the trend in production: deterioration, stabilisation, revival. The deterioration and stabilisation phases taken together will extend over 6 to 7 years, perhaps more, between 1989 (the first year with negative growth rates) and the start of "self-sustaining growth based on market principles".¹

The next few years will be difficult because there is no guarantee that enough capital will become available at the right time and where it is most useful. This is the reason why the IMF and the EEC should be ready to intervene if an urgent support operation were to become necessary.

Central Europe is – expressed prosaically – that part of the Continent which is to the east of western Europe. The former GDR no longer belongs to it. It includes three economically more advanced countries close to the West: Poland, Czechoslovakia, and Hungary, but we do not intend to use an exclusive definition. Several other countries are a part of the area or tend towards it: Yugoslavia, Romania, Bulgaria, and even the USSR, in particular its most western republics.

TWO POLICY CONSIDERATIONS

Realism and multilateralism should be the main ingredients of the transition to a market economy.

Realism demands that due account should be taken of the existing situation and of the policy objective to be attained. Attention should be given to the political and social environment where many elements of the former system will remain in place for a long time, even if in a confused way. The reconstruction will be conducted by fragile governments vulnerable to mass reactions and in need of popular support.

In view of the prevailing scarcity of foreign capital, a realistic approach dictates that its use should be subject to a severe screening. Large prestige projects should be ruled out. It would be most useful to prepare and regularly update lists of coherent projects, establishing priorities as at the time of the Marshall Plan.²

Secondly, there is a need for a multilateral approach, looking beyond national borders and involving neighbouring countries. Bilateralism should be rejected as it was in western Europe after the Second World War. The lessons of this experience should be transposed to central and eastern Europe. Poland, Czechoslovakia and Hungary should do their best to develop trade between each other and with the other countries of the area. The opening of the markets and economic co-operation between the countries of the area would be highly beneficial to growth.

PRESENT SITUATION

The present situation is characterised by a great variety of strengths and weaknesses. There are, for instance, firms able to adjust themselves to the market economy and there is no question of closing them down. For other companies, there is no reasonable prospect for survival in the medium or long term, but for the time being they must be maintained in operation in order to limit the hardship linked to the transition, at least if there is a market for their products.

It cannot be accepted as a general proposition that the whole capital stock of the area is worthless. Peter Drucker's prescription: "Junk eastern factories and start over"³ could perhaps be applied in eastern Germany where it is possible to discount a massive flow of investments and transfer payments. Nothing comparable will be forthcoming in central Europe. Notwithstanding the low level and poor quality of the accumulated capital stock, it has the merit of being able to assure a medium income level together with a reasonable amount of employment and also to serve as a basis for the necessary restructuring and the improvement later on.

Stocks and other reserves are often limited. Elsewhere they are absent or near to exhaustion. This is in sharp contrast to accumulated reserves and existing margins for manoeuvring in the West. It would be difficult to imagine two situations more complementary from the standpoint of possible capital transfers to central Europe from the West. The missing link is a structural framework able to generate confidence and to set the process of private capital transfers in motion.

PHASE ONE – DETERIORATION

In this phase, there is a fall in GNP and in industrial production accompanied by other unfavourable developments such as an increase in unemployment, budget deficits, accelerating or rapid inflation, a deterioration in current-account payments and a depreciation of the exchange rate.

Central Europe is today confronted with the risk of a negative resource transfer precisely when the opposite is desirable. It may be feared that efforts resulting in increased net exports together with interest payments on foreign debt coupled with a decrease in private capital inflows will leave these economies more exhausted than before. Indeed, several negative influences have become apparent recently at international level: the Gulf crisis with higher oil prices, the slowdown in economic growth in industrial countries, the contraction in foreign trade between CMEA countries, the serious deterioration of the Soviet economy, and the adoption of world prices and payment

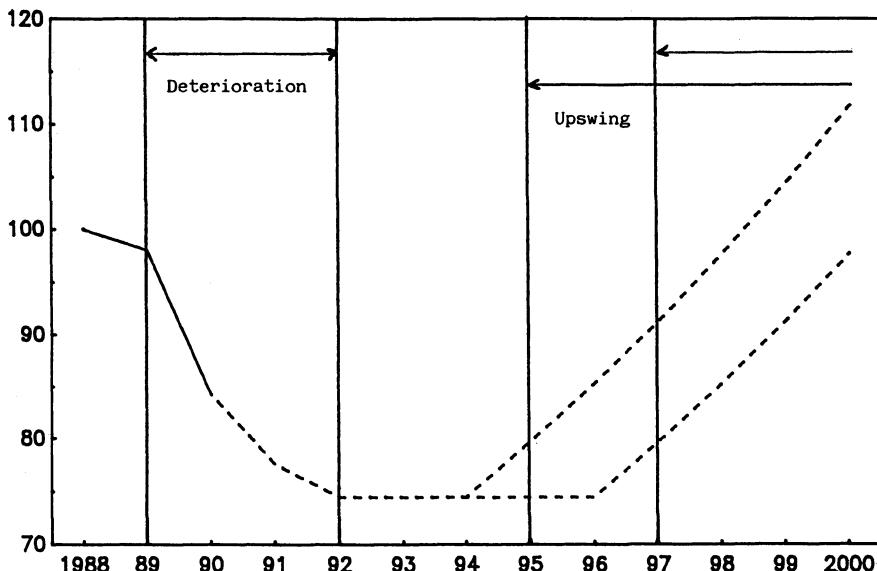


Figure 1. Schematic representation of the transition in central Europe. Real GNP index 1988 = 100.

in convertible currency for crude oil and raw material imports from the USSR since 1 January 1991.

The working of the new democratic institutions will come under strain. There may be popular discontent because of the steady fall in living standards and the strain brought about by the necessary adjustment. The risk of social disputes is increased due to the absence of well organised and representative interest groups, a tradition of peaceful settlement through negotiation, and the institutional framework needed for the emergence of such a tradition. The danger of a return to authoritarian government cannot be completely excluded⁴ (Figure 1).

This phase of declining production will be a critical one because of the problems created by the transition, the weakened confidence, the downward revision of country ratings in the area and the lesser readiness of western firms and investors to invest in the area. This is why the length of this phase should be reduced as much as possible. Public transfers and aid are needed in order to arrest the fall in production, to help to maintain control of the situation and to prepare the following stabilisation phase.

An editorial of *The Banker* has correctly stressed that western aid should come before private capital inflow:

Government-to-government assistance alone – even on the scale of the post-war Marshall Plan – will not be enough to cure East Europe's many ills. But it is crucial up-front – before the international private sector can operate in conditions which are at present so adverse. Foreign aid must precede capital flows and trade in East Europe just as it did in West Europe after World War II.⁵

PHASE TWO – STABILISATION

During the stabilisation phase there will be a halt to the fall in production. Stabilisation is not synonymous with immobilism. Contraction in old production lines will be compensated by growth of new branches, job destruction by job creation. Unemployment growth will be stopped. Supply of goods and services will improve, at least in quality. The trough will have been reached, the situation will start to look better and confidence will return.

On the external side, there will also be a turnaround. Thanks to the better prospects, country ratings will begin to stabilise out, before being revised upward later on. Net private capital inflows and especially foreign direct investments will increase. Even if western co-operation and support structures will still be needed, the need for massive public transfers will diminish. The haemorrhage due to real resource transfers abroad will come to an end and will be followed by a net inward flow.

If there is an imperative need of public aid in the deterioration phase, it will become less pressing in the following stabilisation phase as its place is progressively taken over by private capital inflows. The need for western aid will indeed diminish the better it has fulfilled its role as a catalyst. The current account deficit will be increasingly covered by private capital imports, and the rest will be borrowed on the international capital market.

PHASE THREE – SELF-SUSTAINING GROWTH

The aim of the transition should not be to catch up with the western industrial countries in terms of per capita GNP, but to reach a stage where growth becomes a self-sustaining process, on the one hand, and, on the other, the creditworthiness of these countries is re-established, that is to say their ability to assure the interest payments on their foreign debt. This is the reason why self-sustaining growth should be of the export-led variety. The re-establishment of the ability to borrow abroad will reduce the foreign constraint on the economy. Growth will be founded on the regular increase of export receipts and on rising foreign direct investments. These latter will contribute

to the increase in productivity and to higher exports, without adding to foreign indebtedness. There will be scope for a significant inflow of foreign direct investments as their relative size to GNP is very low compared to that in other small open economies in western Europe.⁶

PUBLIC AID WITH A LIMITED SCOPE

During the deterioration and stabilisation phases of the transition, central Europe will certainly be in need of western aid in the form of:

- (a) *emergency 'life belt' aid* in order to maintain a 'minimum economic life' in case of a crisis – urgent food aid or exceptional energy deliveries in case of acute shortages or a breakdown in supply are two examples;
- (b) *technical assistance*, composed of various aid programmes on an *ad hoc* basis, organised bilaterally, country by country, is a useful formula for handling concrete problems and shortcomings. However, technical assistance, even entailing the allocation of a significant amount of resources, will not be sufficient to induce private capital inflow at an adequate level.

BILATERAL, COUNTRY TO COUNTRY, TRANSFERS

These bilateral transfers comprise both public aid and private capital flows to central Europe.

- (a) *Bilateral adoption*: along the lines of the GDR's adoption by the FRG it might be imagined that a western country will take on looking after a central European country, for instance, Austria concentrating its efforts on Hungary, France on Czechoslovakia, etc.⁷ However, it is not realistic to foresee the development of such a close economic relationship between two countries. It is not likely that the political will required on both sides will be available for such an all-embracing adoption of a 'country in transition' by a western industrial country.
- (b) *Bilateral adoption by Germany*: this process has, in fact, already begun as witness the dominant place of Germany not only in the foreign trade of the area and with respect to joint ventures and other direct investments, but also with regard to aid granted by the German authorities and other sources. This is, in fact, in keeping with past trends.⁸ Nevertheless, because of the effort represented by the integration and the modernisation of eastern Germany, less resources will be left available for other countries, at least at the beginning. A wide-

ranging adoption by Germany is therefore not a realistic hypothesis, even if German industry will inevitably play a great role in the area.

BILATERAL IMF, WORLD BANK AND EEC TRANSFERS

The IMF, World Bank and EEC programmes are conceived on a bilateral basis, that is to say they are concluded with individual countries. They are extremely useful ranging as they do from IMF stand-by and extended arrangements, to World Bank technical assistance or project financing and to the EEC PHARE Programme or to EEC or EIB credits. IMF and World Bank financing is a powerful stimulus to moving forward with macroeconomic stabilisation, structural reform and adjustment to the market economy, and it is providing huge amounts of short, medium and long-term credits. The EEC has also proceeded with a significant amount of resource transfer. The only reservation to be made with regard to these efforts is that proceeding as they are on a country by country basis, they lack an overall regional vision of central Europe which would be desirable in order to induce the countries in the area to develop their mutual co-operation and to intensify their commercial, economic and monetary ties with each other.

PUBLIC TRANSFERS ON A LARGE SCALE AND WITH VISION

Two types of western support programmes may be distinguished on the basis of their wider ambition.

- (a) *Public aid and co-operation programmes, representing a significant resource transfer, could lay the foundation for self-sustaining growth.* To the two historical examples, the Marshall Plan and the Lomé convention, a third possibility may be added, which is Community membership or a new form of association (Table 1).
- (b) *Western support programmes centred on economic and political co-operation between central and eastern European countries, with Poland, Czechoslovakia and Hungary being at the heart of the initiative; integrated multinational programmes could be a catalyst for economic growth and direct investment through promoting political stability in the region.* Due to their often 'immaterial' character, they would be comparatively cheap and thus take account of the fact that western aid donors' possibilities should not be overestimated. In fact, this approach would encourage the countries in the area to help each other and to work together. The intensification of bilateral trade relations,

Table 1. International transfers

Nature of transfers	Countries concerned	Period	Total amount	Annual amount
Marshall Plan	16 countries of western Europe	1948–1951 or 4 years	\$12.4 bn at historical prices \$65.4 bn in 1989 prices	\$3.1 bn \$16.4 bn
Aid to central and eastern Europe corresponding to Marshall aid (i.e. \$42 per capita in 1989 prices)	Six countries (with GDR) Six countries (with GDR) + USSR			\$4.8 bn \$16.7 bn
Aid to central and eastern Europe – Proposal by Mr. J. Delors made in Strasbourg on 17 January 1990 (corresponding to EEC aid to its own depressed regions)	Six countries (with GDR)	5 to 10 years	Ecu 95–190 bn	Ecu 19 bn of which 5 bn for EIB
Lomé IV Convention (1990–2000 or 10 years)	69 ACP countries	1990–1995 or 5 first years of Convention	Ecu 12.0 bn	Ecu 2.4 bn
Necessary foreign capital (mainly investments) estimated by the Centre for Economic Policy Research (CEPR)	Six countries (with GDR) Five countries (without GDR)	10 years 10 years	\$1350–2910 bn \$1030–2260 bn	\$135–291 bn \$103–226 bn
Overall private and public capital flows to eastern Germany in 1990 prices (estimated by Hans-Peter Fröhlich)	Eastern Germany	Next 10 years	DM1000–1500 bn	DM100–150 bn

Sources: *Economic Survey of Europe in 1989–1990*, UN Economic Commission for Europe, New York, 1990; 'Quatrième Convention de Lomé', Commission des CE, Note d'information, Brussels, 13 December 1989; *The Impact of Eastern Europe, Monitoring European Integration*, CEPR, London, October 1990; Hans-Peter Fröhlich, 'German economic and monetary union: impact on private and public capital flows', see contribution to SUERF Lisbon Colloquium reproduced in this volume.

the creation of a free-trade area or of a regional multilateral payments union and the development of new political, economic and financial ties of their own could strengthen the credibility of central Europe as an attractive location for investment. Large transnational infrastructure and communication projects could significantly contribute to this. In other words, western support programmes would go to the area as a whole or jointly to two or more neighbour countries rather than to countries separately.

It is hardly necessary to stress that this last approach (point (b)) seems to be especially interesting, even if it does not seem to be on the agenda. Some of the other formulas appear to be quite expensive, correspond less well to the twin criteria of realism and multilateralism, and seem able neither to halt the current slide in production nor to create a favourable climate for growth.

PUBLIC TRANSFERS AND REGIONAL CO-OPERATION

Public transfers and regional co-operation are to a large extent substitutes. If central Europe is making progress towards the creation of an 'economic area' extending across national borders (and naturally, across internal borders, between federal republics or regions inside the same country), private capital inflow will spontaneously increase and there will be less need for foreign aid, except during the most difficult part of the transition period. This is why such an important role should be given to transfers of know-how in the field of regional economic co-operation as well as to western and EEC encouragement of such a policy stand.

In the first place, there could be the *creation of a multilateral clearing*, inspired by the EPU, with a quota system and credit lines, with a view to the clearing of trade and service related payments between:

- central European countries, with Poland, Czechoslovakia, and Hungary as a nucleus, but actually extending to all the interested countries of the area;
- all these countries and the EEC and, as far as possible, the EFTA member states.⁹

The main justification for a multinational clearing would be to maintain existing trade flows that are able to resist the more competitive environment of a market economy (trade conservation effect). At the same time, this clearing would support the further development of trade in every direction on the basis of specialisation, comparative advantage and existing possibilities.

Except in the extreme and, in fact, unacceptable hypothesis of a long-

lasting collapse of the central European economy, there is indeed no reason why the countries of the area should neglect or abandon their reciprocal trade relations, especially if the EEC does not widely open its borders to their exports.

Neither the excessive trade polarisation *vis-à-vis* the Third Reich before the Second World War, nor that *vis-à-vis* the USSR after the end of the war, represented an optimal situation. They resulted from major external shocks: the division of central Europe into a number of small or medium sized national markets after the First World War and the Great Depression in the first case, and the sovietisation of central Europe and the creation of the CMEA in 1949 in the second.¹⁰ At present, when no such constraints exist anymore, central European countries have no reason whatsoever to introduce again such a radical polarisation of their trade. In any case, the West should abstain from pushing them in this direction.

But it is possible to go one step further. At the end of 1990, the EEC launched parallel negotiations for the conclusion of bilateral association agreements (called 'European agreements') with Poland, Czechoslovakia, and Hungary. These agreements, likely to be concluded before the end of 1991, will offer an anchor for these countries to the EEC. However, there are some unanswered questions: would it not have been preferable to organise the negotiations in a deliberately multinational rather than bilateral framework and to negotiate simultaneously with the three countries? Could the EEC not initiate, at the same time, negotiations intended to establish closer economic co-operation, a free-trade area or an economic union between the countries in question?

The multinational approach could receive an immediate application with regard to *large transnational infrastructure projects* like rapid road and rail links between capitals, large cities, and industrial areas, long-distance telecommunication links across national borders, and integration in the western European energy transport network for oil, natural gas and electricity. These projects, often offering the prospect of commercial profitability, could be prepared, with the help and collaboration of the EIB, the World Bank or the EBRD, by the national authorities of the countries involved, which could afterwards supervise their realisation and participate in their management. This is a typical example of a transnational cooperation of governments and other public bodies, which would almost spontaneously be complemented by significant foreign private capital participation, at least once the environment became stimulating.

A similar line of reasoning may be followed with regard to *manufacturing industry*. At a time when specialisation and large-scale production are the order of the day, the markets themselves should be adapted to the production capacity of firms. The arguments in favour of a large unified market – or a

Table 2. Share of western industrialised countries in CMEA countries' total exports (percentages)

	1980	1985	1986	1987	1988	1989	1990 ^a
Poland	34.4	34.7	33.9	41.6	43.5	49.1	60.0
Czechoslovakia	21.8	15.8	15.7	15.5	16.3	31.2	41.1
Hungary	35.1	30.8	31.8	36.7	40.5	44.1	53.8
Romania	34.7	33.6	36.4 ^a	30.3 ^a	29.2 ^a	31.3 ^a	n.d.
Bulgaria	15.8	8.5	6.9	6.8	6.4	7.3	8.0
GDR	24.1	30.1	28.5	26.8	26.6	48.5	14.1 ^b
USSR	32.0	25.6	19.2	20.8	21.9	23.8	28.7

^a Estimated by Vienna Institute for Comparative Economic Studies.

^b Excluding intra-German trade.

Source: CMEA Selected Economic Indicators 1989, prepared by the Vienna Institute for Comparative Economic Studies, Die Erste Österreichische Spar-Casse-Bank.

'common market' – are also valid for central Europe. Given a sufficient corporate size, industrialists will be keen to produce for a market extending beyond the borders of the country where their plant is located. They will limit their investments if the markets of the neighbouring countries remain closed for their exports. In any case, it is worthwhile to emphasise the favourable effect on growth of an industrial strategy formulated in the light of the progressive creation of a 'common market' in central and eastern Europe.

MAIN DIRECTIONS FOR EXPORT-LED GROWTH

Lacking a large domestic market, Czechoslovakia and Hungary, even Poland, will have to orient their economic policy toward 'export-led growth', with the exports comprising also services and other invisible earnings.¹¹

The most popular export-led growth model is based on the idea that *central Europe should expand its exports as much as possible to the world market and especially to the EEC*. Trade statistics suggest that there could be a rapid increase in trade flows with western Europe, most notably with Germany. This will no doubt materialise since central European exports will benefit from much easier – if not completely free – access to the EEC internal market.

There are, however, limits to export-led growth oriented towards the West. In 1989 the share of western industrial countries did not yet exceed 50 per cent of total exports. It reached 49.1 per cent in Poland and 44.1 per cent in Hungary but was only 31.3 per cent in Romania, 31.2 per cent in Czechoslovakia, and 7.3 per cent in Bulgaria (Table 2). The recent increase in these ratios is partly due to the fall in exports to the USSR and to other CMEA

countries. Penetration into western markets requires a high degree of competitiveness, especially in times of slower economic growth. This is all the more true when the whole of central Europe is in the process of reorienting its exports in this very direction.

Trade reorientation to the West is also not a panacea because it will not be easily sustained. Obsolete industrial equipment, rigid organisation and production structures, unreliable raw material and energy supplies and other problems inherent in the transition period are all a handicap. A fundamental reorientation of trade cannot be effected in a short period. As mentioned above, it is even not desirable beyond certain limits.

Another direction for export-led growth consists in *building on existing trade relations with other CMEA countries*, where a great amount of know-how has been accumulated with respect to products, markets, commercial procedures and personal relations.

Since 1 January 1991, trade practice inside the former CMEA area has been modernised (with prices corresponding to those on the world market, payments in the US dollar or other convertible currency, closer direct contacts between exporters and importers, and reduced roles for public authorities and foreign trade monopolies). These measures, together with the dissolution of CMEA and its possible replacement by a different arrangement would bring the rules of intra-regional trade in central and eastern Europe closer to those applied in the West and to market principles. This intraregional trade would tend to become as 'well founded' as trade with the West, and therefore, it is not clear why it should be necessarily reoriented towards the West.

One ton of Hungarian canned meat sold in Deutschmark to Germany will earn, in principle, exactly the same amount of convertible currency as the same ton sold to Poland in convertible zlotys. There is even a good chance that the Hungarian product will better correspond to the purchasing power and taste of Polish consumers. Also, it may be assumed that the Hungarian canned meat's quality will be improved in a more competitive environment. For several years a large portion of central and eastern European consumption demand will be restricted to current and less expensive goods, better corresponding to the purchasing power of the population.

Similarly, it is almost certain that long-term contracts relating to the delivery of Soviet oil or raw materials against central European agricultural products or machinery will increasingly correspond to economic rationality and market criteria.

In this context it is interesting to refer to the plea in favour of the CMEA by Marie Lavigne, Professor at the University of Paris I and internationally known specialist on the USSR and eastern Europe, who has asked if it is

reasonable to rejoice in the West about the decline of the CMEA? Would it not be desirable, on the contrary, to favour the emergence of a more solid socialist market integration? And the Soviet market – which one day will become a reality – will it not be easier to penetrate and be more profitable for the small eastern countries, under conditions different from those of today, in comparison with a protected, if not protectionist, western Europe? Can the opening not also mean the creation of new trade flows in this area?¹²

However, since 1989, when these lines were written, the situation has undergone a profound change: the new democratically elected governments are inclining toward a liberal type of market integration; the CMEA trade system has been abandoned; and the decline of Soviet trade has reached unforeseen proportions in relation to both deliveries and payments.

A third export-led growth path is based on the idea of *interlocking circles of trade flows, services and other invisibles, from the West to central Europe and from there further East and South*. Just as the FRG and Austria have fulfilled a useful role in opening up trade with central and eastern Europe, in the same way, Poland, Czechoslovakia, and Hungary could fulfill a trade promotion and development role for the less developed economies of their neighbours. On the basis of their location and knowledge of the area, Poland, Czechoslovakia, and Hungary could develop their exports of know-how, engineering and management services and their role as an intermediary for transit, arbitrage and commission work for Romania, Bulgaria, and the USSR.¹³

Export growth is a source of domestic capital formation as a result of expanding production and more internal funds generated and available for investment in the corporate sector.

EEC ASSOCIATION AND MAYBE LATER . . . MEMBERSHIP

A special case of export-led growth to the West is that of association with the EEC where either free access or especially favourable conditions are granted to central European exports to the 'single market'. However, association does not mean that obstacles in sensitive sectors, such as agriculture, will be eliminated. On the basis of the negotiation mandate given to the Commission, the 'European agreements' will not be a catalyst to the same extent as if there were full membership or a large-scale support program with a structural effect and a multinational imprint centred on the three 'core countries' of central Europe. In order to take account of recent develop-

ments, it would be desirable to incorporate into the 'European agreements' an approach that could serve to cushion the dramatic reduction in foreign trade with the USSR and to develop multilateral trade flows inside central Europe itself. If membership is not possible before the second half of the 1990s or 2000, there is a real urgency to go ahead with a thoroughly new conception of association.

REGIONAL CO-OPERATION AND CONFIDENCE

It is maintained in some quarters that in view of the heterogeneous character of central Europe it is necessary to proceed country by country, on the basis of the local situation, without taking account of what is going on elsewhere in neighbouring countries. However, one cannot insist enough on the fact that confidence is an essential ingredient of the region's reconstruction and of its opening to international transfers. And confidence is indivisible. As in the case of the evaluation of economic prospects, confidence is determined notably by internal factors (consolidation of democratic government, good progress towards the market economy, etc.), but also by successful arrangements ensuring the coexistence of a mosaic of populations having different origins, languages or aspirations. Dialogue, negotiation and other constructive methods should therefore be used in order to handle national or ethnic tensions between or inside countries. It should be avoided at any price that nationalistic sentiment or claims relating to power-sharing in federal states, to minority rights or to border disputes get out of hand and make it impossible to establish a climate conducive to co-operation between populations and governments. Otherwise, confidence will be missing and without confidence no one should be astonished if investments do not increase and foreign capital inflow remains trifling.

INTERNATIONAL TRANSFERS AND EXCHANGE RATE POLICY

Exchange rate stability or, at least, orderly foreign-exchange market conditions, based on orthodox monetary and fiscal policy, exert a positive effect on confidence. Through the creation of a stable economic environment, reducing uncertainty, they can have a positive influence on expanding foreign capital inflow to central Europe.

Given the aim of increasing exports to western Europe and to the EEC market, it would be reasonable to pursue a 'fixed but adjustable' exchange-rate policy in relation to the ECU, the DM or a basket composed of European currencies so as to provide a solid convertible currency anchor.

In applying a policy of monetary stability and in order to avoid excessive exchange rate pressures, convertibility could be limited at the beginning to commercial transactions and to non-resident capital movements (notably, on the debit side, to interest and dividend transfers and to disinvestments). One way for putting into place convertibility for capital movements could be to introduce a two-tier foreign exchange market inspired by the long experience of more than thirty years of the Belgo-Luxemburg Economic Union.

THE SPECIAL CASE OF GERMAN UNIFICATION

The 'adoption' of eastern Germany by the FRG, followed by German unification, has offered a unique example of a peaceful supranational integration accomplished in a very short time, i.e. slightly less than a year.¹⁴

German unification underscores the priority given to productive investment (including the wider sense of investment in the 'take-over' of a less developed economy) over current consumption and higher dividends or capital gains. It may also be interpreted as a process giving priority to long-term economic growth as compared to other policy objectives of a more short-term nature.

Thanks to unification, the former GDR has been granted a completely new institutional, political and legal framework. It has been endowed with a powerful central bank, a stable currency, a modern banking system and developed money and capital markets. On the other hand, it has been relieved overnight of both the balance-of-payments constraint and the burden of foreign debt service. Eastern Germany has obtained an extension of its domestic market to western Germany and to the internal market of the EEC. Moreover, it has been fully integrated into the EEC.

Thanks to a long period of orthodox financial management, the FRG stood ready, when the Berlin Wall was suddenly torn down, to take over the east German economy. Can it not be maintained that the economic policy of the FRG and even the behaviour of its inhabitants have been determined for 30 years, maybe unconsciously to a large extent, by the expectation of German unity rather than by the fear of inflation to which reference has been so frequently made?

German unification appears thus as a 'model' which could serve as an inspiration, even if under different circumstances, to other countries or areas, in Europe or elsewhere.

There is, however, an important reservation to be made notably with regard to the overvalued parity of the Ost-Mark in relation to the DM that was adopted for the currency exchange of July 1990. It has seriously compromised the competitive position of east German firms, often forcing them to close down.

Such a sudden deterioration in competitiveness should not have been allowed and certainly should not be adopted in central Europe where the fall in production is already representing a serious challenge. It is unthinkable that the countries of the area should pursue a policy of systematic over-valuation of their currency or take other measures which would result in the breakdown of their industry and massive unemployment. The new governments cannot count on foreign support which would be able to compensate for the damage caused by such large-scale 'creative destruction'.

It seems realistic to follow a medium and long-term strategy for central Europe, building on foreign direct investments. But unlike in eastern Germany, there will be no automatic regulation through public transfers complementing the insufficient inflow of private capital. It may even be feared that the necessary initial inflow of public resources will not be on the scale required in order to induce the foreign portfolio investments, credits and direct investments that are needed. This is another reason why there can be no question of maintaining currency over-valuation in central Europe. Finally, in Germany, there is a large transfer of management powers from the former GDR to the power centres of the former FRG. Such a wholesale transfer of economic power cannot be foreseen in central Europe, or it would be hardly tolerable, even if the countries in the area should gradually come to recognise that integration into the western economy necessarily entails the partial surrender of decision-making vested in nationals and of the attributes of national sovereignty.

CONCLUDING REMARKS

The central European countries are 'floating in the air' with respect to their international relations. They are no longer really a part of the Soviet bloc, but they do not yet really belong to the West. Moreover, the relations between the countries in the area are not organised in a satisfactory way.

The best strategy – and the 'least expensive' from the point of view of foreign donors – would be to bring about the confidence necessary to attract foreign direct investments able to cover the current account deficit.

However, due to the difficulties of the transition period, confidence is not yet strong enough.

This is why public transfers are absolutely necessary.¹⁵ The fall in the level of production should be brought to an end as rapidly as possible. Also, the West should be prepared to face up to emergency situations calling for special intervention.

Public transfers should precede or go hand in hand with private capital inflows, at least at the beginning.

They should act as a catalyst for private capital. Insufficient public trans-

fers, in amount or otherwise unable to contribute to the creation of a stimulating and secure new business environment, will not have such a catalysing effect.

It is not possible to determine how much aid precisely is needed by central Europe. The UN Economic Commission for Europe maintained in April 1990 that "a simple repetition of the Marshall Plan would not be appropriate in present circumstances". A year later, there is no doubt that a Marshall Plan 'turned upside down', consisting mainly in technical assistance, will not be sufficient.¹⁶

If full EEC membership is not possible for Poland, Czechoslovakia, and Hungary in the immediate future, the EEC should do its best to act as an anchor economy that would serve as a model and also foster the growth of these countries.

But it will not suffice for the EEC to co-operate with them on a bilateral basis. Western aid should be organised with a comprehensive vision of central Europe's development. This cannot be based exclusively on trade with the West. Intra-regional trade – to begin with between Poland, Czechoslovakia, and Hungary – should also be given a significant role. The nucleus formed by the three aforementioned countries should actively engage in trade promotion and the fostering of growth with respect to the other countries of central and eastern Europe and the USSR.

Western aid in the form of 'know-how in relation to regional economic co-operation' should be given a significant role. This comes down to an approach inspired by the lessons of the post-Second World War experience in western Europe. The West should use its influence in order to assure that these lessons will be effectively put into practice. As examples of what should be done, mention may be made of the organisation of a multilateral clearing, the launching of transnational infrastructure projects and the creation of a free-trade area or of an economic union.

Positive action in the field of technical, non-financial aid along these lines would reduce correspondingly the amount of financial aid required. Private capital inflow would spontaneously follow or would, at least, be greatly encouraged.

Public transfers should be organised with a view to exerting pressure in favour of adjustment. Yet they should also attain a minimum threshold and respond to a coherent vision in order to strengthen business confidence and to bring about a sustained inflow of private direct investments from the West.

ACKNOWLEDGEMENT

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XVIII. System conditions for the promotion of foreign capital participation in the Czech and Slovak Federative Republic

EGON HLAVATÝ

INTRODUCTION

The conception of the Czechoslovak economic reform is based on its widest possible incorporation into the European and world economy. It is not just one of our basic aims but also an inevitable precondition for a successful implementation of reform. We realize that the long-lasting isolation of Czechoslovakia from development in Europe has caused substantial changes in its economic structure. The return of Czechoslovakia to Europe therefore will be associated with its considerable adaptation to parameters and requirements of the present-day world economy which will not be possible without adequate structural changes. The lack of necessary financial and technological capital in Czechoslovakia, as in all other East European countries, aiming at transformation of their economies, is a problem of great importance. We consider, therefore, the entry of foreign capital to the Czechoslovak economy to be a *sine qua non* for successful structural adaptation and thus also for reform as a whole.

In this connection, I would like to present the basic characteristics of the political and economic changes in Czechoslovakia which we consider as positive aspects for our reincorporation into the world economy, as well as important system factors from the point of view of multilateral promotion of entry of foreign capital into Czechoslovakia.

1. HERITAGE OF THE PAST AND THE RETURN TO EUROPE

First of all, I would like to stress that we consider our future development and its aims as a return to Europe to which we once belonged, and not as a new entry to this community.

Before the Second World War, Czechoslovakia had a developed economy and the Czechoslovak Republic had a solid place among the most advanced industrial countries of Europe. According to the statistics of the United Nations based on GDP per head, the Czechoslovak Republic ranked as the

Table 1. Changes in the relative positions of Czechoslovakia, Hungary, and Poland in bilateral comparisons with Austria – 1937, 1960, 1970, and 1980 (ratio × 100)

	1937	1960	1970	1980
Czechoslovakia/Austria	90	91	78	70
Hungary/Austria	63	56	51	52
Poland/Austria	53	54	47	45

Sources: P. Marer, 'The economies and trade and Eastern Europe', in W. E. Griffith (ed.): *Central and Eastern Europe: The Opening Curtain?* Westview Press, 1989. Calculated from E. Ehrlich: *Absolute and Relative Economic Development Levels and their Structures, 1937–1980*, Budapest, 1987. K. Kouba, *System Changes in the Czechoslovak Economy*, Washington, USA, 1990.

12th country in the world, far ahead of Italy, Greece, and Japan. The standard per head was estimated in the range of 200 US dollars, at then current values. During the postwar period, especially in the 1960s, Czechoslovakia lost its economic efficiency over a number of years and the healthy development of the economy was halted. In comparison to its less developed East European neighbours, Czechoslovakia suffered relatively greater losses resulting from the negative consequences of a centrally planned Soviet-type system.

The fact is confirmed by a selective sample of per capita income (GNP) data for three East European countries and Austria (Table 1).

The backwardness of the Czechoslovakian economy accelerated, especially during the last 20 years. That was the result of a mistaken and retarded adaptation to the changed conditions of the world economy and the inward-looking economic strategy. In this connection, technological and economic isolation from developing European countries has been a crucial element. The European 'Chinese wall' brought the same consequence as its historic exemplar.

2. BASIC CHARACTERISTICS OF POLITICAL AND SYSTEM CHANGES IN CZECHOSLOVAKIA

First of all, I would like to stress that the necessary climate for opening the windows towards the outer world was created by basic and deep democratic changes in the social system during the Czechoslovak revolution of 1989. Political pluralism, constitutional guarantees, private ownership, and the idea of free enterprise have opened the way for a real market economy. The experience gained from other East European countries shows that any at-

tempts to induce economic changes without these preconditions are doomed to failure.

Events taking place in the Czech and Slovak Federative Republic represent a huge historical break-through, the profundity and complexity of which has not yet been fully appreciated. The character of state power, the essence of the whole political system and the concept of home and foreign policy have undergone principal changes in a very short interval of time. Governments, parliaments, and presidential bodies have been reconstructed on the basis of democratic agreements and fundamental changes introduced in the leadership of police and army. Also abolished have been non-democratic laws quashing human rights and parliaments have passed a whole complex of fundamental laws guaranteeing freedom of speech, press, assembly, religion, etc. on the basis of which, independent political parties have been established, the Church has resumed its activity, independent newspapers have come into being, etc. All this is very important for economic changes because, after many decades, our country now again has a legitimate government and parliament and great support for its programme of economic reform. In this way, the basic preconditions for political stability and restoration of the old system are created, i.e. inevitable factors for implementation of basic economic changes in the country.

On this political and social basis, and on this alone, it has been possible to launch the formation of a strategic conception for changes in the management system and economic functioning in Czechoslovakia. This transformation from a centrally planned, administrative, directive, introvert and closed system is based on several steps which, in substance, have been implemented since the beginning of this year. From among these basic steps I would like to mention the following.

1. The redefinition of ownership relations, the commercialization of existing state enterprises, their wide privatization and the development of the private sector. The first, immediate step is the privatization of small enterprises but the sequence of further steps will not have longer intervals. It has to be stressed, however, that Czechoslovakia is lacking domestic capital due to low accumulation in the past. We expect, therefore, not only active participation of domestic but also of foreign entrepreneurs on standard or non-standard basis (e.g. coupon method).

2. Price liberalization, which means opening the inner market, as a basic precondition of market functioning. This has been in action since the beginning of this year, along with restriction of major state interventions.

3. The significant liberalization of foreign trade and the opening of the Czechoslovak economy to the whole world. On January 1st this year we introduced the inner convertibility of Czechoslovak currency. There have also been further changes in legislative and institutional spheres enabling

foreign trade liberalization. The liberalization of prices, import and export, as well as the inner convertibility involves also changes in the Czechoslovak crown exchange rate through several devaluations which depreciated our currency by 78 per cent.

4. The implementation of effective anti-inflation macroeconomic policies. The restrictive monetary and financial policies are directed towards priority for equilibrium and against sources of inflationary pressure. Its basic aim is to control, at the very beginning, any rise of an inflationary spiral. This is of great importance for the formation of an appropriate business climate.

In my view, these basic reform steps alone have provided a broader framework for attracting placement of foreign capital in Czechoslovakia. This is accompanied by many other partial but inevitable steps in banking system reconstruction, in preparing tax system changes, new employment concepts and realistic understanding of social partnership.

3. FAVOURABLE CONDITIONS FOR THE DEVELOPMENT OF A MARKET ECONOMY IN CZECHOSLOVAKIA AND INCORPORATION INTO THE WORLD ECONOMY

From the above, it can be seen that our programme of economic reform is radical, in its basic elements complex, and should take place quickly without any unnecessary delays. What entitles us to some optimism in the procedure for its elaboration, ratification and its now current implementation?

First of all, in comparison with other East European countries, the Czechoslovak economy still has some relatively favourable dispositions. Such favourable objective possibilities are evident mainly in the economy. It did not suffer from so great a load of external debts. The external gross debt at the beginning of the reform amounted to 8 billion US \$, so the debt service was bearable.

It is also necessary to point out that there is still in existence an extensive production potential of industry, agriculture, building industry and transport. For foreign business, Czechoslovakia can be attractive also because of its higher level of education, highly qualified labour, and in case of good motivation, its high working standards.

Accepting that 1991 is a beginning of economic reform in Czechoslovakia, then in 1990 its starting position was, in comparison with East European countries, characterized by a relatively slower recession. The average downturn in six East European countries reached 9 per cent in industrial production, and 6 per cent in gross national product (Table 2).

When speaking about some unfavourable starting conditions we cannot, however, ignore some effects, especially the outside ones (to which the Czechoslovak economy is extremely sensitive), which have been much more

Table 2. Economic results of 1990^a

	Industry	Gross national product
	Fall in % in comparison with foregoing year	
Bulgaria	-13	-12
ČSFR	-3.5	-3
Hungary	-10	-5
Poland	-25	-17
Soviet Union	-5	-3
Yugoslavia	-10.6	-10

^aThe data have been taken from the information of the Vienna Institute for International Economic Comparison. It has to be said, however, that Poland and Hungary had entered the transformation process earlier. The Soviet Union data, however, do not correspond to reality which is grimmer.

grave than we expected. First of all, it was the unexpected collapse of the COMECON market, the collapse of several East European countries, the economic impacts of West and East German unification, as well as the Persian Gulf War. The transition of our economy to world prices and convertibility has also brought serious difficulties, especially in connection with energy prices, and a certain economic slow-down and drop-off in consumer demand in several advanced countries. The impact of these effects raises a discussion in Czechoslovakia as to how to react to them through appropriate measures in further reform advancement and how to increase the participation of the state in solving these problems. The basic steps of this strategy and the tempo of radical reform are not questioned, we rather think of a re-evaluation of tactical steps.

After evaluating all relatively favourable dispositions for the start towards a market economy, it can be generally said that the starting situation of the Czechoslovak and Slovak economy too has some favourable prerequisites which together create an objective possibility of a relatively rapid reintegration with western Europe.

The fundamental question, according to my mind, if and however we do utilize the relatively favourable starting condition, is how quickly and effectively shall we realize the reform process and whether we shall quickly realize the transition to the market economy. And, of course, the second question is the extent and efficiency of international cooperation and help.

The favourable pre-conditions for successful economic reform implementation can also be seen in some of the results of the first steps undertaken up to now. Although the months passed since the beginning of this year are a too short a period for a realistic assessment of the future development, they do seem to be to a certain extent positive.

It has to be said that the first phase of the privatization, i.e. the small privatization including small enterprises and shops has already begun, and in a few months the privatization of large enterprises will start.

Promising is also the fact that price liberalization, launched in January this year, has not developed into an inflation spiral. After the expected immediate price jump in the first months, the further wholesale and consumer prices dynamic has slowed down in subsequent months.

The economic reform measures orientated on the development of the external economic relations balance, especially on the inner convertibility system, show their positive impact on the payments balance development. The demand for foreign currency and its supply is kept on the assumed level and is covered by reserves and other sources. The new rate for the Czechoslovak crown is maintained by lower foreign credit drawings than had been assumed and by payments balance equilibrium. We assume therefore that the new exchange rate level can regulate the foreign currency demand and supply, promote exports, develop a stable basis for the calculations of corporations and their business strategy without any other changes for a longer period.

The above-mentioned positive results do not, of course, mean a significant change, they rather show the transformation of the functioning of the system. The total data show, on the contrary, that we are standing just at the beginning of the path of reconstruction for our economy. This is manifested by a continuing decline of industrial and building production which amounts to 11.9 per cent in the industrial sector and even 35.8 per cent in the building sector in the first 1991 quarter. The causes of this development lie in the decline of domestic demand (which was anticipated) and in a shortage of foreign demand induced by the above-mentioned circumstances being more grave than expected. Our unemployment rate rises as well, and amounts to 2.6 per cent of the total workforce. There are problems not only in the uneven regional development of unemployment (the unemployment rate in the Slovak Republic is 3.7 per cent) but especially in the prognoses which do not dismiss the possibility of a further threefold or even fourfold increase. Some phenomena of economic transformation are already known to us from the experience gained in Poland, Hungary, and former East Germany. We do hope, however, that the favourable starting basis of the Czechoslovak economy will help us to manage these problems in a shorter time.

4. RECONSTRUCTION OF THE BANKING SYSTEM AS A CONDITION FOR OPEN ECONOMY DEVELOPMENT

The formation of macroeconomic system conditions for foreign capital entry into the Czechoslovak economy is without doubt a most important pre-

condition. At the same time, it requires, however, a promotion of finance and the banking system which should mediate these shifts and capital allocation. The creation of open market economy in Czechoslovakia has therefore called for basic reconstruction of banking system. This reconstruction was actually the first step of economic reform, since it started before other reform steps, in 1990.

First of all, I would like to emphasize that the Czechoslovak banking system, which once in Europe and in its eastern part especially, represented a relatively modern system with wide contacts with the rest of the world, was at the beginning of the 1950s fully converted to meet the requirements of a planned, directive economy of the Soviet type. Such a banking system could not, of course, be used in a free market economic system. Therefore, the first step which was taken on the 1st of January 1990 was devoted towards wider structuralization of that banking system. The note issuing activity has been separated from trade and credit activities and the unified State bank transformed into the issuing institute as the central bank of the Czech and Slovak Republic. At the same time, new commercial banks were formed so that at the beginning of the reform, commercial and savings banks started their activities. In this way, the basic structure of the Czechoslovak banking system has been established, though still significantly marked by previous centralization, non-adequate allocation of newly established banks, and by monopoly and oligopoly tendencies.

The structuralization process of the banking system has been in the past and this year, however, significantly accelerated through the foundation of new banks built as stock companies, partly even with foreign capital participation. At present, there are 26 registered commercial banks and some of them have expanded their operations to foreign activities, too. The links and contacts with the world economy are being gradually established. I think that this will be a long and gradual process.

In the near future, the development of a world standard banking sector will require an expansion of specific financial institutions for the promotion of bank business. Such specialized banks could, for example, serve for export operations, could provide guarantees to commercial banks (with possible participation of the state) for credit covering to private enterprises, or possibly pay the difference of the rate of interest between the market fixed interest rate and the interest rate paid by private entrepreneurs. For the promotion of exporting companies, it would be also very beneficial to build up some institutions providing various kinds of information, etc.

An important part of the conditions for foreign capital entry into the Czechoslovak economy is also the development of contacts and mutual links between our own and foreign banks. It is not only the question of foreign capital entry and its allocation but also of the improvement of necessary bank services, of the competition, management and bank know-how pro-

motion. Our banking system, however, is just being born and is accompanied by capital, technological and technical skill problems. The unrestricted entry of foreign banks into our banking system would put the Czechoslovak banks under unequal conditions. We do not intend to build impenetrable protection barriers, we just prefer a gradual development process for various forms of foreign bank participation.

The establishment of foreign banks' representative offices is not restricted at all. Although they neither do any business nor provide any banking operations, their contribution for necessary business contacts and representation promotion is unquestioned.

In view of the fact that since the beginning of this year Czechoslovak entrepreneurs can obtain credit from abroad, more information and services are needed in this field. At present, there are 32 foreign bank representations in Czechoslovakia.

Substantially eased have been the conditions for the establishment of affiliations and mixed banks. In the newly arising mixed banks and stock companies, neither the share of foreign capital is generally fixed nor are any geopolitical restrictions applied. For universal banks, however, a minimum capital stock of 10 million US \$ and a minimum binding ratio of own sources (capital stock and reserves) towards the bank assets in the amount of 8 per cent are fixed.

5. AGREEMENTS FOR FOREIGN INVESTORS' SECURITY

The already implemented system conditions have enlarged the possibilities for foreign capital entry into Czechoslovakia. They are supplemented by a whole range of further legislative and legal measures guiding the entrepreneur activities. It is natural that foreign investors expect at least reliable and stable conditions which could, to maximum extent, eliminate possible risk factors. Of great importance in this direction are special agreements on investment protection settled between the respective countries at the highest level. Such agreements have already been signed with many European and other countries. The content of such agreements concentrates first of all on

- investment inviolability, i.e. the property of foreign investors cannot be expropriated and the proprietary rights cannot be otherwise restricted either. In exceptional cases, if expropriation has to be effected in the nation-wide interest, the investor will be immediately paid full compensation transferable abroad;
- the most-favoured clause ensuring equal status to all foreign investors in their relation to the ČSFR and eliminating discrimination for any of

them. A similar equal status is guaranteed to Czechoslovak legal entities, too;

- the free transfer guarantee, i.e. not only profit but all investment-related payments are in terms of these agreements transferable abroad.

CONCLUSION

In this short paper, I have tried to point out some approaches applied in the Czechoslovak economic reform which could generate favourable macroeconomic conditions for increased interest in investing in Czechoslovakia. Particularly, I would like to stress that the whole transition process to an efficient, open market economy is extremely complicated and that there are few models and experience which could be applied without further changes corresponding to the conditions of our country. This is why it is sometimes marked by errors, failure and fumbling in the dark. In despite of all, we consider it to be the only and at the same time the real chance for a return to the world economic community.

Part E

**The Policy Mix, Monetary Policy, and Financial
Stability in the Transition to Economic and
Monetary Union**

XIX. Fiscal arrangements in a monetary union: evidence from the US

JÜRGEN VON HAGEN

1. INTRODUCTION

The second half of the 1980s has witnessed a strong revival of the old strive for European monetary unification.¹ Based on the broad consensus among policymakers about the success of the European Monetary System with fostering monetary stability, and in view of the progress with the completion of the *Internal Market*, including the free intra-Community flow of capital and money the European Community has recently taken a number of significant steps towards building a European Monetary Union (EMU).

Naturally, these swift developments have sparked a lively debate not only over the pro's and con's of a EMU, but also over its optimal design. Participants in this discussion soon realized that EMU is not a matter of monetary policy alone. Many authors have pointed to the important fiscal policy implications of monetary unification in the EC.² Fiscal policy implications of monetary union arise from two grounds: first, in a monetary union, revenue from money creation is determined by collective decision or a common central bank and shared among the members of the union; second, a monetary union deprives individual members of monetary policy as an independent tool for stabilization, and, thus, enforces a particular class of solutions of the *assignment problem*.

Apart from the implications the sharing of seigniorage has for the preferred steady state inflation rate in a monetary union, it creates an avenue for using public debt to shift the incidence of taxes to citizens of other countries.³ Counting on the solidarity among the members of the union, a government may be tempted run up debt to levels deemed unsustainable in the absence of a union, expecting that the monetary union will monetize its debt in the case of a liquidity crisis rather than let it face bankruptcy or expose its citizens to large tax increases. Since monetizing the debt would increase inflation union-wide, money-holders in all member countries would be taxed as a result and contribute to the bail-out. The combination of solidarity and joint seigniorage collection in a monetary union therefore works against the fiscal discipline of its members. The resulting threat to the EMU's monetary

stability has led many to call for formal fiscal restraints on individual government budgetary policies as a necessary condition for EMU (e.g. Delors Report).

The pricing of default or inflation risk in the international capital markets is the main countervailing force against this adverse fiscal incentive. If public debt holders demand sufficiently large risk premia in response to frivolous budgetary policies, the cost of issuing debt rises when non-sustainable levels are reached, making such policies unattractive from the government's point of view. The practical importance of the threat therefore depends critically on the efficiency of capital markets in assessing and pricing risk. Indeed, the Delors Report (para 30) justifies its call for formal fiscal restraints with the explicit contention that markets do not price risk properly.

Following traditional views of the optimal currency area (e.g. Kenen 1969), the changing nature of the assignment problem has led to the proposition that a viable EMU requires a significant centralized budget to absorb transitory, idiosyncratic shocks to individual members' economies. The argument can be sketched as follows: in the monetary union, monetary policy can still be used to stabilize aggregate shocks that affect all members of the union, but individual countries cannot use monetary policy to respond to idiosyncratic shocks. With a common currency or truly fixed nominal exchange rates in the monetary union, real exchange rate adjustment to such shocks must operate through price changes, which are likely quite sluggish.

Suppose, a recessionary shock hits the Netherlands but no other EC member directly. With flexible exchange rates, the Dutch Guilder would soon depreciate, and the resulting real depreciation would raise export demand and help the Dutch economy recover from the shock. In a monetary union, in contrast, relative price changes, and, therefore, the recovery would be very slow. More rapid adjustment can occur either by regional movements of labor and capital, or by using Community fiscal policies to direct a greater portion of EC aggregate demand towards Dutch output, e.g., by reducing the Dutch burden of taxes to the EC or by increasing EC public spending in the Netherlands. But, for the transactions costs involved, factor movements are an inefficient way to respond to *transitory* regional shocks. Specifically in the context of EMU, migration is rendered difficult by language and cultural differences, and may even be considered politically unacceptable as a means of adjustment (Doyle, 1989). This leaves Community fiscal policy as the main mechanism to absorb such shocks. The lack of adequate fiscal mechanisms would expose the EC to prolonged spells of regional economic disparities unrelated to the underlying trends of regional development, causing strain and dissatisfaction with the EMU and undermining its proper functioning. In view of this danger, the chairman of the Delors Committee (1989 p. 89) argues:

(...) in all federations the different combinations of federal budgetary mechanisms have powerful 'shock-absorber' effects, dampening the amplitude either of economic difficulties or of surges in prosperity of individual states. This is both the product of, and the source of the sense of national solidarity which all relevant economic and monetary unions share.

The call for a sizable centralized fiscal budget to stabilize transitory regional shocks in a EMU goes back to the MacDougall Report (European Commission, 1977), which estimated that a budget of about 5 per cent of the Community's GNP would be required for a viable EMU. The Delors Report (para 30) foresees that a central budget of that size is politically not feasible in the near future and therefore calls for greater coordination of fiscal policies among the members to achieve the same purpose. Recently, Begg and Wyploz (CEPR 1989, p. 23) and Williamson (1991) have proposed to allocate a common unemployment insurance system in Brussels as a minimal fiscal set-up.⁴

It is worth pointing out again that the source of economic disturbance in question in this discussion is transitory shocks with asymmetric effects across the EC. Even in the presence of transactions cost and sluggish prices, relative price changes and factor movements guided by market signals remain efficient responses to permanent changes in a region's relative income. Of course, the EC may – and does – wish to use fiscal and other policy tools to reduce permanent income differences in the Community, independent of its monetary regime. Furthermore, shocks with symmetric effects across the EC would not require exchange rate adjustment in the absence of EMU, and can be dealt with using the common monetary policy in the EMU. Therefore, the debate over fiscal policy implications of EMU focuses specifically on transitory regional shocks.

The purpose of this paper is to provide a perspective on these issues from the experience of an existing monetary union, the US. I will focus on two issues: the extent to which the US fiscal system provides income redistribution among states in response to divergent, transitory economic shocks, and the effects of formal fiscal restraints on the performance of state budgetary policies. Obviously, I do not intend to argue that a EMU should be like the US. But the US gives interesting insights for the issues raised in the debate over EMU: though being a monetary and fiscal union, the US fiscal system makes little effort to buffer shocks creating transitory regional differences in economic performance. Unemployment insurance in particular is financed almost entirely at the individual state level, barring any significant redistribution of resources across states. Furthermore, the US experience with formal fiscal restraints suggests little effectiveness to reduce the risk of a bail-out of insolvent governments.

Such evidence does not, of course, imply that a future EMU does not

need a large Community fiscal budget to fight idiosyncratic shocks, nor that fiscal restraints could not prevent excessive debt in an EMU. The value of considering the US experience is rather in raising the burden of proof for those who argue that a EMU can *only* operate successfully if vested with a large central budget or with fiscal policy coordination, and with formal fiscal restraints. Given that the US monetary union has operated successfully enough to survive two centuries, proponents of this claim will have to explain the nature and demonstrate the practical significance of the specific differences between the US and Europe that would make a EMU without such features non-viable.

The remainder of this paper proceeds as follows. In Section 2, I present evidence on the stabilizing properties of federal revenues and expenditures with respect to state-specific economic fluctuations. In Section 3, I discuss some characteristics of the US unemployment insurance system in this respect. Section 4 takes up the issue of formal fiscal restraints. Section 5 offers some conclusions.

2. FEDERAL FISCAL RESPONSES TO TRANSITORY REGIONAL SHOCKS

Table 1 reports several indicators of economic performance and of state-federal fiscal relations in the US from 1981 to 1986. As reflected by the average growth rates of real gross state products (GSP), this period contains the recovery from the 1979/80 recession, the 1982/83 recession, followed by a period of positive, but quite variable economic growth. The table reports the standard deviation and the range of GSP growth rates as two indicators of diversity of economic conditions among the 50 states.⁵ The exceptionally large range of growth rates in 1981 results from the very rapid growth the oil-producing states experienced in the early 1980s. Although average GSP growth was negative only in 1982, each year contains several states with individual negative growth rates. Average unemployment rose from 7.3 per cent to 9.2 per cent during the general recession period and declined back to about seven per cent thereafter. The large range of unemployment rates indicates a high degree of diversity of job market conditions among the individual states.

The same table gives information on federal personal income taxes paid by state residents and of federal expenditures in individual states. Federal direct payments to individuals are direct transfer payments from the Federal Government, an important sub-item accounting for about 50 per cent of all expenditures. I use these three variables to characterize federal-state fiscal relations. Corporate income tax, the other major source of federal tax revenue, does not lend itself to describe federal-state fiscal relations, because

Table 1.

	Real gross State product Growth			Civilian unemployment rate			Federal income tax (perc. of GSP)			Federal expenditure (perc. of GSP)			Federal direct payments to individuals (perc. of GSP)		
	Mean	Std.	R	Mean	Std.	R	Mean	Std.	R	Mean	Std.	R	Mean	Std.	R
1981	5.5	4.5	33.3	7.3	1.9	8.7	9.0	1.6	7.5	18.8	4.4	17.6	8.7	2.6	13.2
1982	-3.4	3.0	12.5	9.2	2.3	10.5	8.5	1.6	6.2	19.5	4.8	23.1	9.4	2.5	13.8
1983	2.7	4.5	18.3	9.2	2.5	14.6	8.0	1.3	6.0	20.7	4.6	22.4	9.0	2.5	13.6
1984	4.5	2.9	13.9	7.3	2.2	10.7	8.1	1.4	6.4	19.7	4.2	17.8	9.1	2.2	12.9
1985	1.7	2.5	13.3	7.1	1.9	9.1	8.0	1.4	5.9	20.2	4.2	17.5	9.1	2.2	12.6
1986	2.4	4.1	18.1	7.0	2.3	10.3	8.5	1.6	6.9	20.2	4.0	17.0	9.0	2.1	12.3

Note: std: standard deviation; R: range; GSP: gross state product.

Source: Statistical Abstract of the US, various issues; Federal Expenditure in the States, various issues.

the area of economic activity of a business need not coincide with the place where it is incorporated. Table 1 indicates the relative importance of the three variables compared to GSP. Average federal income tax payments declined from 9 per cent of GSP in 1981 to around 8 per cent for the remainder of the period, with only a slight rebound in 1986. Federal expenditures rose from an average of about 19 per cent of GSP to about 20 per cent. Direct federal payments to individuals increased from 8.7 per cent to 9.4 per cent of GSP during the recession year of 1982, and remained at around 9 per cent of GSP thereafter. The standard deviations and ranges indicate, again, a significant degree of diversity among the states.

In a federal fiscal system, income redistribution among states can serve two distinct purposes. One is to respond to persistent differences in income levels or economic trends to reduce lasting inequalities among states, and to stimulate lasting growth in poorer regions. The second is to stabilize transitory regional shocks by redistributing income from states enjoying temporarily income above trend to states suffering transitory low-income conditions. In view of the discussion over EMU, this paper focuses on the latter. To explore the scope of income redistribution to buffer and equilibrate regional transitory shocks provided by the US fiscal system, I propose to measure the responsiveness of the three fiscal variables of Table 1 to changes in state economic conditions over time. For this purpose, I regress their growth rates on real GSP growth in a combined cross-section time-series analysis covering the period of 1981–1986. The coefficient on real GSP growth in this regression indicates the average elasticity of the relevant fiscal variable with respect to income growth across the states.⁶ In the following regressions, I estimate systems consisting of one equation for each year using a seemingly-unrelated-regressions estimator. Recalling that not every change in GSP is relevant in the present context, but the fiscal response to differences between individual and average state GSP growth, I separate yearly US average from state-specific developments by allowing the intercepts to vary from year to year. Furthermore, I use a dummy variable to account for the special condition of three oil-producing states, Alaska, Oklahoma, and Wyoming, which experienced extremely high GSP growth rates in the early 1980s.

All of the following regressions were also estimated using real personal income instead of real gross product as a measure of state economic activity. Finally, since GSP itself would depend significantly on federal tax payments and federal expenditure in the presence of significant redistribution through the federal fiscal system, I estimated all regressions using an instrumental variables estimator instead of OLS. Since the results of these alternative versions were not much different, I report only those based on real GSP and OLS estimation.

Table 2. Real federal income tax growth and GSP growth

$$\Delta t_j = a_k + b_k \text{OIL}_j + 0.87\Delta y_j + u_j, \quad k = 1981, 1982 \\ (11.1)$$

$$\Delta t_j = a_k + b_k \text{OIL}_j + 1.05\Delta y_j + u_j, \quad k = 1983 - 1986 \\ (20.8)$$

	\hat{a}_k	t-ratio	\hat{b}_k	t-ratio
1981	0.01	3.4	0.02	1.8
1982	-0.07	16.0	0.02	2.2
1983	-0.05	11.4	-0.01	1.3
1984	0.02	4.0	-0.01	0.7
1985	-0.00	0.0	-0.04	3.6
1986	0.07	19.0	-0.07	6.4

$R^2 = 0.65$, RMSE = 1.02, $F_{14,286} = 37.9$.

Table 2 reports regressions of the growth rates of real per capita federal income tax payments by residents of a state, $\Delta \ln t_j$, on the growth rate of real per capita gross state product, $\Delta \ln y_j$, using data from 1981 to 1986. The coefficient on real GSP growth held constant for 1981/82 and again for 1983 to 1986, allowing for changes due to the 1982 reform of the tax code. The income elasticity of real tax payments increased from 0.87 in the early 1980s to 1.10 after 1982. It is not statistically different from unity in either period, nor is the change in the coefficient statistically significant. Thus, a drop in a state's real GSP by one per cent results in a reduction of its real federal income tax burden by roughly one per cent, too, an increase in real GSP goes with an equal percentage increase in the federal tax burden.

Table 3 has the results of similar regressions for the growth rate of real federal expenditure per capita, $\Delta \ln G$, on real GSP growth. Here, the coefficient of real GSP growth was restricted to be the same in all years. The upper panel of this table shows that federal expenditures do not significantly respond to fluctuations in real GSP at all. Several variations of this regression, including lagged real GSP growth, or an interactive dummy variable for states suffering recessions, or replacing the real GSP growth rate with its deviation from the 1981–1986 average, did not change this basic outcome. The second panel, shows that real direct federal payments per capita alone have a significant countercyclical response to fluctuations in real GSP. Although this link is statistically significant, it is rather small in size: a decline in real GSP by 1 per cent leads to a rise in real direct federal payments by roughly 0.20 per cent.

Taken together, the results of these regressions indicate that the US fiscal system provides some equilibration of transitory regional shocks, yet only to

Table 3. Real federal expenditure growth and GSP growth

$$\Delta G_j = a_k + b_k \text{OIL}_j + 0.036\Delta y_j + u_j$$

(0.4)

	\hat{a}_k	t-ratio	\hat{b}_k	t-ratio
1982	0.02	3.1	-0.07	4.2
1983	0.10	12.5	-0.05	2.6
1984	-0.02	2.4	0.02	0.9
1985	0.04	6.1	0.02	1.0
1986	0.03	2.9	0.02	0.8

$$R^2 = 0.14, \text{ RMSE} = 1.02, F_{11,239} = 3.5$$

$$\Delta GP_j = a_k + b_k \text{OIL}_j - 0.17\Delta y_j + u_j$$

(2.5)

	\hat{a}_k	t-ratio	\hat{b}_k	t-ratio
1982	0.08	1.7	-0.05	0.4
1983	0.09	13.7	-0.03	1.6
1984	-0.05	5.6	0.00	0.3
1985	0.03	10.7	0.00	0.0
1986	0.02	5.1	0.02	1.8

$$R^2 = 0.16, \text{ RMSE} = 0.98, F_{11,239} = 4.14.$$

a very small extent. Federal income tax payments respond positively to state-specific shocks. A real GSP growth rate of negative one per cent reduces federal income tax payments by 1 per cent, which in turn amounts to 0.08 per cent of real GSP on average. Redistributive elements on the expenditure side are even more negligible. Total federal expenditures flow into individual states without regard to state-specific economic shocks. Only real direct payments to individuals increase by 0.2 per cent, or 0.02 per cent of real GSP on average, when real GSP declines by 1 per cent. The combined redistributive effect triggered by a decrease in GSP by 1 per cent thus amounts to an average of 0.1 per cent of real GSP.

Williamson (1991) and Eichengreen (1990), among others, refer to estimates of a much larger redistributive scope of the US fiscal system, speaking of a reduction of the federal income tax burden by 40 cents and increase in federal expenditures by 10 cents following a reduction in state income by one dollar. These numbers are consistent with the results of regressing the level of per capita federal income tax payments and the level of per capita federal direct payments to individuals on the level of real GSP, reported in Table 4.⁷ However, in the context of monetary union, they are quite misleading. The proper interpretation of the regressions in Table 4 is as follows: in

Table 4. Taxes, transfers and GSP levels

$$t_j = a_k + b_k \text{OIL}_j + c_h y_j$$

$$c_h = 0.38 \text{ for } h = 1980 - 82, c_h = 0.38 \text{ for } h = 1983 - 86$$

	\hat{a}_k	<i>t</i> -ratio	\hat{b}_k	<i>t</i> -ratio
1980	709.9	15.6	35.2	0.37
1981	719.3	14.9	45.1	0.44
1982	627.8	14.2	64.2	0.72
1983	592.5	12.7	9.1	0.10
1984	628.8	12.4	-14.1	0.14
1985	635.9	12.2	-78.8	0.78
1986	748.6	13.2	-180.8	1.56

$$R^2 = 0.54, F_{16,334} = 24.5$$

$$GP_j = a_k + b_k \text{OIL}_j - 0.088y_j + u_j \quad (2.95)$$

	\hat{a}_k	<i>t</i> -ratio	\hat{b}_k	<i>t</i> -ratio
1981	1315	26.4	-139.1	1.5
1982	1380	31.6	-185.5	2.7
1983	1493	32.7	-246.1	3.5
1984	1143	24.7	-242.4	3.8
1985	1481	31.2	-251.0	4.0
1986	1506	30.7	-257.4	4.0

$$R^2 = 0.13, F_{13,287} = 3.3.$$

a given period of time, two states with per capita real GSP differing by, say, \$1000, will have per capita real federal income tax burdens differing by \$380, and will receive per capita real federal transfers to individuals differing by \$88. The total redistributive effect thus amounts to \$468. But this result shows how the US fiscal system deals with differences in real income levels, not changes over time. That is, it reflects the long-run redistributive properties of the system. The numbers fail to discern the response of the fiscal system to persisting income inequalities among states from its response to transitory regional shocks. In view of the earlier results, one may conclude that the US fiscal system is designed to alleviate persisting inequalities, but does little to buffer transitory regional shocks. This vast discrepancy between its response to permanent and transitory inequalities may result from the slow response of public spending and tax programs to changing economic conditions, or indicate that transitory regional shocks are generally not large enough to trigger more sizable redistribution.

3. UNEMPLOYMENT INSURANCE

Each state in the US is individually responsible for the development of an unemployment insurance program under the incentives and guidelines of federal law.⁸ The Federal Unemployment Tax Act (FUTA) and the Social Security Act deliver the broad framework. They spell out requirements for the coverage of certain types of employment and other qualifications and create pecuniary incentives for states to comply. Eligibility for, and amount and duration of unemployment benefits are determined by individual state laws within that framework. The following data shows the substantial variety among the individual systems:⁹

1989 potential benefits (dollars)		1988 average benefits (dollars)		1989 potential duration (weeks)		1988 average duration (weeks)		1989 required minimum base-year earnings (dollars)	
min	max	min	max	min	max	min	max	min	max
5	382	100	186	1	30	5	21	150	3640

Beyond its regular program, a state can activate the Extended Benefits (EB) program, a joint program of the states and the Federal Government, if its current 13-week insured unemployment rate is at least 6 per cent.¹⁰ The program enables a claimant to receive one half of his regular benefits for a maximum further 13 weeks. In two recent recessions, the Federal Government enacted additional relief programs for the unemployed, Federal Supplemental Benefits (FSB) and Federal Supplemental Compensation (FSC), allowing individuals to obtain unemployment compensation for additional weeks. Because of their discretionary nature, however, these programs stand apart from the regular unemployment insurance system.¹¹ The second column of Table 6 indicates that the Federal Government's share of the EB program reached a maximum of 8.1 per cent of total benefits in 1976. In most years, it was below five per cent. FSB and FSC, in contrast, reached up to 20 per cent of total benefits during the recessions. Table 5 shows that the elasticity of real net unemployment benefits paid with respect to changes in real GSP is about minus one.

Unemployment benefits are generally funded by a payroll tax imposed on employers. Currently, the Federal Government imposes a payroll tax of six per cent on the first \$7000 of each covered employee's annual earnings. A temporary surtax of 0.2 per cent was levied from 1976 through 1990. In states complying with the requirements of FUTA, employers receive a tax credit of up to 5.4 per cent, which states are expected to use for funding their

Table 5. US unemployment benefits

Year	Unemployment Benefits as percentage of GSP		
	Average	Standard Deviation	Range
1981	0.41	0.23	1.00
1982	0.77	0.36	1.60
1983	0.52	0.20	1.00
1984	0.41	0.20	0.76
1985	0.35	0.13	0.51
1986	0.37	0.15	0.63

Real unemployment benefits and real GSP growth				
$\Delta BEN_j = a_k + b_k OIL_j - 1.03 \Delta y_h + u_j$ (3.0)				
Year	\hat{a}_k	t-ratio	\hat{b}_k	t-ratio
1982	0.38	11.8	0.28	3.1
1983	-0.33	10.9	0.41	5.3
1984	-0.12	3.7	-0.16	2.5
1985	-0.10	3.7	0.01	0.2
1986	0.09	2.8	0.20	2.3

$R^2 = 0.24$, RMSE = 0.99, $F_{11,239} = 6.7$.

regular unemployment programs and one half of the EB program. Thus, the net federal unemployment insurance tax amounts to a maximum of \$42 per employee, the maximum surtax to \$14. Of the net federal tax rate of 0.6 per cent, about 0.5 per cent finance administrative cost and the remainder the Federal Government's half of the EB program. The federal surtax revenues were used to repay loans granted to state insurance systems, to build their reserves, and to fund the federal share of the EB program.

A state's unemployment insurance is expected to be self-financed. Most states impose a standard payroll tax of 5.4 per cent on covered employment to finance their regular programs. However, individual employers' tax rates are tied to their unemployment records and vary between zero and ten per cent. As a result, effective average tax rates in 1988 ranged from 0.38 per cent (South Dakota) to 2.95 per cent (Alaska) of the taxable wage. States must establish a taxable wage base at least equal to the federal base of \$7000 to be eligible for the full FUTA tax credit. 36 states have adopted taxable wage bases beyond that level, varying from \$7100 (Connecticut) to \$20 900 (Alaska) in 1988 to fund higher expenditure. No state taxes total wages, and the ratio of taxable to total wages in 1988 ranged from 28.9 per cent (New

Table 6. The Financial Status of State Unemployment Insurance

Year	Reserve/benefit ratio	Federal programs as percentage of total benefits	FSB/FSC
		EB	
1965	3.8	0.0	0.0
1966	5.5	0.0	0.0
1967	5.1	0.0	0.0
1968	5.8	0.0	0.0
1969	6.0	0.0	0.0
1970	3.1	0.4	0.0
1971	1.8	5.3	0.0
1972	2.0	4.3	0.0
1973	2.7	1.7	0.0
1974	1.7	4.1	0.0
1975	0.2	7.0	12.1
1976	0.1	8.1	19.1
1977	0.1	7.5	10.6
1978	0.6	4.1	0.2
1979	0.9	1.3	0.0
1980	0.4	5.2	0.0
1981	0.4	4.3	0.0
1982	-0.1	4.8	4.9
1983	-0.3	3.2	21.0
1984	0.2	0.2	14.2
1985	0.7	0.2	4.9
1986	1.0	0.5	0.0
1987	1.7	0.1	0.0
1988	2.5	0.0	0.0

Note: EB: extended benefit program; FSB: Federal Supplemental Benefits; FSC: Federal Supplemental Compensation.

Source: Franco (1989).

York) to 69.4 per cent (Montana). Only five states impose unemployment insurance taxes on both employers and employees.

Unemployment insurance tax revenues and benefits are administered by the Unemployment Trust Fund (UTF) at the US Treasury. All states have individual accounts with the UTF, where their insurance tax revenues are credited and benefit payments are debited. A state can draw on its own UTF account alone to finance its regular unemployment benefits. As a result of the institutional set-up, insurance tax revenues and benefit payments show up in the Treasury's, and, consequently, in the Federal Government's receipts and outlays, although they do not involve federal taxation nor federal spending in an economic sense.

In addition to administering the funds, the UTF provides an insurance

function for the state programs in case of insolvency. States have the right to loans from the fund if they are unable to meet their claims. Loans obtained from the UTF must be repaid within a maximum of 34 months to avoid penalty reductions of the tax credit against the FUTA tax. Since 1982, states may pay interest on loans from the UTF. The interest rate is the same the Treasury pays on UTF reserves invested in Treasury IOU's, and cannot exceed ten per cent. The first column of Table 6 suggests that the introduction of interest on loans has helped to strengthen states' incentives to build reserves in the UTF, which had been run down substantially in the 1970s and turned negative in the 1982/83 recession.

For the context of EMU, it is noteworthy, first, that unemployment insurance in the US involves only a minimal extent of income redistribution among states suffering high and low unemployment. Redistribution only arises from the federal share of the EB program if some states receive more EB benefits than others, which may or may not be true in practice, and to the extent that the interest charged on loans to insolvent state insurance systems is below the market rate. In practice, both aspects are of a small order of magnitude. Unemployment insurance in the US demonstrates that income redistribution across states to equilibrate transitory income fluctuations is not the only efficient and possible way to relieve the strains caused by transitory shocks. The principle applied in the US is, instead, to even out such fluctuations over time based on self-insurance. The transitory nature of the shocks assures that the self-insurance principle works. To increase the security it provides it is backed up by a federal insurance against insolvency, serving as a lender-of-last-resort. No sizable resources at the federal level, nor cross-funding through the center are involved. Apart from the central insurance against insolvency to enhance its effectiveness, and, possibly, the formulation of common standards to avoid tax and benefit competition among members, there is no compelling need to allocate unemployment insurance functions at the center of a monetary union.

4. FORMAL FISCAL RESTRAINTS

Almost all state governments in the US are subject to formal fiscal restraints that enhance fiscal discipline. Existing restraints are of two basic types. Balanced budget requirements (BBRs) are flow constraints restricting the government's ability to run a deficit in its current budget. In contrast, constitutional debt limits are stock constraints, limiting the size of government debt outstanding, but not necessarily short-run budget deficits.

In 1987, Vermont was the only state of the US with no formal BBR. All other states had requirements varying, however, in their degrees of strin-

gency. BBRs limit a state's ability to run a deficit in its operating budget, which is typically separate from its capital budget. Constitutional BBRs, which hold in 25 states, are more stringent than statutory BBRs which exist in 10 states; 14 states have both constitutional and statutory provisions. A report by the Advisory Council for Intergovernmental Relations, ACIR, (1989) identifies six typical restrictions, listed in the order of stringency:

- A: The governor has to *submit* a balanced budget.
- B: The legislature has to *pass* a balanced budget.
- C: The governor must *sign* a balanced budget.
- D: A deficit may be carried over but must be corrected in the next fiscal year.
- E: The state cannot carry over a deficit into the next biennium.
- F: The state cannot carry over a deficit into the next fiscal year.

Most states combine various of the individual provisions. In total, there are 29 different combinations. In addition, or as an alternative to BBRs, some states restrict their governments' ability to run a deficit by limiting state's borrowing power.¹² Only Maine and Massachusetts have no other restriction than the least stringent one, type A. Twenty-nine states are bound either explicitly or by common interpretation of law by the most stringent one, type F. The most common combinations of provisions are ABCEF (9 states), ABC (7 states), ABCF (5 states). A study by ACIR (1987a) computes an index to gauge the stringency of the combined provisions. The index ranges from zero (no BBR) to ten (most stringent BBR). Twenty-nine states have an index value of nine or ten, eight states have low values from zero to four, and the remaining 13 have values between five and eight.

Most state constitutions limit the amount of debt the state government can raise, either by imposing an absolute debt-maximum, or by spelling out maximum proportions of state revenues, taxable property, state property, general, or specific funds, which total debt cannot exceed.¹³ Many constitutions list a few qualified exceptions to these limits, such as borrowing for the defense of state or nation. To surpass its debt limit, a government must pass a constitutional amendment. Debt limits may apply to debt raised to finance casual deficits, or extraordinary expenses, or restrict borrowing for all purposes. They are often combined with, or, in a few cases, substituted by provisions rendering the legislative process of raising debt especially tedious, such as the requirement of a qualified majority in the legislature, or the need to call a public referendum to authorize debt.

In 1986, only 12 states had neither a percentage nor an absolute limit on state debt, nor a requirement for a public referendum to authorize debt. Many of the existing debt limits were originally imposed following the debt crisis that arose in the recession of the late 1830s and early 1840s. During

the 1820s and 1830s, many states had floated bonds to finance transportation and other business-oriented projects. When the post-1837 recession resulted in a shortfall of taxes and other revenues, several states flatly repudiated their debt, others had to suspend debt service temporarily, or increase property tax rates to continue servicing the debt. In view of this experience, the authors of the ensuing constitutional debt limits were primarily concerned with protecting resident taxpayers in their state, and, to a lesser extent, bondholders, from the losses of income and wealth in such crises, rather than imposing fiscal discipline *per se* (Gelfand, 1986 para 9:02).

In the present context it is worth noting that these early formal debt limits are ultimately linked to the interaction of monetary and fiscal policy just like the current demands for fiscal restraints are in the EMU. Then, however, the argument was very different from today. The 1837 bank panic and the subsequent recession have been linked to the monetary contraction and the increase in monetary uncertainty following the failure to recharter the Second Bank of the US. (e.g. Friedman and Schwarz, 1963, pp. 299 *et seq.*). The recession came with a reduction in the money supply by almost a third and a steep deflation.¹⁴ Thus, one may argue that the default of state governments on their debt was the result of unsound monetary policies rather than fiscal policies. On this premise, the demand for formal fiscal restraints in a monetary union may arise not only to protect money and bondholders from the consequences of frivolous fiscal policies, but equally to protect taxpayers and bondholders from the consequences of flawed monetary policy. For a EMU, such concerns would seem relevant if, for example, monetary policy was rigidly tied to a simple rule exposing the region to the risk of a deflationary shock.

The effectiveness of constitutional debt limits is weakened by the fact that they typically apply only to ‘full faith and credit’ debt. Governments can bypass the debt limit by issuing other types of debt. Substituting unrestricted for restricted types of debt can work in two main directions. One is to engage in off-budget activities.¹⁵ For example, states can create special authorities to administrate projects and let them raise debt. Similarly, public corporations and lease-purchase agreements provide ways to issue unrestricted debt. Another way to circumvent the limit is to delegate state functions to local governments which then issue municipal instead of state debt. (Council of State Governments, 1976; Heins, 1963). Under the plausible and realistic assumption that state governments do not allow off-budget entities nor local governments go bankrupt in the case of illiquidity, such ‘nonguaranteed debt’ ultimately is a liability of the state’s taxpayer in the same way as ‘full faith and credit debt’, although it is treated differently in public accounting (Bennett and DiLorenzo, 1983 p. 45).

How effective are formal fiscal restraints, then, to promote fiscal discipline

Table 7. Effectiveness of formal fiscal constraints

	State debt per capita	State debt/ Income ratio	State debt growth	Debt mix	Municipal/ state debt	State tax capacity	State tax effort
(a) <i>Debt Limits DLJ</i>							
Mean	1290	9.32	2.92	2.36	1.52	103.1	95.6
StD	776	5.82	2.96	1.49	1.23	17.2	20.6
Median	1159	8.09	1.88	2.03	1.22	101.0	93.0
(b) <i>Debt Limits DLII</i>							
Mean	1204	9.38	4.53	3.54	3.15	100.3	98.3
StD	1904	11.47	4.21	2.64	4.08	34.9	12.8
<i>t</i>	0.44	0.49	0.13	0.08	0.05	0.39	0.35
Median	806	6.35	2.75	2.85	1.85	91.0	95.0
MT	0.04	0.77	0.14	0.01	0.15	0.15	0.95
<i>U</i>	0.08	0.47	0.25	0.05	0.08	0.10	0.15
Mean	2267	15.1	2.88	1.87	1.17	116.9	98.3
StD	2813	16.6	2.08	0.82	1.02	46.6	17.3
Median	1697	10.2	2.13	1.76	0.82	103.0	100.0
Mean	911	7.54	4.24	3.47	2.96	96.4	97.0
StD	655	5.20	4.21	2.52	3.74	19.7	15.9
<i>t</i>	0.07	0.10	0.15	0.00	0.03	0.11	0.17
Median	725	5.82	2.29	2.75	1.78	92.5	94.5
MT	0.01	0.19	1.00	0.00	0.05	0.05	0.42
<i>U</i>	0.00	0.02	0.73	0.01	0.02	0.03	0.55

	(c) <i>Balanced Budget Requirements</i>					
	States with low stringency index			States with medium stringency index		
	Mean	1577	11.1	Mean	1632	11.3
<i>StD</i>	407	4.4	4.06	2.86	2.21	2.20
<i>t</i>	0.02	0.12	4.11	2.13	1.53	1.80
Median	1735	11.8	0.44	0.13	0.04	0.23
<i>MT</i>	0.00	0.21	2.38	2.57	1.69	1.64
<i>U</i>	0.01	0.05	0.68	0.45	0.01	0.59
			0.96	0.50	0.00	0.77
	States with high stringency index			States with high stringency index		
Mean	940	7.9	4.44	4.44	3.86	3.13
<i>StD</i>	758	5.8	4.44	2.10	3.17	2.68
Median	785	6.21	2.10	2.10	1.78	4.21

Note: For definitions of the variables see text. *StD* denotes group standard deviation. *t* refers to the *t*-test that the mean is smaller (larger) in one group than the other. *MT* and *U* refer to the median test (Chisquare approximation) and the Mann-Whitney *U*-test. In panel (c), the tests compare the means of the low (medium) stringency group and the high stringency group. The entries indicate the probability of a value exceeding the empirical statistic under the null.

and keep deficits and debt at low levels? To develop an answer, I consider the effect of fiscal restraints on several indicators of fiscal performance: 1985 state debt per capita, the growth of state debt between the fiscal years of 1976 and 1985, the ratio of nonguaranteed state debt to fully guaranteed debt in 1985, and the ratio of state debt and personal income in 1985 and the ratio of municipal debt in a state to the state's debt. Table 7 compares the averages and standard deviations of these indicators across groups with and without debt limits, and with low (stringency index of zero to five), medium (six to eight), and high (nine and ten) degrees of BBR stringency. Here, DLI refers to states with nominal debt limits or percentage limits, DLII refers to the same states and to states with only a referendum requirement to create debt. Three observations stand out as noteworthy: first, average state debt per capita, debt-income ratios, and debt growth are not significantly different between states with and without formal debt limits. Average state debt per capita is significantly lower in states with very stringent BBRs compared to states with low stringency. Debt-income ratios and debt growth do not differ significantly on average according to BBR stringency.

Second, the two indicators of substitution of unrestricted for restricted debt differ very significantly between groups with and without debt limits and different degrees of BBR stringency. Specifically, the ratio of non-guaranteed to guaranteed debt is significantly higher in states with debt limits and very stringent BBRs. Similarly, these states have significantly higher ratios of municipal to state debt. This reflects the tendency of state governments to delegate state functions and debt-raising power to off-budget entities and local governments. Overall, these results cast much doubt on the effectiveness of formal fiscal restraints.

Third, there are large differences in standard deviations among groups, as well as very different distances between averages and means, pointing to different degrees of skewness. This indicates that the frequency distributions of the fiscal indicators are dissimilar across groups, so that the comparison of average fiscal performance alone can be very misleading to judge the effectiveness of fiscal restraints (von Hagen 1990). For this reason, I use two non-parametric tests of the hypothesis that the frequency distributions of the fiscal indicators are the same for restricted and unrestricted states. Table 7 has the results of the median test (MT) and the U-test (Siegel, 1956). These results are more friendly to the effectiveness of fiscal restraints. Panels 7a) and 7b) indicate that states with debt limits have significantly lower median state debt per capita. The U-test also rejects the hypothesis of equal distributions of debt-income ratios for states with and without debt limits DLI. Similarly, state governments subject to very high BBR stringency are more likely to choose low per capita debt levels and debt-income ratios. State debt growth, in contrast is not affected by fiscal restraints. Together with the

previous results, these findings indicate that the distribution of fiscal performance is more skewed among restricted states. Restricted states have more frequency mass at low levels of per capita debt and debt-income ratios, but their distributions have very wide right-hand tails, which push the average indicators up close to the average of non-restricted states.

This finding can be interpreted as saying that, first, governments are more likely to obey fiscal discipline in the presence of formal fiscal restraints than in their absence. Second, however, the probability of extreme fiscal behaviour is similar among governments subject to restraints and those that aren't. This means that fiscal restraints do little to curtail the risk of a bail-out of insolvent governments. Finally, the nonparametric tests confirm that fiscal restraints induce debt substitution into off-budget activities and municipal debt.

Two further variables considered in Table 7 provide information on the link between state debt and tax revenue. A state's tax capacity is defined as the amount of revenue the state would raise if it applied the average tax rates for 26 commonly used state taxes. A state's tax effort is the ratio of its actual tax collections and its tax capacity. Both variables are computed as indices, with the national averages set to 100. Thus, a state with a high tax capacity number is one that enjoys a relatively large tax base. A state with a large effort number is one that uses its tax base relatively intensively. Table 7 shows that states with debt limits DLI and very stringent BBRs have significantly lower tax capacities, yet there is no significant difference in the tax efforts. This supports the hypothesis that the legislature in a state with a relatively poor tax base is more concerned with restricting government debt to enforce a long-run, intertemporal government budget constraint than the legislature of a state with a relatively rich tax base.

5. CONCLUSIONS

Critics of the current deliberations and efforts to build a monetary union in Europe have argued that a EMU is not viable, unless Europe institutes a fiscal union, too. The basic point in this argument is that, once exchange rates are permanently fixed and monetary policy can only be used to stabilize symmetric shocks to all participating economies, a system of fiscal spending and taxation must be in place to equilibrate transitory regional economic fluctuations, since adjustment to such shocks would otherwise be slow and inefficiently painful. Proponents of such claims have often pinpointed the example of the US, arguing that the US monetary union works because it is stabilized by a fiscal union.

In this paper, I have presented evidence on the qualities of the US federal fiscal system to provide income redistribution in response to transitory re-

gional shocks. The conclusion from this evidence is very clearcut: a stabilizing function of the federal fiscal system in this sense is virtually non-existent. The reduction in the federal tax burden and the increase in direct federal transfer payments together induced by an idiosyncratic negative shock to real gross state product amount to an average of 0.8 per cent of real GSP. Furthermore, unemployment insurance in the US is run and financed by states individually, and contains only minor redistributive elements. Thus the US provides an example for a monetary union working without significant mechanisms to balance regional shocks.

What lessons can Europe draw from this experience? First, it seems that the argument in favour of a larger Community budget or greater fiscal coordination is less general, hence less powerful than often perceived. Second, to support this argument anyway, it would seem necessary to single out the specific differences between the US and the EMU that would make the latter non-viable in the absence of a large EC budget or with non-coordinated fiscal policies. One popular view is that labour mobility is more limited in Europe. But the strength of this argument is much in doubt, since many of the alleged impediments to mobility, such as less well developed real estate markets, are endogenous and will change to adjust to the requirements of EMU. Others, such as non-transferability retirement benefits, are policy-dependent and can be adjusted, too. Third, the US example shows that transitory regional shocks can be addressed on the basis of a self-insurance principle that involves no redistribution across states, backed up by a federal or Community insurance against temporary insolvency. This principle has the clear advantage that it leaves room for individual member countries to design their own preferred insurance systems.

US evidence on formal fiscal restraints limiting government debt or government deficits suggests that such provisions induce governments to engage in off-budget activities or to shift fiscal responsibilities to lower levels of government, but do not effectively reduce the exposure of the central monetary policy authority to risk of having to bail out an insolvent government. The fact that the US Central Bank has never found itself in a situation where it had to do so cannot be attributed to the effectiveness of the existing fiscal restraints. Indeed, the Fed is freed from this potential threat to monetary stability by the absence of any obligation of monetary policy to respond to state economic conditions, the absence of state debt from its portfolio, and the understanding on the part of state governments that monetary policy is not available to prove solidarity among states. As a practical matter, the EC may consider the design of the Federal Reserve districts as an example of separating state political interests and regional influence on the central bank board (Graboyes, 1990). The US example thus clearly demonstrates that central bank independence from particular political interests is a powerful

tool to protect monetary stability from the threat of weak fiscal discipline of member governments.

NOTES

1. For a historical review of European monetary integration see von Hagen (1991) and Fratianni and von Hagen (1991).
2. See, e.g., Delors Report (1989), BMWi (1989), Branson (1989), Isard (1989), Buiter and Kletzer (1990), Bredenkamp and Deppler (1990), Eichengreen (1990a,b), von Hagen (1990), von Hagen and Fratianni (1990, 1991), European Commission (1990), Masson and Melitz (1990).
3. Apart from the fiscal policy aspect discussed here, this also implies that individual governments may agree to higher inflation rates in the monetary union than with independent monetary policies. See Fratianni and von Hagen (1990) for a discussion of how the voting rules and provisions for sharing revenues affect the steady state inflation rate in a monetary union.
4. See also Bank of England (1990), p. 67, for a critical discussion.
5. Here and in the following, real variables are computed on the basis of consumer price indexes for four census regions of the US.
6. Note that this is different from a regression of levels of these variables on the level of GSP in a cross section analysis. The coefficient on real GSP in that regression would be more indicative of permanent redistribution between high and low-income states in the US. See the discussion below.
7. Eichengreen (1990) refers to the study by Sachs and Sala-i-Martin (1989). These authors use regressions similar to those of Table 4, however, they use relative tax, expenditure, and income variables, defined as state data normalized by the US average, and data for nine census regions instead of individual states. Sachs and Sala-i-Martin find that OLS and instrumental variables estimates are very similar.
8. See Franco (1989), US Congress, House Ways and Means Committee (1989).
9. Franco (1989). Required earnings are to qualify for minimum potential weekly benefits.
10. The insured unemployment rate (IUR) is the average number of workers claiming benefits as a percentage of all workers covered. Only 13 states make use of the alternative option to trigger the EB program, which is the state's 13-week IUR at at least 5 per cent and at least 120 per cent of its 13-week IUR in the two preceding years.
11. Other unemployment programs include unemployment insurance for railroad workers, federal employees, ex-service men, and funds under Trade Adjustment Assistance and Public Service Jobless. These programs are quantitatively much less important than the regular unemployment insurance. See Vroman (1990).
12. For more details, see von Hagen (1990).
13. For details, see Heins 1963, Bennett and DiLorenzo 1983, and von Hagen 1990.
14. In an alternative view of this episode, Temin (1969) attributes the decline in the money supply largely to forces outside the US, but agrees that it contributed to the recession.
15. For a review of off-budget activities, see Bennett and DiLorenzo (1983).

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XX. The scope for fiscal policy in the European Community

DIRK J. WOLFSON

1. ON THE THEORY OF FISCAL POLICY

Is there a long wave in the business cycle? I doubt it. But Kondratief is right as far as the cycle in macro-economic paradigms is concerned. Like everything that comes in waves, paradigms have their ups and downs. Over the last half century, we have witnessed the long upswing of Keynesian economics, culminating in the crest of the neo-classical/neo-Keynesian synthesis, and crashing onto the shores of reality with the foamy splash of rational expectations, on which the intellectual *nouveaux riches* of the new classical economists are happily surfing along.

That is a long sentence to describe a long wave. But it sums up the argument in Part 1 of this paper, which explores whether we really are at a low ebb, or riding towards new heights of synthesis again. Part 2 deals with the scope for fiscal policy under a monetary union, and Part 3 with the political economy of fiscal federalism.

In Part 1, the argument contains four theoretical themes and a policy problem. At the conceptual level, I would like to discuss (1) the basic visions of equilibrium and adjustment, (2) the complexity of targets and instruments, (3) uncertainty and rationality in private and public choice, and (4) the importance of understanding micro-economics for the proper stance of fiscal policy. These theoretical themes will be woven into a plot which explores the extent to which a new Europe may overcome the policy problem of (5) size (leakages) and jurisdiction.

Equilibrium and adjustment

The time-honoured question in the macro-economic policy debate seems to be whether the private sector is inherently capable of generating a stable economic performance. To what extent could the market generate a sustainable development of human, financial and physical capital, at the optimal level of achievement, in keeping with unadulterated preferences and the state of the art in technology? Now that the birth of a single European

currency introduces an asymmetric risk of fiscal weakness across member states retaining considerable sovereignty over ‘internal’ affairs, it is all the more time to broaden the issue and to start worrying about the inherent instability of the public sector as well.

In believing that the system is not self-adjusting, Keynes broke with the neo-classical tradition. In today’s language, a summary of the neo-Keynesian position may read as follows: in administered markets, prices do not sufficiently adjust to exogenous changes in quantities (Okun, 1981). When price-adjustment lags behind, the market fails as an information mechanism. False trading sets in (Hicks, 1946), with prices not low enough to make adjustment come true at the supply side, and not high enough to stimulate demand (Tobin, 1980). This may not be disastrous, as long as we stay clear from the shallows bordering Leijonhuvfud’s corridor (1968; 1981), but that is small comfort if we don’t know where those shallows are (Pen, 1983). This is where the government comes in, creating more stable, more predictable conditions through the proper management of the economy. And so, at the end of the day, the crux of Keynes’s concern may well have been with uncertainty, as Allan Meltzer (1988) claims in his latest book. Uncertainty throws off the animal spirits driving the investment function, raises the cost of capital by decreasing its marginal efficiency, and discourages investment generally.

I won’t risk a libel suit by calling Meltzer a neo-Keynesian; his point is, rather, that Keynes was not exactly a (neo-)Keynesian himself. He never pleaded fine-tuning. Nor did he go for the Siren song of macroeconomic model-based forecasting. If anything, he favoured international coordination and pre-announced rules for fiscal policy, pretty much in the same way that monetarists like Meltzer are keen on pre-announced rules for monetary policy. That is a striking resemblance, and an important element in the synthesis of the 1990s that I see emerging.

There is a big difference as well. As one of the last Children of the Enlightenment, Keynes believed that governments – or treasuries, rather – could be and *should* be smarter, more rational and more reliable, than markets. That was probably a bit naive. To us, with the wisdom of hindsight, treasuries nowadays look more like governments than Keynes would have cared for. And governments may have very rational reasons for not trying to outsmart markets. Most of us nowadays recognise, as children of the neoclassical/neo-Keynesian synthesis, that markets may have their moments of wisdom as well. That does not entail the collapse of the intellectual argument whether quantities are driving prices or the other way around. It means, at best, that the debate goes on, but now within earshot, recognising that macro-economic equilibrium is a matter of quantities *and* (not or) prices, and of supply *and* (not or) demand. Recognising, too, that market and

budget systems alike are better off with structural policies, including structural adjustment policies, than with continuous prodding in the name of tuning. And, finally, that economies cannot perform satisfactorily if they bereave themselves of the informational efficiency of decentralised market-making at the micro level.

Basic visions of equilibrium and adjustment policies, and of the role of government continue to differ, but not so much any more on conceptual or theoretical issues, but rather in ideological overtones. Egalitarians still prefer governments over markets, believing that political systems, in the West, abide by the one person/one vote rule, rather than the power of the purse, and that budgets may be used to further redistributive justice. Cynics and (other) conservatives know better than that. Therefore, I have no difficulty with the conclusion in Fase and Wellink's excellent survey of rival macroeconomic paradigms (1990, p. 403), that

the answer to the question of stability is not so much provided by the analysis itself as by the assumptions on which a particular theoretical view is based. In other words, the theory primarily serves to provide an intellectual argument for preconceived views on the desirability of a particular policy.

Targets and instruments

Leaving paradigms aside, things are not exactly straightforward at the applied level either. Suppose we are in agreement that demand should be managed in order to achieve the dual target of full employment and price stability; do we know how? No, not really. To the extent that fiscal and monetary policy are collinear, we immediately run into what Tobin (1990, p. 3) dubbed the *common funnel theorem*.

The theorem says that the consequences of a given volume of aggregate demand, on the one hand, for output and employment and, on the other, for money prices and wages are independent of the sources and composition of that volume of demand. [...] The demands generated by fiscal policies and those generated by monetary policies are poured, along with demands from all other sources, into a common funnel. The output/price or unemployment/inflation trade-off is inexorable; that is to say, it can't be eliminated or mitigated by altering the fiscal/monetary policy mix.

Let us, for the moment, not complicate things by asking ourselves whether Tobin does not overstate his case (domestically, some of the differences in the expenditure incidence of public and private spending remain obvious, and so does the differential incidence of fiscal and monetary policies on interest rates and the external value of the currency, funnel or no funnel). All I want to point out is that the Common Market provides an even bigger

common funnel, in which the intractability of the domestic fiscal/monetary mix is only part of the problem. In an open market, moreover, money travels faster than goods. In dynamic terms, this means that, *in a market that is opening up, money even gears up faster*. Over the 10 years 1980–1989, intra-Community exports rose from 12.3 to 14.3 per cent of GDP, while direct investment inflows into the leading industrial EC countries increased more than four-fold, from US\$13.2 billion over the years 1980–84, to US\$63.2 billion in 1989, according to the 60th Annual Report of the BIS (June 1990).

The common funnel theorem demonstrates appealingly what we have known – but not necessarily admitted – for a long time. There is no hope that a ‘pure’ Keynesian or monetarist policy response could ever be induced, let alone be proven. But is it too far-fetched to speculate that this will help to gradually displace the neo-classical/neo-Keynesian synthesis by a Meltzerian–Keynesian synthesis of preference for rules over discretion in fiscal and monetary policy, as the core of applied macro-economics?

Rationality revisited

Acknowledging the respectability of a longer-term perspective does not blunt my prejudice *vis-à-vis* the new classical macro-economics, and the rational expectations crowd (REC) in particular. The REC are wrong in trying to make believe that any government intervention in the level of absorption is bound to fail in an ‘impotence result’ (Maddock and Carter, 1982), and the profession is to be blamed bitterly for letting their philistine arguments abuse the theory of markets, of industrial organisation and of rationality itself for such a long time. In its purest, objective form, rationality is an instrumental concept (Hirschleifer, 1985, p. 59), a straight line, an arrow of logic between ends and means, describing a “consistent, future oriented and instrumentally efficient behaviour”, as Elster puts it (1989, p. 35). That is a nice logical construct, and an attractive counterfactual, perhaps, but people, markets and organisations don’t act that way, not in adapting their expectations to past experience, nor in forming rational expectations about the future. If they did, the American banking system would not be in a continuous crisis of one over-exposure after another (following deregulation!), and the American economy, in the early Reagan years, would not have persisted in behaving pretty much as the modern Keynesian models predicted (Startz, 1984, p. 881). People, on the whole, face considerable information and transaction costs in optimising their behaviour, and have other things to worry about or to enjoy but the rigors of objective rationality; they show satisfying behaviour, as far as rationality is concerned (Earl, 1990). And so do markets, organisations and governments. Yes, even governments are not smart enough

to conspire against the public interest in the way the REC would have it, nor stupid enough to pursue unworkable policies forever.

If I seem to get excited about the rational expectations paradigm – yes, I feel better now, thank you – it is not because of its bigotry in the cloak of tautology, as that is no unusual phenomenon in the macro-economic policy debate. It is because we cannot afford false overtones of ideology in foregone conclusions about the rationality of private and irrationality of public decisions, now that Europe is at a new and truly panoramic window of opportunity.¹ Shaping our future requires an open mind about the structure and sustainability of our society. That is a value judgement indeed. I'll stand by it.

In praise of microeconomics

To those of us who see economics as a behavioral science, the problem of fiscal policy is not how to underpin macro-economics with microeconomic foundations, but how to see real-life decisions in markets and bureaucracies in aggregated form. This is not just a way of turning a phrase; I am trying to make the point that economics is about decisions of individual agents in households, firms and (other) bureaucracies, and that macro-economics, as the aggregate outcome of these decisions, is a meta-phenomenon. Taxes, subsidies, and other government interventions influence choice, *individual* choice. In aggregating policy outcomes, we may be surprised by fallacies of composition, by prices turning out to be incomes as well, by common funnels and the like. Gaining macro-economic insights certainly helps in creating a more stable, more predictable environment for individual choice. But the basis of economic and fiscal policy is not in macro-economics; it remains in our capability to influence individual choice in households, private organizations and government agencies with direct regulation, with Pigovian taxes and bounties, and with persuasion and negotiation. There may be *patterns* in macroeconomics, but there is no such thing as ‘macro-economic behaviour’, *aggregates* don’t pay taxes nor grab subsidies, *people* do, and macro-economics will never be more than a useful but hard-to-decipher shorthand of their behaviour.

These old truths remind us that the *nouveau riches* of the new classical economics have little class to offer of their own. It’s all in Marshall and Pigou; all they add is Walrasian tautology and mathematics, as group therapy for their mutual admiration society.² Their only contribution, perhaps, is that they provide strange company for modern neo-Keynesianism, in stressing the importance of micro-foundations in macro-policymaking, and drawing our attention to system-wide analysis. If, in fiscal policy, we manage what Marshall and Pigou wanted us to do – to internalize externalities with due regard

for income and substitution effects – there is no reason in logic to expect the ‘impotence result’ the REC keep predicting.

Problems of size and jurisdiction

For all practical purposes, traditional Keynesian policies had been defeated in Europe by the limited size of the economies concerned, long before the ‘new orthodoxy’ in economics got hold of the minds of policymakers. The Netherlands and France soon found out, after setting out on their own to stimulate demand in 1974 and 1981/82, respectively, that much of the impulse leaked away, in the increasingly open European market. But now that Europe is shaping up in the proper size for proper multipliers, it is the legitimization of demand management that seems to be lacking, in the intellectual, the ideological and the political sense.

As already mentioned, the intellectual and the ideological arguments in macro-economic theory are almost inexorably intertwined, in the common funnel (no capitals here) of positive and normative reasoning which nobody knows how to avoid entirely. Thus, even a larger jurisdiction may not provide the legitimization of an active demand management, now that the focus of analysis and ideology has shifted back to individual choice. The political scene provides an even more pedestrian reason for a low level of macro-economic ambition: given the state of development of the political infrastructure in the Community, there is simply no authority in sight which could credibly give the necessary directives.

Does that mean that fiscal policy is out? No, it does not. It means that macro-economic policy in Europe, for the foreseeable future, is largely restricted to the Meltzerian–Keynesian management of pre-announced rules for monetary and fiscal policy. Within that context, the Commission may very well develop and execute new specific fiscal policies at the meso- and microlevel in what may be recognized as legitimate areas of Community involvement, such as agriculture, technology, energy, the environment, and transportation, as long as it recognizes the constraints of its jurisdiction and the informational requirements of public intervention. In short, that means that the three M’s of Marshall, marginalism, and markets will be foremost in our mind, if we now set out to explore the scope for such policies.

2. THE SCOPE FOR FISCAL POLICY EXPLORED

In line with the previous analysis, I will deal with the scope for fiscal policy in two stages, at the macro- and at the meso/micro-level, before winding up the argument of this paper in Part 3, on issues of legitimization and the political

economy of fiscal federalism. In this Part, the wealth of material and ideas available to us will be reduced to four topics: (1) the interplay of monetary and fiscal policies at the national and the European level, (2) rules versus discretion in setting limits to government deficits, (3) harmonisation of tax and expenditure structures, and (4) new horizons for fiscal intervention.

Monetary and fiscal policy: what is there to play around with?

Not much. Leaving transitional arrangements aside and assuming a completion of the EMU in which, with due respect for Mr. Major, currencies are effectively united, the sustainability of a monetary union requires a degree of fiscal discipline at the national level in which pressures for undue accommodation or bailouts by other EMU member states are avoided. It should be noted from the outset, perhaps, that this statement is less normative than it looks. Quite apart from what *should* be, experience shows that, even in mature federations, there are limits to the extent to which bailouts are accepted, as New York City found out in the 1970s. And earlier this year, the handling of the case of Greece pointed in the same direction, intimating a growing awareness that finance cannot be a lasting substitute for adjustment in an emerging federation that is still struggling for the street credibility of its monetary and financial management. Meanwhile, however, the determination to set sustainable standards seems to be wavering. If it wavers indeed, Greece's contemporary history will substantiate the normative case that bailouts should be out.

What about fiscal accommodation? That is a more complex case, in which the nature of the disturbance has to be taken into account. In financially 'sound' economies within the Community, imbalances may be sustainable if warranted by diverging developments regarding productivity or demography. If the market recognises soundness, private capital flows will take care of the case, pretty much in the way the United States were financed in the nineteenth century. The hard problem of policy coordination within a monetary union is in adjusting to country-specific real shocks of the good old 'fundamental disequilibrium' category. Once the nominal exchange rate is lost as an intra-Community policy instrument in dealing with country-specific shocks in the real economy, three questions need to be addressed (Frenkel and Goldstein, 1990): (1) are the real shocks that typically hit European economies country-specific indeed? If they are industry-specific instead, and if members have a diversified-enough industrial structure, they may largely cancel out at the country level. If they are not, it may well be argued that constraints on budgetary flexibility would lead to significantly lower welfare compared to a situation where each country could respond flexibly (Masson and Mélitz, 1990).³ Within the framework of a monetary union, however,

even limited, rule-based attempts at functional finance call for strict rules of coordination, along the lines explored in the next section. (2) Would the increased competition in goods and factors markets associated with 1992 increase downward flexibility of money wages and prices? Could be, if one looks at the fundamental weakness of unionism across countries. If so, Europe would indeed be more of a new classical market place in which the monetary authorities need not worry so much about the adjustment process. But I don't believe it. As Bovenberg, Kremers, and Masson (1990) point out, labour mobility is lower in the Community than in existing federal states, such as Canada and the United States, and real wage flexibility is also estimated to be quite low in Europe when compared with North America; so we would have a long way to go before the market could be relied upon as a coordinating agent in macro-economics. Finally, (3) could a federal fiscal authority act efficiently by cushioning a country's tax and transfer payments in the event of country-specific real shocks in a roughly budget-neutral fashion for the union as a whole? There may, of course, also be equity reasons for such transfers (Broadway and Flatters, 1982). But clearly, the scope for this kind of compensating finance would remain limited for a long time to come.⁴ As Lamfalussy (1989, p. 101) points out, in a comparison with large federations such as the United States, Germany, Australia and Canada:

The combination of a small Community budget with large, independently determined national budgets leads to the conclusion that, in the absence of fiscal coordination, the global fiscal policy of the EMU would be the accidental outcome of decisions taken by Member States. There simply would be no Community-wide macro-economic fiscal policy.

So there is a need for fiscal policy coordination between members of the EMU, if only because we cannot be sure about the above questions, and the conditions they imply. More importantly perhaps the management of the external value of the ECU, the European current account and the (common) interest rate (policy) will require a common effort. And finally, as already mentioned, the mere impossibility of exchange controls or exchange rate adjustment creates a need to deal with the moral hazard of asymmetric risks of fiscal weakness and of avoiding unwarranted bailouts.

Rules versus discretion in monitoring fiscal performance

The next question is what mechanism should provide for greater fiscal policy discipline: (1) the exchange rate, (2) financial markets, (3) peer group surveillance or (4) self-imposed mechanisms on a country-specific basis?

Once the EMU is completed, the role of the *exchange rate* is reduced to settling the external value of the common currency. Although cynics might wish to enquire about the rationality of dollar movements *vis-à-vis* the EMS

in the 1980s, and although the future role of the ECU as a possible reserve currency has been hardly explored so far, the least we can say is that it is unthinkable that the European System of Central Banks will treat the external value of the ECU with benign neglect; it simply cannot afford to do so, given the size of external trade and its commitment to monetary stability. In that sense, the exchange rate certainly will play a leading part in monitoring the over-all fiscal stance in the Community as a whole.

Leaving the issue of freely floating versus managed exchange rates aside, the real question seems to be to what extent *financial markets* can be relied upon in the *internal* coordination of fiscal policies. In my mind, their contribution could only be limited. The most important prerequisite for financial markets to contribute at all to fiscal coordination seems to be fulfilled: public debts will not be monetized by central bank purchases. In this connection, Graham Bishop's suggestion, elsewhere in this volume, that all financial institutions be required to value government debt at the current market price will certainly help to make markets more aware of the credit risk involved in financing profligate governments. Furthermore, there is reason to believe that bailouts will be avoided also implicitly, by monitoring deficits so that no single debtor could be regarded 'too large to fail'. Nevertheless, the informational requirements of assessing the 'net worth' of public debtors in different institutional settings remain so overwhelming that a comparative credit-rating remains a speculative game in which markets cannot provide definitive answers. In an EMU, moreover, with money travelling faster than goods and services, internal interest rates will tend to harmonize anyway. In short, financial markets may make a helpful contribution towards greater fiscal discipline, but they cannot do the job all by themselves. They may be supplemented, however, by *policy competition* from political markets, when national governments feel induced to align tax and expenditure policies.

Full coordination requires, in addition to market pressures, a blending of *peer group surveillance* and *country-specific, self-imposed mechanisms*. A blending indeed, as peer review has to rely to a large extent on country-specific mechanisms, because of the informational requirements referred to above, and in view of the intractabilities and sensitivities of the subsidiarity principle in a federal context. This poses two of the hardest questions at hand: *who are* the peer group, and *what sort* of self-imposed mechanisms should we think of?

As noted before, the problem of the peer group is not easily solved. Given the setting of the EMU and the EPU as they are now emerging, we may have to make do with a sensitive, but not necessarily sensible compromise between supranationality in the conduct of monetary policy, and intergovernmental coordination in fiscal policy. This is, of course, asking for trouble. If there is a reluctance to cede sovereignty in fiscal matters, this will also be

reflected in the functioning of the European System of Central Banks (Szász, 1991). Given the absence of a truly federal governmental counterpart in the monetary/fiscal policy mix, the best we might hope for is an ever so pragmatic support for a Meltzerian–Keynesian preference for rules over discretion in the monitoring of country-specific self-imposed mechanisms. Self-imposed rules may come in three categories: (1) direct regulation along the lines of the Gramm–Rudman–Hollings legislation or the Californian proposition 16, (2) classificatory conceptions like the classical golden rule of equilibrium on the current account, and (3) analytical conceptions like a savings-based structural budget policy, as explained below.

Direct regulation, ostensibly, has the attractiveness of a hard-and-fast rule. This is probably why the Delors Committee (1989) advocated a statutory ceiling on deficit spending. In practice, however, statutory ceilings are easily abused, by decentralizing uncontrollable items to lower layers of government, or by privatising public expenditures. Furthermore, they always turn out to be used to the full, creating a built-in destabiliser making the budget procyclical. Finally, deficit ceilings, when properly monitored, would have to allow for warranted differences in productivity and demography, as mentioned above. More in general, they would seem so hard to negotiate and to maintain that they may turn out to be not so hard-and-fast, after all.⁵

Classificatory conceptions restricting deficit financing to the capital account seem to be regaining considerable support in expert opinion, as a reflection of the increased appreciation of the allocative role of fiscal policy.⁶ Such a Gold-Rule (GR) would appear reasonably hard-and-fast, and would limit the procyclical impulse to the current account, safeguarding capital spending from being crowded out in downswings by a fateful combination of tough statutory ceilings and weak government. Yet, there are two obvious drawbacks in this option, as already intimated above. First, as the analytical boundaries of what constitutes investment and good practice in depreciation remain unavoidably vague, classificatory notions remain open to interpretation, hard to administer and vulnerable to abuse, which raises doubts again as to just how hard-and-fast the rule would be. Second, there is the remaining procyclical problem, calling for a more structural solution and pointing towards *the heart of the matter*, which is not in controlling government deficits, but in matching investment and savings across the Community. What is needed to avoid inflation and to sustain the desired external value of the ECU is not that individual members adhere to arbitrary accounting rules irrespective of local (dis)savings generated in the non-government sector or apparent investment needs in the public and the private sector, but that members find ways of sharing out optimal structural patterns of absorption. A macro-economic policy for the Community as a whole *need* not treat individual members alike and *should* perhaps not interfere unduly with the

level and composition of government spending in individual member states which, in a federal (and no-bail out) context, should be the subsidiary responsibility of those members. All this points away from a GR and in the direction of a more analytical conception and therewith, perhaps, to a choice between the devil and the deep blue sea. The devilish part is that classificatory conceptions like a GR address the wrong problem the right way (keeping it simple and appealing to no-nonsense sentiments), whereas the deep end is that analytical conceptions address the right problem the wrong way (by looking complicated and sophisticated). But read on, also on the aspects of political economy, in Part 3.

Analytical conceptions start from the need to strike a proper balance between savings and investment in support of a common currency, and then come down to the nitty-gritty of administrative and political feasibility. During the 1960s and most of the 1970s, such a savings-based structural budget policy (SBP) has been pursued in The Netherlands, relating the size of the budget deficit to structural developments in the savings surplus of the non-government sector after allowance for a target value of capital exports (Dixon, 1972). Later, an effort has been made to generalise the underlying model for capital-exporting and -importing countries alike (Wolfson, 1979, pp. 232–9).

Within the EMU, the challenge would be to find a specification for the ideal match between investment and savings on a country-by-country basis, so that government deficits would not exceed the structurally available savings surpluses of the non-government sectors, after allowance for (1) recognised diverging developments in productivity or demography, (2) a targeted contribution to the desired external position of the Community as a whole, individualised on a country-by-country basis, and (3) recognised needs for capital movements between the rich and the not-so-rich Member Countries. With the – adjusted – structural savings surplus as the basis for fiscal planning, it is no longer the *actual* growth of resources that determines the budgetary possibilities, but the *structural* endogenous growth of revenues and non-government savings surpluses over the cycle. Thus, the system provides a mechanism of built-in stabilisation, linked in with a medium-term budgetary perspective. It kills three birds with one stone: it (1) eliminates the procyclical element in the golden rule, (2) does away with the nightmare of monitoring ‘capital’ expenditures, and (3) manages the availability of savings within the Community, which a unified capital market then will share out to ‘deserving parties’.

I spoke of a challenge, not of a ready-made solution. Clearly, the administrative demands on the monitoring capability of the Commission would still be considerable, and the political demands on the intergovernmental Council of Ministers nothing less than formidable. But compared to the hassle of

establishing what constitute capital expenditures and appropriate depreciation rules, savings surpluses and their prospective medium-term development could be established rather easily, as far as technicalities are concerned. All one needs, basically, is a credible estimate of the national product, the structural growth rate of the economy, the income elasticity of the tax system and the development of the structural savings rate of the non-government sector (which is, by definition, equal to the difference between the national product and total absorption, plus or minus the balance on the over-all government accounts). Note that the system is insensitive to problems of classification, as any shift from the government to the non-government sector in order to reduce the official borrowing requirement would translate itself to a lower savings surplus of the non-governmental sector and thus, to a lower borrowing entitlement. So the system beats effectively what has become the endemic weakness of the Welfare State – all cheques and no balances – by checking the cheques. Note furthermore that by concentrating on the available or *disposable* savings (leaving actual transactions to markets), the SBP-model is insensitive to what private portfolio-holders or corporations actually do with their (domestic) savings (in case of multinationals, these savings are apportioned in the same way as corporate tax liabilities are). In other words, if Olivetti feeds part of the Italian savings surplus into the Euromarket, the Italian government can take it out again (as long as there is an over-all Italian surplus): SBP looks only at the solvency of the Italian economy as a whole. Olivetti may not like this. They may feel that the Italian government should save more, and make nice investments in infrastructure (data networks, preferably). But if we believe in subsidiarity, that is an Italian, and not a Community affair.

The hard question is how to manage these surpluses. In the system envisaged, relative responsibilities should be carefully separated and spelt out. The structural, medium-term target values referred to above should be established/negotiated in the Council of Ministers (by majority vote), on the basis of properly documented proposals by the Commission, made upon recommendation by the Monetary Committee, and after consultation with the European System of Central Banks, to ensure the sustainability of the desired external value of the ECU. Furthermore, the Draft Treaty on Economic and Monetary Union (EC Commission 1990a) provides for consultation of the European Parliament, but as long as it is not the Commission but the Council which does the deciding, we should not have too many illusions about the supranational or the democratic content of the decision-making process (no matter what format of policy-coordination – GR or SBP – is adopted; see, however, Part 3). All the same, a procedure as here proposed would seem to fit in with articles 102c, 102d, and 103 of the Draft Treaty. Even so, managing the *availability* of savings within the Community – again,

not the *flow*, that is a matter of markets – would be a formidable task, but, at least, we would be coordinating policies, rather than issuing rule-of-thumb directives.

At first sight, the most devastating argument against a Structural Budget Policy is that it did not work very well when tried in The Netherlands: (1) built-in stabilisers were not left alone, as built-on stabilisers were added in attempts at fine-tuning; (2) continuous tax hikes depressed the growth rate; (3) the growth rate underlying the estimated structural tax base development was consequently overestimated; and (4) public capital expenditure was crowded out. What lessons are to be learnt from this experience? We need not worry too much about the first two: fine-tuning is out, in today's prevailing paradigm, and individual member states, nowadays, are much more sensitive to the need to remain (or become) 'competitive' in tax burdens. The hard part is in the complications (3) and (4). Clearly, individual countries will drive a hard bargain to overstate growth rates and to enlarge their allotments of structural savings surpluses which control their warranted budget deficits, as did pressure groups in The Netherlands. In the Dutch experience, however, pressure groups were right there, in parliament, setting their own rules in budgetary policy. The crucial point to grasp, however, is that in a European context, rule setting would be constitutionalised at a 'higher' level, to answer the classical Roman riddle of *Quis custodiet ipsos custodes* ('Who will keep our guardians in check?').

There remains the problem of controlling government deficits and safeguarding public investment. Speaking of *Quis custodiet*, with Italy running a budget deficit, in 1990, equalling *in absolute terms* that of the United States, conceptual preference for a SBP over a GR is reduced to academic proportions (a qualification constituting the second most devastating argument against a SBP). It is all very nice to argue that sustaining the desirable external value of the ECU requires no more than maintaining the appropriate over-all savings surplus within the Community as a whole, but what happens to the debate in the Council apportioning the various national contributions to that savings surplus, when the Italian taxpayer keeps insisting on being subsidised to that extent? What to say, in particular, to the Dutch (the most self-righteous of all), when they object to seeing their private sector savings go south, but keep on running a non-sustainable public deficit at home? I would know what to say. I would say that both the Italians and the Dutch are mortgaging their and Europe's future by not getting their public finances in shape, but that is an argument in terms of economic policy and economic growth, not in terms of monetary sustainability.

And so, we have come the full circle. In terms of monetary sustainability *as such*, a SBP is all that is needed, but in terms of related goals of optimising economic growth a further consultation on economic policies is called for.

What matters, at the end of the day, is not just the national structural savings situation as such, but also the development of structural claims against it, particularly with regard to the management of the public sector. As long as the common market does not induce competitive public sector management, additional performance criteria regarding public (dis)savings and investment may be needed in multilateral surveillance. Therefore, comparing the Golden Rule with a Structural Budget Policy, the benefit of the doubt, in terms of sheer feasibility, probably belongs to the first option, for now. But we should not lose sight of where we eventually might wish to be going.

The harmonisation of tax and expenditure structures

On the supply side, fiscal coordination requires a fair amount of harmonisation of tax and expenditure structures at the meso-level, to align individual choice parameters to a unified market. A fair amount; we should not overdo it, as tax bases and benefits from government expenditures do not travel as fast as money does, and for a number of other reasons set out in Cnossen (1990).

As far as *indirect taxation* is concerned, the principle of free movement of goods and services requires tax neutrality *vis-à-vis* goods produced at home and elsewhere in the community, also after the abolishing of borders makes tax adjustments of value-added taxes and excises impossible. The condition that physical border controls be abolished implies that taxing non-tradeables remains a national prerogative, and that there remain degrees of freedom to tax tradeables to the extent that one wants to accept the risk of loss of competitiveness. In actual practice, moreover, tradeables may continue to be taxed under a destination principle on the basis of the location of consumption, by introducing a deferred payment scheme, as already agreed between the Schengen countries and proposed to the Community as a whole. Under such a scheme, tax neutrality is secured by putting foreign and domestic goods on an equal fiscal footing without the need for physical checking of imports at the border. Instead, exports are free to begin with, and the tax credits mechanism of the value-added system is relied upon to ensure that the first taxable actor in the importing country pays the tax – as a domestic tax – for which there is no offsetting credit (Cnossen and Shoup, 1987, p. 74). This takes part of the bite out of rate differentials between countries. Although tax neutrality *within* countries between imported and domestic goods is secured, there still will be ‘tax base snatching’, with people shopping across the border as long as rate differentials *between* countries are not harmonised.

In *direct taxation*, we should distinguish between income from labour and from capital. Evidently, labour migration within the Community is stimulated

by economic integration and remaining differentials in disposable incomes, but restrained by cultural and institutional differences, and distance (Molle and Van Mourik, 1988). There is, however, increasing evidence of 'benefit snatching' across national borders (as the consumers' equivalent of 'tax base snatching') which, to the extent that public expenditure patterns do not converge, will stimulate benefit taxation. As far as personal income from capital invested in other Member Countries is concerned, one might assume, with Bird and McLure (1990, p. 238), that in order to avoid international double taxation, *source* countries (in which the investment is made) will behave as 'price takers', setting rates within the scope provided by tax sparing (France, The Netherlands) or tax credit arrangements in *home* countries (in which recipients of such income reside).

Corporate income tax harmonisation in Europe still leaves a lot to be desired. Rates differ from 50 per cent in Denmark and Germany (1990) to 35 per cent in Greece, The Netherlands, Spain, and the United Kingdom, and discrepancies in tax bases create ways of nontransparent beggar-thy-neighbour policies. Harmonising tax bases, in particular, would reduce compliance cost for corporations operating in several European countries. Musgrave (1987, p. 203) suggests approaching tax base harmonisation with US-style 'formula apportionment', for instance with the so-called Massachusetts formula, which gives equal weight to the location of property, payroll and sales, as proxies for capital, labour and the demand for goods and services. Tanzi and Bovenberg (1990, p. 184) caution, however, that the administrative complications of formula apportionment would be formidable in the face of intra-Community differences in legal and accounting frameworks. As with fiscal policies in general, the question arises whether harmonisation should be concerted by Community authorities, or market-based, on 'tax competition'. As competition for the tax base may disrupt fiscal systems, making them less efficient (when recourse is sought to sub-optimal replacement taxes) or less equitable, Tanzi and Bovenberg (1990, p. 186) suggest that the Commission set a minimum statutory corporate rate, while allowing Member Countries to freely set their rate above that.

It looks like the *harmonisation of public expenditures* will be left largely to market forces, also because a European social policy is emerging only slowly. Van der Ploeg (1991) argues that, without coordination, beggar-thy-neighbour tax cuts between Treasuries anxious to improve the investment climate will force expenditures to sub-optimal levels, but in spite of the intensified 'policy competition' that is to be expected, considerable intra-Community differences will remain, if only because spending on social policies and social security in the northern European Welfare States proves very hard to control (Wolfson, 1987). For the immediate future, concerted efforts by the Commission to harmonise expenditure patterns will probably be re-

stricted to a limited range of new horizons for Community action, which will be explored below.

New horizons for fiscal policy

As noted before, there is no scope for a European countercyclical fiscal policy, as the paradigm shift described in Part 1 only allows for structural, built-in stabilisers and, more importantly, as there is no substantial Community budget to begin with. Nonetheless, there seem to be new horizons for European tax and expenditure programmes at the meso- and microlevel in those areas where the transnational nature of public wants calls for European solutions. Clearly, the political drama of the Common Agricultural Policy has, for a long time, injured the intellectual case for public goods provision on a European scale. Given the new momentum of integration, however, there seems room for new initiatives to break bottlenecks on the supply side, especially in the related fields of energy, environmental protection and transportation.

At the European Summit in Dublin (25 June, 1990), the Dutch Prime Minister Lubbers launched an initiative for the development of a European Energy Charter to ensure security of supply and a framework for economic cooperation with Eastern Europe and the USSR in particular. Soon afterwards, the Gulf crisis dramatised the occasion, and the Lubbers Plan was, in principle, accepted at the Rome Summit in December 1990. In February 1991, the European Commission submitted a draft Charter, for consideration later this year. Meanwhile, also the EFTA countries, the USSR and the United States have expressed an interest. The Charter envisages an integrated market for energy on a pan-European scale, on the basis of free trade in energy, technical and economic cooperation, and concerted efforts in environmental protection.

Against the background of the history of the Common Agricultural Policy, it is interesting that the Commission confirms the community's "commitment to a rigorous competition policy, taking into account the specifications of the different energy markets" (EC Commission, 1990). The draft Charter only sets the stage for further negotiation, but although it does not specify particular goals and instruments, there clearly is a lot of scope for tax coordination in general, and for Pigovian taxes and bounties on a European scale, stabilising energy markets, conserving energy, protecting the environment and inducing efficient modes of transport.

In matters of energy, the environment and transportation, it is now widely recognised that regulatory taxation may provide a more efficient alternative than rules and regulations do (Opschoor and Vos, 1989), but that the overall effectiveness of environmental protection requires concerted efforts at a

European scale on both the revenue and the expenditure side of the budget. On the expenditure side, for instance, public goods such as an integrated European rail-infrastructure and a revitalised European system of air-traffic control will serve to economise on energy, protect the environment and optimise choice patterns with regard to the mode of transport.

In short, while recognising the very limited scope for macro-fiscal policies for the years to come, we should not loose sight of new horizons for fiscal cooperation at the meso-level which, slowly but surely, will help Europe to get on the way towards a more mature federation.

3. CLOSING REMARKS ON THE POLITICAL ECONOMY OF FISCAL FEDERALISM

Looking closer at the political dimension of fiscal policymaking, it is helpful, again, to distinguish between macro- and meso/micro dimensions.

At the *macro-level*, the main problem is how to deal with the uneasy relationship between supranationality and intergovernmental coordination in the making of monetary and fiscal policy. The dilemmas involved are not just jurisdictional and political; they also hinge on informational requirements, transaction cost and matters of efficiency in public administration, generally. With respect to monetary policy, supranationality would seem firmly enshrined, in the Draft Treaty of 10 December 1990 (EC Commission, 1990a) and in the Draft Statute (Comité des Gouverneurs 1990). All the same, checks and balances are still weak, as long as the European Central Bank's supranational counterparts (Commission and European Parliament) are still in their political teen-age. As someone in favour of the highest degree of Central Bank independence, this is an imbalance I can live with. There is a broad legitimisation for monetary stability if only because the cost of inflation, unlike the cost of debt, is borne by today's voters as Luigi Spaventa puts it so well elsewhere in this volume. If monetary stability is best served by an independent monetary authority, then this is it. As already noted, however, the danger is that reluctance to cede sovereignty in fiscal matters will undermine monetary stability (Szász, 1991). The real question, therefore, is what kind of institutional arrangement is most suitable to deal with the unavoidable tensions between monetary stability and other goals of economic policy. In other words, how much sovereignty should be ceded with regard to budgetary policies? In this connection, it is important to recognise that the principle of subsidiarity, that the Commission upheld in its proposals with regard to multi-annual guidelines and multilateral surveillance, does not just have a justification in politics, but also in public administration.

Given the complexities of national institutional arrangements, the monitoring of fiscal developments by the Community will, of administrative necessity

as well, have to be an arms-length affair, on the basis of medium-term, moving-average, multi-annual guidelines. In actual practice, the two systems explored above – the golden rule (GR) and a structural budget policy (SBP) – would converge in their mode of execution, as a GR asks for structural adjustments, and a SBP might need supplemental performance criteria with regard to government deficits and public investment. In terms of the political economy of fiscal federalism, again, SBP would seem to be the winner in the analytical sense (getting closer to the heart of the matter, optimising savings and investment across the Community) and in terms of administrative feasibility (substituting hard-to-define investment criteria for somewhat easier savings criteria). But the GR may, for now, be the more feasible political solution, simply because of its no-nonsense appeal. Looking closer, therefore, it seems that the degree of sophistication that a European macro-fiscal policy can cope with largely depends on the political willingness to accept sanctions and ‘trigger-clauses’ to give monitoring its bite, which brings us to the question of supranationality again.

It is just conceivable that an intergovernmental coordination on the basis of majority decision-making assumes a supranational flavour. If the Council adopts a role model of supranationality and fortifies its determination by adopting and applying adequate sanctions, it clears the way for more subsidiarity, inverting, as it were, the dilemma sketched above. By constitutionalising an effective control over major macro-economic policy guidelines at the ‘higher’ level of the European Council (and, eventually, the supranational Commission), and firming that up by appropriate sanctions, the Council would don the cloak of supranationality, safeguarding the external value of the ECU and creating scope for true subsidiarity in fiscal programming at the ‘lower’ level of the individual member state. Thus, a split-level, principal-agent structure emerges, in which the individual ministers of finance operate as a collegiate, majority-voting body in their role as principal at the Community-level, and as a financial *primus inter pares* in their role as agent at the national level. Their national position could be strengthened once ministers adopt the time-honoured masochistic stance of letting themselves be forbidden at the Community-level to do what they don’t want to do be forced into anyway at the national level.

Such a solution, therefore, could serve at once the desiderata of fiscal harmonisation within the Community, and of decentralised budgeting in the individual member states, on the condition that relative responsibilities are properly structured in the Treaty, with the appropriate conditionality and sanctions clearly spelled out. In other words, the more sovereignty is ceded at the *Community level* in adopting *and applying* proper guidelines, the more subsidiarity is preserved and the more conditions are met for a strong guid-

ance by the national treasuries in the meso/micro choices that really matter at the *national level*.

Granted, the point is hard to grasp, and even harder to implement, at the High Noon of political infighting. It may become easier if, during transitional first and second phase, a prudent use is made of the IMF and its conditionality as the traditional black-hatted fall-guy in the first line of defence. The case of Greece tells us that the Council still has a lot to learn, in terms of recognising its own long-term interest.

At the *meso- and microlevel*, the case for subsidiarity also assumes new dimensions in the process of European integration. In the predominantly centralist tradition of countries like France and The Netherlands, it rested on the truce between Church and State, with the Church – and, later, also secular agents of functional decentralisation, such as unions and employers' organisations – retaining those powers that the State could not convincingly claim for the execution of its economic role. In federal structures, however, the case for territorial decentralisation is, by nature, deeply ingrained. In recent work on the organisation design of economic systems, Stiglitz argues a generalised case for decentralised decision making from a perspective of risk-diversification (a plurality of agents will not all make the same mistake, and will generate more innovation), but cautions, all the same, that governments can do some things that markets cannot, in particular whenever information is imperfect and/or markets incomplete (Greenwald and Stiglitz, 1986; Stiglitz, 1989). The optimal control of energy, the environment and transportation referred to above as new horizons for a European fiscal policy are a case in point. Here, it is not just the market that fails, but individual governments as well, in so far as the issues involved are transnational by ecological or economic impact.

The painful dilemma now emerging, however, is that while the European scale of things may be the optimal one in terms of *control* for a lot more than just monetary and macro-fiscal policy, it may lack the *legitimation* to develop a full-blown federal budget. As Von Dohnanyi (1990) points out, economic integration and globalisation, by its very nature, is dissolving political structures. It is inconceivable, moreover, that a European Parliament representing 320 million people of widely different cultures, even if invested with full powers, will ever provide the same material representation as the national parliaments do. We could sit down, bewildered, and bemused by this dilemma. We could also rise to the occasion, get on with European initiatives for an effective energy and environmental policy that we all want, and give our multilateral surveillance the bite that will enable national governments to go about their own business as legitimate participants and subsidiaries in our European commonwealth.

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NOTES

1. Just how wide this window is, is explored in the EC-report 'One market, one money', *European Economy*, October 1990, and in the Lubbers Initiative (EC Commission, 1990).
2. As Solow put it in a conversation with Klamer (1984, p. 144): "I think this is one of the reasons why new classical economics did so well: it is so technically sweet; it involves all those sophisticated techniques. Students have to learn something new that other people do not know. It is hard to learn, but you can do it. But I don't think that it will make people happy forever." Another reason for the new classical success story may be its appeal to the undercurrent of defunct ideas in political attitudes. As Valpy FitzGerald pointed out to me, most politicians are in fact still mercantilists, and given to pre-neoclassical beliefs in 'sound money' (a trade surplus is 'good', and so are high reserves and a strong currency). In turn, I would add, treasuries and central banks often appeal to this undercurrent in order to contain a revealed preference to public overspending and to control inflation. Theory always seems to serve a purpose; see again Fase and Wellink (1990).
3. It is even conceivable that a big, industry-specific shock in, for instance, electronics or chemicals would reproduce itself throughout the Community. Speaking about country-specific shocks, the EMU-debate has a frightening financial bias and is remarkably and regrettably silent on the implications of a single currency on wage formation under differential developments in productivity, labour mobility, social security etc. Although the commission has made an effort to analyse the productivity and labour mobility issues in Chapter 6 of the 'One market, one money' - study referred to in note 1, social security issues are still treated with benign neglect.
4. Frenkel and Goldstein hedge their bets on questions two and three but they are writing Fundese, of course, that product of good breeding which saves staff members of the IMF from saying improper things.
5. Masson and Méiltz (1990) make the intriguing point that deficit ceilings would not even address the problem of the competitive use of contractionary fiscal policy. I wish I felt more like worrying about that myself.
6. In this connection, it is telling that the large majority of outside experts or expert groups recently consulted by the Dutch Parliament came out in favour of the reintroduction of the golden rule in The Netherlands (Tweede Kamer, 1990).

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XXI. La formulation de la politique monétaire dans le cadre de l'intégration financière en Europe

JEAN-CLAUDE CHOURAQUI

Une des premières manifestations de la mise en place de l'union économique et monétaire (UEM) au sein de la Communauté Européenne a trait au renforcement de la coordination des politiques monétaires des pays membres. Au delà des aspects proprement institutionnels que revêt ce phénomène – dont le projet de statuts de la Banque centrale européenne constitue l'expression la plus significative à l'heure actuelle – se pose le problème de la formulation de la politique monétaire, autrement dit du choix des objectifs à assigner à celle-ci. Les autorités monétaires doivent-elles s'attacher *collectivement* à réaliser des objectifs publics quelconques, comme cela se pratique dans certains pays de la Communauté? Si oui, quelles variables choisir comme objectifs et selon quels critères? Et comment assurer la compatibilité entre les divers objectifs nationaux? Telles sont les principales questions examinées dans ce qui suit.

Avant d'entrer dans le vif du sujet, toutefois, deux remarques s'imposent:

- en premier lieu, la notion d'objectifs de la politique monétaire a une portée plus large, de nos jours, que celle fondée traditionnellement sur les variables dites 'intermédiaires' (à travers lesquelles sont supposés se transmettre les effets de la politique monétaire, mais sur lesquelles les autorités ne peuvent exercer qu'un contrôle indirect).¹ De fait, comme on le soulignera plus loin, le processus de libéralisation financière rend désormais plus problématique la formulation d'objectifs intermédiaires en termes de masse monétaire ou de crédit bancaire. En revanche, des variables directement contrôlables par les autorités monétaires (telle la base monétaire ou la liquidité bancaire) peuvent également faire figure d'objectifs explicites de la politique monétaire, de même que certaines cibles ultimes (comme la croissance du produit nominal ou le taux d'inflation);
- en second lieu, le problème de la formulation de la politique monétaire à l'échelle européenne, et plus généralement de la coordination des politiques monétaires, se pose différemment selon que l'on se situe dans les phases 1, 2 ou 3 du processus d'unification monétaire, pour reprendre

le découpage préconisé par le ‘Rapport Delors’.² Dans l’analyse ci-dessous, on se limitera à identifier la façon de formuler la politique monétaire durant les phases de transition 1 et 2 vers l’union monétaire. Ces deux premières étapes apparaissent en effet cruciales pour assurer la ‘convergence’ des économies concernées, en matière d’inflation notamment, avant l’adoption d’une politique monétaire commune et d’une monnaie unique durant la troisième et dernière phase.

FAUT-IL ASSIGNER PUBLIQUEMENT DES OBJECTIFS QUANTITATIFS À LA POLITIQUE MONÉTAIRE?

Si l’on en juge par le consensus qui se dégage tant au niveau des instances officielles que parmi les économistes, à propos du rôle de la future Banque centrale européenne, beaucoup s'accordent à reconnaître que l'objectif essentiel de la politique monétaire dans l'UEM devra être d'assurer la stabilité des prix.³ Il y a une explication à cela, héritée de l'expérience des années quatre-vingts: étant donné l'importance considérable que revêtent de nos jours les anticipations des agents économiques, lesquels sont beaucoup mieux informés qu'autrefois, les autorités monétaires doivent s'attacher en priorité à ‘ancrer’ ces anticipations sur un faible taux d'inflation plutôt que de chercher à corriger systématiquement l'instabilité conjoncturelle de la production et de l'emploi. L'expérience du passé montre, en effet, qu'à vouloir utiliser fréquemment la politique monétaire comme instrument de réglage de l'activité économique sur le court terme, on risque, à la longue, de perturber les anticipations du secteur privé et, par cela même, d'aboutir à des résultats inverses de ceux recherchés. Le fait est qu'en agissant de la sorte, les autorités monétaires, en Europe et ailleurs, ont le plus souvent tendu à réagir trop tardivement et trop peu à l'accélération de l'inflation.

Cela dit, considérer que l'objectif prioritaire des autorités monétaires doit être de préserver la stabilité des prix conduit, tout naturellement, à s'interroger sur la manière de réaliser un tel objectif. Faut-il, pour ce faire, qu'elles se dotent d'objectifs précis, en termes de croissance de la masse monétaire ou d'autres variables, susceptibles de les guider dans la mise en oeuvre de leur politique? Certains économistes prétendent qu'une politique monétaire conduite de façon discrétionnaire, donc sans aucun point de repère, peut se révéler incompatible avec le maintien de la stabilité des prix.⁴ Cette opinion part du constat que, à partir du moment où l'inflation est maîtrisée, les autorités monétaires sont généralement tentées, voire contraintes, d'assouplir leur politique pour soutenir la croissance de l'activité et l'emploi. Dans cette éventualité, de deux choses l'une: ou bien la banque centrale est suffisamment crédible aux yeux du public pour faire en sorte que le relâchement de

la politique monétaire ainsi partagé n'engendre pas d'anticipations inflationnistes (ce qui revient à dire que, au vu de l'expérience du passé, on prévoira que les autorités monétaires ne laisseront pas l'inflation s'accélérer); ou bien, au contraire, la banque centrale aura une réputation de laxisme, auquel cas le risque est grand de voir les agents économiques anticiper un reprise de l'inflation.

D'où la nécessité pour les autorités monétaires de se forger une forte crédibilité dans la lutte contre l'inflation, capable de les faire apparaître, en permanence, comme un garant de la stabilité des prix. Mais comment acquérir précisément une telle crédibilité, si ce n'est à travers le respect d'objectifs quantitatifs annoncés à l'avance? Une telle formule présente, sans conteste, deux avantages pour les autorités monétaires: elle leur permet, d'une part, de faire connaître publiquement leurs intentions en vue d'influer sur les anticipations inflationnistes et, d'autre part, de réagir plus rapidement à des signes précurseurs d'accélération de la hausse des prix, en cas de dépassement des objectifs fixés. En outre, elle fournit un point de repère à partir duquel l'action de la banque centrale peut être mesurée concrètement année après année. En l'absence d'un tel point de repère, les autorités monétaires risqueraient, en effet, d'être tenues pour responsables d'évolutions (autres que l'inflation) qu'elles ne se sont pas en mesure de maîtriser réellement.

Exploiter ces avantages suppose, toutefois, que l'on puisse identifier une variable adéquate susceptible de servir d'objectif quantitatif et de donner l'assurance que, sauf circonstances imprévues, un tel objectif pourra être respecté. La tâche n'est pas simple, comme expliqué ci-après.

QUELLES VARIABLES CHOISIR COMME OBJECTIFS?

Si le suivi d'un certain nombre de variables, à titre d'indicateurs avancés de l'évolution économique et financière, est indispensable pour orienter l'action de la banque centrale, l'utilisation de l'une quelconque de ces variables pour assigner des objectifs quantitatifs à la politique monétaire est plus aléatoire. Cela implique que la variable servant de support à l'objectif soit (i) aisément contrôlable par les autorités monétaires et (ii) qu'elle soit étroitement reliée, de manière stable et prévisible, aux cibles ultimes en termes de croissance de l'activité et d'inflation. Or, dans la pratique, il n'existe pas de variable susceptible d'être parfaitement contrôlée, même sur la période d'un an généralement retenue comme cadre temporel de la politique monétaire. De même, on aura du mal à identifier une variable qui témoigne, à travers le temps, d'une relation stable avec le produit nominal ou les prix. Et à supposer qu'une telle relation existe, le fait de vouloir l'exploiter opérationnellement pour formuler des objectifs précis peut générer des comportements qui, en

fin de compte, rendront la relation inopérante pour la mise en oeuvre de la politique monétaire.⁵

Autrement dit, dès lors que l'on se lance dans la formulation d'objectifs quantitatifs sur la base d'une variable déterminée, on doit s'attendre à ce que ces objectifs ne soient pas toujours respectés, du fait que la variable en question n'est plus parfaitement maîtrisable ou que son évolution se révèle difficilement prévisible. Aussi longtemps, toutefois, que ce genre d'inconvénient apparaîtra mineur en regard des avantages procurés par l'annonce d'objectifs quantitatifs – tels qu'évoqués plus haut – la banque centrale aura intérêt à chercher à asseoir sa crédibilité de la sorte.

Partant du double critère de "contrôle" et de "stabilité" mentionné ci-dessus, force est de reconnaître que la formulation d'objectifs de croissance monétaire, telle qu'elle se pratique dans un certain nombre de pays, n'offre plus le même attrait qu'il y a quelques années. La raison essentielle en est que, par suite du processus d'innovation financière et de déréglementation des marchés de capitaux, il s'avère beaucoup plus difficile d'interpréter l'évolution des agrégats de masse monétaire. La substitution entre les diverses catégories d'actifs financiers s'est, en effet, considérablement accrue, ce qui a entraîné des distorsions dans la composition de ces agrégats. En outre, la relation entre masse monétaire et produit nominal est elle-même devenue très instable, ce qui s'est traduit par des mouvements imprévus de la vitesse de circulation de la monnaie. De ce fait, l'utilisation de la masse monétaire comme objectif précis de la politique suivie est apparue plus aléatoire et, à diverses reprises, les banques centrales ont dû s'éloigner des objectifs qu'elles s'étaient préalablement fixés.

Le problème reste évidemment de savoir si le processus de libéralisation financière affectera pendant longtemps encore l'évolution de la masse monétaire, au point de rendre celle-ci – sous quelque définition que ce soit – impropre à la formulation d'objectifs quantitatifs. Il est fort à craindre que tel sera le cas, y compris dans les pays (comme l'Allemagne) jusqu'ici peu touchés par la vague d'innovations financières. A en juger en effet par les exemples des Etats-Unis, du Canada et du Royaume-Uni, la capacité d'innover du système financier s'est révélée impressionnante ces dernières années, et nul doute qu'elle se répandra en Europe une fois certaines réglementations ou pratiques abolies ici et là dans la perspective du marché unique de 1992.

Tout laisse donc à penser qui si, dans le cadre de l'UEM, les banques centrales choisissent de se fixer des objectifs explicites de croissance monétaire, elles devront prendre le risque d'avoir à les dépasser de temps à autre. Ce risque est d'autant plus plausible que, simultanément, elles seront contraintes de stabiliser les taux de change de leurs monnaies respectives dans des limites plus étroites et, par conséquent, d'intervenir fréquemment sur les marchés de change. Sauf à être stérilisées, et s'avérer alors peu

efficaces,⁶ ces interventions pourront nécessiter, en effet, que les autorités monétaires s'écartent plus ou moins durablement de leurs objectifs. Dans cette éventualité, il appartiendra aux autorités de convaincre les marchés et le public en général, que de tels dépassements seront sans dommage pour l'évolution des prix. A défaut, en cas de dérapage inflationniste, elles y perdraient de leur crédibilité.

Pour surmonter ce genre de difficultés, quelles alternatives s'offrent aux banques centrales en vue de communiquer leurs intentions aux marché et au public en général afin d'assurer la stabilité des prix? Parmi toutes celles susceptibles d'être envisagées,⁷ deux méritent de retenir l'attention dans le contexte de l'UEM: le respect des objectifs de taux de change nominaux inhérents à l'union monétaire, et l'adoption d'un objectif commun de taux d'inflation. Les avantages et limites de ces deux formules, qui ne s'excluent pas forcément, sont brièvement exposés ci-dessous.

(a) Objectifs de taux de change nominaux

Vu la finalité de l'UEM – fixation irrévocable des parités – orienter la politique monétaire en fonction d'un tel objectif serait, pour ainsi dire, tout à fait naturel. Cela impliquerait que les autorités monétaires des pays concernés s'alignent sur le taux d'inflation du pays dont la monnaie sert actuellement de référence, en l'occurrence l'Allemagne, ou sur le taux d'inflation le plus bas prévalant à l'intérieur de la Communauté.⁸ De ce point de vue, la situation ne serait pas très différente de celle qui sous-tend les mécanismes du SME, lesquels nécessitent – de la part des pays membres – une stabilisation des taux de change dans des limites étroites et la subordination de la politique monétaire à cette exigence.

A en juger par l'expérience du SME, il est indéniable que le fait d'axer la conduite de la politique monétaire sur la stabilité du taux de change présente un double avantage. Cela permet (i) de contribuer à contenir la hausse des prix dans la mesure où le "pays de référence" jouit traditionnellement d'un faible taux d'inflation et (ii) de limiter les fluctuations du taux de change réel et, par conséquent, de prévenir que des modifications subites de la compétitivité de l'économie (par suite d'une appréciation ou dépréciation du taux de change réel) n'entraînent une mauvaise allocation des ressources. De plus, il convient d'ajouter qu'étant facilement et instantanément observable, le taux de change ne se heurte pas aux problèmes d'interprétation que pose l'évolution des agrégats monétaires dans l'environnement financier actuel.

En contrepartie, le respect d'un objectif de taux de change implique que la banque centrale suive les mouvements de taux d'intérêt pratiqués dans le pays de référence et, donc, que soit acceptée une perte d'autonomie de la politique monétaire nationale. Dans la perspective de l'UEM, cette con-

trainte n'apparaît pas forcément préjudiciable, vu qu'elle offre la faculté d'importer un taux d'inflation relativement bas et contribue ainsi à faire converger la performance des économies en la matière. Des inconvénients peuvent surgir, néanmoins, si l'évolution des taux d'intérêt et de la masse monétaire dans le pays de référence se trouve affectée par des chocs exogènes. Dans ce cas, le fait de vouloir se conformer à un objectif de taux de change aura pour conséquence de provoquer des ajustements non appropriés de la politique monétaire nationale.

Les conséquences de l'unification allemande constituent, d'un certain côté, une bonne illustration de ce phénomène: en raison des pressions inflationnistes et du resserrement de la politique monétaire qui en ont résulté en Allemagne, plusieurs pays membres du SME se sont trouvés contraints de relever leurs taux d'intérêt dans le sillage des taux allemands – ou tout au moins de les maintenir inchangés alors qu'ils souhaitaient les baisser – ce, pour préserver la stabilité du taux de change de leur monnaie par rapport au deutschemark. Or, cette réaction forcée est apparue injustifiée au regard des besoins économiques internes de ces pays, à tel point que certains y ont vu un nouvel exemple du 'biais déflationniste' dû à l'asymétrie des mécanismes du SME.

Le fait est que tout système de taux de change fixes implique une certaine dose d'asymétrie: dans un tel système, en effet, un pays au moins joue un rôle primordial dans la détermination du taux d'inflation et, par conséquent, impose aux autres les répercussions de ses décisions de politique monétaire en fonction de son propre rythme de hausse des prix. Tant que ce pays reste un modèle de lutte contre l'inflation – ce qui a été le cas de l'Allemagne jusqu'à présent – ce genre d'asymétrie est au fond bénéfique car facteur de discipline chez ceux liés par l'obligation de fixité du taux de change.⁹ De ce point de vue, faire en sorte que l'asymétrie ne soit pas insupportable, au point d'aller à l'encontre des prérogatives internes de certains gouvernements, suppose qu'il y ait entente sur l'objectif d'inflation. Ceci conduit à s'interroger sur l'opportunité d'assortir l'engagement de stabilité du taux de change d'un objectif conjoint de taux d'inflation dont la portée serait de faciliter le maintien des parités monétaires en vigueur de par la volonté, clairement affichée par les autorités, de maîtriser l'évolution des prix à un niveau donné.

(b) Objectif conjoint de taux d'inflation

Une telle formule, fondée sur le respect d'un rythme explicite de hausse des prix au cours d'une période déterminée, présente un double avantage.¹⁰

- elle contribue à privilégier l'évolution des coûts et des prix dans les

- décisions de politique monétaire et, ce faisant, donne davantage l'assurance que la stabilité des prix sera maintenue;
- elle contraint les autorités monétaires à anticiper les pressions s'exerçant sur les prix et à réagir plus rapidement à une éventuelle accélération de l'inflation.

En pratique, cette approche suppose le suivi d'une batterie d'indicateurs nominaux (prix, salaires, masse monétaire, taux de change, courbe des rendements, etc.) susceptibles de renseigner sur les tendances sous-jacentes de l'inflation. L'inconvénient est évidemment que ces divers indicateurs peuvent parfois donner des signaux contradictoires et induire en erreur les autorités monétaires. En outre, à force d'observer toute une série de variables simultanément, on court le risque de modifications fréquentes – et donc déstabilisantes – de la politique monétaire, sous prétexte d'avoir à réagir constamment à des informations nouvelles.

Enfin, mais ce n'est pas là forcément un inconvénient, la banque centrale doit être suffisamment autonome vis-à-vis du gouvernement pour prendre les mesures nécessaires en vue de contenir la hausse des prix dans la limite de l'objectif fixé initialement. A défaut, en présence d'une politique budgétaire expansionniste par exemple, elle risquerait de devoir accompagner un rythme d'inflation supérieur à celui qu'elle jugerait souhaitable pour l'économie. Dans ce cas, sa crédibilité s'en trouverait compromise et il est vraisemblable que cette perte de crédibilité serait beaucoup plus importante qu'en cas de simple dépassement d'un objectif de croissance monétaire. Par conséquent, l'efficacité d'une politique monétaire axée sur l'annonce d'un objectif explicite de taux d'inflation implique, sous une forme ou sous une autre, une relative indépendance de la banque centrale dans la conduite de cette politique.

A supposer que cette dernière condition soit remplie dans le cadre de l'UEM (en fait, tout porte à croire qu'elle le sera plus ou moins), quel seuil de taux d'inflation les autorités monétaires devront-elles tenter de viser publiquement? Pour que la recherche de la stabilité des prix ait un sens, encore faut-il qu'elle ne consiste pas à viser un taux d'inflation moyen à l'intérieur de la zone monétaire européenne. Se contenter d'un objectif de ce genre signifierait non seulement un recul par rapport à la performance obtenue jusque là grâce au SME, mais aussi un abandon de la discipline imposée par la Bundesbank dans la conduite des politiques monétaires. C'est donc sur le taux d'inflation le plus bas au sein de la zone que les autorités monétaires devraient plutôt chercher à s'aligner, taux qui – sur le moyen terme – devrait être le plus près possible de zéro.

En *résumé*, la démarche suivante peut-être envisagée pour guider les politiques monétaires durant la phase de transition vers l'UEM:

- s'en tenir aux objectifs déclarés de taux de change, avec pour corollaire l'alignement de la politique monétaire nationale sur celle du pays de référence (pour le moment l'Allemagne), ou d'un groupe de pays, censé jouir d'une forte réputation anti-inflationniste;
- renforcer, si besoin est, l'influence de la politique monétaire sur les anticipations inflationnistes par l'annonce d'un objectif commun de taux d'inflation, à condition que la banque centrale ait l'autorité requise – *vis-à-vis* du gouvernement – pour faire respecter cet objectif et sauvegarder sa crédibilité. Une autre possibilité consisterait à formuler conjointement des objectifs de croissance monétaire, mais, dans ce cas, les risques de dépassement (et donc de perte de crédibilité) seraient inévitables du fait de l'extension du processus de libéralisation financière et de la nécessité de stabiliser les taux de change.

Quelle que soit la formule retenue, reste à s'assurer que les objectifs fixés dans chacun des pays soient compatibles entre eux. Or, comme on va le voir ci-dessous, le degré de compatibilité entre les divers objectifs nationaux n'est pas indépendant de la nature des variables choisies pour servir de support aux objectifs.

COMMENT ASSURER LA COMPATIBILITÉ DES OBJECTIFS NATIONAUX?

En admettant que, dans le cadre de l'UEM, les banques centrales se contentent de conduire leurs politiques en fonctions d'objectifs de stabilité du taux de change, la cohérence de ces politiques serait assurée du seul fait de leur alignement sur celle de l'Allemagne. Comme souligné plus haut, ce pays serait responsable de la fixation du taux d'inflation pour l'ensemble de la zone monétaire. En pratique, cela signifie que le taux de change serait le vecteur par lequel la hausse des prix pourrait être maîtrisée dans chacun des pays de la zone. Seule l'Allemagne aurait, le cas échéant, la possibilité de se doter d'un autre objectif que le taux de change pour guider sa politique monétaire, objectif qui – comme c'est le cas présentement – pourrait être un agrégat de masse monétaire, à condition qu'il demeure étroitement contrôlable par la Bundesbank.

Un tel schéma correspond déjà de très près au comportement de pays tels que la Belgique et les Pays-Bas au sein du SME. Sa généralisation impliquerait, bien entendu, que l'Allemagne continue d'apparaître comme la référence du point de vue de la lutte contre l'inflation. Même s'il en était ainsi, toutefois, rien n'indique que tous les pays seraient disposés à abandonner à la Bundesbank la conduite de leur politique monétaire. Dans cette éventualité, en attendant qu'une autorité monétaire unique soit mise

en place et soit en mesure de définir une politique commune, les banques centrales devraient s'entendre sur le taux d'inflation servant de point d'ancrage à leur action.

Alternativement, dans l'hypothèse où les banques centrales, au sein de l'UEM, préféreraient annoncer conjointement des objectifs de croissance monétaire, l'exercice de compatibilité revêtirait une tout autre nature. Outre le fait que ces objectifs devraient satisfaire les critères de 'contrôle' et de 'stabilité' évoqués plus haut, trois conditions devraient être remplies pour s'assurer de leur cohérence:

- les variables monétaires sélectionnées devraient être aussi peu sensibles que possible à la substitution d'actifs financiers engendrée par la déréglementation des marchés de capitaux. Ceci conduirait à privilégier des agrégats de base monétaire ou de masse monétaire au sens large, de préférence à des concepts de masse monétaire étroitement définis;
- les agrégats retenus devraient être statistiquement comparables, ce qui revient à dire que leur composition devrait être relativement homogène;
- les taux uniques ou fourchettes de croissance fixés pour ces agrégats devraient être le reflet d'une cible commune en matière d'inflation.

De ces trois conditions, c'est évidemment la troisième qui est la plus cruciale dans la mesure où elle conditionne la portée de tout exercice de cohérence entre objectifs monétaires. Rien ne servirait, en effet, à formuler conjointement des objectifs pour un agrégat monétaire déterminé si ceux-ci n'étaient pas l'expression d'une volonté commune de converger vers un même taux d'inflation.

On voit donc que, dans tous les cas de figure, la coordination accrue des politiques monétaires au cours des deux premières étapes de l'UEM passe par la définition, sous une forme ou une autre, d'une norme commune en matière d'inflation. Que cette norme fasse l'objet d'objectifs explicites de la part des autorités monétaires, ou qu'elle serve de support à des objectifs de croissance monétaire ou de taux de change est affaire de circonstances. Ce qui importe, c'est de ne pas perdre de vue que la réputation des banques centrales engagées dans le processus d'unification monétaire européenne, et le bon déroulement de ce processus, dépendront, dans une très large mesure, de leur capacité à maîtriser réellement l'inflation.

CONCLUSIONS

L'objet cette contribution était de s'interroger sur la nature des objectifs susceptibles de guider l'action des banques centrales européennes durant la

phase de transition vers l'union monétaire. Trois conclusions ressortent de l'analyse qui précède:

- d'une part, le constat que la maintien de taux de change stables à l'intérieur de l'union sera prioritaire dans la conduite des politiques monétaires nationales, d'où la nécessité pour ces politiques de suivre l'évolution des taux d'intérêt pratiqués dans le pays, ou groupes de pays, servant de référence en matière d'inflation;
- d'autre part, l'idée que les partenaires de l'union (et en particulier le ou les pays de référence) pourraient éventuellement se doter d'un objectif explicite supplémentaire, autre que le taux de change, en vue de renforcer leur influence sur les anticipations inflationnistes. Cet objectif pourrait être le taux d'inflation lui-même, à condition que la banque centrale ait l'indépendance requise pour le faire respecter. Ce pourrait être aussi la croissance d'un agrégat monétaire quelconque, en admettant que cet agrégat demeure contrôlable par les autorités – donc que son évolution ne soit perturbée ni par le processus de libéralisation financière, ni par les interventions officielles sur les marchés des changes.
- enfin, le point de vue que, pour s'assurer de la cohérence de leurs politiques, les autorités monétaires auraient, en tout état de cause, avantage à s'accorder sur une cible commune en matière d'inflation.

En somme, le fait de devoir privilégier l'objectif de taux de change aura à la fois pour conséquence, pour la plupart des pays participant à l'union, de simplifier la formulation de leur politique monétaire et d'en réduire davantage l'autonomie, tout au moins pendant la période de transition. Il est donc peu probable qu'un renforcement de la coordination des politiques monétaires durant cette période transitoire se matérialisera automatiquement par une approche plus 'collégiale' des décisions des banques centrales, permettant d'influer sur les cours de la politique allemande. Au mieux, cette coordination accrue pourra favoriser progressivement l'émergence d'un consensus sur le taux d'inflation que les autorités monétaires s'engageront à atteindre collectivement. Il ne pourra s'agir cependant d'un taux d'inflation moyen ou médiocre, ce qui dénaturerait la portée de la coordination, mais plutôt d'une cible aussi proche que possible de zéro compte tenu des circonstances économiques internes et externes.

Au-delà de la phase de transition, le problème de la formulation de la politique monétaire au sein de l'union se posera sous un angle quelque peu différent. En présence d'une politique unique définie et exécutée par une autorité unique (la Banque centrale européenne), le choix des objectifs dépendra, pour l'essentiel, du régime de change qui sera adopté à l'égard des monnaies tierces. Si la monnaie européenne, quelle qu'elle soit, est destinée à flotter par rapport aux principales devises que sont le dollar et le

yen (comme c'est le cas du deutschmark en tant que monnaie de référence à l'intérieur du SME), la nouvelle autorité monétaire jouira d'une liberté égale à celle de la Bundesbank pour décider des objectifs à assigner à sa politique. Rien n'indique, toutefois, que ces objectifs seront les mêmes que ceux dont se dotent les autorités monétaires allemandes à l'heure actuelle. Un des arguments avancés plus haut est, en effet, que la généralisation du processus de libéralisation financière en Europe rendra plus difficile le respect d'objectifs en termes de masse monétaire. Par conséquent, le fait que la 'constitution' de la Banque centrale européenne soit calquée sur le modèle de la Bundesbank ne garantira pas forcément que la politique monétaire à l'intérieur de l'union sera, dans sa formulation, la simple expression de celle pratiquée en Allemagne.

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NOTES

1. Cet argument est développé notamment par Davis (1990) dans l'introduction de cette étude. Voir également Kohn (1990).
2. Rapport sur l'union économique et monétaire dans la Communauté européenne, avril 1989.
3. Le projet de statuts du 'Système européen de banques centrales', mis au point (en novembre 1990) par la Comité des Gouverneurs des banques centrales de la Communauté européenne, prévoit explicitement que l'objectif prioritaire de cette institution sera le maintien de la stabilité des prix.
4. Voir notamment Kydland et Prescott (1977), ainsi que Englander (1990).
5. Cette thèse est illustrée par ce que l'on appelle communément la 'Loi de Goodhart' (du nom de l'auteur qui l'a popularisée). Elle stipule que l'annonce d'objectifs de croissance monétaire a, dans une certaine mesure, contribué à l'instabilité de la demande de monnaie pour l'agrégat servant de support aux objectifs. Voir Goodhart (1989).
6. Telle est, en tout cas, la conclusion du 'Rapport Jurgensen' (1983) sur le degré d'efficacité des interventions officielles en vue de stabiliser les taux de change. Cet argument est repris par Frenkel et Goldstein (1990).
7. On trouvera une analyse détaillée des diverses options susceptibles d'être utilisées pour

- formuler la politique monétaire dans Atkinson et Chouraqui (1985). Voir également, sur le même sujet, Chouraqui (1990).
8. Cette deuxième approche sous-tend la proposition britannique en faveur d'un 'Ecu fort', présentée comme substitut aux recommandations du rapport. Delors concernant les phases 2 et 3 de l'union monétaire. Une telle proposition, qui prévoit la création d'un Fonds Monétaire Européen chargé d'émettre et de gérer une monnaie 'commune' (l'Ecu fort), implique que le Fonds en question devrait à tout moment ajuster sa politique monétaire en fonction de l'orientation la plus restrictive en vigueur à l'intérieur de la zone. Voir Grice (1990).
 9. Ce point est étayé par Raymond (1990). Voir aussi Bank of England (1991).
 10. Pour plus de détails, voir Freedman (1989) ainsi que Selody (1990).
 11. Comme le souligne Bordes (1990), une telle harmonisation des agrégats monétaires ne serait pas, pour autant, facile à réaliser.

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XXII. The first stage towards economic and monetary union

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The current political debate about economic and monetary union (EMU) tends to focus on the drafting of the Treaty provisions needed for the implementation of Stage Three – the main task of the Intergovernmental Conferences under way – as well as on the contents of the up to now ill-defined transitory period called Stage Two. It is therefore a welcome feature of this Conference to invite discussion on Stage One, and thus help ensure that the most immediate tasks of the authorities, in connection with progress to be achieved towards EMU, do not fall in oblivion.

The paper is divided into three parts. First, the intended features of the first stage are recalled and it is submitted that the momentum towards EMU had begun long before the opening date formally set for this inaugural phase. Second, an attempt is made at ascertaining the state of convergence in the Community at the outset of the first stage: ways are sought to identify the critical tests of failing convergence which matter. Third, the prospects for meeting the standards of achievement presumably linked with the first stage are addressed: it is argued that progress depends both on market-led adaptation and on institutional efficiency.

1. THE FIRST STAGE, AS INTENDED

Four successive sessions of the European Council brought their contribution to shaping up the first stage.

In *Madrid* (June 1989), the date of 1 July 1990 was agreed as the opening date of the first stage, and some legislation was mandated to enhance the capability of the council and the Committee of Governors to discharge the tasks assigned to them during this stage. In *Strasbourg* (December 1989), it was confirmed that the contents of the first stage were to be those outlined in the Delors Report. In *Dublin* (June 1990), it was underlined that the first stage would imply a strengthening of convergence in the economic performances, the enhancement of cohesion and a more intensive use of the

Ecu. In *Rome* (October 1990), the emphasis was laid on achievements required for moving to the second stage: several of these conditions implied a legislative process, both at national and Community levels, but participation in the ERM was also mentioned, as well as the need for further progress towards nominal and real convergence. In this respect, price stability and more balanced budgets were singled out.

Since the meeting of the European Council in Strasbourg referred to the Delors Report as setting the standards for achievement during the first stage, a closer look at the relevant section of this report is warranted. Leaving aside the inconclusive debate about the setting up of a European Reserve Fund, to be found in paragraphs 53 and 54 of that section,¹ it was recommended to take action along the following lines:

- to enhance the capacity of the Council to exercise surveillance on the convergence of economic policies, with particular reference to fiscal policies, and to strengthen the capacity of the Committee of Governors to coordinate monetary policies, in both cases through legislation to be passed at Community level. The formal decisions to that effect were indeed adopted.²
- to complete the programs designed to abolish the physical, technical and fiscal obstacles to the free movement of goods, services and capital, and thus to implement the Single Market and the integrated financial area before the end of 1992. This work is still an on-going process and it will be left outside the scope of the present paper to assess the prospects for meeting the deadline;
- to get all member states to participate in the Exchange Rate Mechanism (ERM)³ and eliminate all obstacles to the use of the private Ecu. By the end of 1990, only the Greek drachma and the Portuguese escudo were left outside the ERM. While official attitudes towards the use of the private ecu remain uneven, it would seem that no significant obstacles are left which would discriminate against the ecu, relative to other foreign currencies;
- to consider extending the scope of the autonomy of national central banks; this recommendation has found its way into the conclusions of the Rome meeting of the European Council, which list among the requirements to be filled before the start of stage 2 the need to set a process in train "designed to ensure the independence of the members of the new monetary institution at the latest when monetary powers have been transferred";
- to make use of the structural Funds of the Community in order to promote regional development;
- to negotiate and ratify the amendments to the Treaty required to move to the further stages.

The overall picture emerging from this brief review is that the emphasis is laid on formal steps deemed necessary to make substantive progress, rather than on targeting the degree of substantive progress which would demonstrate that the Community has moved closer to the working of an economic and monetary union. This impression is reinforced by the further requirement for the first stage, laid down in the conclusions of the European council in Rome, that provision be made to prohibit monetary financing of the public sector, as well as to prevent the bailing out of public borrowers. In other words, the success or failure of the first stage could be assessed by ascertaining whether the authorities have actually done the job they were requested to do, irrespective of the efficiency of that job in moving market conditions closer to the final goal. Even the action required may not be totally unambiguous: for instance, does the requirement of completing the program for the Single Market mean that all Community Directives should have been adopted or that they should also have been made effective through their implementation in the respective national legislation?

There is no need, however, to take a critical view of this approach in defining the contents of the first stage. The purposes of the formal steps just reviewed are clear: they seek to deepen the degree of convertibility, broadly defined, within the Community, they are intended to promote further convergence of the economic performances and they are designed to bring the management of individual monetary policies closer to a form of common decision-making. Moreover, the decision to resume the path towards EMU, which was associated with the adoption of the Single Act, was not taken from scratch.

Indeed, one may look at the so-called first stage as the beginning of the end phase of a long-dated move to EMU, the challenge now lying in the demonstration of preparedness to alter the style of management of economic and monetary policy in the Community as much as in the attempt to level all the remaining differences in the performances throughout the Community area.

The first attempt at building the EMU, in the 1970s, along the lines of the Werner Plan, was a clear failure to the extent that the deadlines set could not be met and that many actions taken were at cross purposes with the goal of EMU, so that the goal itself lost credibility. A learning process was set under way, however, from which lessons were drawn, sometimes because of positive experiences, sometimes because of negative experiences. On the positive side, the demise of the US dollar as the anchor currency started a process of intensive communication and concertation between European central banks. On the negative side, it was learned that, within Europe, playing with alternative exchange rate regimes to shield the economy from external influences could not achieve progress towards any nationally recognized objective.

As time moved through the 1980s, positive experiences tended to outweigh the negative, bringing increased credibility to the EMS. Not only did the environment move closer to the prerequisites of EMU, as inflation rates converged downwards and exchange rate realignments became less frequent. The dominant thinking about several aspects of monetary management also shifted in ways that became more propitious to the consideration of closing ranks: the importance of mutual credit in managing currencies receded and gave way to the balanced approach enshrined in the Basle–Nyborg arrangements; the argument about symmetry in adjustment between surplus and deficit countries – which had played a major role when designing the provisions of the EMS, with the intended central role for the ecu – moved to the background as a consensus emerged on the common goal of price stability; the long-standing discussions on the search for a common dollar policy was gradually found to lose their relevance as the underlying issues were reformulated in terms of the need for convergence in economic performances within the Community.

All this suggests that substantive progress towards EMU had been under way for long when the date was set for the beginning of the first stage towards the final goal of EMU. Promoting further convergence of economic performances, as intended during this first stage would then imply avoiding set backs from the present state of achievement and making further progress where shortcomings are clearly observed. It is therefore important to assess where the potential risks lie and where convergence is still failing.

If any doubt remains that convergence matters, especially since it played no role in the advent of the German economic and monetary union, it should be easily dispelled by the contrasting feature of the European EMU that monetary unity will not be accompanied by a merger of political sovereignties. In fact, even the economic union will remain short of endowing the Community with the responsibility and the means of carrying out a full-fledged economic policy for the union. A high degree of convergence is thus needed to allow Member States to forego the instrument of exchange rate changes, in full confidence that market forces, plus the remaining scope for implementing national economic policies, will ensure a smooth functioning of the union.

2. CONVERGENCE AT THE OUTSET OF THE FIRST STAGE

Many studies have focused on ways to assess the contribution of the EMS to the convergence of several nominal and real variables. A major difficulty lies in the need to disentangle the influences which can be safely attributed to participation in the EMS and other influences. A most recent and elaborate

study carried out in the IMF comes up with the conclusion that participation in the ERM has been a relevant factor, on the whole, in improving the state of convergence.⁴

The questions raised in this section are more forward-looking, as they focus on how to identify what could or should be done, during the first stage, to keep the momentum of convergence in the right direction. Three issues are addressed.

The first derives from the quasi-stability observed in the ERM central rates since January 1987: given that, by early 1991, the markets did not seem to expect a major realignment of central rates soon, can it be concluded that, over the period from 1987 to 1991, no systematic macroeconomic imbalance had been developing in the relevant countries, which ran the risk of upsetting the stability of central rates?

The second issue proceeds from a review of out-of-line performances in Community countries, in 1990, with respect to a number of macroeconomic variables: how should one assess the seriousness of these deviations in relation with progress towards EMU?

The third issue deals with the more structural aspects of convergence: while many of these do not readily lend themselves to the use of quantitative indicators, are there ways to trace progress or lack of progress that would be relevant in assessing readiness to participate in EMU?

The resiliency of central rates in the ERM

Leaving aside the adjustment in the central rate of the Italian lira associated with the move to the narrow band, the last realignment of central rates in the ERM occurred in January 1987.⁵ For those currencies that were participating in the ERM at that time, the stability of central rate relationships thus prevailed for the longest period yet since the beginning of the EMS. Since exchange control was completely relaxed in all ERM countries but Ireland during the same period, the fact of the matter is that these countries have been closer to a state of monetary union than ever since the end of the Second World War.

This situation may or may not be sustainable. Were it not, a change in central rates would still be a legitimate way of dealing with imbalances, although the appropriateness of such a move would of course depend on the nature of the imbalances and the availability of alternative remedies. Progress towards EMU would, however, be enhanced if it could be demonstrated that countries have the ability and willingness to deal with any such imbalance through action that avoided recourse to measures which will be banned by the time EMU is achieved.

Focusing on the currencies in the narrow band and looking at inflation as

Table 1. Consumer price inflation 1987–1990, ERM narrow-band countries (percentages)

	1987	1988	1989	1990	Cumulated inflation diff. against Germany (1987–1990)
Belgium	1.6	1.2	3.1	3.4	2.3
Denmark	4.0	4.5	4.8	2.6	9.1
France	3.3	2.7	3.5	3.4	6.0
Germany ^a	0.2	1.3	2.8	2.7	—
Ireland	3.1	2.1	4.1	3.3	5.6
Italy	4.6	5.0	6.6	6.1	15.9
Netherlands	-0.7	0.7	1.1	2.4	-3.4
Average ERM ^b	2.3	2.5	3.7	3.4	
Difference between highest and lowest	5.3	4.3	5.5	3.7	

^a Figures for West Germany.

^b Unweighted average.

Source: EC Committee of Governors.

the overwhelming test of potential unsustainability of exchange rate relationships inside the ERM, the picture is one of neither deterioration nor continued progress in convergence, but convergence was preserved towards higher price increases overall, not towards stability (Table 1).

The sheer maintenance, or even slight decline, in the spread between the lowest and highest rates of inflation is in itself not a negligible achievement. In the past, periods of increased inflation were usually associated with an increased dispersion of inflation rates.

Still, the figures point to three problems. First, there is a collective need to bring inflation down. Second, there is a need for the above-average inflation rates to come down at least as fast as others, if convergence is to be preserved. Third, throughout the period, the same countries, namely the Netherlands and Italy, displayed inflation rates at both ends of the spectrum, pointing to the presence of cumulative effects, as shown in the last column of Table 1.

This cumulative discrepancy is of course critical for the sustainability of the central rate relationship, but the consumer price index may not be the best indicator to exercise judgment on this issue. Other tests are required, not to water down the need to fight inflation where the peaks are observed, but to assess whether there are elements of strength which lend credibility to the exchange rate commitment and which afford time to concentrate the remedial action on internal, probably slow-moving measures.

Other indicators can be looked at to assess, on a *prima facie* basis, the sustainability of the exchange rate relationship in the ERM. Obviously, rough indicators of competitiveness such as the behaviour of unit labor costs and

Table 2. Indicators of trends in competitiveness

	Cumulated unit labor cost growth in private sector 1987–1990 (% variation)	Current account balance (in % of GDP)	
		1987	1990
Netherlands	3.9	1.6	3.3
Germany ^a	5.8	3.9	2.6
Denmark	11.5	-3.0	0.0
Italy	24.7	-0.1	-1.3

^a Figures for West Germany.

Source: EEC, OECD.

the current account of the balance of payments would provide indications as to the urgency of adjustment.

Table 2 provides the relevant indicators for the two countries where the cumulative inflation excesses have been worst, on the basis of the consumer price index, during the period 1987–1990 and gives elements of comparison with the two best performers. It shows that unit labor costs are a cause for worry, but that no dramatic consequences have occurred for the current account of the balance of payments, certainly not in Denmark. Indeed, in this country, inflation was cut dramatically in 1990 and the balance on current account shifted to equilibrium in 1990, for the first time since many years. The signs of adjustment in Italy are less convincing, though inflation was down in 1990 from earlier peaks and the current account deficit was of moderate size.

The out-of-line macroeconomic performances

A different approach to the issue of strengthening convergence consists in looking at a range of indicators, across all Community countries, to single out cases where the performance clearly deviates from any common sense of convergence, and assess the degree to which such deviations for any one or a combined set of indicators, would convey lessons for the macroeconomic ability of the country to move to EMU.

Selecting the right battery of indicators is a problem that all economists have been wrestling with. One issue is to specify which economic parameters deserve scrutiny, an exercise which is particularly relevant when trying to devise an early warning system. Another issue is to identify the indicator or set of indicators which are likely to provide a reliable signal for any specific parameter.

It is not the purpose of this paper to add anything to the solution of these delicate issues. They have been thoroughly examined by the Commission in

order to provide the Monetary Committee and the Council with the material needed to carry out a meaningful exercise of multilateral surveillance. Similar work has been done in the Sub-committee for Monetary Policy of the Committee of Central Bank Governors for assisting in the coordination of monetary policies.

Given that the purpose of strengthening the convergence of economic performances during the first stage of EMU is to enhance the ability of countries to forego the instrument of exchange rate adjustment, the question raised here is whether and how to set an order of priorities in singling out those out-of-line performances that matter most.

The European Council meeting in Rome has pinpointed two such priorities in recommending particular attention to price stability and to the improvement of public finances. Rough indicators are provided in Table 3 for inflation and the budget balance throughout the Community, together with indicators for unit labor costs, the current account of the balance of payments and growth of GDP.

Price inflation is uncontroversial as a matter for priority attention in the process of moving to EMU. If the threshold for detecting out-of-line performances is set at, say, 5 per cent increase and more in CPI, five countries are singled out with a major price inflation problem: Spain, Italy and the United Kingdom, with single digit figures, Greece and Portugal with double-digit figures. It is interesting to note that the same 5 countries (and no other) register values about 100 for the index of ULC-based real exchange rate developments since 1987, despite very different exchange rate behaviours during the period. Indeed, Spain and Greece register the highest values, pointing to potential problems for competitiveness. Spain tends to follow the hard-currency option in its fight against inflation; its loss in competitiveness is due to a combination of nominal appreciation and relative cost deterioration. For Greece, the loss of competitiveness has occurred despite substantial currency depreciation, which has thus not been sufficient to compensate for the cost-inflation differential.

The *budget balance* indicator also shows out-of-line performances. Setting the threshold at, say, a deficit of 5 per cent of GDP or above singles out five countries, whereby Spain and the United Kingdom drop out of the previous sample and are replaced by Belgium and the Netherlands. Using forecasts for 1991, Germany would join the group. Whether a budget deficit raises per se a problem for that degree of macroeconomic convergence needed to adhere to EMU is arguable. Other tests may usefully be brought to bear on the answer to this question. Since Belgium and the Netherlands both rank in the top league of countries with reasonable price stability and book surpluses on current account, indicating that they would still add to savings in a monetary union, it would seem that the arguments for a more converging

Table 3. Macroeconomic indicators (1990, except as otherwise indicated)

	Consumer price inflation (% variation)	Growth GDP (% variation)	Current account (in % of GDP)	General Government balance (in % of GDP)	Cumulated ULC in the private sector 1987-1990 (% variation)	ULC-based real exchange rate position (1987 Q1 = 100) ^c
ERM						
Belgium	3.4	3.5	1.8 ^a	-5.6	4.4	95
Denmark	2.6	0.9	0.0	-1.4	11.5	98
Germany ^b	2.7	4.3	2.6	-3.2	5.8	95
Spain	6.7	3.5	-3.8	-3.0	21.9	132
France	3.4	2.5	-0.3	-1.2	8.4	94
Ireland	3.3	4.5	1.2	-3.3	6.1	74
Italy	6.1	2.6	-1.3	-10.0	24.7	107
Luxembourg	3.5	3.2	- ^a	3.3	n.a.	
Netherlands	2.4	3.4	3.3	-5.4	3.9	91
United Kingdom	9.3	1.5	-2.8	-0.2	35.9	112
non-ERM						
Greece	20.4	1.2	-5.1	-18.6	68.0	125
Portugal	13.3	4.2	-1.2	-6.0	40.8	110

^a BLEU.^b Figures are for West Germany.^c This indicator shows the evolution since 1987 of real exchange rates calculated on the basis of manufacturing ULC's.

performance in the field of public finance are to be drawn elsewhere. The same could not be said of Italy, Greece and Portugal, where the high budget deficit is combined with excessive price increases and, in the case of Greece, with a highly negative current account.

The arguments for drawing the budget deficits within the scope of the required degree of convergence are of a structural nature rather than based on immediate macroeconomic concern. With monetary union, private savings will merge in a single market where their origins may be difficult to trace, and current balances will no longer be identified for the separate countries of the Community, at least in a reliable way. Since public deficits will still be fully measurable, they may be presumed to be excessive, beyond a threshold to be determined, because they would pre-empt the common savings in a way collectively considered undesirable. More convincingly, budget deficits will need to be brought down anyway in countries where public debt is high in relation to GDP, both to reduce the vulnerability of public finance to a fluctuating level of interest rates, and to restore flexibility in the management of the budget, given that monetary policy will no longer be available, at national level, to counteract cyclical influences.

Beyond price increases and budget balance, other indicators may be thought of as providing evidence that a country fails to meet the test of convergence needed to move to EMU. However, such a judgment will normally imply a combined reading of several indicators, as most of them may conceal an element of ambiguity when looked at in isolation. It has been stressed above that a flashing indicator of competitiveness, such as the ULC-based real exchange rate indices, may reflect a strong anti-inflationary stance in the context of a hard-currency policy, whereas a more satisfactory performance may reflect a periodic depreciation of the exchange rate totally inconsistent with a gradual and proximate move to EMU (see the respective cases of Spain and Portugal, in Table 3).

Another example is the balance on current account. Assuming a balance in excess of 3 per cent of GDP would be regarded as an out-of-line performance in 1990, three countries would be identified in that category, namely Spain and Greece with a deficit, the Netherlands with a surplus. There would however be nothing wrong with such a situation in monetary union if it reflected a higher than average rate of growth in the less prosperous countries, fueled by foreign investment, and the availability of large savings in the more wealthy parts of the Community. Looking at other indicators allows us to differentiate the picture: the deficit would appear to go hand in hand with a good growth performance in Spain, but obviously not in Greece. In terms of ULC-based real exchange rate indices, both countries display a wider spread against the average Community performance, in the negative direction, than the Netherlands does in the positive direction.

The same observation can be repeated when looking at the indicator of GDP growth. The fact that Ireland and Portugal stand at the upper range of performances in 1990 tells very little about convergence as a prerequisite for EMU unless other indicators are brought in to assess the sustainability of the process. A look at inflation competitiveness and current balance gives a favourable picture of Ireland, but points at potential problems for Portugal.

In other words, an indicator-based surveillance would have to be complemented, in most cases, by a more sophisticated economic analysis before concluding that convergence was failing for the purpose of meeting the requirements of the first stage of EMU.

3. Convergence in structural features

It is considerably more difficult to quantify the structural features of the economies that would call for improved convergence during Stage One than to detect *prima facie* evidence of macroeconomic deficiencies. The reason is not that there is a lack of indicators pointing to a desirable process of greater convergence: one would obviously wish to see greater convergence of GDP per capita towards the higher range and greater convergence of the structural unemployment rates towards the lower range, and other features could be mentioned.

Assuming these quantifiable elements had to be harmonized at the optimum level before proceeding to EMU, one could reasonably ask what additional benefits are still to be expected from EMU itself. EMU is supposed to help in raising the fluidity of production factors throughout the Community and assist in the implementation of various objectives for the real economy; it does not require full structural harmonization before it starts.

The point about structural convergence during the first stage is that those features of the economy which stand in the way of reaping the benefits of EMU should be removed as soon as possible. Where macroeconomic disequilibria tend to be endemic, they can be looked at as such an obstacle. There is no need to come back to the observations made above in this respect.

There are, however, other obstacles of a different nature, mostly institutional and therefore hardly subject to quantification.

A number of these have been identified and the need to remove them agreed upon. Basically, they coincide with the measures to be taken in the framework of the achievement of the Single Market. The removal of exchange controls is a case in point. Where these are still felt necessary, and have been legitimized under the temporary waivers included in the Directive of 1988 on the liberalization of capital movements, they should be recognized as potential handicaps in reaping the benefits of EMU.

Others have been mentioned, but it remains controversial whether they do represent such handicaps or not. Examples are wage indexation, the size of the public sector, or the fiscal burden. Some others have not even been identified. In many cases, it is left to the own judgment of Member States to make sure that they are well positioned, once EMU is under way. The current competition to strengthen and modernize financial centers can be looked at as the exercise of self judgment in improving convergence under the first stage.

3. TOWARDS A SUCCESSFUL IMPLEMENTATION

As pointed out before, some major ingredients of the first stage have been left outside the scope of this paper, and therefore no attempt is made at assessing the prospects for their successful implementation. This is the case for the work of the Intergovernmental Conferences, currently under way, for the parliamentary debates which will follow the adoption of the revised Treaty in the twelve countries, and for the legislative packages still required, both at Community and national level, to ensure that the program of the Single Market is implemented, as intended.

The focus is on convergence, as discussed in the previous Section. The prospects for successful implementation rely partly on market-led adaptation, and partly on institutional efficiency.

Market-led adaptation

It is by now a well-known feature of economic life in the Community that the revival of the process of European integration has unleashed the powerful dynamics of market forces. Political intentions have been efficiently relayed by the business community to develop strategies, to undertake mergers, to implement investment projects, to anticipate further integration.

Market-led adaptation is not only relevant for the private sector. Governments also perceive their own interests in fostering the adjustment of outdated structures to the requirements of a more competitive environment, which is gathering a momentum of its own. The forthcoming Single Market and EMU provide a welcome opportunity to overcome vested interests or psychological resistance to the implementation of reforms which are deemed desirable in themselves.

A clear example of this process can be found in Belgium. In a time span of less than a year, four important measures were taken to move the country along the path of convergence, but arguably for other compelling reasons at the same time. The withholding tax on fixed interest-income from newly

subscribed financial assets was brought down from 25 to 10 per cent, in the wake of attempts at fiscal harmonization in the EEC, but also to remove an excessive propensity of Belgian residents to invest their savings abroad. The dual exchange market was abolished, not only in execution of the commitment undertaken under the EEC Directive for capital liberalization but, well in anticipation of the deadline, to improve the image of the Belgian currency. A new exchange rate policy was announced, consisting in anchoring the Belgian franc more closely to the strongest currencies in the ERM: while the move was seen as bringing the currency closer to monetary union with these currencies, it was also intended to reduce the risk premium which the market was still imposing on the Belgian franc, relative to the Deutsche mark, helping thus to alleviate the interest burden on public debt. Finally, a reform of the instruments of monetary policy was implemented, as well as a drastic reduction of the access of public entities to central bank credit: while both moves were recognized as bringing Belgium closer to the requirements of monetary union, they happened to be also dictated by a reform of the money market largely geared to increase the efficiency and reduce the cost of Treasury debt management.

Other examples of such coincidence between the pursuit of self-interest and the improvement of convergence, as required to move closer to EMU, would be found in other countries. While based on a perceived environment of competition rather than on deliberate and orderly coordination, this process can be looked at as a contributing factor to the progress of convergence during the first stage.

Institutional efficiency

A different question is whether Community authorities have improved their ability to enforce implementation of the action needed to improve convergence, particularly where shortcomings are detected.

Before the date set for the opening of the first stage, the Council adopted, at the request of the European Council in Madrid, two important decisions intended to enhance the ability of the Community to implement the action mandated during that stage. One was designed to reactivate the work of the Council to exercise multilateral surveillance on the progress of convergence. The other extended the mandate given to the Committee of Governors to upgrade its status and strengthen its authority, both *vis-à-vis* the political world and the individual central banks.

While it is probably too early to pass judgment on the efficiency with which these enhanced responsibilities are exercised, some questions may be raised.

As far as action by the Council is concerned, the multilateral surveillance exercises have been carried out with the help of adequate preparation by the

Commission and the Monetary Committee. The advice of the President of the Committee of Governors was heard. Formally, the procedure works more or less as prescribed in the Council decision.

Reports about the handling of such meetings raise the suspicion that the analytical effort made by way of input on the basis of indicators more refined than those illustrated in Section 2 of this paper, may not have been rewarded by conclusions likely to elicit follow-up action. The dilemma between low-key diplomatic pressure that takes time to sort out its persuasive effect and more forceful expressions of concern which run the risk of rallying counterproductive forces is still unresolved.

Several avenues could perhaps be explored to make sure that multilateral surveillance exercises do not experience the same kind of fatigue as the implementation of the 1974 Decision on Convergence underwent.

First, it might be considered that such exercises should be used to identify a list of weaknesses in macroeconomic performances which would need particular scrutiny and would call for review at the next exercise. Each multilateral surveillance meeting ought to be seen as an opportunity to ensure a follow-up to the former.

Second, given the risk that an indicator-based multilateral surveillance would only produce a superficial understanding of the real problems of a particular economy, the Council could from time to time mandate a thorough analysis of the performances of a particular Member Country. Admittedly, this is done by the Monetary Committee in execution of its mandate, but these examinations occur at long intervals, on a rotative basis, and remain fairly confidential. Given the importance of the Community in all member countries' affairs, it is strange that IMF and OECD country reviews are often felt by national administrations as having more depth and teeth than EEC reviews. The emerging move to draw up multi-annual convergence programmes, subject to review, would be a step in the right direction.

Third, beyond the identification of macroeconomic deficiencies, there might be a case for examining, country by country, whether structural obstacles remain, beyond those already apprehended by Community initiatives such as the Single Market program, that would impede an efficient integration of the country in the EMU.

In other words, multilateral surveillance should be seen as the starting point of a Community process designed to foster convergence, not as a self-contained procedure. Ways should be sought, when needed, to exercise some pressure on countries lagging behind. The Community is well equipped to apply the principle of conditionality to supports other than balance of payments financing. The power of the Commission to issue recommendations has been used in the past, in connection with economic policy, and could be used again.

As far as the Committee of Governors is concerned, much has been done to enhance its analytical abilities, and to approach the difficult task of coordinating individual monetary policies through ex-ante assessments rather than through ex-post findings. The Committee has the duty to publish an annual report under the Council Decision defining its new mandate: the first edition of this report is still to come, but given the alleged intention of the Committee to adopt a higher profile, it could be expected with interest.

From this review, it may be concluded that the first stage of EMU really began long before the date officially set to start the whole process. In mountain climbing, it is well known that climbing starts only when one has walked a long time already.

Beyond a number of formal steps which essentially call for legislative action, the challenge of Stage One is to allow further progress towards convergence, further progress meaning a 'catching up' process for some countries, a consolidation process for others. The required convergence is by no means unambiguous: the substance is dictated by the need to manage currencies within the ERM, the need to eliminate out-of-line performances when they are inconsistent with adherence to EMU and the need to remedy a number of difficult-to-identify rigidities which run the risk of putting the country at a competitive disadvantage when EMU is implemented.

To some extent, the process of strengthening convergence is led by market forces which influence both the private and the public sector in trying to improve their competitive position in the new environment. It may be that more leadership could be exercised from Community institutions, particularly the Council.

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NOTES

1. Some of the considerations which led to the proposal for setting up a European Reserve Fund may come to the surface again in connection with proposals about to be discussed for the second stage of EMU.
2. Council Decision of 12 March 1990 amending Council Decision 64/300/EEC on cooperation between the central banks of the Member States of the EEC (90/142/EEC).
Council Decision of 12 March 1990 on the attainment of progressive convergence of economic policies and performance during Stage One of EMU (90/141/EEC).
3. This goal has been watered down by the European Council in Rome (October 1990), which requested that as many currencies as possible would take part in the ERM.
4. H. Ungerer, J. J. Hauvonen, A. Lopez-Claros, and Th. Mayer, *The European Monetary System: developments and perspectives*; IMF Occasional paper No. 73, November 1990.
5. Early January 1990, the fluctuation margins of the lira in the ERM were reduced to ± 2.25 per cent in such a way that the lower intervention limits of the lira against the other ERM currencies remained unchanged.

XXIII. European monetary integration and national budgetary policies: new rules for an old game?

BEATE RESZAT

1. INTRODUCTION

Monetary/fiscal policy conflicts are a 'game' that most industrial countries play most of their time. Monetary authorities navigating between the Scylla of high inflation and the Charybdis of insufficient growth naturally prefer low budget deficits that were mainly or entirely financed by capital markets. On the other hand, fiscal policy-makers competing for voters' sympathies, in general, favour high spendings but, at the same time, shun taxes. The outcome for the economy then, normally, depends both on the relative strength of both parties and on general social-economic, institutional and historical circumstances influencing their decisions.¹

International monetary cooperation is shifting the game to a higher dimension. Instead of, first of all, being confined to one's own nation's targets and values, and the limited range of problems and situations involved, monetary policy now has to do with a highly disintegrated and heterogeneous group of fiscal policy-makers facing very different national constraints and showing very different views on the requirements of a 'sound' economic policy. In a future European Monetary Union with monetary authorities bound to a joint strategy while fiscal policy remains unrestrained, conflicts may aggravate even further. Thus, to prevent governments from taking a free-rider position in borrowing too much at the community's expense, some analysts plead for implementation of strict rules to ensure budgetary discipline. But the need for such rules is not undisputed.

Their proponents often implicitly or explicitly argue on the basis of game-theoretic concepts which show that in international relations cooperation would not take place voluntarily.² But, one must ask why governments that have come a long way to build a monetary union – sometimes even against strong opposition from their own central banks and thus showed themselves willing to give up a lot of their political freedom, should risk this achievement only to insist on a counter-productive fiscal policy of their own. Obviously, there is either a contradiction between how politicians acted in the past and how they are expected to behave in the future, or the assumptions the argument is based on do not apply to the EMU.

There are reasons to believe that the latter holds true. In what follows those reasons will be discussed in detail. First, the nature of the policy problem will be reexamined. Thereafter, possible solutions will be developed that either by taking into account a wider range of alternatives or by introducing arguments that alter the evaluation of policy options show how governments may become willing to cooperate. Above all, three channels will be identified through which the expected outcomes of strategies can be changed in a way that, even without rules, fiscal policy will have no incentive to defect. These channels are: compensation, perceptions and institutions.

Compensation means trying to weigh the true costs and benefits of available strategies to make up for possible disadvantages of an accommodating fiscal policy by offering a sort of 'side-payments' in other areas. To change perceptions aims at altering not the factual outcome but the policy-makers' view on a cooperative strategy's pros and cons. And thirdly, institutions may change the environment for policy-making and let a country stick to the community's targets even if it were not offered additional rewards or persuaded by diplomatic means.

2. THE NATURE OF THE POLICY PROBLEM

The Delors Report on European Monetary Union³ envisages three kinds of rules for budget deficits: a ban on their direct financing by the monetary authorities, restrictions on external government borrowing in non-EC currencies, and the imposition of upper limits on the deficits themselves. Two assumptions lie behind these proposals. First, that a country's budget deficit would have a significant influence on the monetary conditions in Europe.⁴ And second, given this influence, that there was a strategic advantage in running a high deficit at others' costs that countries would not hesitate to realize if they were not hindered by binding rules.

The strategic argument is based on the view that due to the anarchic character of international relations the countries face a kind of Prisoner's Dilemma.⁵ This well-known game-theoretic paradox results from a contradiction between individual and collective rationality: two prisoners, suspected of having jointly committed a crime, are kept separated and confronted with the alternative to confess or not confess on the following conditions: if neither confesses both will be set free; if both confess they face moderate jail sentences. However, if one confesses and the other keeps silence, the former will be set free and get an additional reward while the latter will be punished severely. The players' possible strategies and outcomes can be described in

		Player 2	
		To cooperate	Not to cooperate
		(2 2)	(0 3)
Player 1	To cooperate	(2 2)	(0 3)
	Not to cooperate	(3 0)	(1 1)

Figure 1.

a payoff matrix with numerical values representing their respective 'utilities' or hypothetical ranking of preferences (see Figure 1).

Individual rationality would require each of them to confess. However, neither could expect to get off reaching his optimal outcome because, at the same time, this meant the worst possible one for his opponent who had to behave accordingly. On the other hand, collective rationality would call for cooperation to maximize the players' joint utility. In that case, none of them would reach his personal best but none risked the worst possible either. The crux here is that the players cannot communicate. Cooperation would require them to trust each other blindly. And, both are aware that if one could expect the other to keep still individual rationality would urge him to take advantage of this knowledge and confess. Thus, to play safe, eventually both decide not to cooperate.

The same discrepancy between individual and collective rationality is assumed to exist for fiscal policy in a monetary union. Under certain economic circumstances a national government might wish to run a high budget deficit, especially if all other countries exerted a budgetary discipline that kept the negative monetary effects of its own policy small. However, if all countries behaved like this, the system would be severely damaged and, in the end, all participants would be worse off than before.

This really is a dilemma. But, what are the reasons to assume that for a future EMU conflicts between individual and collective rationality would be the rule rather than the exception? Critics have called the Prisoner's Dilemma 'hopelessly artificial'.⁶ They refer to the assumptions it is based on: in contrast to the European case, there are only two players of equal strength. If there were more they could form coalitions and use majority rules to determine what to do.⁷ If – alone or as a group – their actual might or bargaining power differed the most influential could take the lead or impose threats and sanctions to enforce cooperation.⁸ However, all these alternatives would at least require 'pre-play communication' – a possibility the European countries normally make extensive use of. But, this is ruled out by assumption, too.

In addition, the Prisoner's Dilemma is a 'one-shot' game. There is no room for the mutual understanding on which a future EMU would be grounded and which were the result of long-term processes to get accustomed to, and gain

confidence in, each other. Here, players act only once and simultaneously. Were the situation only allowed to recur, a sort of ‘tacit’ agreement could be found. Then, even without communicating, the players could learn about each other’s intentions by interpreting past choices.⁹

Furthermore, a dilemma need not arise if risk and uncertainty were taken into account.¹⁰ If the players’ information were limited their expected utility would not only depend on a strategy’s outcome but also on the probability with which this outcome were reached. And if the cooperative solution appeared more (or less) likely than an uncooperative one this could make the contradiction between individual and collective rationality disappear. Thus, in principle, there were many ways to get off the horns of the dilemma, and for fiscal policy in a European monetary union, there is *a priori* no reason to see why it should not come to an unmistakable conclusion – whether for, or against, cooperation.

3. PAYOFFS AND PROBABILITIES

To reject the Prisoner’s Dilemma as a metaphor for international policy conflicts does not mean to decline systematic analysis at all. But, to reformulate the policy problem, and to discriminate between alternative options for fiscal policy in Europe, it will become necessary to drop the assumption of perfect information and go back to the foundations of rational decision-making under uncertainty.

In economics the most influential paradigm of rationality is the concept of expected utility. Game theory normally assumes that players act according to von Neumann-Morgenstern rules:¹¹ for every decision problem, they are supposed to face a set of alternatives that can be described unambiguously and objectively. Depending on the strategies they choose these alternatives result in different outcomes which are supposed to represent their preferences. Acting under uncertainty they are thought capable of associating a probability with each alternative and of maximizing an expected utility that can be written as

$$EU = \sum p_i U(x_i) \quad \text{with } \sum p_i = 1. \quad (1)$$

Here, p_i denotes the probabilities of entry for each alternative and $U(x_i)$ the utilities attached to the respective outcomes.

Then, several ‘axioms’ make sure that situations ultimately implying the same set of ‘availabilities’¹² lead to the same choices.¹³ A decision-maker is said to behave rationally if – roughly speaking – he does not violate the laws

of probability and logic.¹⁴ In particular, he should be able to tell which alternatives he preferred more or less, and in which cases he would be indifferent. In addition, his preference order should be transitive and independent of irrelevant alternatives. And, he should be able to judge uncertain situations in accordance with the rules of probability.

Thus defined, rationality is, above all, a device to avoid contradictions. It does not tell how outcomes are to be judged and payoffs derived. However, von Neumann-Morgenstern rationality is only one approach to determine a player's expected utility. It assumes that the probabilities of outcomes are objective ones that do not change with circumstances.

Another possible way to interpret people's choices is to suppose that they attach a subjective weight to each alternative depending on the context in which it is presented. In this view, the reason for uncertainty is less grounded in the outside world than in the individual himself with probabilities being no precise estimates of unknown facts but degrees of personal beliefs. With subjective (nonlinear) probabilities determined according to a function $F(p_i)$ expected utility, in its most general form, becomes

$$\text{EU} = \sum F(p_i) U(x_i). \quad (2)$$

Then, the question for policy analysis is: what determines $F(\cdot)$ and $U(\cdot)$?

4. MOTIVES, BARGAINING POWER AND PERCEPTIONS

Assume that, for a future EMU, in an isolated analysis of fiscal policy, a fully informed super economist would come to the conclusion that in fact a dilemma existed calling for rules to ensure budgetary discipline. However, a politician acting under uncertainty could not take this result for certain. For him, the situation would be open to a variety of interpretations. In particular, in contrast to the Prisoner's Dilemma, he could not foresee the dimension of the bargaining problem, i.e. the range of issues actually involved, and would have to take into account that others might react to his own strategies in an unexpected manner.

Pursuing a loose fiscal policy he could not be sure if others would solely decide to run high budget deficits, too. Instead, he had to ask if his uncooperative behaviour in this area would not poison the political climate in others and cast a shadow on his foreign policies in general.¹⁸ That is, he would not only have to take into account macroeconomic interdependence but a connectedness of all his policies and targets. Then, under given economic circumstances, what he aims at, and what he may expect to realize from fiscal

Table 1. Determinants of fiscal policy decisions

Components of expected utility		
	Payoffs	Probabilities
System	structures determined by <ul style="list-style-type: none"> – the ordering principle (hierarchic/anarchic) – tasks and functions (legislative, executive, jurisdiction) – abilities and power (military, economic, financial, technological, others) 	‘objective’ expectations under limited information
units	anomalies <ul style="list-style-type: none"> – motives (collusion, envy) – values (altruism) – constraints (norms, rules, institutions) 	irrationalities <ul style="list-style-type: none"> – interpretation – attitudes and beliefs

policy cooperation – the payoffs and probabilities of different alternatives he faces – will depend on two kinds of influences: those grounded in his and others' personal beliefs, judgements, motives and constraints and those stemming from the way in which political relations in Europe are, in a sense, arranged and organized. For studying these various influences, system analysis provides a useful tool (see Table 1).

In general, a system is defined as a set of interacting units.¹⁹ With system effects outcomes do not only depend on the properties and interconnections of variables directly influencing policy decisions but also on the way in which these variables build a whole.²⁰ Thus, system analysis asks for the determinants of structures as there are the ordering principles in national or international politics – hierarchic or anarchic – the distribution of the units' tasks and functions and the distribution of different abilities or means of power. In international relations with their anarchic character and – at least, in a formal sense²¹ – widely undefined tasks and functions the latter is often regarded as decisive.

Units in the European monetary/fiscal policy game are, above all, representatives of governments, i.e. central bank governors, finance ministers and other officials. But, other participants, like private banks, enterprises, and political parties are important, too. Their activities influence their countries' authority and standing in the world, and, for example, some of them may – especially in times of unrest in foreign exchange markets – exert substantial direct pressures on policy decisions.²²

Then, on the system level, expected payoffs of fiscal policy are influenced by how much of one's own targets other countries – or the Community as a whole – would have to tolerate getting realized and this, in turn, is above all a question of economic and political power. In this context, the meaning of power is not always clear-cut.²³ Sometimes it only refers to the most visible forms of military and economic influence allowed to exert pressures on others. However, nowadays in international relations a structural dominance, defined as a country's weight in such key areas as production, finance and technology, is at least equally important. It influences judgements and expectations and enables actors to "change the range of choices open to others, without apparently putting pressure on them to take one decision or to make one choice rather than others".²⁴

System considerations make the prospects of a cooperative fiscal policy within the EMU not seem that dark. Asymmetric power relations, and the weight the Community may demonstrate as a whole, open the way to diplomatic efforts exerting open or hidden pressures to enforce budgetary discipline. In addition, connectedness of strategies and targets makes it possible to offer incentives as well and negotiate 'policy packages' with allowances in one area traded in exchange for concessions in another one.²⁵ And, with all policy-makers suffering from uncertainty, there will be benefits of cooperation resulting from a mere increase in information that by letting 'objective' probabilities become more reliable possibly make a country inclined to compromise.

Cooperation can be facilitated, too, by certain 'unit attributes' implying deviations in behaviour from what a homo oeconomicus considered rational. For actual or seeming violations of rationality two reasons can be found: on the one hand, there are so-called 'anomalies' resulting from individual motives, values and constraints that, from a politician's view shed another light on a strategy's outcome than economic theory. On the other hand, true 'irrationalities' defined as violations of the rules of probability may block the view on the 'real' costs of compromise. In European policy, examples can be found of both effects:

The phenomenon of anomalies in decision-making touches the old question of whether actual choices do reveal preferences or not.²⁷ Hidden motives like envy or social comparison²⁸ – will another country's economy benefit more from an arrangement than one's own? – may prevent compromise. On the other hand, a felt need for collusion²⁹ can enforce cooperation even in otherwise seemingly hopeless situations. In both cases, from an economist's view, decisions must appear odd. Theories on international macroeconomic policy coordination neither prepare him to explain, for example, the fear a co-operative decision-maker may feel of being regarded as other countries' 'poodle',³⁰ nor do they help in judging the positive effects of personal friend-

ship – a factor that, as past experience shows, sometimes played a decisive role especially for monetary cooperation in Europe.

Other reasons for an ‘anomalously’ cooperative behaviour may be found in – individual or national – values as well as social norms and rules. Politicians need not be egoists in a narrowly defined sense. For example, they may feel destined to accomplish a historical task in promoting cooperation regarding it as one means to secure peace and increase mutual understanding. Furthermore, they may be hindered in optimizing at others’ costs either by explicit rules – this is the idea behind the Delors Report’s proposals – or by the influence of institutions and other forms of interaction based on social norms.

At first sight, it may appear far-fetched that norms, defined as standards of conduct or shared ethical values, should play a role in European economic policy decisions. But, like any other community of men, Western industrial countries develop behaviour rules as well as ‘taboos’ and ‘rituals’ acting as limits to national egoism.³¹ Well-known examples are the principle of reciprocity in international trade and the German ‘sacred cow’ of price stability – a ‘taboo’ resulting from historical experiences to which other countries more and more come to pay tribute, too. And if, within a future EMU, a code of honour or ‘esprit de corps’ developed – for example, a strong conscience to behave as Europeans – this would change the environment for fiscal policy decisions as well.

However, the influence of threats, promises and social norms in the end largely depends on how decision-makers perceive a situation.³² From laboratory experiments and other sources³³ it is known that people tend to violate the assumptions of von Neuman-Morgenstern rationality and that these seeming or actual ‘errors’ are systematic ones. International relations are not free from phenomena like preference reversals, framing and anchoring as well as violations of the basic rules of probability.³⁴ For example, the decision to reevaluate a currency instead of devaluating another one – and, if necessary, to postpone any realignment regardless of the economic costs until a respective formulation were agreed on – clearly demonstrates how framing can determine policy decisions. Obviously, the general observation that people take chances to win not in the same way as they risk to lose³⁵ holds for the formation of expectations in international relations, too.

If politicians tend to make irrational decisions, rules like those suggested in the Delors Report can provide a kind of anchor for fiscal policy as well as for private actors’ expectations. This may facilitate enforcement of budgetary discipline, nationally and internationally. On the other hand, irrationalities in general impose a strong challenge to diplomacy. Rules that condemn policy to inflexibility, and hinder it in applying the whole range of diplomatic instruments, of persuasion, bluffs, threats, promises and more,

Table 2. Influences of time

	Payoffs	Probabilities
continuity	<ul style="list-style-type: none"> – spontaneous order and institutions – time inconsistencies 	<ul style="list-style-type: none"> learning remembering forgetting
shocks	<ul style="list-style-type: none"> – source and relative strength of shocks – degree of policy flexibility 	ambiguity
system changes	shifts in distribution of tasks and abilities	ignorance

can also become an impediment to cooperation provoking a “take it or leave it” situation.

5. CONTINUITY, SHOCKS AND SYSTEM CHANGES

A decision for or against rules for fiscal policy cooperation must remain unsatisfactory if it does not take into account the influence of time (see Table 2). Three kinds of effects have to be distinguished. The first concerns the influence of continuity on payoffs and probabilities. In international relations, continuity represents a value per se. In course of time behaviour patterns develop and unwritten rules, norms and conventions more and more influence decision-makers' interactions.³⁶ Existing institutions get strengthened and after a while – even if the powers that once established them fade or politicians' will to work together weaken – become a driving force behind cooperation on their own.³⁷ The EMS having gained long-standing reputation, has, in this respect, well prepared the ground for its successor. This should at least provide some incentive for fiscal policy to cooperate in the EMU even without rules.

However, behaviour patterns, norms and conventions are only one aspect of continuity. The other one, providing a case for rules to enforce cooperation, is time inconsistency.³⁸ Theories of macroeconomic policy coordination argue that if politicians voluntarily commit themselves to a joint strategy and after a while ‘reoptimize’ they probably will have to state that their once chosen policy is no longer the best of all alternatives. The reason is that, as time passes, the circumstances that prevailed when the decision for that strategy was made become bygones and do no longer enter the optimization calculus. This alters its results.³⁹ As a consequence, a new kind of dilemma arises: either the actors stick to the commitment made and behave subopti-

mally, or they break their promise. In the latter case, they run the risk of being regarded as unreliable for any future agreement thus limiting their further ability to optimize. In this situation rules, as long as they are binding and not mere recommendations, take the decision off the politicians' shoulders.

But, time means also changes and uncertainties. Developments are not always smooth and – within limits given by the standard deviation and other measures of risk – foreseeable. Sudden political and economic events, i.e. shocks from different sources that hit the countries' economies with varying intensities and frequencies, add new aspects to the decision problem. If the policy's main target was to stabilize outcomes – and, approaches analyzing rules versus discretion under uncertainty normally start from this assumption⁴⁰ – there are situations where, with regard to payoffs, rules show a clear advantage to discretion.

According to the findings of theory, depending on the source and relative strength of shocks each kind of macroeconomic policy rule has its comparative advantage. For example, a rule to keep interest rates constant may under certain assumptions be most efficient in cutting off economies from short-term monetary disturbances, while another one aimed at stabilizing the exchange rate could help to minimize the effects of shocks in foreign exchange markets. And, a sudden increase in oil prices may call for a rule for fiscal policy – though not for budget deficits, their case is still open! – to stabilize policy outcomes.⁴¹ But, if the 'wrong' sort of shock happened, or happened at the same time but with stronger effects on policy targets, the chosen rule might prove inferior to a discretionary policy. And since, in real life, the emergence and relative strength of shocks from different sources vary the general advantages of rules for stabilization purposes have to be doubted.

But, shocks do not only change a strategy's payoff. They also influence probabilities and increase the element of ambiguity⁴² in policy decisions. Since each disturbance is, more or less, unique, evidence about its influence is often unreliable and conflicting and the causal processes through which it affects outcomes are poorly understood. As a result, irrationalities get even more weight in decision-making than without those disruptions.⁴³

Finally, a wholly different situation emerges if there are fundamental system changes altering the distribution of powers and the nature of interaction patterns very fast. In this case, statements of future payoffs and probabilities beyond mere guesses become impossible. Politicians have to act under complete ignorance, and game theory becomes an inappropriate tool for analysis.⁴⁴ Then, the arguments for or against budgetary rules have to be found elsewhere.

6. RULES VS. DISCRETION REVISITED

Consideration of the variety of determinants of expected outcomes raises the question whether the free-rider problem of fiscal policy cooperation in a future EMU may not be highly overrated. If actually a conflict between one country's 'rationality' and that of the Community existed there would be at least three possibilities to overcome this dilemma. The country could be offered compensation in form of concessions made in other policy areas, or threatened with retaliation in those areas in case it were to defect. In addition, others could try to persuade it to change its view on a cooperative policy. And, finally, the benefits of the mere existence of an institution like the EMU, and of a country's membership in such an institution, might pay the costs of compromise.

Choosing a rule to ensure budgetary discipline would require weighing possible advantages of a reduction of disturbances from fiscal policy and a greater reliability and foreseeability of the countries' strategies against the disadvantage of inflexibility. In face of system changes like those experienced now – with the developments in Eastern Europe, the German unification, and adjustment burdens and power debates triggered by the Gulf War – the benefits might easily be dwarfed by the strains that will be put on the Community if the Member Countries tried to follow those rules at all costs. In this situation, attention should focus on measures strengthening existing relations in general, and maintaining the viability of the EMS, instead of introducing new inflexibilities that only add fuel to emerging conflicts.

NOTES

1. See, for example, for the German case, Reszat (1989).
2. See also Caesar (1989), pp. 5 ff. Beside the strategic aspect emphasized by game-theoretic approaches there are more practical obstacles to fiscal policy coordination like model uncertainty and diverging national and international goals. They are discussed by Tanzi (1988).
3. See European Community (1989).
4. The monetary effects of budget deficits are not clear at all. See, for example, Frankel, Rockett (1988) and Generaldirektion Wirtschaft und Finanzen (1990), pp. 119 ff.
5. See, for game-theoretic approaches to international policy cooperation, for example, Cazzaneri and Gray (1983); Cooper (1985); Oudiz and Sachs (1984), as well as the contributions in Buiter and Marston (1985) and, for a detailed overview, Reszat (1986).
6. Humpage (1990), p. 8.
7. For example, this subject is analyzed in theories of clubs. See, for an overview, Sandler and Tschirhart (1980), and for an applicability especially to the EMS Reszat (1990).
8. Another approach assuming a kind of leadership is the so-called Stackelberg-solution where

- one player anticipates the other's reaction and leaves him no chance to reoptimize. But, since here again, both players are of equal strength the rationale behind the second player's behaviour is not quite clear: If he did not keep still and also tried to become a leader the game would have no equilibrium. See also Intriligator (1971), pp. 209 ff.
9. This was also the idea behind the computer tournaments of Axelrod (1984). See, for a detailed discussion of the possibilities of 'tacit' communication, Schelling (1980).
 10. See, for the limits of applicability of the Prisoner's Dilemma due to these reasons, for example, Elster (1988).
 11. Compare von Neumann, Morgenstern (1972), pp. 15 ff. See, for an overview of these and other concepts of expected utility, Schoemaker (1982).
 12. See Machina (1987), p. 124.
 13. According to this concept, even in case of subjective probabilities deviating from the 'objective' ones a rational player must be able to duplicate the reasoning process of another rational player provided he is supplied with the same information. See for example Bimore, Dasgupta (1986), p. 4.
 14. See, for a detailed discussion of these axioms, Dawes (1988).
 15. If one alternative were preferred to another this order should be maintained even if both were presented in a different context. Machina also speaks of "separability across mutually exclusive events". See Machina (1989), pp. 1627 ff.
 16. See Dawes (1988), pp. 178 ff.
 17. See, for different forms of subjective probability models of preferences, Machina (1987), pp. 132 ff.
 18. See, for possible consequences of a failure of macroeconomic policy cooperation for other areas like trade and security, Feldstein (1988).
 19. See Waltz (1979), p. 40.
 20. Waltz (1979), S. 39.
 21. There are, of course, informal distributions of tasks like a country's role of a kind of 'world police', or that of a guardian of price stability in Europe.
 22. See, for the role of nongovernment actors in international politics for example, Strange (1988).
 23. See for a discussion of different concepts of power in general, for example Harsanyi (1971), and especially in international politics, Strange (1988).
 24. Strange (1988), p. 31.
 25. Evidence for the range of issues that are sometimes dealt with in policy packages was offered by the 'horse trade' between France and Great Britain at the latest agreement to change IMF quotas. The quota increase was linked to the countries' ranking in the Fund, the seat of the planned European Bank for Reconstruction and Development, and the presidency of that Bank. See Norman (1990).
 26. See, for the problem of defining an objective probability, Schoemaker (1982), p. 535. For example, the popular view simply to look at the frequency of outcomes of a large sequence of independent replications is not applicable to international relations where, as a rule, situations are nonrecurrent.
 27. See, for example, Sen (1982), pp. 62 ff.
 28. Dawes gives an example from laboratory experiments of how envy changes the expected payoffs in a way that a dilemma becomes an unmistakable case against cooperation. See Dawes (1988), pp. 178 ff.
 29. Vaubel analyzes the case in which collusion determined European monetary policy cooperation to reduce politicians' 'cost' of that strategy in terms of lost votes. See Vaubel (1985), pp. 235 f.
 30. See, for the row over a related remark of a British politician in an interview pleading against a contribution of his country to further European integration, Bruce (1990).

31. See, for the distinction between Economic Man and Social Man in general, for example, Brunner and Meckling (1977) and Elster (1989).
32. The first systematic analysis of perceptions and mis-perceptions in international politics was Jervis (1976).
33. See, for example, the contributions in Hogarth and Reder (1987).
34. Preference reversal means a violation of transitivity. Framing stands for a violation of the independence axiom with decisions depending on the way in which a problem is presented. Anchoring refers especially to the phenomenon that in ambiguous situations people tend to look for an orienting point, no matter if and how this is related to the decision problem. An example of a violation of probability rules is the so-called 'Gambler's Fallacy' ignoring the independence of nonrelated events. For example, in tossing a fair coin, it is irrelevant – contrary to many people's belief – for its next time landing tails or heads if it has fallen heads for the last four (or forty) times. After each toss the objective probability of each event is again 1/2. See for these and other 'irrationalities' Dawes (1988).
35. Prospect theory, tries to capture this observance assuming a utility or 'value' function that is concave for gains and convex for losses as well as steeper for losses than for gains. See Tversky and Kahneman (1988).
36. See, for the development of a 'spontaneous order', Sugden (1989).
37. See, for example, Keohane (1984). He analyzes the role of regimes in the long run but the difference between regime and institution does not seem always clear-cut. See for a definition of these terms Krasner (1982), Myhrman (1989).
38. See, for example, Currie and Levine (1985) and Oudiz and Sachs (1985) and, for a time consistent formulation of fiscal policy cooperation, Buiter and Kletzer (1991).
39. See Oudiz and Sachs (1985), p. 280 and Reszat (1986), pp. 281 ff.
40. The first to analyze the efficiency of macroeconomic policy under uncertainty was Poole (1970) who considered various monetary policies in a closed economy. See, for an analysis of the impact of various shocks in the EMS, for example, Lane and Gros (1990).
41. See, for example, Reszat (1984) and for the fiscal policy rules, Masson and Melitz (1990). The latter find that disturbances like an appreciation of the joint French and German real exchange rate or an inflation shock would require a flexible response of both countries' fiscal policy while an oil price shock could be met best by rules.
42. See, for the distinction between uncertainty and ambiguity, Einhorn and Hogarth (1987), pp. 43 ff.
43. However, it cannot be decided in advance whether people generally prefer rather than seek to avoid ambiguity. See Einhorn and Hogarth (1987), p. 46.
44. See also Binmore and Dasgupta (1986), pp. 6 f.

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Part F
Concluding Address

XXIV. General report on the colloquium

MANFRED WEGNER

Let me start this last day of the sixteenth international SUERF conference in Lisbon with some personal remarks about the job I am trying to undertake: to sum up our debate in the last two days with a view to stimulating general discussion this morning.

First, I have to warn you that I am biased: I spent 20 years in the EC Commission, thus representing what is called a Eurocrat. But after having returned to the more reflective life of economic research, I am now enjoying very much the new freedom of a more personal and critical attitude.

Second, when your president, Niels Thygesen, asked me last September to take up the role as Rapporteur-General for this conference, I accepted the task with some hesitation. At that time and after having seen the programme and the list of speakers, I felt that the conference would offer me a unique chance to learn more about 'fiscal and tax policies and the financial system in an increasingly integrated Europe'. Besides, Niels Thygesen assured me that the Rapporteur-General could bring in his own perspective on the European issues. Finally, I was still concerned about the large number of controversial topics which the conference tried to tackle, but was also curious to find out more about the actual European debate.

Today and after having read the 19 papers produced for the four commissions and having listened to the opening session I feel much more frightened about the job of summing up the discussion we have had during the last two days. Already, the number of important topics raised in the Colloquium is vast. In addition, almost all the issues of the four commissions, namely

- private savings and tax incentives,
- public sector imbalances,
- international transfer(s) flows, and
- the policy mix towards EMU in Europe.

are not only controversial but really most urgent policy problems which have to be solved within a very short time span. For most of the issues, there are diverging theoretical answers and different policy options. What seemed for a while an academic discussion of loosely connected technical questions,

suddenly became the subject of radical changes in economic, institutional, and constitutional relations in the real world. Even more, all three major challenges mentioned by Niels Thygesen in the initial conference outline have far-reaching political dimensions.

Third, the topics of the conference are not only part of the European challenge in preparing some decisive steps towards the Economic and Monetary Union and the European Union in the 1990s, but they also form part of the fundamental changes going on in Central and Eastern Europe. The economic policy questions raised in this conference have all gained momentum and urgency and they are all linked together. If Europe fails in one part, there will be damage in the others. If the European Community was successful in deepening integration, it would encourage its neighbours in their painful effort of transforming the Central and Eastern economies and in approaching the European Community. The implications of these economic and political reforms for Europe as a whole will be profound and perhaps even more important than the recent initiative to complete the Single Market in 1992. Instead of the 'end of history' (Fukuyama, 1989), the pace of historical change is accelerating. Today, Europe is facing economic and political options which have been out of range for several decades.

Examples of these interrelated complexities and wide repercussions of policy reactions in Europe abound.

Let me begin with the problems of my own country. In a recent statement before a committee of the EC-Parliament in Brussels, the outgoing president of the German Bundesbank, Karl-Otto Pöhl, described the financial consequences of German unification as a disaster. Evidently, he did not question the basic policy decision of unifying Germany and introducing the D-Mark into East Germany, but seemed to have warned the German and other governments against taking too hasty steps in the transition to EMU. It has now to be accepted that the process of German unification will take much longer and be more painful than previously expected. This means also that there are bigger risks for the partners of Germany in Europe and in the world. For example, the consequences of prolonged and massive budgetary deficits and growing current account deficits could weaken the D-Mark and soften the anchor function of the D-Mark as well as the price performance standards in the EMS and the Community. To ward off the loss of authority and credibility and to offset the risks of rising cost and price pressures, the Bundesbank may be forced to strengthen the restrictive monetary stance. Higher interest rates could jeopardize the fragile recovery process in most European countries. This would be a serious setback to future growth prospects in the EC. Germany being absorbed by serious difficulties of the unification process may delay European integration.

Similar problems are arising because of the rapidly increasing need for

private and public capital transfers in favour of Eastern Europe, the Gulf region, and the poorer countries in Africa, Asia, and Latin America. The Third World suffers not only from scarcity of external capital but also from climatic disasters. In Eastern Europe, the Comecon system has fallen apart. The trade repercussions for Eastern Germany and the former Comecon countries are already serious. But what will happen if chaos continues in the Soviet Union? Suddenly, tremendous capital transfers are required during a period when previous capital exporters experience declining savings ratios. All of a sudden, countries of reputed financial rectitude, like West Germany, are suffering under large public deficits due to the soaring cost of unity perhaps over a longer period than expected.

The risks of freeing capital movements could be aggravated by the potential shocks of large labour movements. The disappearance of the Iron Curtain and the rapid breakdown of ideological frontiers are creating the threat of massive immigration flows which frighten national governments. Will it be possible to constrain them by direct investment and capital flows? What are the policy responses and the fiscal and tax incentives to satisfy the mounting worldwide capital requirements? And how successful have been Western countries like the USA and Italy in reducing their public dissaving patterns?

The European Community can claim that the initiative to complete the Internal Market by removing the remaining obstacles for the exchange of goods, services, and capital will already be a success story before the end of 1992. This was the message conveyed to us by Giovanni Ravasio in his opening address. Already, by anticipating the Single Market, the supply conditions of the European economies and the perspectives of European firms have been profoundly improved. Driven by technical innovations and by the deregulation pressures of the 1992 programme, a large financial market is being created in Europe. Both the strengthened integration of goods and factor markets and the success of the European Monetary System are calling for further progress in the monetary field. Actually, the Europeans are facing important options concerning the next functional and institutional steps towards a single European currency. Again, the pace of monetary integration has accelerated and seems breathtakingly ambitious when compared with the successive crises in the 1970s and the slow progress in the first half of the 1980s. Of course, there is the time-honoured debate over who is driving the policy process: the competitive pressure of undistorted markets or the 'rules of the game' and new institutions? In addition, there is the issue of the need for fiscal policy coordination which could become a stumbling block for institutionalizing the progress already achieved in the monetary area. And there is the heated debate whether the time and all the Community members are 'ripe' for abandoning national sovereignty and jumping on a higher level of European decision-making without risking inflation and frictions in the

adjustment process. Failure in the overall convergence of monetary and financial development in the member countries could delay the integration process. Finally, establishing an independent European monetary institution and creating a single European money would imply important progress in the political unification and the democratic decision-making structure of Europe.

Before I turn to the discussion of the four commissions, I would like to thank the young team from the Bank of Portugal which helped me to find out what really happened in all the meetings on Thursday afternoon and Friday morning. I have tried my best to be everywhere but omnipresence is not for economists.

COMMISSION I: PRIVATE SAVINGS AND THE TAXATION OF INCOME FROM CAPITAL

Commission I started with the supply side of the transfer problem: the availability of private savings and the role of taxation. The topic of the Commission was launched by two country papers and two cross-country studies.

Erkki Koskela and Matti Virén (Bank of Finland) exposed the results of a cross-country study using data from 17 OECD countries. They found that the nominal interest rate affects the household savings ratio positively and provided some weak evidence of a negative influence of the marginal income tax on the level of household saving. I spare you the arguments in the discussion about econometric specification problems, the difficulties in defining income and capital or distinguishing between household and corporate taxation.

Barry Bosworth (Brookings, Washington DC) presented the experience of the United States in the 1980s and *Pierre Llau* (University of Paris X) the case for France. Both could draw on a number of empirical investigations with interesting insights for policymakers. In reviewing the US experience of declining private savings and the different tax reforms during the 1980s, Bosworth draws the conclusion that (income) tax incentives are not an effective instrument for increasing national savings. The decrease of tax rates in the 1980s has not resulted in an increase in the savings ratio in the US, Bosworth recommends a broad-based tax system with low rates and limited exceptions, thus favouring the revenue-raising function.

In France, the savings ratio of private households also decreased in the 1980s. The main explicative factors for this are the slowing of real income growth, the effects of disinflation on financial assets, and the diminishing role of housing investment. No effects could be found for interest rates, fiscal incentives, demographic variables, pension schemes, and the income

structure. The abolition of exchange and similar controls has raised the fear that France would suffer from the outflow (délocalization) of private household savings due to lower taxation elsewhere in Europe, therefore justifying the need to harmonize taxes on savings and capital income. But instead, France experienced a marked capital inflow in 1990 and there are no signs for an outflow of household savings. There was a similar argument about the positive effects of capital market liberalization in Italy in Commission IV. Does this mean that there is no need for capital income tax harmonization in the European Community in the medium term?

Julian Alworth in his paper with *C. E. V. Borio* (Bank for International Settlements, Basle) surveyed the rich international evidence about the linkages between taxation, private savings, and the financial industry. The paper was concerned with the more microeconomic aspects and the composition of savings. It is a mine of information about taxing of housing and banking, the tax treatment of interest income, pension schemes, and insurance companies and about transaction taxes which are disappearing in most countries. Alworth's findings and the discussion supported three conclusions:

- first, we can explain better the allocation than the level of private savings;
- second, financial deregulation and globalization of markets tend to impose a downward pressure on taxes on capital income thus strengthening the case for a neutral tax system with low and uniform tax rates;
- third, it is more and more difficult to pursue domestic objectives through the tax system.

COMMISSION II: IMBALANCES IN PUBLIC SECTOR BUDGETS AND THEIR IMPACT ON FINANCIAL SYSTEMS

Commission II addressed one important part of the saving issue: the persistent dissaving of the public sector. In three of the five papers, the subject was exposed by analyzing the experience of four European countries (The Netherlands, Italy, Spain, and Portugal) which have tried to attack one of the most persisting troubles of policy-makers: public sector deficits. Fortunately, there was also the rare case of a surplus country, the United Kingdom, and finally a paper on the European risks and perspective in managing public debt. One participant told us that we have two-and-a-half finance problems in the EC: Italy, Greece, and perhaps The Netherlands.

Simon Kuipers (University of Groningen) explained the pertinence and the causes of the large public sector deficit in The Netherlands, the easy financing and the inevitable need for a substantial reduction of the deficit

(reduced unstability and vulnerability of the public sector, higher savings and, thus, growth rates for an ageing population). Kuipers is not convinced of the disciplinary influence of the financial markets on financial government behaviour, one of the arguments in the EMU debate about budgetary rules. Nevertheless, in view of the high price stability and balance of payment performance, the Dutch concern seems small in comparison with the Italian experience.

Luigi Spaventa (University of Rome) exposed the sad story of the Italian public debt problem without pity and illusions. But he also referred to the more successful story of debt management in Italy. Actually, the public debt is still growing and, even worse: primary surpluses are required to stop the further rise of the debt ratio in the 1990s. We all know that the debt issue will be one of the serious obstacles for joining the EMU club. In asking, 'is it sustainable?', Spaventa's answer was: 'yes', but . . . and 'can it be reversed and how?', his answer was much longer, but finally slightly optimistic (a fiscal adjustment of 4 per cent of GDP in 2–3 years can be done!). Examples for radical cures are found in the United Kingdom, Denmark and Ireland. Spaventa distinctly excluded the cure of the debt problem by inflation and he argued that monetary rigour and the exchange-rate constraint provide neither incentives nor sanctions. Spaventa referred to the dramatic loss of prestige and the risks of a currency devaluation if Italy was denied access to the EMU because of the unsolved debt problem. For him, this threat could be the most effective way of breaking through the internal policy inertia in solving the huge budgetary problem in Italy.

Rafael Repullo (Banco de Espana, Madrid) analyzed the case of Spain and Portugal which started under similar conditions at the beginning of the 1970s and experienced different budgetary policies and developments. Whereby Spain seems to have mastered the liberalization of capital markets and most of the regulatory changes, Portugal is faced with a substantial adjustment requirement due to the high seigniorage losses which are part of falling interest rates and reduced inflation rates.

J. S. G. Wilson (University of Hull) reported an encouraging lesson: how budget surpluses were managed by the Bank of England and the financial markets in the United Kingdom. Unfortunately, the exceptional case of a budget surplus was a short experience but by no means unique because both Japan and Australia could tell a similar story.

Graham Bishop (Salomon Brothers, London) coped with the question of how financial markets grapple with the relative credit risks of EC governments in view of the European Monetary Union. For him, the integrated financial market in Europe and the emerging single currency will create a fundamental change in the nature of government debt (bond issues), because governments are no longer able to print the money for repaying their debts.

A credible no-bail-out rule and the removal of 'privileged access' to the financial markets will force governments to compete with all others in the open market. Bishop ranked the EC countries according to their expected currency risk and credit risk. Based on currency criteria (long-term government bond yields), capital market investors have already accepted a 'two-speed Europe' in distinguishing the original Schengen group plus Denmark and Ireland and the others. But there is hope for Spain and Portugal which would both benefit most from moving to EMU. Do we all agree with the expectations of capital markets?

COMMISSION III: INTERNATIONAL RESOURCE TRANSFERS AND THE RESPECTIVE ROLES OF GOVERNMENTS AND PRIVATE CAPITAL FLOWS

Commission III was strongly related to Commissions I and II and was concerned with the resource transfers problems in the international and European context and the respective roles of private and public capital flows. Two papers discussed the problems of the four poorest countries lagging behind the other EC Member States and the special case of East Germany. The other three papers have all addressed the problems linked to the reform process in Central and Eastern Europe.

Jorge Braga de Macedo (EC Commission) has taken the three countries which recently joined the EC plus Ireland as an example for the adjustment requirements of the least favoured regions and countries in moving towards political, economic, and monetary union (PEMU). The European catchwords are (financial) solidarity, (political and social) cohesion and mobility of capital and labour. De Macedo eloquently defended the EC Commission's recommendation for sound macropolicies and structural support. For de Macedo, the responsibility for the catching-up process rests first and foremost with the Member states themselves. Has there been an economic regime change and was the change sufficient? His answer is 'yes' for Ireland (more than 10 years after accession) and Spain, 'perhaps' for Portugal and 'no' for Greece. De Macedo argued that the effects of EMU follow a U-shaped curve, therefore taking time to produce the expected benefits. The adjustment costs are small if trade is intra-industry based (Ireland and Spain) and large if inter-industry specialization still prevails (Greece). Other factors which facilitate economic cohesion are labour mobility, human capital formation, the strength of financial markets, and the provision of public goods in form of infrastructure.

Hans-Peter Fröhlich (Institut der deutschen Wirtschaft, Cologne) used the case of the German economic and monetary union (GEMU) for analyzing

- first, the requirements and conditions of capital transfers mainly from West Germany, the crucial factor for the adjustment process, and
- second, the international dimension of the German unification efforts and policies in favour of East Germany.

In his revised paper, Fröhlich had to substantially change the initial projections of the public transfers volume for 1991 amounting now to 100–150 billion DM (equivalent to more than 50 per cent of the East German GDP). It seems that the scale and length of the overall transfers payments in the next decade may well be much greater than previously expected (IMF, 1991). This could aggravate the budgetary and tax problems in Western Germany and therefore reduce the availability of investment flows. There is also the risk that the balance between the private and public transfer is shifted in favour of the public sector (unemployment payments, social expenditures, subsidies for housing etc.). Fröhlich drew attention to the international capital market dimension, the complete reversal of the German policy mix and the most dramatic change in the current account (dropping from a record surplus to a slight deficit within two years) since 1989. For him, the lack of capital may become one of the overriding issues facing the world economy in the 1990s.

The ensuing discussion has been lively. Fröhlich was criticized for underestimating the consequences of real wage pressures on investment, resulting from the rapid wage adjustment process in the East German economy (with the objective to catch up with the Western level by 1994) which would delay the reconstruction process. But at the same time, the participants have been surprised to learn that Fröhlich did not defend an appreciation of the D-Mark but a more temporary policy of benign neglect of price stability in Germany giving EC partners a chance for catching up the German standard or even for switching the price leadership in the EMS. Finally there were doubts whether the German Economic and Monetary Union (GEMU) was a test case for EMU. De Macedo blamed 'Pöhl's fallacy' and characterized GEMU as a unique case without any parallel in the European integration process.

Egon Hlavatý's (State Bank of Czechoslovakia) paper covered the second example for the transformation of a planned and closed economy to a market-oriented system. He clearly set out the basic conditions for Czechoslovakia:

- new property rights, privatization and the development of the private sector,
- price liberalization,
- foreign trade liberalization and opening of the economy,
- an effective anti-inflation macroeconomic policy.

Besides some negative starting conditions (collapse of the Comecon market, energy prices, huge current account deficits), there are favourable conditions for attracting foreign capital regarded as '*sine qua non*' for restructuring and reforming the economy: low external debts, a highly qualified labour force, downward real wage adjustments. For Hlavatý, a large priority should be given to private and infrastructure investments and not to public transfers.

In assessing the general reconstruction of Central Europe *Conrad Reuss* (Banque Bruxelles Lambert, Brussels) came back to the U-shaped form of the recovery process and distinguished three phases: deterioration, stabilisation, and recovery. He believed that the transition would take 5–7 years before a self-sustained growth process would be initiated. Reuss proposed an export-led growth strategy for Central European countries directed mainly towards the EC market as well as towards Eastern countries based on the existing trade relations. Public transfers would be necessary to bridge the lack of confidence in the initial phase. Later foreign direct investments could reduce the current account deficits.

Helen Junz's (IMF) paper offered a broad overview of the necessary steps and policies for economic and political reforms in Eastern Europe. She insisted on the international inter-linkages, trade and price liberalization, and on improving the conditions for the financial sector in generating domestic savings which are employed within the economy. Junz pleaded also for comprehensiveness of any reform package, economic accountability at all levels, predictable and transparent policies, and for a realistic speed and time table in implementing broad reforms. As in East Germany, a market economy cannot be created overnight. Junz warned against defensive regionalism, like preferential trading arrangements (leading to 'permanent occupation of the halfway house') as the wrong way to efficient reform policies.

The overall discussion in Commission III centered around the banking and exchange rate system, called for open access to Western markets, higher labour mobility and real wage flexibility (higher in Eastern Europe anyway than in East Germany) and argued about the need and disadvantage of a revived European Payment Union (as an instrument to support trade relations in the old Eastern block).

COMMISSION IV: THE POLICY MIX, MONETARY POLICY AND FINANCIAL STABILITY IN THE TRANSITION TO EMU

Commission IV attracted the highest number of participants and focused on the operational issue of policy-making in the transition to EMU: how to handle the mix of fiscal and monetary policies in the next years? The ongoing general discussion is marked by a strong controversy about:

- the need for some explicit *ex-ante* coordination of fiscal policy and for policy discipline in reducing excessive budgetary deficits in the EC (the position of the Delors Report and most of the central bankers) as necessary condition for EMU and
- the opposite position of many economists, who are denying the strict need of fiscal coordination and trust the market forces and monetary restraints if some important conditions prevail in the EMU.

First, *Jean-Claude Chouraqui* (OECD, Paris) discussed the objectives and the formulation of monetary policy within the framework of financial integration in Europe. He proposed some supplements (not substitutes) in formulating policy guidelines for European central banks in the transition period: maintaining stable exchange rates as first priority, fixing national inflation objectives to strengthen price expectations and, finally, to follow a common stability goal in order to assure more consistency in implementing the policies of central banks. He remained skeptical whether the final European Central Bank based on the German model could follow the same monetary policy line as practised by Germany now. In the discussion inflation targeting was opposed, because central banks do not control directly costs and prices and would lose credibility. But there was a general consensus that strong independence for central banks would guarantee greater price stability.

From *Jean-Jacques Rey* (Banque Nationale de Belgique), we learned more about the state of convergence in the first stage towards EMU. He pointed out that the first stage had started long before the official date. In reviewing the macroeconomic and structural performance of ERM countries he tried to assess the sustainability of exchange rate relationships inside the ERM and provided evidence for the test of convergence still needed to move to EMU. Rey also warned that exchange rate adjustments would be possible and perhaps necessary in the transitional phases. He seemed vaguely sceptical about the newly established procedures for multi-lateral surveillance in the EC, and concluded cautiously that some countries have to 'catch up' and recommended more leadership from Community institutions. I have my personal doubts whether the Council, for example, could provide this leadership. Policy convergence and coordination are part of a comprehensive learning process of governments, administrations, economic and political groups thus requiring transparency, public debates and support in guiding painful trade-offs. Do we agree that the European Community actually forms a three-class Community in respect to the stability conditions of EMU: the countries with small inflation differentials (i.e. the original narrow band members), the countries where inflation has now stabilized around 5 per cent (Italy, Spain, and the UK) and countries with inflation rates above 10 per cent (Portugal and Greece)? The EC-Commission seems confident that the

degree of convergence necessary for undertaking the transition to EMU (greater price stability and reduced budgetary imbalances) could be achieved without undue adjustment costs (*One Market, one money*, 1990).

Jürgen von Hagen (Indiana University, Bloomington) presented evidence from the United States and some useful lessons for Europe in denying the need of formal fiscal coordination and defending the much greater efficiency of unrestrained market forces. His paper supplements the evidence given by Barry Eichengreen a year ago (*One money for Europe? Lessons from the US currency union*, 1990) which underlined the pressure for fiscal policy harmonization created by a currency union (affecting both spending and taxes). Von Hagen's lesson for the Europeans was not to take up the US model as such but the message that both are feasible: a monetary union with and without fiscal policy coordination. He refused the argument that a viable EMU would imply inevitably a fiscal union.

Dirk Wolfson (Scientific Council for Government Policy, The Hague) is also a proponent of fiscal federalism. His paper presented a broad line of theoretical and practical arguments. He warned of the temptation to implement a European countercyclical and fine-tuned fiscal policy and to expect too much from tax harmonization. But he seemed to prefer some credible and flexible rules on fiscal policies, to reduce uncertainties and incentives for Member States not to renege on policy intentions. He defended the Dutch experience with savings-based structural budgets. But I am afraid that policy-makers are much more interested in simple budgetary concepts even if there are suboptimal solutions. I liked most his insistence on pragmatic procedures and on the room for new policy initiatives in the longer-term, like energy and competition policy, environmental protection, and infrastructure and transportation policy.

Finally, *Beate Reszat* (HWWA Research Institute, Hamburg) outlined the prospects and conflicts of monetary integration and budgetary policy cooperation on the basis of game-theoretic concepts. In asking: 'New rules for an old game?' she came back to the well known option 'rules vs discretion' and seemed skeptical about the usefulness of new rules for national fiscal policies, especially in periods of frequent and unforeseeable shocks. In her paper she surveyed different alternatives for policy coordination without rules, like threats, persuasion, norms or compensation. The discussion stressed the possible irrationality of politicians, the problems of enlarging the number of players or the formation of coalitions.

The general discussion was wide-ranging and covered all areas of monetary and fiscal policies. More comparative country studies about the monetary and budgetary policy mix and the institutional framework were proposed. The old issue of leadership was raised, the need for asymmetries in EMU and the length of the transitional stages discussed.

I come to an end of my report knowing that it is an incomplete job. I am sure that I will be blamed for having omitted many important arguments. What I hope is, that you gained an idea about the many facets and complexities of the numerous issues which this SUERF Colloquium addressed. There are some economists who argue that the creation of a single European currency is an open question to which politicians and economists cannot know the answer. Unfortunately, the argument of the 'arrogance of knowledge' is not sufficient to dismiss the experience of economists even if it is bound to be limited. But it may be that economists have to put still more efforts and energy into analysing unsolved economic problems with a view to supporting policymakers in Europe.

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