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STRATEGIC MANAGEMENT AND FINANCIAL MARKETS

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Porter has argued that the U.S. capital investment system is deficient relative to those in Germany and Japan and this has caused a decline in the competitiveness of U.S. corporations. He suggests the increasing importance of financial institutions has led to transient ownership which encourages firms to focus on the short term. This paper argues that the openness and diversity of opinion encouraged by the U.S. financial system has significant advantages and transient ownership is consistent with firms taking a long view. It is suggested that the competitiveness of German and Japanese corporations may be due to the managerial incentives made possible by high growth rates.

INTRODUCTION

In a thought-provoking article, Porter (1992) argues that the U.S. capital investment system is failing a wide range of constituencies including firms' investors, managers and employees. He suggests that in a number of dimensions the German and Japanese systems have done significantly better in serving the interests of these constituencies. As a result, the competitive position of many U.S. companies has deteriorated.

Porter argues that the basic weakness of the U.S. system is a focus on short-term performance. One explanation for why this has become a problem is an increase in institutional ownership; this grew from 8 percent of total equity in 1950 to 60 percent in 1990. Institutional investors have short-time horizons because they are compensated on the basis of their performance over the year. They are widely diversified to reduce risk and there is little contact between them and firm management. Porter suggests that it is these factors that have led firms to focus on the short term. In contrast, in Germany and Japan many shareholders have large stakes which are held for a long time. They are able to work much more closely with management to ensure the long-term health of the company and rely much less on the financial incentives that U.S. firms use to motivate their senior managers.

Although the U.S. system has important disadvantages, Porter does stress that it also has advantages. In particular, it is very good at providing finance for emerging fields and reallocating capital among sectors. Overall, however, he suggests extensive reform is needed to ensure managers make investments that maximize long-run value rather than focusing on the short term.

A comparison of the financial systems in different countries and their role in the allocation of investment is a complex task. The U.S. system relies much more heavily on stock markets than Germany where banks are significantly more important in the capital allocation process. Traditionally Japan has relied heavily on banks but is rapidly moving towards a U.S. style stock market oriented system. It is difficult to reconcile this

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change in Japan's financial system with Porter's thesis that the U.S. financial system is inferior.

In a world of full information, the allocation of capital for investment across different industries would be a relatively straightforward affair. Firms and industries with the highest returns would receive the largest allocation until marginal returns in each firm and industry were equated. The problem with this traditional notion is that in many industries there is great uncertainty about returns and opinions about how firms should be run differ widely. In this case what is crucial is the way in which firms process information and how stock markets and banks process information. It is argued in Allen (1993) that U.S. style stock markets have considerable dynamic advantages in industries where there is no consensus on how firms should be run. In an 'open' U.S. style system many investors have differing opinions and the stock price reflects this diversity. Thus the capital allocation system depends on a much wider range of opinions. In a 'closed' German style system a few bank employees decide whether loans will be granted. This system works well in mature competitive industries where there is wide agreement on how firms should be managed but does not work well when opinions differ.

If it is not the financial system that is failing the U.S. why is it that many U.S. companies have fared so badly in recent years and seem to be falling behind their international competitors? As Porter points out U.S. management practices have not developed rapidly in response to the changing world. In contrast, the management practices of both Germany and Japan do seem to have adapted much better. There are no doubt many explanations for this. It is suggested below that one important reason is differences in economy-wide growth rates. In a growing economy failing to give people raises in line with the average growth rate will have a large effect on their welfare. This threat provides good incentives to managers at all levels of an organization to work hard. As a result firms can adapt and change much more quickly than in slow growth economies.

The next section provides a brief overview of the financial systems in the U.S., Germany and Japan. The dynamic properties of stock market oriented economies such as the U.S. are then compared with bank based systems such as Germany and Japan's. The subsequent section considers how a short-term focus by investors is consistent with long-term investment incentives for firms. A discussion of how differing growth rates can lead to differences in countries' competitiveness is provided next. The final section contains concluding remarks.

AN INTERNATIONAL COMPARISON OF FINANCIAL SYSTEMS

This section starts with a brief overview of the financial systems in the U.S., Germany and Japan; more complete descriptions are contained in Baer and Mote (1992), Pozdena and Alexander (1992) and Cargill and Royama (1992), respectively. A comparison of the systems is then made.

There are two important characteristics of the U.S. financial system that set it apart from other countries. The first is that its financial markets play a very important role. In addition to the New York Stock Exchange, American Stock Exchange and the NASDAQ over the counter stock markets, there are very active options, futures and commodity exchanges. Many corporations are publicly listed and extensive accounting and other information is issued to investors. This 'openness' permits an active market for corporate control to operate.

The second important characteristic of the U.S. financial system is that its banking industry has a different structure. It is much less concentrated and more competitive than in other countries. In addition, commercial banks are barred from holding equity and do not have representatives on the boards of directors. The relatively small asset base of investment banks means that they are not widely involved on corporate boards either.

Germany is at the other end of the spectrum in terms of its financial system. Financial markets are relatively unimportant. Only a few corporations are publicly listed and for these only sparse information is released to investors. There is no active market for corporate control. There has only been one hostile takeover which occurred in 1989 when Flick acquired Feldmuehle Nobel and management buyouts are rare.[1] Options

[1] Pozdena and Alexander (1992): 583.

and futures markets have only recently been introduced and the volume of trading on these is insignificant.

A few large banks play the predominant role in the financial system. Banks are universal in the sense that they are able to engage in both commercial and investment banking activities. They can directly hold equity in firms and can vote the shares of customers. A 1979 report by the Monopoly Commission found that banks had representatives on the boards of two-thirds of the top 100 corporations. They held 5 percent of the equity of these corporations directly and of this one half was held by the top five banks. Customers often give their proxies to banks. When these were taken into account, banks were able to vote nearly 40 percent of the outstanding shares of these large firms.[2] Banks are therefore able to exercise considerable direct control over industry.

Japan shares some features of the U.S. and German systems but has a number of unique characteristics. Traditionally, it has been a bank-dominated system but in recent years financial markets have become much more important. During the 1920s and 1930s Japan's banking system became increasingly concentrated; the share of deposits of the top five banks went from 19 percent at the end of 1922 to 41 percent by the end of 1932.[3] This increasing concentration coincided with the development of *zaibatsu* or 'business groups.' These typically consisted of a manufacturing firm, a trading firm and a bank that were all under the control of a wealthy family. After the war, the U.S. Occupation attempted to break up these zaibatsu and replace them with a more competitive system. Instead what happened was the development of the 'main bank system.' The zaibatsu evolved in *keiretsu* or 'affiliations of firms.' An important difference between these and the prewar zaibatsu was that the large banks assumed the leadership role. Although restrictions on integrating commercial and investment banking were imposed by the U.S. Occupation, the keiretsu system meant that banks have had a great deal of effective control over Japanese industry.

In recent years financial markets in Japan have assumed an increasingly important role and Tokyo has emerged as a major international financial center. In addition to the increasing importance of the stock exchanges, active options and future markets have also developed. Perhaps the most dramatic change has been the replacement of bank debt with bonds. Despite the increasing importance of financial markets, publicly available information about companies is limited and there is not a market for corporate control.

Turning to a comparison of the systems, Figure 1 shows the relative importance of securities (including stocks and bonds) in the three countries. Apart from 1985–89 when companies were borrowing to repurchase shares, securities have been much more important in the U.S. In addition to the differences across countries, Figure 1 also illustrates the increasing importance of securities in Japan and Germany. This change is particularly pronounced in Japan. Hoshi, Kashyap, and Scharfstein (1993) point out that the proportion of bank debt has fallen from more than 90 percent of the total in 1975 to less than 50 percent in 1992. Figure 2 illustrates this change through time. It can be seen that the fall has been particularly dramatic in the last few years.

The contrast between the role of financial markets and banks in different countries can also be illustrated in a number of other ways. Table 1 shows the GDP, number of firms and market value of firms listed on stock exchanges. The data illustrate the U.S. financial markets are much more important than in Germany while Japan's figures reflect the growing importance of financial markets and the high relative value of assets there.

One measure of the openness of the different financial systems is shown in Table 2. It shows the number of firms covered by analysts in the three countries is very different. In Germany only 210 are covered while in the U.S. over 4600 are. This reflects the different amount of information and the diversity of opinion that the stock prices in the two countries reflect. Table 3 shows the differences in the access of companies to the public capital markets. It gives the number of companies introduced to the stock exchange. The U.S. again dominates.

The difference in the concentration of banks is illustrated by the five-firm concentration ratios[4]

[2] See Pozdena and Alexander (1992): 573.
[3] Cargill and Royama (1992): 350.
[4] These are the combined market share of the top five firms.

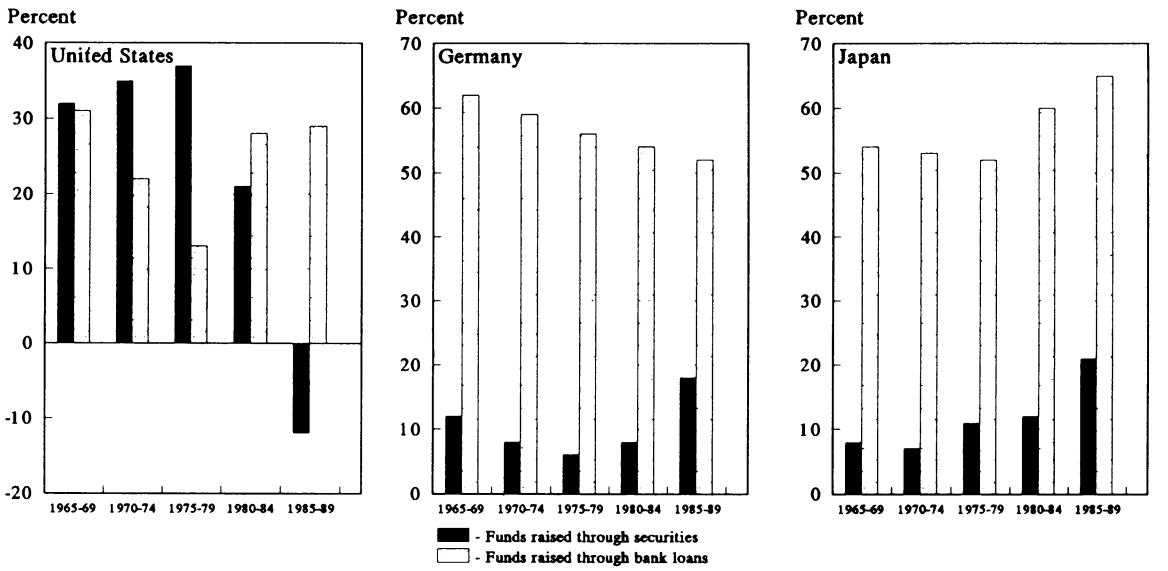

Figure 1. Percent of total business funds raised through securities and bank loans 1965–89. (Source: Frankel and Montgomery (1991), Figure 6, p. 267)

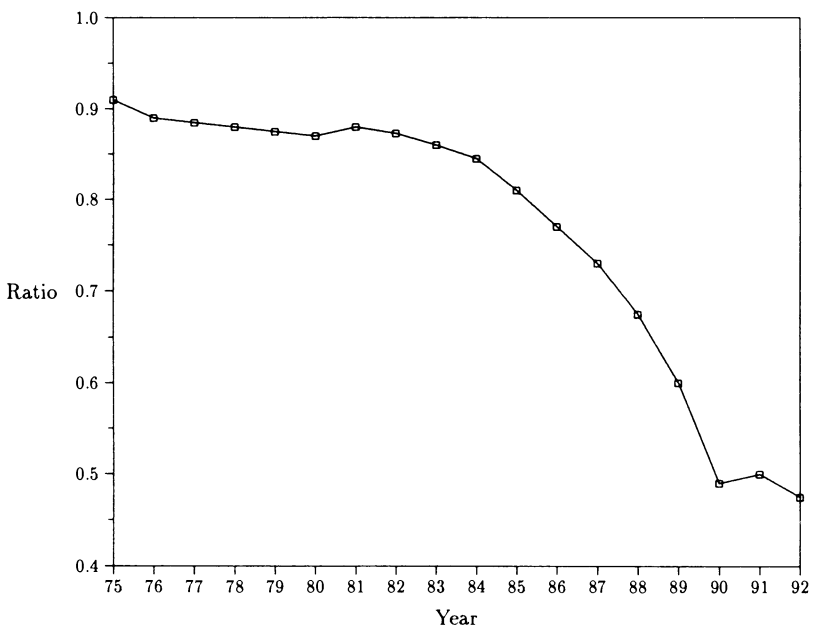

Figure 2. Ratio of bank debt to total debt for Tokyo Stock Exchange manufacturing firms. (Based on Hoshi, Kashyap and Scharfstein (1993), Figure 2a)

in Table 4. Calculating concentration ratios which are comparable across countries is a difficult task because of the significant differences in the institutions of each country. The table therefore gives a range of values and in the case of the U.S. differentiates between the commercial and consumer sector. There are upper and lower bounds because the definition of what constitutes a bank is different in each country; nevertheless, the relative ranking in both the upper and lower bound columns is the same. The U.S. has by far the lowest ratio particularly for the consumer

Table 1. A comparison of stock exchanges for 1991 (in percent; USA = 100 percent)

Country	GDP	Number of domestic companies listed	Market value
Germany	22	10	10
Japan	42	44	136
U.S.A.	100	100	100

Sources: Federation of The German Stock Exchanges Annual Report (1991: 149–150) and Handbook of International Statistics (1992: 24) Directorate of Intelligence.

Table 2. Number of firms covered by financial analysts by country

Country	Firms covered by financial analysts
Germany	210
Japan	1,152
U.S.A.	>4,600

Source: Nelson's Directory of Investment Research, 1992.

Table 3. Number of companies introduced to the stock exchange

Country	Companies introduced to the stock exchange
Germany	19
Japan	39
U.S.A.	663

Source: Federation of The German Stock Exchanges Annual Report (1991: 153)

sector; Germany and Japan have much more concentrated systems.

DYNAMIC PROPERTIES

The previous section has argued that the important difference between the U.S. compared to Germany and Japan is that financial markets predominate in the U.S. while in Germany and (until recently) Japan, banks predominate and financial markets have been unimportant. In

Table 4. A comparison of bank five-firm concentration ratios in the early 1980s

Country	Upper Bound	Lower Bound
Germany	56.8	26.0
Japan	32.0	22.0
U.S. Commercial	19.0	14.0
U.S. Consumer	9.7	7.0

Source: Baer and Mote (1986), Table 1: 29

Allen (1993) it is argued that this difference in financial systems leads to very different dynamic properties for the capital allocation systems. This section summarizes the arguments given there.

Traditional economic analysis has been concerned with situations where production technologies are well known and managers are aware of the consequences of the strategies they adopt. In this type of situation, the problems facing managers are relatively simple; they choose inputs and outputs to maximize profits. Because production technologies and the consequences of actions are well known there is wide consensus on how the firm should be managed.

One natural question is how many industries the assumption that the consequences of managerial strategies are well known is suitable for. In a competitive industry where there are many producers and the time taken for the consequences of actions to be discovered is small, a large amount of experience will soon be accumulated. The industry will approximate the ideal where the consequence of managerial strategies is known and there will be a consensus on how firms should be run. One example is agriculture. Here the available body of evidence is large and there is a fair degree of managerial consensus. A number of *traditional* industries are a reasonable approximation to this ideal.

In many modern industries, however, the assumption that the consequences of managerial strategies is well known is not satisfied. There are only one or a few firms, production lags are such that it takes a great deal of time before the consequences of actions are discovered and, even when they are, technology is constantly changing so the information is of limited use. In this type of situation there is often very little consensus on how a firm should be run. The extreme case is where an industry is a new one so that there

is no experience at all on the consequences of managerial strategies. A current example would be the biotechnology industry. This notion of firms is related to that put forward by Nelson and Winter (1982) and others (see Nelson (1991) for an account of this literature).

It is possible for institutional investors and individuals to gather information and undertake research on the likely effects of various managerial actions. However, the complexity of running modern corporations means that there will not be a uniform view of the best actions to undertake. It is important to stress that it is not just a difference in data that is important here. Even if people collected the same information about the industry, they might interpret it differently because of differences in education, personal experiences and background. In the absence of a large sample of data points on the effect of various managerial policies differences in views will persist. This divergence of opinions is an important feature of many *dynamic* industries where there is constant change.

Allen (1993) argues that the type of financial system which is suited to traditional industries where there is consensus is very different to dynamic industries where there is no widely agreed on basis of managerial action. In particular, it is proposed that banks are suited to traditional industries while stock markets are suited to dynamic industries.

Current banking theory suggests there are at least two main advantages that banks have in providing finance:

— Banks act as delegated monitors of firms (Diamond, 1984).
— In contrast to stock markets, they allow long-term relationships and commitments (Mayer, 1988; Shleifer and Summers, 1988).

Diamond's (1984) notion is that the management of a firm needs to be 'monitored' to ensure they act in the interest of the investors providing finance to the firm. If they are not monitored resources will be wasted; investment will not be efficient and managers may spend the firm's funds to provide perks for themselves. The monitoring only needs to be done by one party; duplication does not result in improved monitoring. If finance is provided through a stock market, diverse ownership means that security-holders may waste resources by costly repetition of monitoring. They cannot combine to hire somebody to monitor because of a free rider problem; each would want others to bear the costs of monitoring the monitor. Diamond suggests that a bank lending to coporations allows the advantages of a single monitor to be captured and solves the problem of monitoring the monitor. By holding a large portfolio of loans to different firms and promising a certain return to its depositors, the bank can guarantee that it is undertaking the monitoring and thus overcomes the free rider problem; if it did not monitor it would be unable to make the promised payment to the depositors. This theory relies on the assumption that there is agreement on the way the firm should be run otherwise there would not be agreement on what the aim of the monitoring should be. It also relies on there being consensus about the probability distribution of returns on loans otherwise the depositors would not be able to evaluate properly whether or not the bank had done the required monitoring. These assumptions concerning agreement and consensus are more likely to be satisfied in traditional industries than in dynamic industries. Thus banks are likely to be superior to equity markets in such circumstances.

Mayer (1988) and Shleifer and Summers (1988) have pointed to the importance of long-term relationships. They suggest that because of incomplete contracting possibilities it is desirable for firms to make long-term implicit contracts with their workers, suppliers and other groups they do business with. These long-term relationships allow significant *ex ante* gains to be made. For example, workers and suppliers may be willing to acquire firm-specific capital whereas without an implicit contract they would not be willing to do so. *Ex post*, a firm may be required to make payments to fulfil its implicit contracts which it is not legally obligated to. For a firm that is listed on a stock exchange, there is an incentive for a raider to take it over and cease making the payments required under the implicit contract. Recognizing this possibility, workers and others will be wary of entering into implicit contracts and *ex ante* gains will be lost. In contrast, one of the advantages of bank-oriented financial structures is that this problem is not so serious. Banks will encourage long-term

relationships in order to be able to share in the *ex ante* gains; *ex post* they will want to keep the implicit contracts from a desire to maintain their long-term reputation. Their position and incentives are very different from those of stock market raiders.

These arguments about the formation of long-term relationships and commitments are problematic if there is no agreement about the effect of various strategies. The parties' expectations may be inconsistent and this can cause significant problems as time proceeds. Thus banks again have a number of advantages in traditional industries but these do not hold for dynamic industries. In contrast stock markets have advantages for dynamic industries but not for traditional industries. These advantages arise becuase of the 'openness' of stock markets relative to banks. The crucial assumption is that the greater the number of people that undertake research and consider the problem of the best way to run a firm the more reliable and better the consensus is.

Stock markets provide an incentive for a wide range of people to undertake research and to check managerial actions. Some investors keep their information and views private. They buy and sell shares on the basis of this information and the profits they make compensate them for the expenses incurred in undertaking the research. Grossman and Stiglitz (1980) have shown this information can become reflected in the firm's stock price. Firms that adopt managerial policies that are widely regarded to be good have a high stock price on average; firms which adopt policies which are thought to be bad have a low stock price on average. In addition to investors who keep their information to themselves and trade on the basis of it, there are also people who do research that is published in newsletters and distributed to clients in various other ways. This process encourages debate about how firms should be run. In general the diversity of views and the process of debate can play an important role in checking the actions of managers. Even in industries where there are few firms and little previous experience to go on this checking process leads to consensus strategies being favored and helps to reduce risk.

In contrast, with banks there is no equivalent to this broad-based checking process. The bank officers overseeing the loan will check what the firm managers are doing but they are very limited in number. These bank officers together with the firm's managers are the only ones to go through this process and they are not enough to form a reliable view on how the firm should be run. In the absence of disclosure associated with U.S. style stock markets, the lack of public information means there is also no public debate as to the appropriateness of various managerial strategies.

There are two important ways in which the openness of stock markets affects the capital allocation system: initial public offerings (IPOs) and the market for corporate control. There has been a large literature in recent years on IPOs. Ibbotson (1976) and others have documented the fact that IPOs are underpriced: their stock price on average rises about 15 percent during the first day of trading.[5] For some time this observation was regarded as a puzzle. Rock (1986) presented a model where underpricing comes about because some investors collect information and value the firm. Their superior information allows them to bid for attractive offerings and stay out of the market for unattractive stocks. This creates an adverse selection problem for uninformed investors who are rationed on attractive issues but receive the full allocation of unattractive ones. Underpricing on average is necessary to attract them to the market.

An alternative explanation of the IPO underpricing phenomenon is based on the assumption that the owners of a firm are better informed about its value than investors in the market. Allen and Faulhaber (1989), Grinblatt and Hwang (1989) and Welch (1989) have suggested that in this case underpricing can act as a signal. Good firms signal they are good by underpricing their IPOs and this subsequently enables them to raise capital on better terms than they would if they did not signal.

The important distinction between these two types of model is whether it is the firm itself that has the best information about its value or whether it is the market that has the best information. The empirical evidence on this issue finds considerable support for the hypothesis that outside investors are well informed and some support for the signaling model (see Koh and

[5] See Smith (1986) for a summary of the empirical evidence on underpricing.

Walter, 1989; Michaely and Shaw, 1994 and Jegadeesh, Weinstein, and Welch, 1993). At first sight it appears unlikely that the market could have better information than the managers of a firm undergoing an IPO. However, the important point here is that even though the firm may be better informed about its prospects than any single investor, in the aggregate the market may be better informed than the firm. Initial public offerings thus provide an example where checking by investors ensures that resources are allocated to viable firms.

The second important way in which the openness associated with stock markets affects the allocation of resources is through the market for corporate control. The incentives for investors to gather information means that firms which are managed differently from the consensus view will have a low stock price. This creates an incentive for a change in control. There are three mechanisms for transferring control: proxy fights, a tender offer and a merger. In proxy fights raiders must persuade existing shareholders that their views on how the firm should be run are superior to those of the existing management. This will require the transfer of a large amount of information so it is unlikely to be successful. In a tender offer, they 'put their money where their mouth is' and there is no need to transfer information. A voluntary merger occurs when both sides agree that the other has worthwhile views and both can benefit from the merger.

One important implication of these theories is that new industries where there is very little if any prior experience on how firms should be run should do better with stock markets than with banks. Allen (1993) argues that this prediction is consistent with the observation that it was the U.K. which first underwent the Industrial Revolution in the nineteenth century with the development of the railways and other new industries which were to a large extent financed through the London Stock Exchange. Similarly, in the U.S. the New York Stock Exchange played a critical role in the development of the major twentieth-century industries such as the automobile, aircraft, electronics and computer industries. Among current emerging industries such as biotechnology, stock markets are again major sources of finance. In contrast, in nineteenth-century Germany industrial development took place when the technologies were not as new and untried as in the U.K. with some exceptions such as the chemical and electrical goods industries. Similarly, in the twentieth century Germany and Japan's most important achievements have mainly been in existing industries rather than in entirely new ones. In both these cases, the factors that favor stock market finance are less prevalent and those that favor bank finance are more prevalent than in the U.S. and U.K.

Another prediction is that as Japan moves towards an open stock market based system its capability of developing new idustries such as biotechnology will be improved. On the other hand the efficiency of its firms will suffer. They will not be monitored as well and their ability to enter long-term relationships and make implicit contracts will be reduced.

In summary, the theories presented can be combined to explain why in some circumstances banks will be the optimal way of allocating resources and in others stock markets will be. Banks will be a good way to provide financing in traditional industries where the technology is well known and there is wide agreement on how things should be done; banks can monitor firms effectively, take advantage of scale economies in monitoring and firms can form long-term relationships. In industries where there is little agreement on how firms should be managed an allocation of resources through a stock market is desirable.

PROVIDING LONG-TERM INCENTIVES

One of the problems with projects that take a long time to come to fruition is that the managers who implement the project may no longer be working for the company when the success or failure of the project becomes known. For example, senior managers who are primarily responsible for making decisions will often have retired and may have even died when the outcomes of their investments are realized. A crucial issue facing companies is how managers should be motivated and rewarded in this type of situation where it is difficult to wait and see how the investment turns out.

In dynamic industries the existence of a stock market can help solve this problem. As argued above, if a company is publicly quoted investors

will have an incentive to gather information and make a judgement as to whether the managers made a good decision. In an efficient capital market the firm's stock price will reflect the average opinion on the likely pay-offs of its investment projects even though these may be in the far distant future. There is considerable evidence that markets are efficient so stock prices reflect the whole stream of cash flows including those occurring in the short and long term. Surveys of the evidence in support of market efficiency are Fama (1970; 1991). Examples of specific studies which illustrate this are McConnell and Muscarella (1985) who find that announcements of increases in planned capital expenditures are associated with significant positive excess stock returns and Kaplan and Ruback (1992) who find that using discounted cash flow techniques to value firms are consistently within 10 percent of the market values of completed transactions.

Given stock prices reflect long-term firm value, it is possible to motivate managers to act for the long term, even though they are not alive in the long term, by making compensation conditional on share price through stock options or some other means it is possible. In this case managers will worry about the short-term stock price despite the fact that it is their long-run actions that are being rewarded or penalized. Diamond and Verrecchia (1982) and Holmstrom and Tirole (1990) have analyzed formal models which show how the information in stock prices can be used to motivate managers.

In traditional industries this role of the stock market will not be so important. The board of directors or other outsiders such as consultants can check whether the management did a satisfactory job and can reward them accordingly. In dynamic industries where there is a diversity of views this explicit checking mechanism will not work well because the range of opinions reflected in the assessment by the board of directors and outside consultants will be limited. It will be difficult to rely on a limited set of judgements because this imposes considerable idiosyncratic risk on managers. A firm's stock price has the advantage that it reflects a diversity of opinion and diversifies the risk associated with making judgements correctly.

These arguments contrast with those of Porter (1992). He suggests that the fact that in the U.S. shareholders only hold stock for a short time means that firms focus too much on the short term. In support of this thesis he points to evidence that the amount of long-term investment U.S. firms undertake is less than their counterparts in Germany and Japan.

The role of the stock market in providing long-term incentives to managers that is outlined above suggests a different interpretation can be placed on these observations. First, transient ownership is not necessarily undesirable. The reason investors undertake research and make judgements on how a firm is doing is the prospect of profits. In competitive stock markets many investors will do this and their opinions will soon be reflected in the stock price. There is no need for investors to tie up their capital further; they can take their profits and move on to the next firm and judge how it is being managed. A stock market with informative prices which allows good long-term incentives to be provided can be characterized by transient ownership.

If better incentives can be provided to managers and there is better information associated with the openness of stock markets, U.S. firms should be able to discriminate better between long-term projects than German and Japanese managers. This implies that they may optimally undertake fewer long-term projects than German and Japanese firms. To see why this may be the case suppose long-term projects are desirable because on average they have high expected returns but there are some with high expected returns and some with low expected returns. If managers do not discriminate between projects very well because of a lack of incentives it may be optimal for them to accept all the long-term projects. On the other hand if managers have good incentives and discriminate well between projects they will accept only the good ones. Hence the fact that the U.S. invests less in long-term projects than Germany and Japan does not necessarily mean its capital allocation system is flawed as Porter suggests. In fact the reverse can be true and it may be an indication that they have a better ability to discriminate because of the superior long-term incentives associated with stock markets.

INCENTIVES IN COUNTRIES WITH DIFFERENT GROWTH RATES

Porter's (1992) starting point is that in many industries, U.S. firms have done poorly relative to international competitors particularly those from Germany and Japan. The arguments above suggest that differences in the financial systems may not be responsible for this lack of competitiveness. A stock market with transient ownership dominated by institutional investors who focus on short-term profits can provide firms with good long-term incentives to invest. There are also many dynamic advantages associated with the U.S. financial system as Porter points out. The fact that Japan's financial system is rapidly moving towards a U.S.-style system is consistent with the superiority of the U.S. financial system. The analysis suggests that without the advantages provided by the U.S. financial system the relative gap between the U.S. and Germany and Japan would have been even greater. However, this leaves open the crucial question of why U.S. firms have underperformed German and Japanese firms.

Only part of Porter's discussion is concerned with financial systems, a large part is devoted to management practices. For example, he suggests capital budgeting techniques used by firms in the U.S. do not take adequate account of intangibles such as R&D and employee training. These and many other factors such as differences in the stability of government macroeconomic policies and microeconomic policies such as funding of R&D are all likely to be important in explaining differences in firm performance. However, there is one factor that usually does not receive much attention that may also be important. This is the difference in growth rates between countries.

Table 5 shows the average per capita growth rates in the four decades from 1951–1990. Japan did by far the best of the three countries. Germany did better than the U.S. particularly in the earlier part of the time period; by the 1980s, however, Germany's growth rate was the same as that of the U.S. These differences in per capita growth rates mean that the incentives that can be provided through annual raises differ significantly across countries. Table 6 shows the cumulative effect through the decade of receiving raises at the average per capita growth rate. At one extreme, managerial salaries which grew at

Table 5. Comparison of average per capita growth rates for 1951–90 (Percent)

Period	Germany	Japan	U.S.A.
1951–60	6.9	6.9*	1.5
1961–70	3.6	9.3	2.5
1971–80	2.5	3.4	1.7
1981–90	1.9	3.7	1.9

*Based on data for 1953–60.
Sources: OECD National Accounts and Statistical Abstract of the U.S.

Japan's average per capita growth rate in the 1960s would have increased by 140 percent through the decade. At the other extreme, managerial salaries in the U.S. which grew at the average during the same time period would only have increased by 28 percent. This difference means that Japanese managers who failed to receive the average wage because of a lack of effort would pay a much larger penalty than U.S. managers who adopted this course of action.

Implementing strategies which improve a firm's competitiveness require significant effort from all levels of management. Although senior U.S. managers have been provided with large financial incentives to work hard, middle level managers have been less fortunate; they will be less willing to put in the time and effort required to improve a firm's competitiveness. The differences in average growth rates mean that in Japan especially it has been much easier to provide incentives at all levels of the organization. Viewed in this light it is less surprising that Japanese firms have been able to be so competitive. In the 1950s through the 1970s German firms had an advantage over the U.S. in this respect but not in the 1980s. It is interesting to note that German firms arguably

Table 6. Comparison of cumulative per capita growth rates for 1951–1990 (Percent)

Period	Germany	Japan	U.S.A.
1951–60	94	94	16
1961–70	42	140	28
1971–80	29	40	18
1981–90	21	44	21

Sources: OECD National Accounts and Statistical Abstract of the U.S.

did better than U.S. firms during the earlier period but not during the later period.

In trying to understand why some countries have been more competitive than others, it has been argued it is important to consider the incentives that can be provided to managers simply through the average per capita growth of the economy. Higher growth will mean better incentives and better performance. One implication of this argument is that the effect of high growth will be self reinforcing. High growth will allow good incentives which in turn will help spur further growth. The implication is that countries starting from a low level of capital and technology will be able to grow at high rates for some time as they increase the amount of capital and adopt modern technologies. Eventually, however, they will reach a point where expansion in the capital stock is no longer so advantageous and technology will be at the frontiers. At this point their growth will slow because they are catching up and the incentives that can be provided to managers are much reduced. The implication of the theory is that international industrial leadership will be cyclical. During the stage where incentives and growth reinforce each other a country starting from behind will be able to overtake the leading country. Eventually the process will be reversed and the country that was formerly leading will be able to start from a low level and have a burst of fast growth that will once again allow it to take the lead.

This theory can explain why countries such as Germany and Japan which started from a low level of economic activity but with highly educated work forces at the end of the Second World War have been able to do so well since then. Japan in particular started from a very low level and was able to have very high growth rates for a long period of time. Germany had high rates to begin with and its firms were very competitive but as it has reached higher absolute levels of output its growth rate has fallen significantly. Even in Japan the growth rate in recent years is much lower than earlier. In this view the lack of U.S. competitiveness is not due to any fundamental deficiency in the U.S. economy but is simply a result of history. As time proceeds and the other countries catch up the difference in competitiveness will fall. Japan and Germany may be able to overtake the U.S. but once the U.S. has reached a relatively low level it will again be able to have a burst in productivity growth.

CONCLUDING REMARKS

Porter (1992) has initiated an important debate on why U.S. industry has lost competitiveness in recent decades. He argues that it is the U.S. capital allocation system that is at fault. Institutional investors are primarily interested in short-run returns and hold stock for a short period. This transient ownership encourages firms to focus on short-term results to the detriment of long-term investments in competitive capabilities. In contrast in Germany and Japan, large equityholders are actively involved in the management of the firm and take a long-term view. As a result they make investments which improve the long-term competitiveness of the firm.

It has been argued above that a significant advantage of a stock-market oriented financial system such as the U.S. is its openness. A wide range of investors have an incentive to gather information and the stock market price reflects the consensus of their views. In dynamic industries where there is little experience on how firms should be managed, this openness can be a great advantage in providing an efficient allocation of resources. The incentive to gather information can be provided by short-term trading so transient ownership is not undesirable. The information reflected in stock market prices means that it is not necessary to wait for the outcome of an investment to reward or penalize managers for their decisions about long-term investment projects. Stock options or other forms of managerial compensation based on the stock price allow decisions which are perceived by investors to be good to be rewarded and decisions which are perceived to be bad to be penalized. It was suggested that rather than reflecting a failure of the U.S. financial system, the superior performance of German and Japanese firms may be due to the strong incentives that their high per capita growth rates allow.

The issue of which country's capital allocation system is the best and why firms in some countries are more competitive than those in other countries is clearly a complex one that requires extensive theoretical and empirical investigation. The purpose of this paper has

been to suggest that the predominance of institutional investors and transient ownership in the U.S. financial system are not necessarily the cause of the lack of competitiveness of U.S. firms.

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REFERENCES

Allen, F. (1993). 'Stock markets and resource allocation'. In C. Mayer and X. Vives (eds.), *Capital Markets and Financial Intermediation*. Cambridge University Press, Cambridge, pp. 81–108.

Allen, F. and G. Faulhaber (1989). 'Signaling by underpricing in the IPO market', *Journal of Financial Economics*, **23**, pp. 303–323.

Baer, H. and L. Mote (1986). 'The effects of nationwide banking on concentration: Evidence from abroad. In H. Baer and S. Gregorash (eds.), *Toward Nationwide Banking: A Guide to the Issues*. Federal Reserve Bank of Chicago, Chicago, IL, pp. 27–38.

Baer, H. and L. Mote (1992). 'The United States financial system'. In G. Kaugman (ed.), *Banking Structures in Major Countries*. Kluwer, Boston, MA, pp. 469–553.

Cargill, T. and S. Royama (1992). 'The evolution of Japanese banking and finance'. In G. Kaufman (ed.), *Banking Structures in Major Countries*. Kluwer, Boston, MA, pp. 333–388.

Diamond, D. (1984) 'Financial intermediation and delegated monitoring', *Review of Economic Studies*, **51**, pp. 393–414.

Diamond, D. and R. Verrecchia (1982). 'Optimal managerial contracts and equilibrium security prices', *Journal of Finance*, **37**, pp. 275–287.

Fama, E. (1970). 'Efficient capital markets: A review of theory and empirical work', *Journal of Finance*, pp. 383–417.

Fama, E. (1991). 'Efficient capital markets: II', *Journal of Finance*, **46**, pp. 1575–1617.

Frankel, A. and J. Montgomery (1991). 'Financial structure: An international perspective'. *Brookings Papers on Economic Activity*, pp. 257–310.

Grinblatt, M. and C. Hwang (1989). 'Signalling and the pricing of unseasoned new issues', *Journal of Finance*, **44**, 393–420.

Grossman, S. and J. Stiglitz (1980). 'On the impossibility of informationally efficient markets', *American Economic Review*, **70**, pp. 393–408.

Holmstrom, B. and J. Tirole (1990). 'Corporate control and the monitoring role of the stock market', Working Paper Series D, #48, Yale School of Organization and Management.

Hoshi, T., A. Kashyap and D. Scharfstein (1993). 'The choice between public and private debt: An analysis of post-deregulation corporate financing in Japan', NBER Working Paper No. 4421.

Ibbotson, R. (1976). 'Price performance of common stock new issues', *Journal of Financial Economics*, **2**, pp. 235–272.

Jegadeesh, N., M. Weinstein and I. Welch (1993). 'An empirical investigation of IPO underpricing and subsequent equity offerings', *Journal of Financial Economics*, **34**, pp. 153–175.

Kaplan, S. and R. Ruback (1992). 'The valuation of cash flow forecasts: An empirical analysis', working paper, Graduate School of Business, University of Chicago.

Koh, F. and T. Walter (1989). 'A direct test of Rock's Model of the Pricing of Unseasoned Issues', *Journal of Financial Economics*, **23**, pp. 251–272.

Mayer, C. (1988). 'New issues in corporate finance', *European Economic Review*, **32**, pp. 1167–1188.

McConnell, J. and C. Muscarella (1985). 'Corporate capital expenditure decisions and the market value of the firm', *Journal of Financial Economics*, **14**, pp. 399–422.

Michaely, R. and W. Shaw (1994). 'Asymmetric information, adverse selection, and the pricing of initial public offerings', *Review of Financial Studies*, **7**, (forthcoming).

Nelson, R. and S. Winter (1982). *An Evolutionary Theory of Economic Change*. Harvard University Press, Cambridge, MA.

Nelson, R. (1991). 'Why do firms differ and how does it matter?' *Strategic Management Journal*, Winter Special Issue, **12**, pp. 61–74.

Porter, M. (1992). 'Capital disadvantage: America's failing capital investment system', *Harvard Business Review*, September–October, pp. 65–82.

Pozdena, R. and V. Alexander (1992). 'Bank structure in West Germany'. In G. Kaufman (ed.), *Banking Structures in Major Countries*. Kluwer, Boston, MA, pp. 555–590.

Rock, K. (1986). 'Why new issues are underpriced', *Journal of Financial Economics*, **15**, pp. 187–212.

Shleifer, A. and L. Summers (1988). 'Breach of trust in hostile takeovers'. In A. Auerbach (ed.), *Mergers and Acquisitions*. NBER, University of Chicago Press, Chicago, IL.

Smith, C. (1986). 'Investment banking and the capital acquisition process'. *Journal of Financial Economics*, **15**, pp. 3–29.

Welch, I. (1989). 'Seasoned offerings, imitation costs and the underpricing of initial public offerings', *Journal of Finance*, **44**, pp. 421–449.