Wage Setting and Price Stability[1]

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15 March 2007

> In the Governing Council's view, the outlook for price developments remains subject to upside risks … It is therefore crucial that social partners continue to meet their responsibilities. In this context, wage agreements should take into account productivity developments, while recognising the still high level of unemployment and price competitiveness positions. As stated on previous occasions, it is also important that wage settlements move away from automatic, backward-looking indexation mechanisms. (Jean-Claude Trichet, President of the ECB, 11 Jan 2007)

Executive Summary

- An increase in negotiated nominal wages does not directly cause a rise in the price level, but it can act as a supply shock and raise the price level indirectly.
- An accommodative monetary policy can cause a one-time increase in the nominal wage to lead to sustained inflation.
- The pursuit of higher real wages has contributed to high employment in Europe, but centralised and cooperative wage setting can also contain wage increases.
- Recent negotiated wage settlements do not appear to have led to large real wage increases.
- Belgium provides an example of how negotiated wage settlements can lead to the problems Mr Trichet is concerned about.
- Belgian wage settlements may not have taken into account productivity changes, promoting a loss of competitiveness and lower employment.
- Mechanistic indexing mechanisms may be distorting Belgian labour markets, further lowering employment.

In his introductory statement at the 11 January 2007 press conference, Mr Trichet warned about the upside risks to inflation. He then asked wage setters to take into account productivity developments and to move away from automatic, backward-

[1] Briefing paper for the Committee on Economic and Monetary Affairs (ECON) of the European Parliament for the quarterly dialogue with the President of the European Central Bank.

looking indexation mechanisms. By first mentioning the upside risks to inflation, it might – on the surface – appear that Mr Trichet is arguing against wage increases that are not a result of productivity increases because they directly increase inflation. This is unlikely, however, as it confuses a change in a relative price with a change in the aggregate price level.

A negotiated nominal wage increase does not directly increase the price level

To see why an increase in the nominal wage does not directly increase the price level, imagine a simple, stylised economy where "capitalists" own the firms and hire labour from "workers". I suppose that each period, firms demand and workers supply the same amount of labour. Assume that all savings is in the form of money and each period the capitalists and workers demand a real value of money equal to the same constant fraction α of their incomes. Suppose also that the money supply is constant.

As employment in this simple example is constant, total output and, consequently, the sum of the real incomes of the capitalists and workers is constant as well. Thus, an increase in the nominal wage has no affect on total real income, it just redistributes income from the capitalists to the workers. Thus, following a rise in the negotiated wage, the total demand for real balances remains equal to α times the unchanged total real income. The money market clears at the original price level and there is no change in the price level.

A negotiated nominal wage increase can be a supply shock, indirectly increasing the price level

A nominal wage increase can cause inflation *indirectly*, however. This is because it can act as a supply shock, lowering real income and, thus, the demand for real balances. To see this, imagine the previously described model but instead – and more realistically – suppose that an increase in the real wage causes firms to demand less labour and, hence, lowers output and the sum of the real incomes of capitalists and workers. Then, at an unchanged price, a rise in the nominal wage increases the real wage and this causes employment and total income to fall. Thus, the demand for real balances falls and the price level rises to restore equilibrium in the money market. The higher price level dampens, but does not reverse, the rise in the real wage.

In a more elaborate scenario, one with capital as well as labour, any rise in real wages resulting from an increase in the negotiated nominal wage lowers the profitability of firms and this causes investment to decline. With lower capital stocks in future periods, the future demand for labour and output is further lowered. Thus, a one-time increase in the nominal price level can lead to an extended period of price increases.

The change in the nominal wage can also further affect inflation indirectly through a second-order distributional effect. Suppose that workers' demand for real balances is a fraction α^w of their income and firms' demand for real balances is a fraction $\alpha^k < \alpha^w$ of their income. Even if employment and the sum of capitalists' and workers' income is invariant to the real wage, an increase in the nominal wage can lead to an increase in the price level. This is because the share of real income going to workers rises and their demand for real balances increases by more than the capitalists' demand for real balances falls. Thus, the total demand for real balances rises and the price level rises to clear the money market.

An accomodative monetary policy can cause a one-time increase in the nominal wage to lead to sustained inflation

A one-time rise in negotiated wages can lead, not just to a one-time rise in the price level, but to sustained inflation through an accommodative monetary policy response. If the increased wages lead to a fall in employment and output, then a central bank that is not strictly targeting inflation might be tempted to create unanticipated inflation in an attempt to lower the real wage and restore employment and output to their original level. However, as the central bank cannot systematically fool the public, the result is likely to be inflation without an output gain.

The pursuit of higher real wages has contributed to high unemployment in Europe, but centralised and cooperative wage setting can also contain wage increases.

The obvious way, as suggested above, that an increase in negotiated nominal wages can act as a supply shock is by raising the real wage and lowering employment and output. Unionization and collective bargaining at an industry level can increase the bargaining power of workers and it is likely that the pursuit of real wage increases played a role in causing the high European unemployment in the 1980s. On the other hand, when there is coordination between the unions, employers and the state, sufficiently centralised wage setting can contain wage increases.[2]

Figure 1. Negotiated Wages and Prices

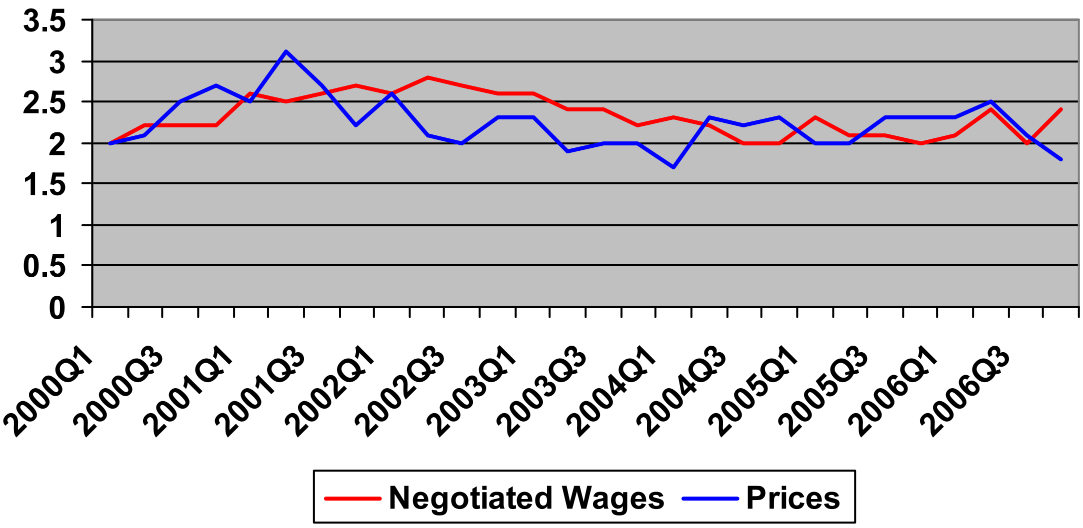


Figure 1 above depicts the paths of the consumer price index (HICP) and negotiated wages since 2000. One must be cautious in interpreting this chart: negotiated wages are an imperfect measure of the cost of labour; firms care about

[2] See Calmfors and Driffill (1988). See Johansson (2006) for a description of how centralised wage setting moderated wage increases in Finland.

nominal wages deflated by output prices, rather than consumer prices; the path of market clearing real wages depends on unobservable technical progress. Nevertheless, the chart does not suggest that wage settlements during the euro era have been wildly excessive.

Negotiated wage settlements in Belgium

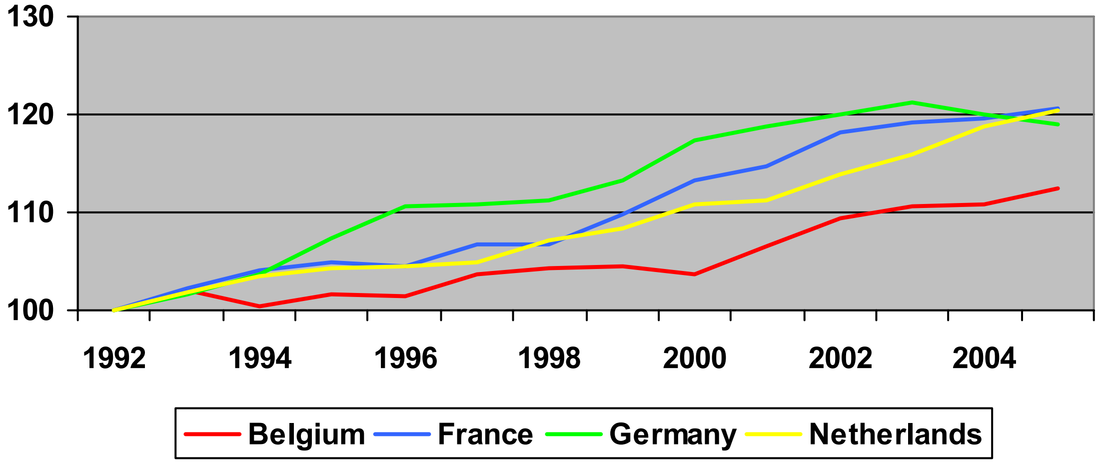
To get some additional insight on how negotiated wage settlements may cause the concerns voiced by Mr Trichet, I consider the current experience of a particular Euro area country: Belgium. There, a failure to consider productivity developments has led to wage increases which are less moderate than they first appear. This may have led to reduced competitiveness and higher average unemployment. Mechanistic use of a backward-looking indexation system has resulted in rigidity and distorted labour markets, increasing the variance of employment across regions.

Wage negotiations in Belgium may not have adequately taken into account productivity differences

To maintain competitiveness, Belgium's wage-setting system relates the maximum possible increase in negotiated Belgian wages to wage developments in Belgium's three main trading parters: France, Germany and the Netherlands. As seen in Figure 2 below, the result has been a growth in real hourly compensation in manufacturing that appears more than moderate in comparison.

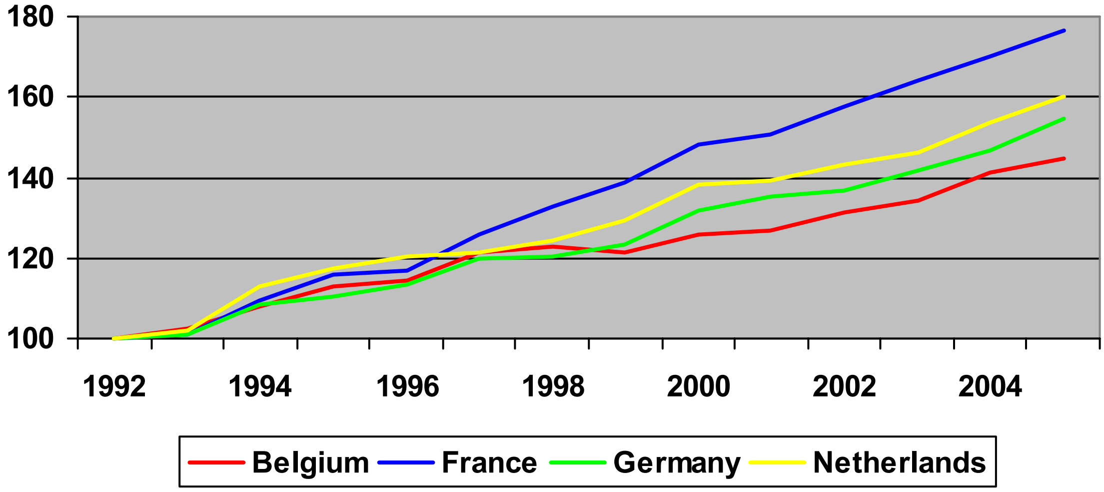
Unfortunately, the computation of the upper limit does not take into account differences in technological or other changes that affect the demand for labour in Belgium and its trading partners. Output per hour in manufacturing, shown in Figure 3 has lagged in Belgium relative to France, Germany and the Netherlands. To the extent that this reflects lower technological growth, rather than lower capital deepening, this suggests that wage growth should have been significantly slower in Belgium than in its trading partners.

Figure 2. Real Hourly Compensation in Manufacturing, CPI Basis (1992 = 100)



Source: US Department of Labor, Burea of Labor Statistics

Figure 3. Output per Hour in Manufacturing



Source: US Department of Labor, Bureau of Labor Statistics

In an attempt maintain living standards, the wage-setting mechanism ensures that there is a floor. This lower bound is the result of an automatic backward-looking indexation system where minimum increases depend upon past inflation.[3] Sectoral opt-out clauses exist but are rarely invoked. Unfortunately, in combination with the

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[3] Such indexation schemes have become less common in Europe than they used to be. They are automatic in Belgium and Luxembourg., apply to the minimum wage in France, are typical in Spain and can be invoked in some other European countries. See ECB (2006)

wage ceiling this has resulted in a extremely narrow band of potential wages: the range of possible wages during the two-year period covered by a wage settlement has been only one to two-and-a-half percent. Wage differentials have shown little adjustment over sectors or regions. Perhaps as a consequence employment has varied widely: in the Flemish region unemployment in 2005 was under six percent, in the capital region it was about 16 percent.[4]

References

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[4] International Monetary Fund(2006).