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Abstract

Based on a post-Keynesian model of the relationship between wages, prices and employment, this paper begins by studying the extent to which unit labour cost trends have been responsible for disinflation and deflationary tendencies in Germany and Europe. Thereafter, the reasons for the deflationary development of unit labour costs in recent years, in particular in Germany, are analysed. Finally, the impact of deflationary wage policies on German and European stagnation are discussed and it is concluded that the excessive wage restraint in Germany not only exacerbates stagnation and deflationary tendencies in Germany but might also have a deflationary impact on the other EMU countries.

JEL classification: E31, E50

Keywords: Wage trends, deflation, collective bargaining

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1. Introduction

The deflationary dangers in Germany can hardly be denied. The GDP deflator for Germany rose by 1.0% in 2003 and the forecast rise for 2004 is 0.8%. Meanwhile, the consumer price index rose by 0.9% in 2003 and is forecast to rise by 1.2% in 2004 (Institute 2003). These figures mean that inflation in Germany has in principle already reached the level considered by the European Central Bank (ECB) to be the minimum safety margin against deflation in its reformulated monetary policy strategy for the whole of the European Monetary Union (EMU) (ECB 2003). A further fall in inflation would therefore significantly increase the danger of a cumulative deflationary spiral. In its April 2003 Task Force Report, the IMF named Germany alongside Japan, Taiwan and Hong Kong as one of the economies most at risk from deflation worldwide (IMF 2003).¹

Not least because of Japan's experiences in the 1990s, there is currently a broad consensus among economists that once a deflationary spiral is underway it has very negative consequences for growth and employment and is extremely difficult to stop. The causes of deflationary processes can be found both on the supply side and the demand side (IMF 2003). However, while the price falls resulting from positive supply shocks (such as innovations that boost productivity) are usually associated with an increase in economic activity, deflationary processes caused by negative demand shocks go hand in hand with an overall fall in economic activity. The real problem posed by deflation thus results from a combination of falling demand and output with falling prices. This leads to an expectation of further price cuts, an increase in the value of real debts, falling share prices and stricter lending policies on the part of commercial banks and financial intermediaries, all of which ultimately may cause debtors to become insolvent and go bankrupt. Owing to the risk of cumulative effects, there is also a broad consensus that economic policy should take timely and decisive steps to combat deflation, ideally as soon as the first signs of it emerge. This

¹ The report defined deflation as a sustained fall in the consumer price index or GDP deflator. The common technical definition of deflation as a fall over the course of two consecutive quarters was not considered to be sufficient (IMF 2003: 6).

is particularly important because as the nominal interest rate heads towards zero, less and less can be achieved by monetary policy.²

However, there is a clear lack of consensus among economists with regard to which instruments should be used to tackle (incipient) deflation. While (post-)Keynesian authors have always stressed the key role of wages policy as the nominal anchor for combating both inflationary and deflationary tendencies, wages policy as an instrument in mainstream new-Keynesian thinking is either non-existent or at best allocated a highly ambivalent and ultimately contradictory role. For example, the IMF (2003) study ranks the key indicators of deflation risks as follows: 1. consumer and producer prices, 2. overcapacity and output gaps, 3. share prices and property prices, and 4. credit and money aggregates. Wages or unit labour cost trends are not explicitly mentioned at all. This is hardly surprising, since at times of *sustained* demand-led deflation, rigid nominal wages are considered to be an additional destabilising factor that can lead to an increase in real wages and a fall in employment and should therefore be avoided, according to the IMF. On the other hand, during *temporary* demand shocks, rigid nominal wages are considered to be a tried and tested means of preventing price cut expectations and their associated deflationary consequences from arising in the first place. However, the point at which a *temporary* shock becomes a *sustained* shock requiring nominal wages to be lowered is by no means clear, nor is it evident how lowering nominal wages can halt and reverse a deflationary process as described above once it is already underway.

Similar inconsistencies with regard to the relationship between nominal wage rigidity, low inflation or deflation and employment are to be found in a number of standard works on the problems of low inflation and deflation. For example, Akerlof/Dickens/Perry (1996) show that because of employees' perceptions of what is fair and morally right, nominal wage rigidities are inevitable, irrespective of what the existing labour market institutions are. In their view, when inflation is low and demand is falling these rigidities act as an obstacle to the necessary downward

² For a contrasting position on the powerlessness of monetary policy to combat deflation, see for example Buiters (2003).

adjustment of real wages, thereby destabilising the whole economy.³ At the same time, however, they also view downward nominal wage rigidities as a means of braking cumulative deflationary processes and consequently as something that promotes overall economic stability! Together with debt deflation, Bernanke (1995) blames insufficient downward nominal wage flexibility for the severity of the Great Depression, which began in 1929 as a result of a negative monetary shock and was characterised by major deflationary processes. Finally, in an otherwise highly informative study for the Board of Governors of the US Federal Reserve System on the ultimate failure of Japan's economic policy measures to prevent deflation in the 1990s, Ahearne et al. (2002) make no mention whatsoever of wage trends or wages policy.

In contrast to these predominantly new-Keynesian analyses, more recent studies of deflation risks in Germany have pointed to the destabilising effect of German wages policy (Flassbeck/Maier-Rigaud 2003, Kromphardt 2003).⁴ According to this approach, a policy of excessive wage restraint has led to low increases in unit labour costs and consequently to low inflation. To place wage trends at the core of the analysis of deflation risks is to follow the line of reasoning outlined by Keynes (1936: 257-271) in his *General Theory*, and at present it is only post-Keynesian authors who continue to take this approach to its ultimate conclusion. In contrast to the predominantly new-Keynesian studies alluded to above, Keynes and post-Keynesian theory view rigid nominal wages and stable unit labour costs as the indispensable basis for price stability in a monetary production economy. Consequently, rather than disturbing the market system and threatening to prevent it from functioning optimally, rigid nominal wages resulting from trade union wages policy or statutory minimum wages are in actual fact considered to be a requirement for the functioning of capitalist monetary economies. This is because to remove the wage anchor is to remove the last barrier against cumulative and disruptive deflationary processes.

This paper will follow Keynes's or the post-Keynesian line of reasoning in order to demonstrate that wages policy especially in Germany but also in the rest of the EMU

³ Consequently, monetary policy should aim for a positive inflation rate, albeit a low one, rather than zero inflation.

is failing to fulfil its stabilising role and that wage trends are causing deflationary risks. The second section will summarise the key theoretical links between wages, prices and employment from Keynes's and the post-Keynesian perspective. The third section will present an empirical study of the relationship between unit labour cost trends and inflation in Germany and the EMU, and this will be followed in the fourth section by an analysis of the causes of the observed unit labour cost trends. The final section will discuss the macroeconomic risks arising from the current wages policy in the context of the EMU's monetary and fiscal policies.

2. Wages, prices and employment

The post-Keynesian approach to analysing prices and employment that underpins this paper differs fundamentally from mainstream thinking. In the neoclassical, neoclassical synthesis, monetarist and new classical models, Say's Law and the classical dichotomy between the real and the monetary sphere apply in the long term (and also in the short term in new classical models) (Snowdon/Vane/Wynarczyk 1994). Real wage settlements in the labour market are what determines employment and output levels. Price levels are determined by the money supply, which is controlled by the central bank, and inflation and deflation are purely monetary phenomena attributable to the central bank's monetary policy.

The new-Keynesian models (Snowdon/Vane/Wynarczyk 1994), and in particular the 'new consensus models' (Arestis/Sawyer 2003, Clarida/Gali/Gertler 1999, Meyer 2001) that take their inspiration from new-Keynesianism, do abandon the assumption that the central bank can control the money supply, and it is more realistically assumed that for a credit money economy the action parameter of monetary policy is the money interest rate⁵. As in the neoclassical synthesis model, but now with nominal

⁴ While the Bundesbank (2003) does not believe that Germany is experiencing deflation risks, it nevertheless includes unit labour cost trends in its considerations.

⁵ At the simplest level, the 'new consensus models' are based on three equations: an aggregate demand function derived from optimisation calculations of consumers and businesses, which describes the output gap as an inverse function of the real interest rate, a Phillips curve in which the inflation rate has a positive correlation with the output gap, and a central bank reaction function, which relates the nominal interest rate set by the central bank to the equilibrium real interest rate, the output gap and the deviation of inflation from the inflation target (Taylor rule).

rigidities based on “micro-foundations”, the Phillips curve and the trade-off between inflation and unemployment is accepted as valid in the short term (Heine/Herr 2003). As a result, in the new-Keynesian models nominal variables influenced by monetary policy have a real impact on output and employment in the short term, since prices and nominal wages do not respond immediately to exogenous shocks. In the long term, however, unemployment is determined by the NAIRU (Non Accelerating Inflation Rate of Unemployment) which is itself dependent on structural factors of the labour market, wage bargaining and social security system. As such, the NAIRU describes the unemployment rate at which, in imperfect labour and commodity markets, the distribution claims by employees and employers do not result in any increase or decrease in the inflation rate. When unemployment falls below the NAIRU, inflation always rises, and when unemployment climbs above the NAIRU the result is disinflation and deflation. In order for the short-term unemployment rate determined by actual demand for goods which can be influenced by monetary policy, to adjust to the long-term NAIRU, which is determined by the conditions of supply, both symmetrical interventions by the central bank and symmetrical effects of monetary policy on the demand for goods are required. Accordingly, by resorting to the interest-rate tool, monetary policy is always able to stop both cumulative inflationary and deflationary processes and to bring about a stable inflation rate. However, in the long term it has no influence on the corresponding employment rate – in this case the classical dichotomy and the neutrality of money once again apply.⁶

The post-Keynesian approach presented in this paper has for several decades already been arguing the case for the endogeneity of money in a modern credit money economy as recently ‘discovered’ by the new-Keynesian consensus models (Kaldor 1970, 1982, 1985, Lavoie 1984, Moore 1989).⁷ According to this approach, the central bank’s control instrument in a credit money economy is the key interest rate and not the money supply. The money supply arises endogenously as a result of the process of commercial banks supplying the credit demand of creditworthy consumers and investors at an interest rate derived by a mark-up on the central bank’s key

⁶ An exception occurs in the case of new-Keynesian models which allow for hysteresis effects of the unemployment rate determined by short-term commodity market disequilibrium on the long-term NAIRU (Blanchard/Katz 1997, Mankiw 2001).

⁷ For further details on the differences between post-Keynesianism and new-Keynesianism, see Hein (2003, 2004).

interest rate, and the required central bank money supply being provided by the central bank in exchange for securities.

In such a model, the price level cannot be determined by using monetary policy in accordance with the quantity theory of money. In an imperfect commodity market scenario, the price level is instead the result of mark-up pricing on unit costs. Post-Keynesian research has put forward various theories (Lavoie 1992: 129-148, 2001, Lee 2003) with regard to the underlying unit costs (full costs or variable costs) and the factors determining the mark-up (competition, internal finance requirements, interest rate). One simple version of this approach, which draws on the work of Kalecki (1954: 11-27), suggests that businesses in the industrial sector of a closed economy set their prices by charging a mark-up on unit labour costs, which are taken to be constant until full capacity output. The size of the mark-up is determined on the one hand by the level of price competition on the commodity markets and on the other by the extent to which the trade unions are able to achieve significant nominal wage increases when profit levels are high. If the size of the mark-up is fixed, then it is unit labour costs that determine price levels:

“One of the most important insights of the Keynesian revolution was a proposition that now seems obvious, that the general level of prices in an industrial economy is determined by the general level of costs, and that the main influence upon costs is to be found in the relation between money-wage rates and output per unit of employment.” (Robinson 1978: xix)

Cumulative inflationary processes come about if the trade unions attempt to increase employees' share of the national product by negotiating nominal wage increases that exceed the neutral scope for distribution given by the sum of productivity growth and inflation, and when businesses are able to pass these increased unit costs on to consumers by raising prices. However, upward pressure on inflation also arises when businesses attempt to increase their mark-ups⁸ or when the bargaining parties fail to foresee a fall in productivity growth.

⁸ One cause of this can be a monetary policy decision to raise interest rates. This leaves businesses facing higher interest costs, which they attempt to pass on by increasing their mark-ups (Hein 2004).

Disinflation or deflation arise if wages policy is either unwilling or unable to make full use of the growth in productivity plus inflation. The extent to which labour unions are able to stabilise the price level in the downward direction is determined in particular by the employment or unemployment rate. In post-Keynesian models, the employment rate depends in both the short and long term on effective demand for goods, which is governed mainly by private investment, the level of which is in turn determined by the ratio of the expected profit rate to the monetary interest rate. In contrast to the new-Keynesian ‘new consensus models’, the post-Keynesian approach sees no reason to assume that the unemployment rate determined by the commodity market will adjust to the NAIRU, which is determined by structural and supply-side factors (Sawyer 2001, 2002). On the contrary, the post-Keynesian model implies that at best the NAIRU constitutes a short-term employment barrier enforced by monetary policy and that in fact in the long term it adjusts endogenously to the actual unemployment rate through different channels (Hein 2004).

According to the post-Keynesian approach, monetary policy has real effects both in the short term and the long term. In the short term, the use of the interest rate tool influences effective demand and thus also employment. However, the effects of interest rate policy are asymmetrical. It is true that by raising interest rates the central bank is able to stop inflationary booms by reducing the excess demand for goods and causing unemployment to rise. However, when sales expectations are low or falling and businesses are not expecting to realise a profit rate higher than the interest rate, a similarly clear-cut reduction in interest rates is by no means enough in itself to boost investment and increase employment. Furthermore, in the long term, the central bank’s interest rate policy influences the functional income distribution between businesses, rentiers and employees, thereby also affecting investment, growth and employment (Hein 1999, Hein/Ochsen 2003).⁹

If sustained high unemployment results in falling nominal wages or unit labour costs, price levels can be expected to drop as a result, albeit not necessarily to the same

⁹ The impact on distribution and growth of monetary policy depends on the one hand on the extent to which interest rate changes are passed on to prices thereby influencing the distribution of interest revenue, businesses’ profits and income from employment, and thus ultimately also consumer demand. The impact of monetary policy is also determined by the relative importance for investment decisions of capacity utilisation, unit labour costs and interest rates.

extent, owing to specific price rigidities in the commodity market.¹⁰ If reductions in unit labour costs are not fully passed on to consumers in the shape of price cuts, the result is a redistribution at the expense of wage earners and a concomitant fall in this group's consumption demand. However, if domestic prices fall in an open economy, the balance of trade improves,¹¹ so long as this is not counteracted by the exchange rate or unit labour cost trends abroad, although this is likely if there are long-term disequilibriums in the balance of trade. If businesses expect nominal wages to rise again in the future, falling wages costs act as a stimulus for current investment, whereas if the expectation is that wages are going to continue to fall and that unit profits will consequently go up, investments are postponed and current effective demand declines.

The effect of falling wages and prices on the interest rate postulated by Keynes (1936: 263) as a result of falling transactions demand for money can only come about if the money supply is largely exogenously determined and does not adjust endogenously to the demand for money through credit creation or destruction. The same is true of the positive effect of falling prices on real wealth and consumer demand proposed by neoclassical theory: in order for the Pigou effect to come about, it is necessary for the monetary wealth of the economy as a whole to be exogenously determined net wealth. However, this is not the case in modern credit money economies where money is largely created by creditor-debtor relationships and every asset therefore has a corresponding liability. In this scenario, falling wages and prices can only affect interest rates in the event of a discretionary key interest rate cut by the central bank. Even in such cases, however, the expansive effect on investment and consumption is counteracted by the fact that in a credit money economy where prices are falling, there is a redistribution of wealth from debtors to creditors with the associated risk of overindebtedness. This debt deflation effect that was accorded central importance by Fisher (1933) and was also mentioned by Keynes (1936: 264) serves to dampen investment and consumption if the realistic assumption is made that creditors are less inclined to spend than are debtors. Furthermore, it is more difficult to obtain credit to finance spending in a debt deflation scenario, since banks' and financial

¹⁰ The following arguments were in the main proposed by Keynes (1936: 262-271), and are presented here in a slightly modified and expanded form. See also Kalecki (1969: 55-59).

intermediaries' lending policy is determined by the creditworthiness of households and firms applying for loans, and their indebtedness is an important indicator of how creditworthy they are.

If one realistically assumes the characteristics of a modern credit money economy as described in this post-Keynesian approach, it can thus be said that in times of recession, wages trends are the anchor to prevent deflationary processes, even if the monetary policy response also favours growth and employment. Consequently, any study of deflationary tendencies should pay particular attention to wages policy and unit labour cost trends. This does not mean, however, that monetary and fiscal policy are completely off the hook. On the one hand, they should be used preventively to ensure that cumulative downturns and the associated danger of the removal of the wage anchor never come about in the first place. Moreover, decisive use of monetary and fiscal policy should be made to combat downturns that are already underway, thereby helping wages policy to fulfil its role as a nominal stabiliser.

3. Inflation and unit labour costs growth

The previous section described how post-Keynesian models work on the assumption that in imperfect commodity markets, prices come about principally as a result of a mark-up being added to unit labour costs. If we accept this as true, then the inflation rate ought to be mainly determined by unit labour cost growth. In this section it will be briefly demonstrated that this assumption is in fact backed up by the empirical data between 1961 and 2003 for Germany and for the member countries of the EMU. Following on from this, the consequences for functional income distribution will be assessed as well.

¹¹ At the same time, however, when wages and prices fall the terms of trade get worse, causing real incomes to drop.

Figure 1: Unit labour costs growth and inflation rate (private consumption) in Germany, 1961-2003 (in %)

Source: OECD (2003)

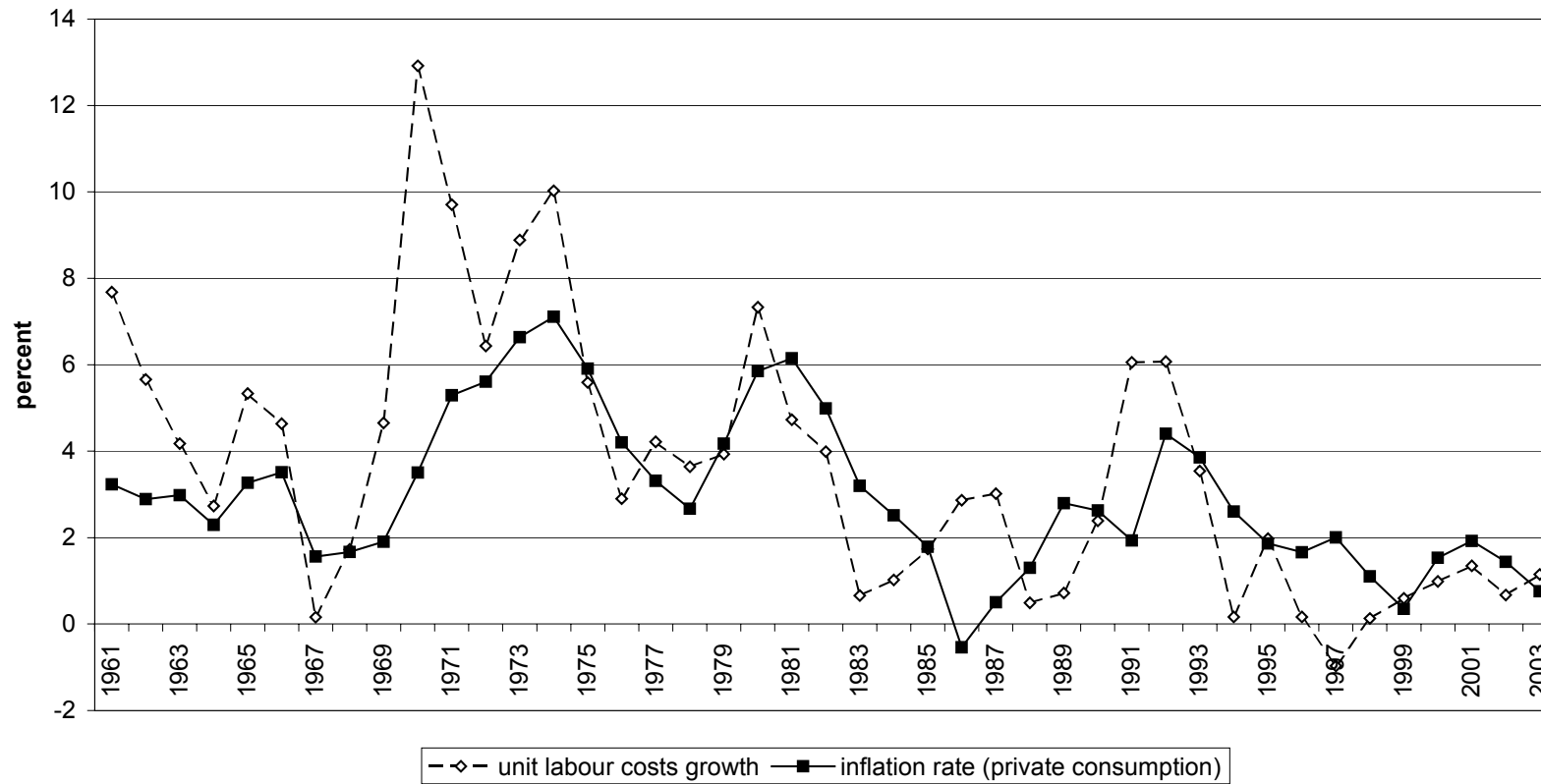


Figure 2: Unit labour costs growth and inflation rate (private consumption) in EMU, 1961-2003
(in %)

Source: OECD (2003)



Figures 1 and 2 show the percentage increase in unit labour costs and the inflation rate in Germany and the EMU countries for the period between 1961 and 2003. There is clearly a relatively close correlation between the two values, in particular for the EMU countries but also for Germany. Although the unit labour cost growth curve seems to show more pronounced fluctuations than the fairly smooth inflation curve, both curves nevertheless exhibit a rising trend until the mid 1970s and a downward trend since then. The fluctuations of the unit labour cost growth curve are around the inflation rate curve with the deviations more pronounced in the upwards direction until the mid 1970s and more pronounced in the downward direction since then.

The close correlation between the unit labour costs growth rate and the inflation rate suggested by this purely graphical analysis can be confirmed statistically using regression analyses. If the inflation rate is regressed on the unit labour cost growth rate, it can be seen that unit labour costs growth exerts a statistically significant positive influence on inflation both in Germany and the EMU. This influence is somewhat greater in the case of the EMU than for Germany alone, since while in Germany a 1 percentage point increase in unit labour costs growth leads to a 0.39 percentage point rise in inflation, it leads to a 0.82 percentage point rise in inflation in the EMU. The coefficient of determination (r^2) for Germany stands at 45%, while it is as high as 85% for the EMU. If the previous year's unit labour cost growth rate is used as an independent variable (this is a theoretically valid approach owing to delays in the cost-based price adjustment by businesses), the impact of unit labour cost growth on inflation is confirmed. For Germany a 1 percentage point increase in unit labour costs growth leads on average to a 0.44 percentage point rise in inflation in the following year. For the EMU the figure becomes 0.79 percentage points. The extent to which increases in unit labour costs explain increases in inflation is significantly higher for Germany if the previous year's figure is taken into account, since this gives an r^2 coefficient of determination of 58%. For the EMU the figure becomes only slightly worse and amounts to 78%.

The statistically close correlation described between unit labour cost growth and inflation clearly does not yet establish that it is increases in unit labour costs that cause inflation to rise. It would in principle be possible to imagine that the correlation could be the other way round, i.e. that unit labour cost growth is driven by inflation.

Indeed, the regression analysis for Germany and the EMU does show a significant degree of inverse correlation, although it is also true that the r^2 value is substantially lower. However, it is our belief that this inverse correlation can be ruled out for two reasons. Firstly, it would cause theoretical problems in the framework of the post-Keynesian model presented in this paper, since if money is endogenous the model would no longer have an explanation for price levels. Secondly, the results of a Granger causality test¹², even if we accept all the limitations of such tests, offer much stronger support for the assertion that unit labour cost growth does in fact influence inflation and not vice versa.¹³ It can thus be claimed both theoretically and on the basis of empirical data that in both Germany and Europe, an overall downward trend in unit labour cost growth since the mid 1970s led to a similar downward trend in inflation.

If we take a closer look at the development since the early 1990s, the final phase of European monetary integration, it can be noted that, after a brief period of more rapid growth at the beginning of this decade, since 1995 unit labour costs in Germany have risen by consistently less than in the EMU, with their annual growth remaining on average some 1.5 percentage points below the EMU average (see Figure 3). A similarly clear difference is evident in Germany's inflation rate, which has remained consistently below that of the EMU by an average of 0.6 percentage point per year (see Figure 4). In absolute terms, the average inflation rate in Germany over the whole period in question was approximately 2%, but this figure includes the unusually high rates of 4% experienced during the boom following reunification, and the average figure since 1995 has been just 1.4%. In contrast to this, the average EMU inflation rate for the whole of the period being examined was 2.8%, reaching a high of almost 6% at the beginning of the 1990s, but falling to an average of just 2.1% since 1995.

¹² See Gujarati (1995: 620-624).

¹³ In our Granger-test, for a lag of 1, the growth rate of unit labour costs for Germany had a significance level of 1% and the significance level for the EMU was still 25%, making it Granger-causal for inflation. In contrast, the inflation rate was not Granger-causal for the unit labour cost growth rate in either Germany or the EMU.

Figure 3: Unit labour costs growth in Germany and the EMU, 1991 - 2003 (in %)

Source: OECD (2003)

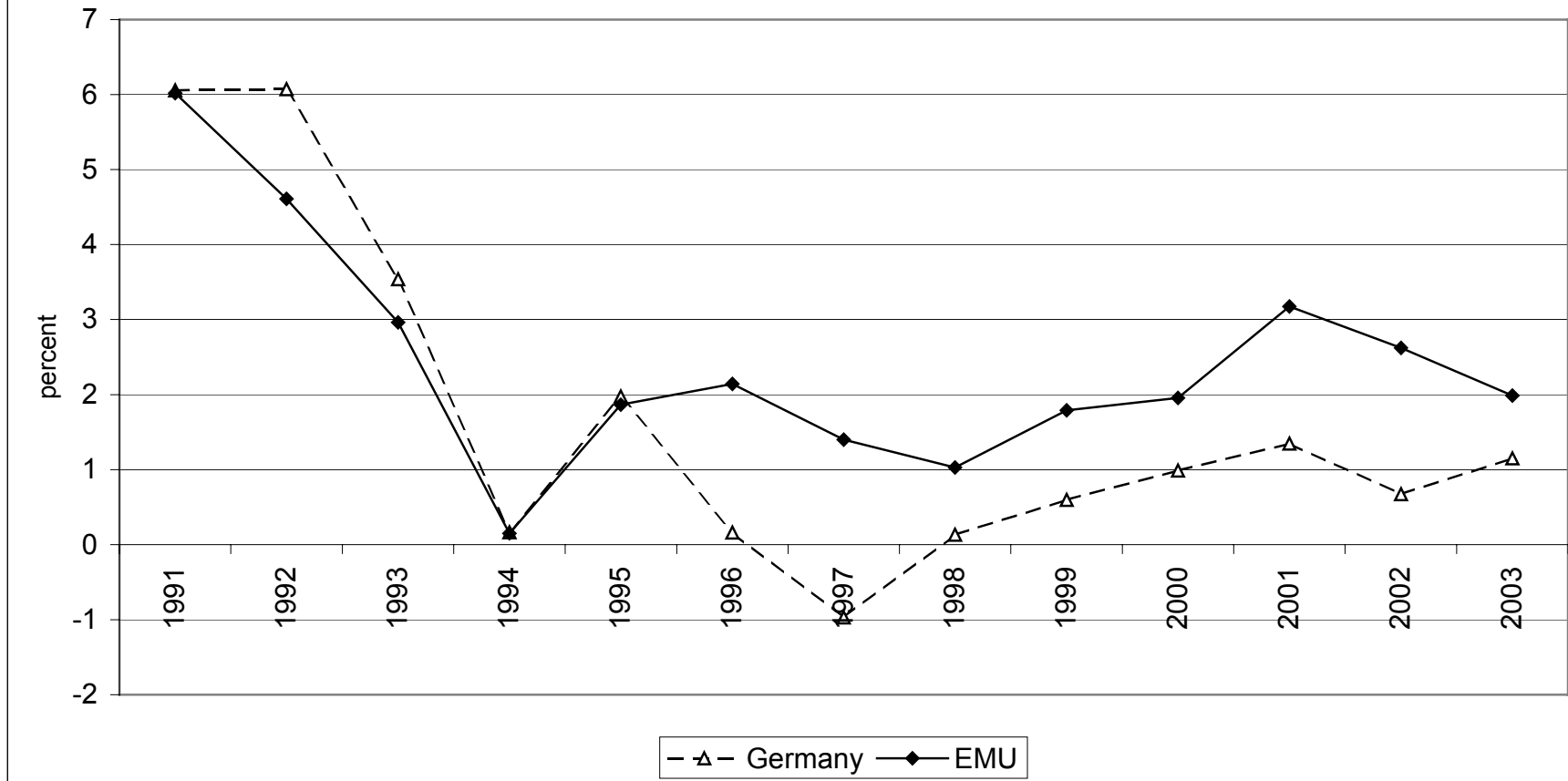


Figure 4: Inflation rate (private consumption) in Germany and the EMU, 1991-2003 (in %)

Source: OECD (2003)

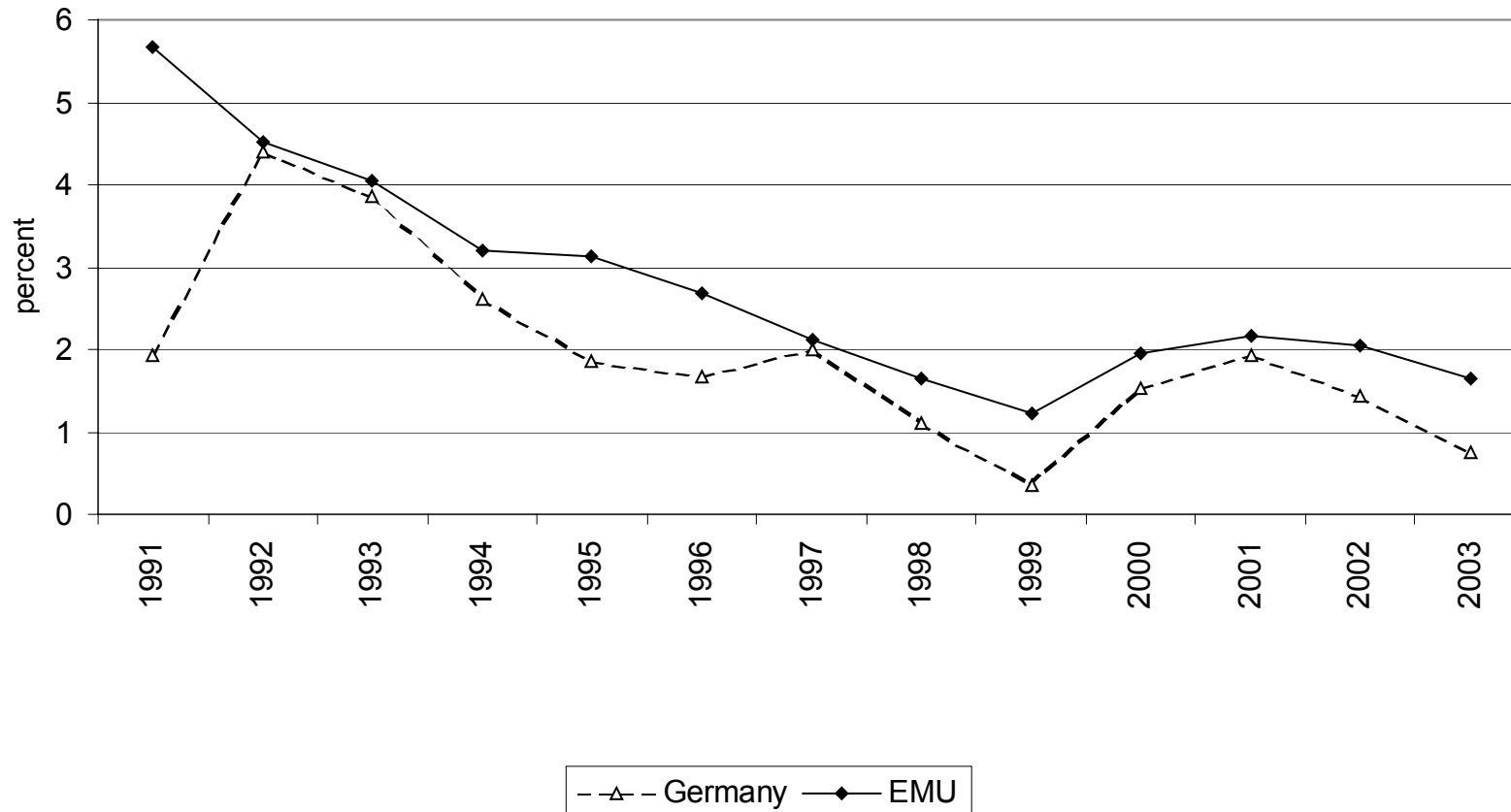


Figure 5: Labour income shares in Germany and the EMU, 1991-2003 (in %)

Source: European Commission (2003)

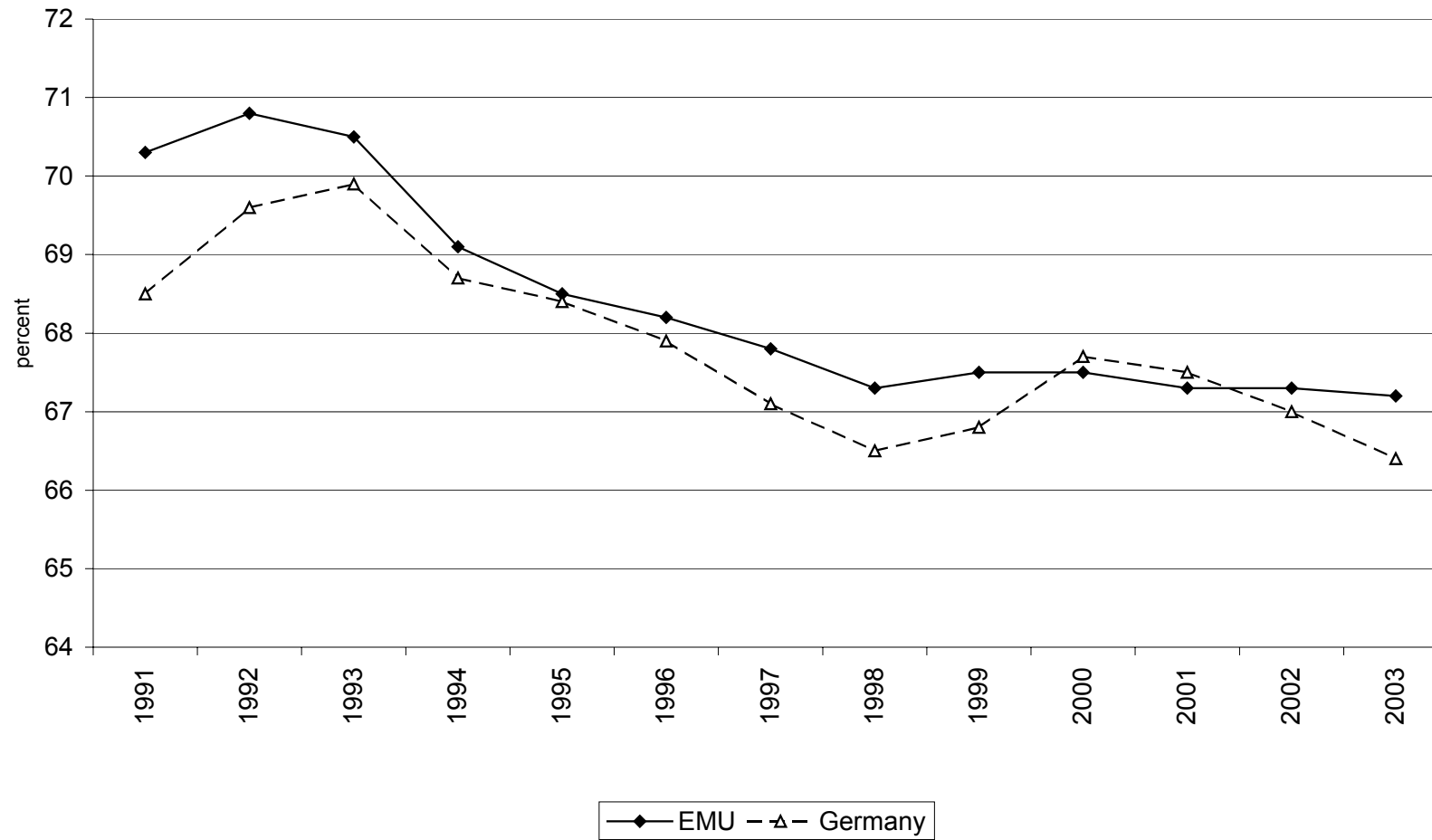
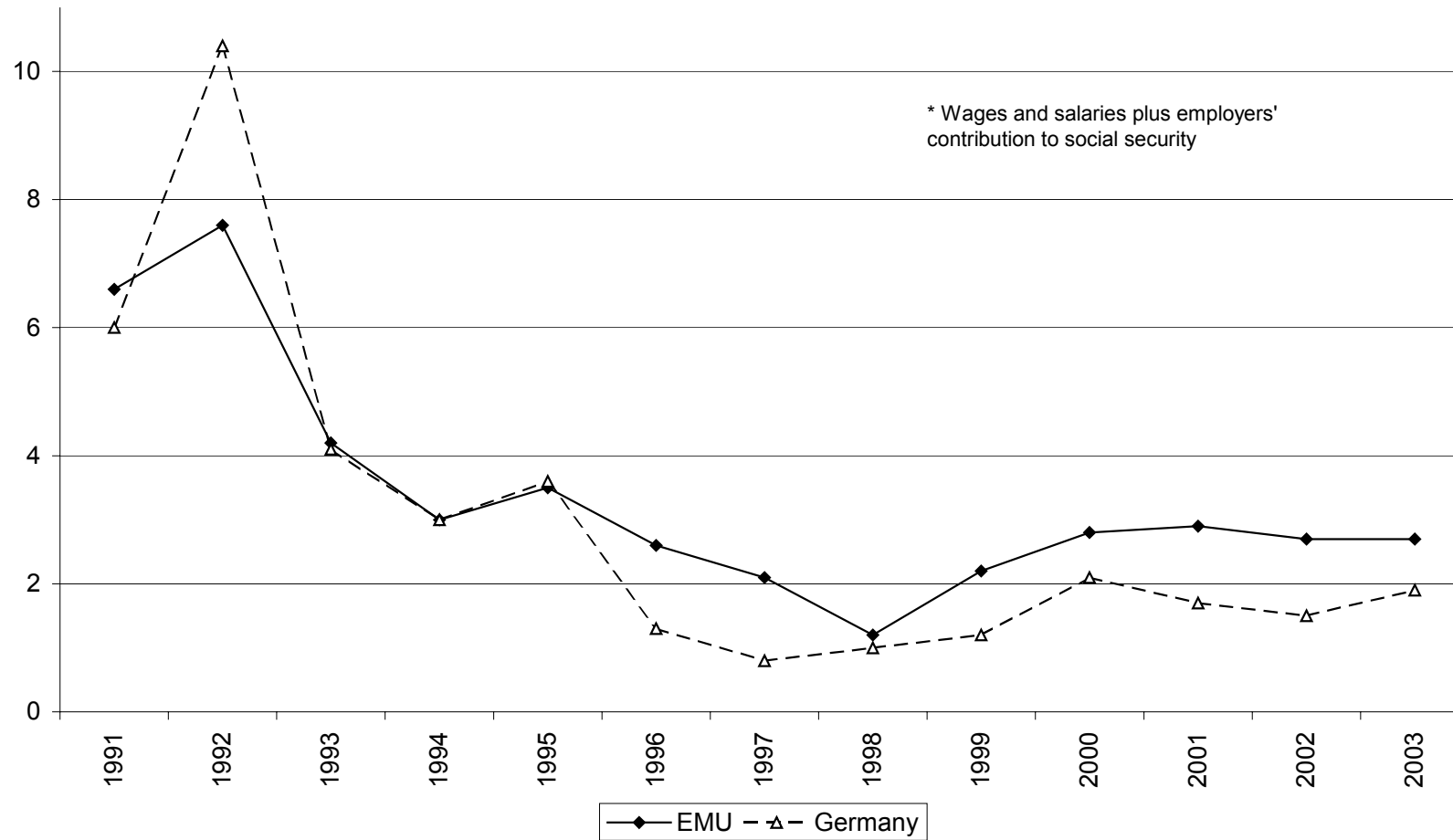


Figure 6: Remuneration of employees* in Germany and the EMU 1991-2003 (annual increase in %)

Source: European Commission (2003)



In addition to the disinflationary effect in Germany and Europe demonstrated above, the downward trend of the unit labour cost growth rate also had an impact on functional income distribution. Figures 1 and 2 illustrate how unit labour cost growth since the mid 1970s fell below inflation on more occasions than it rose above it, and by higher percentages.¹⁴ Statistical discrepancies¹⁵ notwithstanding, this ought to result in a shift of functional income distribution to the detriment of labour income, in other words the labour income share should fall. Since unit labour cost growth in Germany has since the mid-1990s remained further below inflation than in the other EMU countries, this effect should be somewhat greater for Germany than for the EMU during that period. Analysis of the labour income share confirms this expected trend (see Figure 5),¹⁶ with a downward trend in evidence for the wage share of both Germany and the EMU. Right up until the most recent period of 2000-2002, when some clear discrepancies became apparent,¹⁷ this trend closely matched the relative development of the unit labour cost growth rate and the inflation rate.

4. Wage trends and collective bargaining

The downward trend in the annual unit labour cost growth rate observed in the EMU during the 1990s could theoretically be explained either by particularly stringent wage restraint or by increasing productivity growth. However, since the average annual productivity growth rate in the EMU during the 1990s stood at 1.5% compared with 1.7% during the 1980s (European Commission 2003: 52), it can be seen that this

¹⁴ Kalecki's (1969: 56) result with respect to a situation with falling employment, that "A reduction in money wages is usually accompanied as a result of 'price rigidity' by an increase in 'the degree of monopoly' (...)", seems to hold for the present German and European economy.

¹⁵ In principle, when the growth rates are low, the change in the labour income share should be in the direction of the difference between the unit labour cost growth rate and the inflation rate. However, there are differences in the underlying national product figures used for the labour income share and for the comparison of unit labour cost growth and inflation rate in this study. For calculation of the labour income share GDP at factor cost per person is used, whereas for the unit labour costs growth comparison to inflation GDP at market prices per employee is taken. Discrepancies can thus always arise if there are differences in the development of productivity of persons employed and of employees or between the development of GDP at factor cost and at market prices.

¹⁶ The labour income share is calculated as compensation per employee as percentage of GDP at factor costs per person employed.

¹⁷ For the time being, we see no reason to analyse in depth the causes of these discrepancies. The only significant discrepancies from the trend predicted by our model occur with regard to the current figures, and the EU Commission has in the past made frequent and major revisions to the labour income share figures.

figure has changed very little, and consequently it is to wages policy that we should look for an explanation of this trend.

There has in fact been a clear downward trend in labour costs growth. While during the 1980s the nominal remuneration per employee¹⁸ in the EMU rose by an annual average of 6.9%, the figure during the 1990s was only 3.6% (European Commission 2003: 88). During the course of the 1990s, the employee remuneration growth rate fell almost continuously and it was only at the end of the decade that a slight upward trend emerged once more (see Figure 6).

This downward trend in the employee remuneration growth rate indicates that in many European countries, against a background of sustained mass unemployment, the collective bargaining power of trade unions was substantially weakened. The most visible indicators of this were falling trade union membership and a significantly lower number of strikes and industrial disputes (Boeri et al. 2001, Schulten 2004). In addition, the 1990s saw the emergence in many European countries of new corporatist competitive structures which, as a result of national social pacts and “alliances for jobs” led to the trade unions becoming firmly tied into the political agenda and committed to a competitive wages policy (Fajertag/Pochet 2000).

Since the mid-1990s, the annual nominal collectively agreed hourly wage increases in the EMU have remained constantly below 3% (see Table 1). Interestingly, in most years actual hourly earnings rose more rapidly than collectively agreed wages, resulting in a positive wage drift for the EMU as a whole. In general, the scope for distribution derived from the sum of productivity gains and inflation was clearly not fully exploited by the growth of employee remuneration in the EMU during the second half of the 1990s, and this resulted in disinflationary tendencies. In contrast, labour cost trends in the EMU at the start of the 21st century are typical for a cyclical downturn, since, owing to the sharp fall in productivity growth, they are increasing at a rate that is slightly higher than the scope for distribution.¹⁹

¹⁸ The remuneration per employee figure includes gross earnings and salaries as well as non-wage labour costs, i.e. employer social security contributions.

¹⁹ Since the ECB data for collectively agreed and actual wage increase is calculated on an *hourly* basis but the data for labour productivity is calculated on the basis *per employee*, it is unfortunately not

	Indicators of wage trends ¹				Scope for distribution = inflation + productivity growth ¹			Extent to which scope for distribution is exploited by employee remuneration ⁵
	Collectively agreed wages per employee hour	Actual earnings per employee hour	Wage drift ²	Employee remuneration per employee	Prices ³	Labour productivity per employee	Scope for distribution ⁴	
1996	2.7	3.0	+0.3	2.3	2.2	1.1	3.3	-1.0
1997	2.3	2.6	+0.3	1.9	1.6	1.5	3.1	-1.2
1998	2.1	1.9	-0.2	1.2	1.1	1.1	2.2	-1.0
1999	2.3	2.5	+0.2	2.0	1.1	1.0	2.1	-0.1
2000	2.2	3.3	+1.1	2.7	2.1	1.3	3.4	-0.7
2001	2.6	3.5	+0.9	2.8	2.3	0.2	2.5	+0.3
2002	2.7	3.3	+0.6	2.5	2.3	0.3	2.6	-0.1
2003	2.4	2.8	+0.4	2.4	2.1	0.2	2.3	+0.1

1 = increase to previous year in percent; 2 = difference between growth rate of actual earnings and growth rate of collectively agreed wages in percentage points; 3 = Harmonised consumer price index (HCPI), 4 = Inflation rate + productivity growth rate; 5 = difference between growth rate of employee remuneration and growth rate of labour productivity in percentage points.
Source: ECB, own calculations

It should be pointed out, however, that wage trends in the individual EMU countries were by no means uniform during the 1990s, and in fact reflected the occasionally major differences in economic growth and employment trends between countries. Wage increases were distinctly higher than the EMU average principally in some of the smaller EMU countries that achieved especially dynamic economic growth, such as Ireland, the Netherlands and recently also Spain. This contributed to higher than average inflation as a result of these countries exceeding the national scopes for distribution, in some cases by a considerable margin (Schulten 2002).

The situation was somewhat different in the larger EMU countries, i.e. in France, Italy and Germany. While overall wage increases in Italy were slightly higher than the EMU average and slightly lower than the EMU average in France, in Germany they have remained consistently below the EMU average since 1996 (see Figure 6). Germany has thus been pursuing the most moderate wages policy in the EMU for some eight years, and given that it is the largest economy in the EMU, this has exerted a downward pressure on EMU average wage increases.

possible to discuss to what extent the scope for distribution was exploited by collectively agreed wage increases.

The particularly low wage increases in Germany can firstly be attributed to a lessening of the trade unions' bargaining power. While at the start of the 1990s the trade unions were still able to achieve exceptionally high collectively agreed wage settlements on the back of the boom following German reunification, since 1996 at the latest their collective bargaining policy has been plunged into a major crisis and they have been forced to accept collectively agreed wage increases of under 3% and on occasion even under 2% (see Table 2).²⁰

	Indicators of wage trends ¹				Scope for distribution = inflation + productivity growth ¹			Extent to which scope for distribution is exploited ²		
	Collectively agreed wages ³	Actual earnings ³	Wage drift ⁴	Employee remuneration ³	Prices ⁵	Labour productivity ³	Scope for distribution ⁶	by collectively agreed wages	by actual earnings	by employee remuneration
1992	12.0	9.1	-2.9	9.2	5.1	2.7	7.8	+4.2	+1.3	+1.4
1993	7.5	6.1	-1.4	5.8	4.4	1.6	6.0	+1.5	+0.1	-0.2
1994	3.4	2.1	-1.3	3.1	2.7	2.6	5.3	-1.9	-3.2	-2.2
1995	4.9	4.5	-0.4	4.9	1.7	2.5	4.2	+0.7	+0.3	+0.7
1996	2.6	3.0	+0.4	2.8	1.5	2.3	3.8	-1.2	-0.8	-1.0
1997	1.5	1.0	-0.5	1.6	1.9	2.0	3.9	-2.4	-2.9	-2.3
1998	1.9	1.4	-0.5	1.5	0.9	1.3	2.2	-0.3	-0.8	-0.7
1999	2.9	2.3	-0.6	2.0	0.6	1.5	2.1	+0.8	+0.2	-0.1
2000	2.0	2.8	+0.8	3.3	1.4	2.2	3.6	-1.6	-0.8	-0.3
2001	2.0	2.7	+0.7	2.5	2.0	1.4	3.4	-1.4	-0.7	-0.9
2002	2.7	2.1	-0.6	2.2	1.4	1.3	2.7	0.0	-0.6	-0.5
2003	2.0	1.2	-0.8	1.5	1.1	0.8	1.9	+0.1	-0.1	-0.4

1 = increase to previous year in percent, 2 = percentage points, 3 = per employee hour; 4 = difference between growth rate of actual earnings and growth rate of collectively agreed wages in percentage points; 5 = Federal Statistical Office consumer price index, 6 = inflation rate + productivity growth rate.
Source: Bundesbank, Federal Statistical Office, own calculations

The crisis of trade unions' collective bargaining policy is shown even more clearly by actual earnings trends than it is by collectively agreed wage trends. In contrast to most other EMU countries, wage trends in Germany in the 1990s were mainly characterised by a negative wage drift, with actual earnings growing even more slowly than collectively agreed wages. This means that the trade unions were unable to ensure that the wage increases they had negotiated were actually implemented in all companies.

In addition to the trade unions' loss of political power, the negative wage drift in Germany is also a consequence of fundamental changes in the structure and operation

²⁰ See also Flassbeck/Maier-Rigaud (2003).

of the German collective bargaining system.²¹ One clear sign of this is the decline in the number of companies and employees covered by collective agreements that has been observed since the mid-1990s (Schnabel 2003). According to the IAB (Institut für Arbeitsmarkt und Berufsforschung) figures for 2001, only 48% of all companies in western Germany and 71% of all employees were bound by collective agreements, while in eastern Germany the figures were as low as 28% of companies and 56% of employees (Bispinck 2003: 395). The negative wage drift seems to suggest that wage increases in companies not bound by collective agreements were significantly lower.

Furthermore, even within the German collective bargaining system there are numerous signs to suggest that the binding nature of collective agreements is being eroded, making negotiated collective wage increases harder to implement in practice and consequently favouring a negative wage drift. There is now a significant number of companies that are formally bound by collective agreements but which in practice do not comply with them. According to the results of the 2002 WSI Works Council Survey, which probably only covers part of the problem, 10% of companies occasionally failed to comply with the terms of current collective agreements, and a further 5% did so frequently. In the majority of these cases, the non-compliance involved failure to pay the collectively agreed wages (Bispinck/Schulten 2003: 159).

In addition to the above, ‘hardship’ and ‘opening-clauses’ were introduced into virtually all of the major sectoral collective agreements in the 1990s, allowing companies to deviate from the terms contained in collective agreements under certain circumstances.²² Opening-clauses are now used by more than a third of all companies, although it is true that in the majority of cases these relate to the divergence of working time organisation from the collective agreement, and the use of opening-

²¹ When calculating the even higher overall figure for the negative wage drift per employee, changes in actual working time (e.g. overtime or short-time working) are of particular importance. However, these factors are not taken into account in the figure for wage drift per employee hour used here, in order to enable us to concentrate purely on the structural aspects of collective bargaining policy. For more on the current debate concerning developments in the German collective bargaining system, see e.g. Bispinck (2003), Bispinck/Schulten (2003), Schnabel (2003) and the contributions in Wagner/Schild (2003).

²² For a more detailed analysis and description of the main hardship and opening-clauses, see Bispinck/WSI Collective Agreement Archive (2003).

clauses with regard to remuneration is for the time being still not very widespread (Bispinck/Schulten: 160).²³

One final significant cause of the negative wage drift is the reduction of payments that are above the collectively agreed rate. A large number of companies in Germany continue to pay wages that are higher than those established in their collective agreement. The results of the IAB company panel show that although the number of companies paying more than the collectively agreed rate did decline in the 1990s, it still stood at 48% in 2000 (Schnabel 2003: 95). The wage spread, i.e. the absolute difference between collectively agreed wages and actual wages was on average found to be approximately 11% (Schnabel 2003: 95). Nevertheless, during the course of the 1990s, several companies began to use 'company alliances for jobs' to 'compensate for' the wage increases negotiated in collective agreements by cutting back on payments above the collectively agreed rate. This led to the emergence of a new form of concession bargaining in which employees agree to give up established benefits in exchange for limited job security, thereby contributing to a substantial reduction in labour costs.

Since the mid-1990s, the collectively agreed wage settlements achieved in practice by Germany's trade unions have no longer been sufficient in most years to fully exploit the scope for distribution (see Table 2). The negative wage drift also indicates that the significance of trade union collective bargaining policy has waned considerably, with the result that actual wage increases have fallen still further behind the sum of inflation and productivity increases. Even if overall employee remuneration in the 1990s rose by slightly more than actual wages did, there can be little question that on the whole wages policy developments in Germany had clear disinflationary repercussions and must as such take a large part of the responsibility for the low inflation rate in the largest economy in the EMU.

²³ For more on the debate surrounding 'Company Alliances for Jobs', see the contributions in Seifert (2002).

5. Conclusion

Despite the sluggish growth currently being experienced in the EMU, wages policy and trends have not yet caused acute deflationary risks. However, there is no guarantee that this will continue to be the case if the restrictive macroeconomic policy mix of the past continues to be pursued.²⁴ One of the main causes of the sluggish economic growth is the “anti-growth-bias” in the ECB’s monetary policy with its inflation target of “below, but close to 2%” (ECB 2003: 89) which is far too low for a heterogeneous currency area with markedly different growth and inflation rates - not to mention the fact that it is asymmetrical in nature and is exclusively geared towards ensuring that the inflation target is not exceeded. The growth-unfriendly effect of this monetary policy is magnified by Stability and Growth Pact that forces the European fiscal policy to be pro-cyclical and to target budgetary consolidation via spending cuts, something that is ultimately to the detriment of public investment. If the economic stagnation resulting from these monetary and fiscal policies persists, it is quite possible that the associated high unemployment could increase the pressure on wages policy, leading in turn to an increase in wages policy-driven deflationary risks.

The danger of deflation is already considerably higher in Germany than in the EMU as a whole, since the stagnation caused by monetary and fiscal policy is aggravated by Germany’s excessive wage restraint.²⁵ The unit labour cost growth rate has for some time now been significantly lower than the EMU average, and this is to a large extent responsible for an inflation rate that is also much lower than average. Consequently, even a monetary policy that might be suitable for the EMU as a whole is too restrictive for a country where growth is as low as in Germany. Furthermore, the fact that nominal interest rates are the same across the EMU and inflation in Germany is below average means that German consumers and investors are faced with real interest rates that are higher than the EMU average. On top of this, excessive wage restraint has led to a falling labour income share, which has in turn further weakened domestic demand.

²⁴ See Hein (2003a) and Hein/Truger (2004, 2004a) for a detailed analysis of the EMU’s restrictive policy mix.

²⁵ For a more detailed analysis of the causes of stagnation in Germany see Hein/Truger (2004b).

The combination of a pronounced trend towards stagnation and significant deflation risks in the largest EMU country together with the ECB's overly ambitious inflation target for the EMU as a whole represents a major challenge for wages policy in Germany and in the rest of Europe.²⁶ If Germany is to achieve an economic recovery with the aid of wages policy, both the unit labour cost growth rate and inflation will need to rise. However, if such a rise leads to an EMU inflation rate that is higher than the ECB's inflation target owing to the fact that other EMU countries have inflation rates that exceed the ECB target by a considerable margin, then restrictive monetary policy intervention is always going to be on the cards. What this means is that if the ECB is not prepared to raise its inflation target substantially in order to allow the slowly growing larger economies more room to achieve a recovery, then it will be necessary to reduce inflation in the other EMU countries. It is therefore important for the bargaining parties and in particular the trade unions to intensify their efforts towards European-level effective coordination of wages policy. The aim of this process should be for each country to increase wages on the basis of its long-term domestic productivity growth figures plus the ECB's target inflation rate.

Since the end of the 1990s, the European trade union movement has been responsible for a number of initiatives aimed at transnational coordination of wages policy.²⁷ The initiatives have been undertaken both at sectoral level by the European Industry Committees such as the European Metalworkers' Federation and also at a macroeconomic level by the European Trade Union Confederation. The stated goal of these initiatives is to use wages policy in order to fully exploit the national scope for income distribution and to prevent tit-for-tat wage dumping between countries. However, these efforts have to date largely been confined to joint evaluations of the results achieved in the national collective bargaining rounds and have had little direct influence on the actual process of collective bargaining at national level. Furthermore, effective coordination of wages policy continues to be dogged by numerous structural problems. The reality of collective bargaining is conditioned by the current economic and political situation in each individual country and its institutional structure is determined by the different national collective bargaining systems. This means that

²⁶ On the interaction of the ECB's monetary policy with wage bargaining in Europe see Hein (2002).

²⁷ For more detailed information on the current status and future prospects of the various trade union coordination initiatives, see Schulten (2003, 2004) and Traxler/Mermet (2003).

even the trade unions' wages policy is going to be primarily driven by national considerations. Consequently, European-level rules aimed at wages policy coordination are little more than statements of goodwill, since the European trade unions do not have any real powers to sanction national member organisations that fail to comply with the rules. As a result, the European coordination rules are in practice frequently broken, especially since collective bargaining policy in many European countries has been integrated into national corporatist competitive structures that force the trade unions to commit to a policy of wage restraint in order to improve the country's price competitiveness (Schulten 2004). What is more, in many countries the trade unions currently lack the political power needed to push through a wages policy that reflects productivity trends.

If it proves impossible either to convince the ECB to raise its inflation target or to coordinate wages policy in the EMU countries as described above, then in future Germany's stagnation and deflation risks are likely to spread increasingly to the other EMU countries. Excessive wage restraint in Germany will not only fuel national economic stagnation but will also put pressure on wages policy in the other EMU countries in the medium term. The fact that inflation in Germany is lower than the EMU average means that price competitiveness of German producers in the European market is constantly increasing. It is true that in recent years, a growing export surplus has prevented Germany from sliding from economic stagnation into a deep recession. However, it also means rising import surpluses for the other EMU countries, something that cannot be sustained for any length of time owing to the negative effects on income and employment. Since the EMU countries can no longer resort to a currency devaluation, it is inevitable that sooner or later there will be a wages policy response, as witnessed in the Netherlands, where the recent wage bargaining round ended zero wage increase (Schulten/Mühlhaupt 2003). However, if wages policy starts to be widely used to improve price competitiveness, then the threat of deflation will spread accordingly. If this happens, then even a more growth-friendly monetary policy by the ECB might be ineffective.

References

- Ahearne, A. et al. (2002): *Preventing Deflation: Lessons from Japan's Experience in the 1990s*, Board of Governors of the Federal Reserve System, International Finance Discussion Papers, No. 729.
- Akerlof, G.A., Dickens, W.T., Perry, G.L. (1996): The macroeconomics of low inflation, *Brooking Papers on Economic Activity*, 1996:1, 1-76.
- Arestis, P., Sawyer, M. (2003): "New consensus", New Keynesianism and the economics of the "third way", in: Hein, E., Heise, A., Truger, A. (Eds.), *Neu-Keynesianismus – der neue wirtschaftspolitische Mainstream?*, Marburg (Metropolis), 227-244.
- Bernanke, B. (1995): The macroeconomics of the great depression: A comparative approach, *Journal of Money, Credit and Banking*, Vol. 27, pp. 1-28.
- Bispinck, R. (2003): Das deutsche Tarifsystm in Zeiten der Krise – Streit um Flächentarif, Differenzierung und Mindeststandards, *WSI-Mitteilungen*, 56, pp. 395-404.
- Bispinck, R., Schulten, T. (2003): Decentralisation of German Collective Bargaining – Current Trends and Assessments from a Works and Staff Council Perspective, *WSI-Mitteilungen*, Special English Issue, 56, 24-33.
- Bispinck, R., WSI-Tarifarchiv (2003): *Tarifliche Oeffnungsklauseln. Eine Analyse von Regelungen aus 80 Tarifbereichen*, WSI-Tarifarchiv, Reihe Elemente qualitativer Tarifpolitik No. 52, Düsseldorf.
- Blanchard, O., Katz, L.F. (1997): What we know and do not know about the natural rate of unemployment, *Journal of Economic Perspectives*, 11, 51-72.
- Boeri, T., Brugiavini, A., Calmfors, L. (2001) (Eds.): *The Role of Unions in the Twenty-First Century*, A Report for the Fondazione Rodolfo De Benedetti, Oxford (Oxford University Press).
- Buiter, W. (2003): *Deflation: Prevention and Cure*, NBER Working Paper Series, No. 9623, National Bureau of Economic Research, Cambridge/Mass.
- Clarida, R., Gali, J., Gertler, M. (1999): The science of monetary policy: a New Keynesian perspective, *Journal of Economic Literature*, 37, 1661-1707.
- Deutsche Bundesbank (2003): Zur Diskussion über Deflationsgefahren in Deutschland, *Monatsbericht*, Vol. 55., No.6, pp. 15-28.
- European Commission (2003): *European Economy*, Autumn 2003, DG Economy and Finances, Brussels.
- ECB (2003): The outcome of the ECB's evaluation of its monetary policy strategy, *Monthly Bulletin*, June, 79-92.
- Fajertag, G., Pochet, P. (2000) (Eds.): *Social Pacts in Europe – New Dynamics*, Brussels (ETUI).
- Fisher, I. (1933): The debt-deflation theory of great depressions, *Econometrica*, 1, 337-357.
- Flassbeck, H., Maier-Rigaud, R. (2003): Auf der schiefen Bahn - Die deutsche Lohnpolitik verschärft die Krise, *Wirtschaftsdienst*, 83, 170-177.
- Gujarati, D.N. (1995): *Basic Econometrics*, 3. ed., New York et al (McGraw-Hill).
- Hein, E. (1999): Interest rates, income shares and investment in a Kaleckian model, *Political Economy. Review of Political Economy and Social Sciences*, 5, 5-22
- Hein, E. (2002): Monetary policy and wage bargaining in the EMU: Restrictive ECB policies, high unemployment, nominal wage restraint and inflation above the target, *Banca Nazionale del Lavoro Quarterly Review*, 55, 299-337.

- Hein, E. (2003): Reale und monetäre Analyse: Post- Keynesianismus und Neu-Keynesianismus im Vergleich, in: Hein, E., Heise, A., Truger, A. (Eds.): *Neu-Keynesianismus – der neue wirtschaftspolitische Mainstream?*, Marburg (Metropolis), 135-176.
- Hein, E. (2003a): Voraussetzungen und Notwendigkeiten einer europäischen Makrokoordination, in: Angelo, S., Mesch, M. (Eds.), *Wirtschaftspolitische Koordination in der Europäischen Währungsunion*, Wirtschaftswissenschaftliche Tagungen der Arbeiterkammer Wien, Vol. 7, Vienna (LexisNexis), 19-51.
- Hein, E. (2004): Die NAIRU – eine post-keynesianische Interpretation, *Intervention. Journal of Economics*, Vol. 1, pp. 43-66.
- Hein, E., Ochsen, C. (2003): Regimes of interest rates, income shares, savings, and investment: a Kaleckian model and empirical estimations for some advanced OECD-economies, *Metroeconomica*, 54, 404-433.
- Hein, E., Truger, A. (2004): European Monetary Union: nominal convergence, real divergence and slow growth?, *Structural Change and Economic Dynamics*, forthcoming.
- Hein, E., Truger, A. (2004a): *Macroeconomic co-ordination as an economic policy concept – opportunities and obstacles in the EMU*, WSI Discussion Paper, No. 125, WSI in der Hans Boeckler Stiftung, Duesseldorf.
- Hein, E., Truger, A. (2004b): *What ever happened to Germany? Is the decline of the former European key currency country caused by structural sclerosis or by macroeconomic mismanagement?*, Darmstadt Discussion Papers in Economics, No. 134, Institut fuer Volkswirtschaftslehre, Technische Universitaet Darmstadt.
- Heine, M., Herr, H. (2003): Der Neu-Keynesianismus als neues makroökonomisches Konsensmodell: Eine kritische Würdigung, in: Hein, E., Heise, A., Truger, A. (Eds.), *Neu-Keynesianismus – der neue wirtschaftspolitische Mainstream?*, Marburg (Metropolis), 21-53.
- Institute (2003): Arbeitsgemeinschaft deutscher wirtschaftswissenschaftlicher Forschungsinstitute, Die Lage der Weltwirtschaft und der deutschen Wirtschaft im Herbst 2003, *DIW Wochenbericht*, 43/2003, 643-686.
- International Monetary Fund (2003): *Deflation: Determinants, Risks and Policy Options - Findings of an Interdepartmental Task Force*, Washington, D.C. (IMF).
- Kaldor, N. (1970): The new monetarism, *Lloyds Bank Review*, No. 97, July, 1-17.
- Kaldor, N. (1982): *The Scourge of Monetarism*, Oxford (Oxford University Press).
- Kaldor, N. (1985): How monetarism failed, *Challenge*, May/June, 4-13.
- Kalecki, M. (1954): *The Theory of Economic Dynamics*, London (George Allen and Unwin).
- Kalecki, M. (1969): *Studies in the Theory of Business Cycles, 1933 - 1939*, London (Basil Blackwell).
- Keynes, J.M. (1936): *The General Theory of Employment, Interest, and Money*, The Collected Writings of J.M. Keynes, Vol. VII, London, Basingstoke (MacMillan) 1973.
- Kromphardt, J. (2003): Lohnpolitik bei möglicher Deflation, *Wirtschaftsdienst*, 83, 501-508.
- Lavoie, M. (1984): The endogeneous flow of credit and the post Keynesian theory of money, *Journal of Economic Issues*, 18, 771-797.
- Lavoie, M. (1992): *Foundations of Post Keynesian Economic Analysis*, Aldershot, Brookfield (Edward Elgar).
- Lavoie, M. (2001): Pricing, in: Holt, R.P.F., Pressman, S. (Eds.), *A New Guide to Post Keynesian Economics*, London, New York (Routledgs), 21-31.

- Lee, F. (2003): Pricing and prices, in: King, J.E. (Ed.), *The Elgar Companion to Post Keynesian Economics*, Cheltenham (Edward Elgar), 285-289.
- Mankiw, N.G. (2001): The inexorable and mysterious tradeoff between inflation and unemployment, *The Economic Journal*, 111, C45 – C61.
- Meyer, L.H. (2001): Does money matter?, *Federal Reserve Bank of St. Louis Review*, 83 (5), 1-15.
- Moore, B.J. (1989): The endogeneity of credit money, *Review of Political Economy*, 1, 65-93.
- OECD (2003): *Economic Outlook*, No. 73, Data from CD-ROM, Paris.
- Robinson, J. (1978): Foreword, in: Eichner, A. (Ed.), *A Guide to Post-Keynesian Economics*, White Plains, New York (M.E. Sharpe), xi-xxi.
- Sawyer, M. (2001): The NAIRU: a critical appraisal, in: Arestis, P., Sawyer, M. (Eds.), *Money, Finance and Capitalist Development*, Cheltenham (Edward Elgar), 220-254.
- Sawyer, M. (2002): The NAIRU, aggregate demand and investment, *Metroeconomica*, 53, 66-94.
- Schnabel, C. (2003): *Tarifpolitik unter Reformdruck*, Benchmarking Deutschland Aktuell, Gütersloh (Bertelsmann Foundation).
- Schulten, T. (2002): *Tarifpolitik in Europa 2001/2002 – 2. Europäischer Tarifbericht des WSI*, Reihe WSI Informationen zur Tarifpolitik, Duesseldorf (Hans Boeckler Foundation).
- Schulten, T. (2003): Europeanisation of collective bargaining: Trade union initiatives for the transnational coordination of collective bargaining, in: Platzer, H.-W., Keller, B. (Eds.), *Industrial Relations and European Integration. Trans- and Supranational Developments and Prospects*, Aldershot/Hampshire (Ashgate), 112-136.
- Schulten, T. (2004): *Solidarische Lohnpolitik in Europa. Zur Politischen Oekonomie der Gewerkschaften*, Hamburg (VSA).
- Schulten, T., Mühlhaupt, B. (2003): Nullrunden in den Niederlanden, *Die Mitbestimmung*, 49 (12), 44-47.
- Seifert, H. (2002) (Ed.): *Betriebliche Buendnisse für Arbeit*, Berlin (Edition Sigma).
- Snowdon, B., Vane, H., Wynarczyk, P. (1994): *A Modern Guide to Macroeconomics. An Introduction to Competing Schools of Thought*, Cheltenham (Edward Elgar).
- Traxler, F., Mehrmet, E. (2003): Coordination of collective bargaining: the case of Europe, *Transfer*, 9, 229-246.
- Wagner, H., Schild, A. (2003) (Eds.): *Der Flächentarif unter Druck. Die Folgen von Verbetrieblichung und Vermarktlichung*, Hamburg (VSA).