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Wage-led or Profit-led Supply: Wages, Productivity and Investment*

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4.1 A Dutch treat

According to standard writing class instructions, a surefire way of having one's manuscripts ignored is to start off with a lengthy prologue. We deliberately offend this golden rule and take a detour, treating our readers to a perhaps unusual account of a well-known piece of recent economic history – the 'Dutch employment miracle' of the 1980s and 1990s (Blanchard 2000; *The Economist* 2002). What was so miraculous to many was the sharp and sustained drop in the supposedly sclerotic Dutch unemployment rate, which had peaked at more than 11 per cent of the labour force in 1982 – a rate which was 2.1 percentage points *higher* than the average EU-15 unemployment rate in the same year. By 1990, Dutch unemployment had come down to 5.1 per cent, a full 2.1 percentage points *below* the EU-15 unemployment rate in the same year, and it declined further to only 3.1 per cent in 2000, with the EU-15 unemployment rate stuck at 7.7 per cent; the Dutch managed to maintain the momentum, keeping unemployment down at 3.8 per cent of the labour force during the period 2000–10, a full 4 percentage points lower than the unemployment rate in the EU-15. This labour market success is generally ascribed to the Dutch socioeconomic model, colloquially known as the 'Polder Model'.

The label 'Polder Model' is apt, not only because the Netherlands features some 3,000 man-made polders, but also because polder construc-

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tion has always involved much employment, including public relief works in the depression years of the 1930s. 'God created the world, but the Dutch created Holland' – with a lot of labour input. In fact, the recent Polder Model has no rival when it comes to employment creation. During the 1960s and 1970s, economic growth in the Netherlands, as in the wider EU-15 area, failed to generate positive growth in employment (measured in hours worked). For the Netherlands this changed drastically after 1982: during the 1980s and 1990s, one percentage point of real GDP growth generated about 0.6 percentage points of employment growth (measured in hours). The change for the EU-15, in contrast, was small: post-1982, one percentage point of real GDP growth in the EU-15 is associated with only about 0.1 percentage point of employment growth. Agnostic observers have tried to argue that the superior employment performance of the Netherlands is a statistical artifact, based on fiddling with the unemployment data and/or definitions or due to a shortening of average work hours as a result of the significant increase in part-time work. Both claims are wrong. The Dutch labour participation rate has been rising steadily after the mid-1980s and is among the highest in the OECD area. And the average work week in the Netherlands is not much shorter than that of other EU countries. So what is the secret of Dutch job creation?

As the by now rather clichéd story goes, the foundations of the employment *renaissance* of the Netherlands were laid in 1982, when employers, unions and the government signed the Wassenaar Agreement, under which the unions promised to deliver pay restraint in exchange for a new emphasis on job creation. Ever since, real wage growth in the Netherlands has been kept below productivity growth and – so the story goes – this allowed firms' profits to increase, led to new investments and thus created new jobs. It must be said that voluntary wage restraint was not done half-heartedly:¹ annual nominal wage growth (per hour), amounting to more than 11 per cent in the 1970s, was brought down to about 2 per cent during 1984–2000; real wage growth (per hour worked) was cut from 4 per cent per year in the 1970s to about zero in the later period. Dutch wage moderation has been exceptional in an international context: on average, annual Dutch real wage growth was 0.5 percentage points below average OECD real wage growth throughout the 1980s and 1990s. As a result and as intended, the Dutch wage share (in GDP at factor cost), which stood at about 65 per cent at the end of the 1970s and in the early 1980s, was brought down to 56 per cent during the period 1984–2000, and the profit share, correspondingly, increased from 35 per cent to slightly more than 44 per cent. It is true

that investment (as a proportion of GDP) increased following the recovery in profitability, but the increase was only modest and nowhere near sufficient to give a boost to Dutch economic growth.

It is here where most observers actually go wrong in their analysis of the Jobs Miracle: Dutch real GDP growth post-1982 has been inferior to Dutch growth performance in the 1960s and 1970s, even though there was a restoration of profitability to pre-profit squeeze levels. That growth did not respond to the heavy dose of wage moderation should not have come as a surprise, however: the Dutch economy, after all, is *wage-led* (Naastepad 2006; Naastepad and Storm 2007; Tavani, Flaschel and Taylor 2011). Hence, real wage restraint and the consequent fall in the wage share led to a *net contraction* of aggregate demand which depressed, rather than raised, economic growth. With demand out of wage incomes falling, the Dutch could only sustain – modest – growth after 1982 by means of increased reliance on growing world demand (for Dutch exports) and a growing dependence on (household) debts and (housing) wealth gains as a source of consumption demand. The Dutch central bank has estimated that about half of Dutch GDP growth during 1995–2005 has been due to loan-financed and wealth-gain funded consumption growth. Without these rather dubious sources of growth, the shine of the Dutch employment miracle would have worn off already more than ten years ago.

It is also important to our discussion that Dutch growth performance after 1982 has not been significantly superior to that of the EU-15: between 1984 and 1996, annual Dutch real GDP growth was only slightly higher than that of the EU-15 (2.8 per cent versus 2.7 per cent, respectively). This means that the far better employment growth of the Netherlands (vis-à-vis the EU-15) cannot in any way be attributed to superior growth performance. What remains is just one explanation: the source of the Dutch employment miracle has been inferior labour productivity growth. This is indeed borne out by the data. Annual Dutch labour productivity growth (measured per hour of work) was roughly equal to average productivity growth in the EU-15 in the 1970s. But during the period 1984–2000, average Dutch labour productivity growth was about 0.6 percentage points *lower* than EU-15 productivity growth, and it is this gap in productivity growth which is the cause of relatively rapid Dutch employment growth and its lower unemployment rate (Naastepad 2006; Storm and Naastepad 2011). The flipside of low productivity growth has been a substantial increase in the numbers of Dutch people in low-wage employment, made possible by a policy of labour market deregulation – from less than 10 per cent of total persons employed in the early 1980s to about 18 per cent in the early 2000s.

It is not well understood, and this is rather unfortunate, that the slowdown of Dutch labour productivity growth itself is almost completely due to the widely praised policy of real wage restraint. The reason is (as we will argue below in more detail) that lower real wage growth slows down labour productivity growth in two major ways:

- by depressing the growth of aggregate demand, real wage growth restraint reduces productivity growth through the so-called Kaldor-Verdoorn effect; and
- directly, by retarding the rate of labour-saving technological progress, because lower wage growth reduces firms' incentives to invest in labour-saving R&D.

About 90 per cent of the Dutch productivity growth slowdown after 1982 must be attributed to the policy-engineered decline in real wage growth (Naastepad 2006). And the sharp productivity growth decline, in turn, fully explains the remarkable improvement in Dutch employment growth post-1982. The Dutch Employment Miracle, in other words, is better labelled a 'Productivity Crisis' – and we don't see much ground for urging the rest of Europe to learn from it and adopt a similar model.

This darker side of the miracle is not widely recognized in the Netherlands itself. For example, Dutch unions, in clear defiance of standard insider-outsider models, were happy to give priority to creating jobs for the unemployed over obtaining higher wages for the already employed by means of real wage restraint. Political support for wage moderation has been truly across the board with only the fringe left being a party pooper. The Dutch social democratic party (PvdA) has supported real wage moderation from the outset, while in opposition, and also later, when wage moderation and labour market deregulation became key parts of its own Third Way economic strategy. Tellingly, the motto of the two consecutive governments (1994–2002) under the leadership of social democratic Prime Minister Wim Kok was 'jobs, jobs, jobs' – a motto Mr Kok also gave to the report of the Employment Taskforce, which he chaired in 2003 on behalf of the European heads of state. What the durable Mr Kok, who is a man of few words, actually meant is that full employment, mostly based on low-wage flexible services jobs, should take precedence over inequality as a goal of economic policy – in one blow discarding European social democratic thought in favour of narrow Anglo-Saxon NAIRU logic. In Third Way opinion, it ought to be left to markets to dictate investment and jobs, while government should be used in a traditional liberal

manner to make workers more competitive and protect them (within limits) from illness, disability and poverty. Damning the Netherlands with faint praise, we conclude that a major lesson from the Dutch experience is that a policy of real wage restraint can be successful in a wage-led economy – provided, of course, the prime goal is the creation of low-wage flexible (service-sector) jobs in an economy growing mostly as a result of debt-financed demand.

At this point our guided tour to the Low Countries has come to an end. It is fair to ask: what, if any, are its general lessons or broader insights for growth and employment? Cutting out the details, two key lessons emerge. First, in the macro scheme of things, labour productivity growth is an *endogenous variable*, far too important to be ignored, which is influenced by (wage-led or profit-led) demand and real wage growth. Below we investigate how productivity growth interacts with demand and employment growth in a simple (but realistic) demand-led growth model. Second, as the Dutch example illustrates, real wage restraint may generate strong employment growth, even if the economy is wage-led. The Dutch example should stand out as an unforgiving warning signal – cautioning against overoptimistic assessments that there is no trade-off between higher wages and lower unemployment in wage-led economies. Capitalism's internal contradictions cannot be wished away.

4.2 Labour productivity growth

Labour productivity growth is endogenous: it depends – in a structural sense – on aggregate demand growth and real wage growth. The careful reader of this sentence may wonder what we mean by the phrasal adjective 'in a structural sense'. The point here is that in a regime in which trend ('structural') real wage growth is high, for instance, a sudden temporary drop (or rise) in real wage growth will not (significantly) affect productivity growth – because this does not affect firms' R&D investments. However, a more permanent (and credible) change – from a regime with rapid real wage growth to one with low or zero wage growth, as in the Netherlands after 1982 – will affect R&D, investment, the capital intensity of production and hence productivity growth. Our analysis of the macroeconomic effects of real wage changes thus concerns (policy) regime change – and is therefore medium-term in nature. We turn to a discussion of the determinants of productivity growth we have mentioned above: demand growth and real wage growth.

The increase in labour productivity growth caused by growth in aggregate demand and output is known in the literature as the Kaldor-Verdoorn

effect. This arises because aggregate demand growth leads to an economy-wide deepening of the division of labour as well as more rapid learning-by-doing (in firms) – and both these processes are eventually reflected in higher labour productivity growth. Moreover, to the extent that demand growth is investment growth, the new investments result in higher labour productivity, because the newly installed equipment embodies the latest state of production technologies and is therefore more productive than older vintages of capital stock. The most comprehensive study on the Kaldor-Verdoorn effect is McCombie, Pugno and Soro (2002), who review 80 empirical studies and conclude that the overwhelming majority of these studies – irrespective of the differences in econometric methods and data employed – find a causal link from demand growth to productivity growth. Table 4.1, which provides evidence on the Kaldor-Verdoorn effect, lists ten more recent studies, which confirm McCombie et al.'s conclusion. The (simple) average value of the Kaldor-Verdoorn coefficient for the group of OECD countries is 0.46: a one percentage point rise in demand growth is thus associated with an increase in labour productivity growth by 0.46 percentage points. We treat this finding as stylized fact.

The second determinant of productivity growth we consider is real wage growth. Its explanation goes back at least to Karl Marx, who argued in *Capital* that high wages lead to a labour-saving bias in innovation and technological progress – because only labour-saving technological progress, which he identifies with rising labour productivity, ensures the reproduction of a positive economic surplus. Higher wages stimulate capital deepening, drive inefficient firms off the market and encourage structural change, increase the proportion of high-skilled workers in the labour force, and, in general, promote labour-saving technological progress. Marx's idea of wage-cost-induced technological progress has gone through various incarnations, including Hicks (1932), Kennedy (1964) and, more recently, Foley and Michl (1999) and Funk (2002). Table 4.2 summarizes recent findings on the impact of real wage growth on labour productivity growth. The statistical evidence assumes that causality runs from wage growth to productivity growth, which appears reasonable in view of the fact that wage growth mostly follows from an institutionalized process of bargaining (as in NAIRU theory, for instance) and therefore 'leads' movements in productivity, as autonomous real wage pressures drive profit-seeking firms to accelerate the pace of labour-saving technological progress. Long-run evidence for 19 OECD countries (1960–2004) provided by Vergeer and Kleinknecht (2010–11) shows that a one percentage point increase in real wage growth raises productivity growth by 0.31–0.39 percentage points.

Table 4.1 Estimates of the impact of (investment) demand growth on productivity growth

	France	Germany	Netherlands	United Kingdom	United States	Nordic countries	OECD countries
McCombie et al. (2002)						0.3–0.6	0.5
Cornwall and Cornwall (2002)						0.64–0.67	
Leon-Ledesma (2002)						0.50–0.67	
Knell (2004)	0.43		0.63	0.53	0.43	0.40–0.76	0.27–0.38
Naastepad (2006)							
Angeriz et al. (2008)							
Crespi and Pianta (2008)							
Hein and Tarassow (2009)	0.54	0.43	0.45	0.23	0.11	0.31	0.39–0.46
Storm and Naastepad (2011)							
Alexiadis and Tsagdis (2010)							
Vergeer and Kleinknecht (2010–11)							
simple average (standard deviation)	0.49 (0.08)	0.43	0.54 (0.13)	0.38 (0.21)	0.27 (0.23)	0.45 (0.19)	0.46 (0.12)

Notes: McCombie *et al.* (2002); average of 80 empirical studies; Cornwall and Cornwall (2002); based on data for 16 OECD countries (1960–89); Leon-Ledesma (2002); for 18 OECD countries (1965–94); Angeriz, McCombie and Roberts (2008); for European regions (1986–2002); Crespi and Pianta (2008); data cover 22 manufacturing and 10 service industries in France, Germany, Italy, the Netherlands, Portugal and the United Kingdom (1994–2000); Alexiadis and Tsagdis (2010); based on data (1977–2005) for 109 EU-12 regions; Storm and Naastepad (2009); OLS estimates using 5-year average data for 20 OECD countries (1984–2004); and Vergeer and Kleinknecht (2010–11); panel data results based on annual data for 19 OECD countries (1960–2004).

Table 4.2 Estimates of the impact of real wage growth on productivity growth

	France	Germany	Netherlands	United Kingdom	United States	Nordic countries	OECD countries
Rowthorn (1999)	0.11–0.24	0.33–0.87	0.24–0.44	0.25–0.60	0.13–0.28	0.10–0.54	0.24–0.30
Nymoen and Rødseth (2003)						0.50	
Naastepad (2006)				0.52			
Carter (2007)							0.60
Hein and Tarassow (2009)	0.31	0.32	0.33	0.25	0.36		
Storm and Naastepad (2009/2011)						0.29	
Verger and Kleinknecht (2010–11)						0.31–0.39	
simple average (standard deviation)	0.24 (0.10)	0.46 (0.20)	0.43 (0.13)	0.34 (0.12)	0.28 (0.11)	0.41 (0.13)	0.38 (0.15)

Notes: Rowthorn (1999): data are from his Table 2, panel (b); Nymoen and Rødseth (2003): for the four Nordic countries (1965–94); Carter (2007): based on data for 15 OECD countries (1980–96); Storm and Naastepad (2009): OLS estimates using 5-year average data for 20 OECD countries (1984–2004); and Verger and Kleinknecht (2010–11); panel data results based on annual data for 19 OECD countries (1960–2004).

Our own finding for 20 OECD countries during 1984–2004 (Storm and Naastepad 2009, 2011) comes close. The simple average of estimates for individual economies including France, Germany, the Netherlands, the United Kingdom, the United States and the Nordic countries is 0.38. Hence, the ‘wage-cost induced technological progress effect’ holds that an increase in real wage growth by one percentage point is associated with an increase in productivity growth by 0.38 percentage points.

4.3 Wage-led growth

Any model is a heuristic device, a temporary simplification of reality to which excluded features or mechanisms must be added later to make it more realistic. We focus on the impact of the (real) wage rate on economic growth, productivity growth and employment – leaving out, for the moment, other determinants of a country’s macroeconomic performance (for example, the interest rate or the fiscal policy stance). The formal, algebraic, model is explained in Storm and Naastepad (2012a, 2012b). Here we use Figures 4.1, 4.2 and 4.3 as a mnemonic device to illustrate its working. Real wage growth is a distributional variable, determined as the outcome of institutionalized negotiation and bargaining between unions and employers’ associations. We investigate what happens to growth, productivity and employment when real wage growth is raised by one percentage point. The key variable in the model – as in any model of wage-led or profit-led growth – is the wage share. The wage share depends on the real wage and labour productivity. Higher real wage growth raises the wage share, but higher labour productivity growth reduces the wage share, because one hour of work (at a given wage rate) now generates more output, and hence labour costs per unit of output are reduced. If wages increase more than productivity, the wage share increases, and this automatically means that the profit share is reduced.

Figure 4.1 presents a *wage-led* economy, in which labour productivity growth is exogenous (and constant). Higher real wage growth increases the wage share and this leads to an increase in demand and output. The reason is that a higher wage share redistributes income from (higher-saving) profits to (lower-saving) wages. This raises consumption growth and the increase in consumption growth is larger (in absolute terms) than the decline in investment and export growth, induced by lower profits and higher unit labour costs. There is a consequent expansion in output growth. We assume that a one percentage point rise in wage share growth raises wage-led output growth by 0.3 percentage

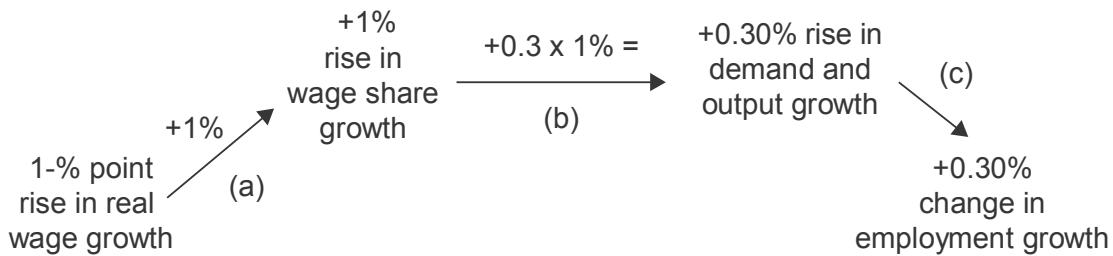


Figure 4.1 A model of wage-led growth with exogenous productivity

points – which is realistic for the EU and individual EU-countries (Stockhammer et al. 2009; Naastepad and Storm 2007, 2012a; Onaran and Galanis 2012). A one percentage point rise in real wage growth raises wage share growth by one percentage point (arrow (a)), raising demand and output growth (arrow (b)) as well as employment growth by 0.3 percentage points (arrow (c)).

This is not the whole story, however, because – as argued above – labour productivity growth is not exogenous, but changes in response to higher real wage growth, directly (through inducing labour-saving innovations) and indirectly (through the Kaldor–Verdoorn effect). Including these direct and indirect effects makes the model of a wage-led economy more complicated, as is illustrated by Figure 4.2. In this figure, arrow (d) captures the wage-cost induced technological progress effect. What it means is that a one percentage point step-up in real wage growth raises productivity growth by 0.38 percentage points. Productivity growth increases even more because of the Kaldor–Verdoorn effect, captured by arrow (e), according to which a one percentage point rise in output growth raises labour productivity growth by 0.46 percentage points. Higher labour productivity growth, as we noted above, reduces wage share growth; this link is given by arrow (f). These are key links in our model: higher real wages induce higher productivity, as a result of which the wage share does not increase as much as the real wage. With our numbers, wage share growth would increase by only 0.54 percentage points in response to a one percentage point hike in real wage growth. This, in turn, has two implications.

First, the smaller rise in wage share growth curtails the acceleration of wage-led output growth to only 0.16 percentage points (as compared to 0.3 percentage points in Figure 4.1). Economic growth thus becomes less strongly wage-led. It follows that the higher is the sensitivity of productivity growth to real wage growth, the more limited will be the strength of the wage-led nature of aggregate demand. The impact of an

increase in wage growth on productivity growth is generally ignored in models of demand-led growth which follow the logic of Figure 4.1, and hence the impact of a change in wage growth on demand growth is overestimated.

Second, the impact of higher wage growth on employment growth in the model shown in Figure 4.2 no longer depends solely on what happens to (wage-led) output growth, but also on what happens to productivity growth. This is so, since employment growth is – by definition – the difference between output and productivity growth. Higher real wage growth may now lead to a *reduction* in employment growth, if its stimulus to labour-saving technological progress and productivity growth is strong enough. In Figure 4.2, output growth increases by 0.16 percentage points in response to a one percentage point rise in real wage growth – along arrows (a), (b) and (c). Productivity growth rises by 0.46 percentage points: directly by 0.38 percentage points along arrow (d), and indirectly by another 0.08 percentage points via the Kaldor–Verdoorn effect along arrow (e). This implies that in our prototype wage-led economy, employment growth *declines* by 0.3 percentage points in response to a 1 percentage point increase in real wage growth. The reason is the acceleration of productivity growth implied by higher real wage growth. Conversely, employment growth *rises* if real wage growth is lowered, since real wage growth restraint reduces productivity growth more than output growth – thus creating higher employment, a fact cunningly exploited by the Dutch Polder Model

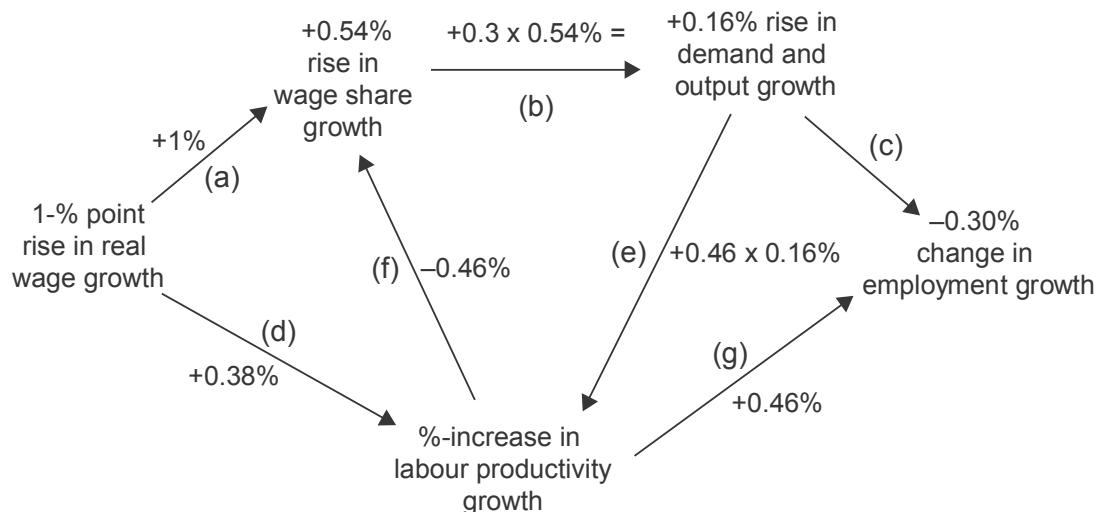


Figure 4.2 A model of wage-led growth

Note: The numbers are realistic for the EU and EU countries. For details, see Storm and Naastepad (2012b).

builders to much international acclaim.² The outcome, in that case, may well be lower unemployment, but this is achieved by depressing productivity growth (rather than raising profitability, investment and export and output growth). *Lower* unemployment, in other words, compromises welfare and the overall technological dynamism of the wage-led system.

Our prototypical finding concerns a weakly wage-led economy in which overall growth does not respond strongly to increased wage share growth. It can be shown that if the economy becomes more strongly wage-led, the employment-generating effect of real wage restraint becomes smaller. More strongly wage-led here means that output growth responds much more strongly to wage share growth than we assume in Figure 4.2, where – along arrow (b) – the wage share–output elasticity equals 0.3. However, even in strongly wage-led economies (where the wage-share–output elasticity takes a value of 0.80, as in the Scandinavian countries; see Storm and Naastepad 2012a), lower wage growth still creates more employment – because, also in these economies, productivity growth remains more sensitive to real wage growth than aggregate demand growth. Hence, co-operative wage-led capitalism faces one inescapable problem: lack of employment growth. While this deeper problem may lose importance in the near future (due to the ageing of Europe's labour force), a more proactive approach is to cut annual working hours (as in the 1960s) and/or to expand, often essential, public-sector (tax-financed) employment in health, education and environmental protection ('green jobs') – what Adolph Lowe (1988, 100) aptly called 'planned domestic colonization', the creation of public-sector jobs to strengthen (public) infrastructure and provide essential services in health, education and general welfare. Lowe's proposal, which ties in with the basic income scheme proposed by Andrew Glyn (2006), Richard Sennett (2005) and many others, advocates 'a type of investment that will enlist millions of job-seeking workers, whom the private domain cannot employ, in productive activity'.

4.4 Profit-led growth

When the economy is *profit-led* (rather than wage-led), a higher wage share reduces aggregate demand and output – as along arrow (b) in Figure 4.3. The reason is that higher real wages and a higher wage share depress investments and exports more (in absolute terms) than they actually boost consumption. Aggregate demand contracts following the rise in the wage share – and the decline in the profit share. A higher

profit share is therefore ‘good’ for growth, while a higher wage share is ‘bad’. In Figure 4.3, along arrow (b), we assume that a one-percentage point increase in wage share growth reduces output growth by 0.23 percentage points – which is the impact we found for the US economy (Naastepad and Storm 2007; Storm and Naastepad 2012a).³

This is not the whole macro story yet – because, also in a profit-led economy, higher wage growth affects productivity growth. First, it directly induces – through induced technological progress – extra productivity growth: the impact is given along arrow (d). Second, lower output growth *reduces* productivity growth through the Kaldor–Verdoorn effect – an effect captured by arrow (e). Using realistic numbers we find that the Kaldor–Verdoorn effect is smaller (in absolute terms) than the wage-cost induced productivity increase and, hence, the net effect of a one percentage point increase in real wage growth is to raise productivity growth by 0.31 percentage points. Higher productivity growth, in turn, reduces the growth of the wage share as illustrated by arrow (f). Going by our numbers, a one percentage point increase in real wage growth does, in effect, lead to an increase in wage share growth by only 0.69 (not one) percentage points. Due to the productivity-growth boost of higher real wage growth, the system becomes less strongly profit-led: the total impact of a one-percentage point increase in real wage growth on (profit-led) output growth is –0.16 percentage points.

Higher real wage growth reduces profit-led output growth while raising productivity growth. This means that employment growth gets

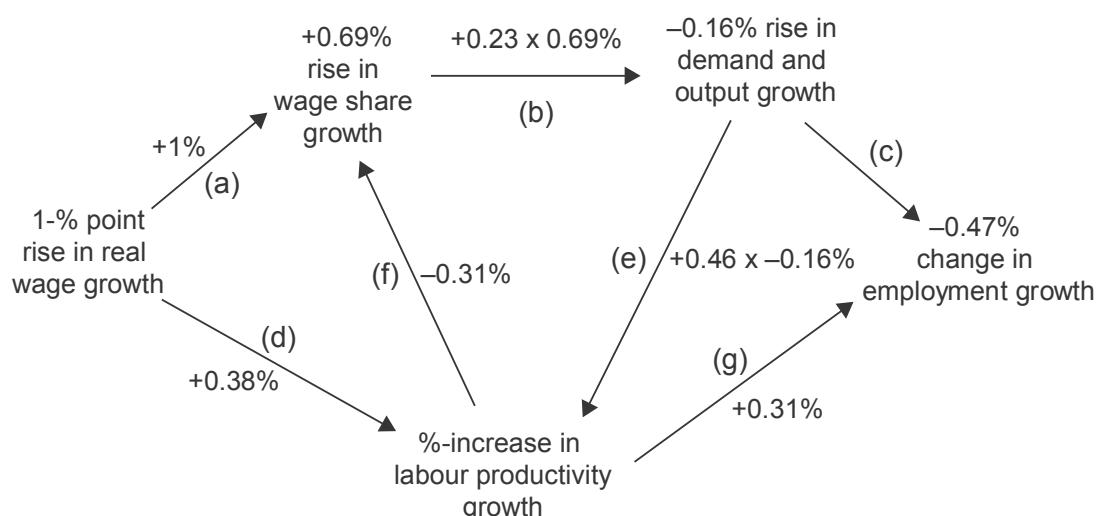


Figure 4.3 A model of profit-led growth

Note: See note to Figure 4.2.

squeezed from both sides: output growth slows down and at the same time firms need fewer workers per unit of output. The estimate for our prototype profit-led economy of Figure 4.3 is that an increase in real wage growth by one percentage point reduces employment growth by almost 0.5 percentage points. Of course, it works the other way around as well: real wage restraint in profit-led systems is pretty effective in raising employment growth. But it must be noted that the employment creation is due more to the slowdown of (endogenous) productivity growth (by 0.31 percentage points) than to the expansion of output growth (by only 0.16 percentage points). Clearly, real wage restraint also hampers productivity growth and technological dynamism in profit-led economies.

4.5 Evidence on OECD employment growth

The message is sobering, perhaps: under realistic assumptions, higher real wage growth does not generate higher employment growth in a wage-led economy. We believe this is a fair conclusion, in line with the fact that the employment elasticity of growth in the OECD countries has increased in recent times, while real wage growth slowed down – as illustrated in Figure 4.4.

Let us consider the historical facts for 11 major OECD economies, appearing in Table 4.3, more closely. It can be seen that average annual employment growth (measured in hours worked) in these countries during the 1990s was low; the unweighted group average is an employment growth rate of 0.3 per cent per year. Hourly employment growth was negative in this period in Finland, Germany, Sweden, and the United Kingdom, and about zero in Belgium, France and Italy. It is only in Denmark, the Netherlands, Spain and the United States that employment growth is higher. Average annual real GDP growth during 1990–99 was 2.2 per cent and average labour productivity growth stood at about 2 per cent per annum. In the second period (2000–08), hourly employment growth increased in almost all countries which featured negative or zero employment growth in the 1990s: in Finland, the employment growth rate increased by a full 2 percentage points, in Belgium and Spain by more than 1 percentage point, and in France, Italy, Sweden and the United Kingdom by more than 0.55 percentage points. Employment growth also increased in Denmark and Germany (where it became less strongly negative) and only in the Netherlands and in the United States did hourly employment growth rates fall after 2000. On average for the 11 countries, employment increased by 0.8 per cent per year during 2000–08.

The rise in employment growth cannot be attributed to an overall improvement in economic performance. To the contrary, average (unweighted) real GDP growth declined from more than 2.2 per cent per year during the 1990s to less than 2 per cent during 2000–08. This means that the employment elasticity of GDP – defined as the ratio of hourly employment growth to real GDP growth – has increased, as it did, from less than 0.1 in the 1990s to more than 0.4 in the period 2000–08. OECD growth has, in other words, become more employment-intensive. We note that this is not true for the United States, where the employment elasticity of growth declined from a value of 0.44 before 2000 to a value of 0.24 after 2000; this makes it understandable why there is so much discussion in the United States about jobless growth and jobless recovery from the crisis. But for Europe, with the exception of the Netherlands, the post-2000 years were a period of employment growth.

The rise in employment growth (by 0.5 percentage points) and the drop in GDP growth (by about 0.3 percentage points) imply that labour productivity must have declined even more than real GDP growth. Labour productivity growth fell from an unweighted average of 2 per cent in the 1990s to just 1.2 per cent during 2000–08. Employment growth was thus achieved at the cost of productivity growth, closely mimicking the Dutch employment miracle of the 1990s. As we argued in the introduction, the Dutch jobs wonder was based on real wage restraint. What about the European employment growth revival post-2000? As can be seen from Table 4.3, real wage growth was lowered in most countries – most spectacularly in Germany, Belgium, Spain, Denmark and France. Figure 4.4 presents a scatter plot of real wage growth and employment elasticities (of GDP) for the 11 countries in the two periods 1990–99 and 2000–08; the data show, as per the fitted line curve, that the employment elasticity of GDP increases, when real wage growth is lowered. In our book *Macroeconomics Beyond the NAIRU* (Storm and Naastepad 2012a) we have analyzed these 11 economies and found that most of them are wage-led economies (the United States is the exception). The reduction in real wage growth did therefore lower real GDP growth – as we can observe in the data of Table 4.3 for most European economies (except Italy and Sweden). This finding matches with the observed increase in employment growth only if there is a considerable (induced) decline in productivity growth, brought about directly and indirectly by real wage moderation. Real wage growth thus has a stronger impact on employment growth than on output growth – in line with our stylized findings. The Dutch employment miracle has definitely gone European.

Table 4.3 Real GDP growth, hourly employment growth, labour productivity growth and real wage growth: 11 OECD countries, 1990–99 and 2000–08

	1990–99				2000–08			
	Real GDP growth	Employment growth	Labour productivity growth	Real wage growth	Real GDP growth	Employment growth	Labour productivity growth	Real wage growth
Belgium	2.06	0.03	2.03	1.67	1.81	1.20	0.61	0.71
Denmark	2.49	0.55	1.94	1.77	1.26	0.75	0.51	1.16
Finland	1.70	-1.12	2.82	1.16	2.98	0.88	2.10	2.06
France	1.78	-0.01	1.79	1.17	1.58	0.54	1.04	0.68
Germany	1.81	-0.23	2.04	1.22	1.37	-0.12	1.49	0.06
Italy	1.35	0.00	1.35	0.21	0.82	0.81	0.01	0.54
Netherlands	3.08	1.36	1.72	1.17	1.96	0.54	1.42	1.11
Spain	2.79	1.32	1.47	0.88	3.09	2.42	0.67	0.05
Sweden	1.83	-0.23	2.06	1.78	2.55	0.55	2.00	1.41
United Kingdom	2.38	-0.18	2.56	1.57	2.23	0.42	1.81	1.49
United States	3.33	1.48	1.85	1.61	2.02	0.48	1.54	1.13

Sources: Employment is measured in total hours worked; GDP is in constant prices. Employment and GDP data are from the Groningen Growth and Development Centre's total economy database. Data on real compensation per employee (GDP deflator, total economy) are from the AMECO Database.

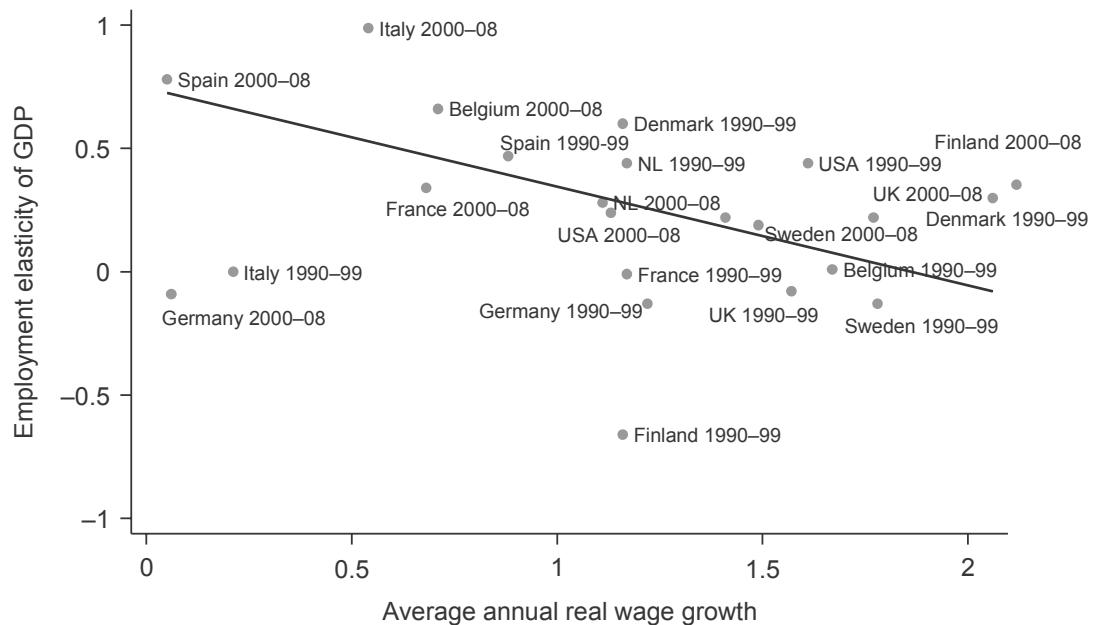


Figure 4.4 The employment elasticity of GDP declines when real wage growth rises. Evidence for 11 OECD economies (1990–2008)

Notes: The fitted curve is based on the following OLS regression (with robust *t*-statistics):

$$\text{Employment elasticity of GDP} = 0.75 - 0.40 \text{ real wage growth}$$

$$(4.45)^{***} \quad (3.28)^{***}$$

$$\text{Adjusted } R^2 = 0.27; F = 10.75; n = 20$$

Italy (1990–99) and Germany (2000–08) are excluded from the regression. *** = statistically significant at 1 per cent. Employment is measured in total hours worked; GDP is in constant prices. Employment and GDP data are from the Groningen Growth and Development Centre's total economy database. The employment elasticity of GDP is defined as the ratio of average annual (hourly) employment to average annual real GDP growth. Data on real compensation per employee (GDP deflator, total economy) are from the AMECO Database. NL = the Netherlands.

4.6 Wages, productivity and profits

Even in the most strongly wage-led countries in the OECD, wage-led growth is unlikely to be job-creating – because it leads to labour-saving technological progress and productivity growth. One remedy to this problem is an overall reduction of individual working hours (as was done in Scandinavia); ignoring possible organizational complications, no valid objections can be raised so long as wages are reduced in proportion to the reduction in working hours and the growth in labour productivity. Specifically, by sharing available employment (hours), lack of, or even negative, employment growth does not translate into

increased unemployment. We believe that successful co-ordinated employment sharing is possible only in a (strongly) *wage-led* economic system that responds to higher wage growth by expanding output and raising productivity; it would not be feasible in a profit-led economy which contracts in reaction to higher real wage growth.

Why is such employment sharing acceptable to private sector firms in a wage-led economy? The answer is that firms' profits are relatively insensitive to higher real wages, and this is in large measure due to the relatively strong response of productivity growth to wage growth. As firms and workers are operating under a fairness constraint, firms obtain more worker commitment, higher productivity as well as more demand, and greater worker willingness to co-operate in engendering technological progress in exchange for the higher wage and a more egalitarian outcome. What is crucial is that the more rapid demand growth and higher productivity growth enables firms to maintain their profitability (in real terms) when facing higher real wages. How can we understand this?

To start, it will be clear that – while keeping all other factors constant – higher real wage growth (say, by one percentage point) must reduce profit growth one-for-one. This we call the *direct profit damage* of higher real wages. But, as we have seen, higher wages have additional *indirect* effects which actually are good for profits:

1. higher real wages raise wage-led output, and this raises total profits (when we assume that profits per unit of output are constant). It follows that the more strongly wage-led the system is, the more output and total profits will grow in response to higher wages.
2. Higher real wage growth provides a boost to productivity growth. This, in turn, translates into higher profit growth, because it reduces wage cost per unit of output.

In a *strongly wage-led* economy, both these effects tend to be so large that the *direct* damage to profits due to higher real wage growth is almost completely offset by its *indirect* effects on profits.⁴ This finding is crucial: based on parameter values for a strongly wage-led economy (such as those in Scandinavia), we find that the impact of a one percentage point increase in real wage growth on profit income growth is very small. Elsewhere we argue in more detail that the relative insensitivity of profitability to higher real wages, which is in large measure due to the relatively strong responsiveness of productivity growth to wage growth,

provides the foundation for co-operative versions of capitalism such as the Nordic one (Storm and Naastepad 2012a).

If we compare this Nordic model to the Dutch model, closely examined by Naastepad (2006), which arguably is in many ways representative of other *weakly wage-led* EU countries, we find that Dutch profits are much more sensitive to higher wages than Scandinavia profits – the main reason is that weakly wage-led Dutch output growth does not respond very strongly to higher wages (as in Figure 4.2), which limits the productivity-growth stimulus (provided by higher wage growth). As a result, higher real wage growth does depress Dutch profit growth very significantly. It follows that granting workers higher real wages is not an option for Dutch firms as their profitability will suffer. This sharp trade-off between real wage growth and profit growth helps to explain why Dutch unions did not push for higher pay but instead decided to bargain for more jobs by means of a social compromise, entailing a long-term (voluntary) commitment to real wage growth restraint (as we explained in the introduction). Predictably, this real wage restraint did lead to the recovery of firm profitability as well as to the so-called ‘Dutch employment miracle’, which has been the by-product of a wage-moderation-induced productivity growth slowdown. The contrast with the technologically more dynamic Nordic model being obvious, we may call the Nordic model ‘social-productivist’, while labelling the Dutch model ‘social-stagnationist’.

The label ‘social-stagnationist’ applies to most other EU economies, including France, Germany, Italy and Spain. This is apparent from Figure 4.5 which shows that the more strongly wage-led the economy in question is, the lower is the sensitivity of profit income growth to increases in real wage growth. It can be seen that for Germany the sensitivity of profit growth to real wage growth is similar (-0.62) to that of the Netherlands, while for Italy it is lower (-0.56), and for France and Spain it would take a value of about -0.4 . These European continental countries feature similarly weakly wage-led aggregate demand as the Dutch one and have also opted for high employment growth (and low wage growth) rather than high productivity growth, high wage growth and employment sharing. Figure 4.5 also features the profit-led US economy: with profit-led demand, a one percentage point increase in real wage growth translates into a decline in profit income growth by one percentage point; nowhere in the OECD is the conflict between wage growth and profit growth more pronounced than in the United States.

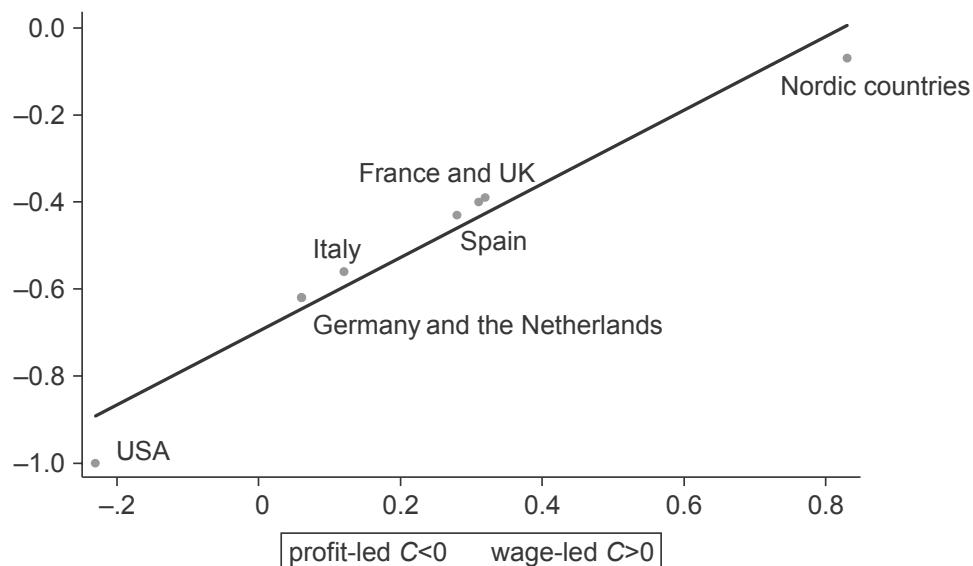


Figure 4.5 The more strongly wage-led the economy, the less sensitive is profit income growth to real wage growth

Note: The scatter points indicate the sensitivity of profit income growth to a change in real wage growth by 1 percentage point.

Source: Storm and Naastepad (2012a), Figure 7.3.

4.7 Wages and economic recovery

What can we say – based on the preceding discussion – about the role of wages in the economic recovery or, more broadly, in long-run growth? Perhaps we best start with what should *not* be done.

First, governments, especially in the euro area, are pressed to drastically reform their economies, sharply cut public (social) spending and deregulate their supposedly ‘rigid’ labour markets. IMF economists, for example, claim that a full decentralization of wage bargaining and a reduction of the employment protection of permanent workers would bring the Spanish unemployment rate (currently over 23 per cent) down by as much as 7–10 percentage points – with no further macro action required and Spanish aggregate demand still in the doldrums of debt insolvency. Similarly, in August 2011 the European Central Bank sent a letter to the Spanish government asking for wage cuts and the creation of ‘mini jobs’ to fight youth unemployment in exchange for buying Spanish government bonds in the secondary market; mind you: the ‘mini jobs’ would pay wages of €400 a month, well below the Spain’s official minimum wage of €541 per month. But all this will not work: if the economy is wage-led, as is true for Spain and for most of

the European Union (Storm and Naastepad 2012a), real wage cuts and further deregulation of labour markets will not create the conditions for a viable, sustained economic recovery. Rather they are a recipe for prolonged stagnation of output and productivity growth – especially now, with households, firms, and governments burdened by debts, there no longer exists an escape route through carefree borrowing as the one taken by the Dutch as well as the Americans before the crisis (Palma 2009; Palley 2009). However, real wage restraint may generate some employment growth, because it likely depresses labour productivity growth more than output growth – but in this process it will mostly create low-wage, precarious ‘not-so-decent’ services-sector jobs. What must be understood is that this strategy amounts to ‘working many more hours’ in return for ‘less income’ – neither an attractive nor a sensible proposition, and politically potentially self-destructive, especially since labour forces are about to become smaller because of demographic reasons (ageing).

Second, if the economy is profit-led, as is the United States (Naastepad and Storm 2007), lowering real wage growth does raise output growth – but not very strongly so, because productivity growth drops off and technological progress becomes bogged down. Profitability and investment will rise – but again not very strongly because lower productivity growth reduces the (expected) rate of return on investment. Employment growth will rise (and to a considerable extent), but here also mostly in the form of low-productive, low-wage jobs. This is a scenario of ‘working more’ in return for ‘a somewhat higher income’ – which is also not an altogether agreeable prospect. Moreover, lowering real wages, by depressing investment demand and consumption, combined with the debt overhang, introduces a deflationary bias and creates a non-negligible risk of debt deflation in both wage-led and profit-led systems.

This much is clear, therefore: lowering wages will not get us on the road to economic recovery. But what about *raising* real wages: will this help? Surely, one could argue, higher real wages will stimulate output if the system is wage-led, and this may in turn create a virtuous cycle of higher investment, higher productivity and further growth – eventually also of employment. But as we argued, while higher real wages do raise output, they increase labour productivity even more, and hence employment is likely to fall. Higher unemployment, combined with high debts in very uncertain times, means reluctant and wary consumers and investors and ultimately lacklustre demand growth. Higher real wages (per se) are no panacea – a cure for all economic diseases – not

even in a wage-led economy. What is needed for recovery is a broader policy package to protect wages as well as profits, jobs as well as technological progress, and egalitarian outcomes as well as international *non-price* competitiveness (Storm and Naastepad 2012a). Such a package should entail: (1) a fair sharing of the gains of labour productivity growth between business and labour; (2) an allowance for high enough profits to stimulate investment; and (3) a commitment to providing employment security both at the level of the firm and as a (full-employment) macroeconomic strategy. Real wages could (and should) be raised, but in combination with supportive macroeconomic policy, for example, a low real interest rate and a system of taxation which progressively taxes the high-saving income groups to finance public-sector employment and R&D. For profit-led economies, a similar approach will also pay off in terms of growth, productivity and employment. Higher real wages here depress output – but this can be compensated by appropriate output-enhancing interest rates and fiscal policy. The conclusion of our analysis is a sobering asymmetry: lowering real wages will be unambiguously counterproductive, but the opposite policy of raising real wages will unlikely (and all by itself) put the economy on the road to recovery. This may sound depressing.

But let our key message not be misunderstood: the argument that lower wages and further deregulation of (supposedly) rigid labour markets, all in the name of ‘increasing cost competitiveness’, are the only possible way out of the recession, is dead wrong – especially for wage-led Europe – even though, as we made clear, the advocates of real wage restraint can claim that it may generate ‘jobs, jobs, jobs’ (but very low-wage jobs and the aggregate economy remains otherwise stagnant). Neither the social democrats nor the labour unions in Europe have grasped this point – and in the past this has led them to accept real wage restraint and labour market deregulation in exchange for lower unemployment, as has happened in the Netherlands (and later on Germany). They should no longer accept this, and demand both fair real wage increases and a credible commitment in macroeconomic policy-making to full employment (rather than low inflation) – demands which do not need to conflict with productivity growth and profitability (if properly managed). However, if these demands are to effectuate, they should be accompanied by the imposition of strict compulsions on capital – forcing shareholders to become more committed long-term investors (Lazonick 2009; Palma 2009; Storm and Naastepad 2012a).

Notes

1. All data in this section are from Naastepad (2006).
2. In our model, higher real wage growth leads to a fall in employment growth. However, technological progress may have an independent impact on accumulation and growth which our model does not take into account (see Lavoie 1992, pp. 316–26), because ‘waves of innovations’ can shift the investment function up. If this independent impact on investments is sufficiently large, faster productivity growth will raise output growth and hence an increase in real wages in a wage-led demand regime could have a more neutral effect on employment. While the effect may exist – especially following the introduction of new general-purpose technologies – we think it is unlikely to be of empirical importance for the OECD countries (1960–2010), because in that case demand would have been found to be strongly wage-led – the impact of wage share growth on demand growth would have to equal 0.7, much higher than what econometric studies find (Onaran and Galanis 2012).
3. We must note here that the empirical evidence on the nature of the US demand regime is mixed. On the one hand, Bowles and Boyer (1995), Barbosa-Filho and Taylor (2006), Tavani, Flaschel and Taylor (2011), Storm and Naastepad (2012a) and Nikiforos and Foley (2012) find that US demand is profit-led (as we assume here). On the other hand, Hein and Vogel (2008), Onaran, Stockhammer and Grafl (2011) and Onaran and Galanis (2012) conclude that US demand is wage-led. While the issue is empirically unresolved, we provide a theoretical case why profit-led demand is consistent with the US stock-market based financial system (Storm and Naastepad 2012a, chapter 5).
4. For the empirical analysis, see Storm and Naastepad (2012b).

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