

Wage setting in Germany – new empirical findings

Wage flexibility is of crucial importance in enabling the labour market to adapt to cyclical and structural changes. It is precisely in a monetary union with relatively limited regional mobility that a functioning wage mechanism is required, as exchange rates are no longer available as a balancing instrument. Moreover, wages are a major determinant for calculating sales prices. Wage trends therefore affect short to medium-term inflation dynamics and are therefore also of key monetary policy importance.

For these reasons, the European System of Central Banks established a research network in order to study in greater detail the major determinants of wage setting and their link to price setting. The results of a survey on firms' wage and price setting show that, in the past, wage rigidity in Germany was sometimes more pronounced than in other euro-area countries. This must be seen in connection with the fact that, on the whole, wages have risen only moderately in Germany. However, despite labour market reforms, wage rigidity is still having a significant adverse effect on the macro economy.

Relatively new micro data on wage setting

Labour market flexibility essential for euro-area adjustment processes

How labour markets adjust to cyclical and structural changes is the outcome of numerous microeconomic decisions which, in turn, are affected by the institutional peculiarities of wage setting. Only in rare cases do employers and employees negotiate wages directly and completely individually. Collective agreements at the firm, sectoral, regional or national level are the norm; they set a framework or a minimum standard which can be augmented by individual or firm-specific agreements. Significant differences exist within the euro area. The extreme heterogeneity of wage-setting institutions sets the euro area apart from other currency areas. Wage-setting processes, moreover, are a key determinant of price formation and thereby affect short to medium-term inflation dynamics at the macro level. For this reason, a deeper monetary policy understanding of wage formation is indispensable.

Wage Dynamics Network

Against this background, the Eurosystem is currently taking the results of a detailed study of price setting by the "Inflation Persistence Network" (IPN)¹ and using them to conduct an in-depth analysis of wage setting and how it is linked to price setting. This analysis is being conducted within the framework of the "Wage Dynamics Network" (WDN), a research network headed by the European Central Bank and consisting of the national central banks in the Eurosystem and other European countries.² The research is less concerned with analysing wage negotiations between unions and employers' associations or

the influence of the legal framework on wage formation and more with the ways in which firms adjust to changes in the economic environment.

The results for Germany presented here are based largely on a survey of firms' wage and price-setting behaviour conducted in November 2007 by the Ifo Institute on behalf of the Bundesbank and which took place at the same time in a harmonised form in 15 other countries.³ The German survey covered those firms that regularly participate in the Ifo Institute's survey of the manufacturing sector and the services sector.⁴ The sample covered a total of 4,600 firms: around 3,100 from manufacturing and 1,500 from service industries. The response rates, at 36% in manufacturing and 44% in services, were especially high compared to other surveys. In the following, the rough survey results will be presented; the information on the sample design needed for extrapolation is not available. Test calculations using information on employees provided by the participating firms and for the relevant subsets from the official statis-

Survey on wage and price setting

¹ See also Deutsche Bundesbank, Price-setting behaviour in Germany, Monthly Report, December 2005, pp 15-27.

² For initial results at the European level, see European Central Bank, New survey evidence on wage setting in Europe, Monthly Bulletin, February 2009, pp 69-83.

³ The following euro-area countries took part in this harmonised survey: Austria, Belgium, France, Greece, Ireland, Italy, the Netherlands, Portugal, Slovenia and Spain. Non-euro-area participants were the Czech Republic, Estonia, Hungary, Lithuania and Poland. A survey in Luxembourg is forthcoming.

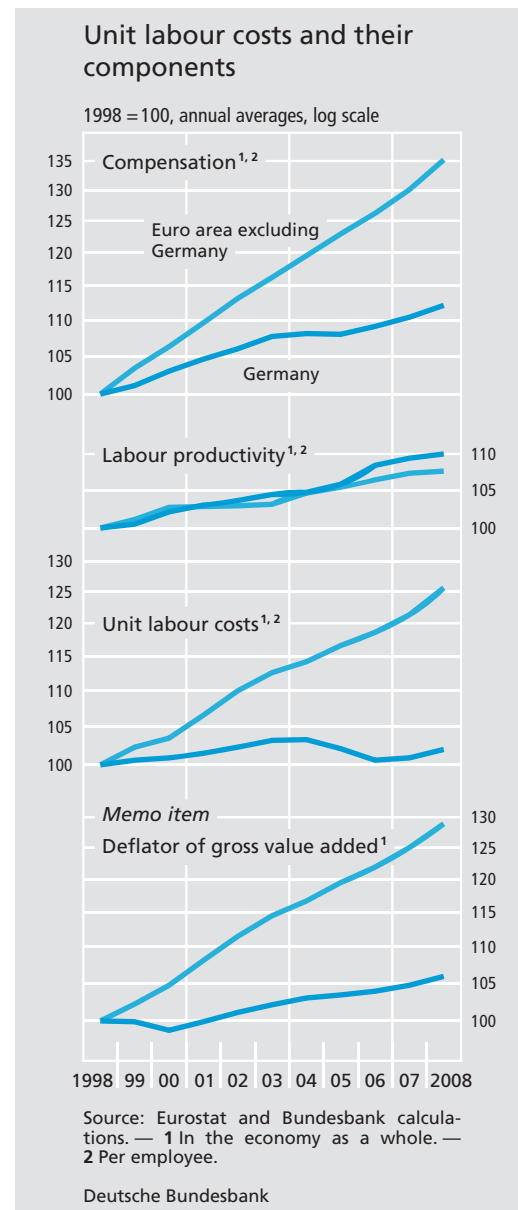
⁴ The services covered include hotels and restaurants, land transport, transport and communication, real estate, renting of machinery and equipment without operator and of personal and household goods, computer and related activities, refuse disposal, labour recruitment and provision of personnel, and security activities; not covered are hairdressers, the health care system, financial intermediation and the self-employed.

Germany's
unique
situation

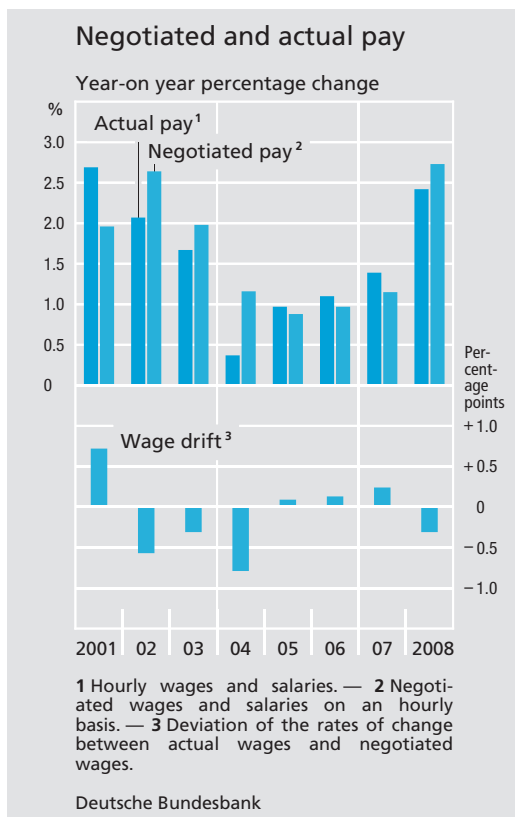
tics, however, indicate that even the un-weighted results can be regarded as being reasonably representative of all German non-financial corporations.

Surveyed firms were mostly asked to provide information referring to the year prior to the survey (ie 2006). Only questions concerning wage cuts and wage rigidity were designed to cover a longer period of five years (2003 to 2007). Other aspects, such as the frequency or regular timing of wage and price adjustments, were not subjected to a time limit. Whereas macroeconomic conditions in 2006 were similar in the countries included in the survey, this was not equally the case for the preceding period. During the 2003 to 2007 period, Germany, unlike its partners, underwent a relatively long stretch in which its real economy grew only slightly. This was also reflected in the trends in compensation and unit labour costs. Whereas wages in other euro-area countries rose by 12% in that period, in Germany they rose by only 2½%. If productivity developments are also taken into consideration, this results in a rise in unit labour costs of just over 8% in the rest of the euro area contrasting with a decline of 2% in Germany.

Moderate increases in negotiated wages were the main reason why domestic labour costs rose at a below-average rate. Moreover, effective hourly wages did not rise as quickly as negotiated hourly wages in the 2002 to 2004 period, either. The economic recovery caused negotiated wages to rise at an accelerated rate and, at the same time, wage drift turned positive. The marked deterioration in



the economic environment which materialised over the course of the past year, however, caused wage drift to revert into the negative zone.



The importance of collective bargaining coverage

Sector-level versus firm-level wage agreements

Firm-level flexibility in shaping compensation is constrained by the institutional framework. This requires, first and foremost, a distinction to be drawn between sector-level and firm-level wage agreements, the content and intensity of regulations, and, lastly, the extent to which wage agreements affect firms that are not directly covered. Unlike sector-level agreements, firm-level agreements are usually regarded as more flexible as they are better able to address the company's specific situation.

Sector-level agreements still prevalent in Germany

According to the IAB establishment panel – a survey conducted by the Institute for Employment Research (*Institut für Arbeitsmarkt- und*

Berufsforschung, IAB) of the Federal Employment Agency – the collective bargaining coverage of establishments in Germany has declined steadily in the past few years; however, sector-level wage agreements, in particular, continue to play a major role.⁵ This is also shown by the WDN survey, according to which, in 2007, 57% of manufacturing firms in Germany were covered by a collective bargaining agreement. Three-quarters of these firms were covered by a sector-level agreement and one-quarter by an in-house or firm-level agreement. Just over two-fifths of all manufacturing firms not covered by a collective bargaining agreement orient themselves to such an agreement without being directly bound by it; therefore, on the whole, three-quarters of all firms may be regarded as being covered, to some degree, by a collective wage agreement. In 2007, just over half of covered firms paid more than the collectively agreed wages, as opposed to just under half of firms that are not directly covered. In the services sector, however, collective bargaining coverage is much less extensive than in manufacturing, with only just under half of firms covered by collective wage agreements. However, sector-level wage agreements, which make up over 80% of all these collective wage agreements, play a much more significant role than in the manufacturing industry. By contrast, at one-third, the percentage of uncovered firms orienting their pay policies to a collective wage agreement is much lower. Unlike in the case of manufacturing, in

⁵ See P Ellguth and S Kohaut (2008), *Tarifbindung und betriebliche Interessensvertretung: Aktuelle Ergebnisse aus dem IAB-Betriebspanel 2007*, WSI Mitteilungen 9/2008, pp 515-519 (available in German only).

the services sector it is particularly those firms that are not directly covered which grant their employees non-base-wage payments (64% as against 56%).

Collective bargaining coverage higher in euro area, lower outside euro area

According to a WDN survey, in the rest of the euro area, a larger percentage of firms are covered by a collective wage agreement, in terms of overall employment, than in Germany.⁶ The survey shows that in France, Italy and Spain, nearly 100% of firms apply some kind of collective wage agreement, whereas the figure is around the 50% mark for Portugal and Germany. By contrast, this percentage is smaller in non-euro-area countries. The low level of coverage is particularly noticeable in Eastern Europe; for instance, it is less than 20% in countries such as Estonia and Hungary.

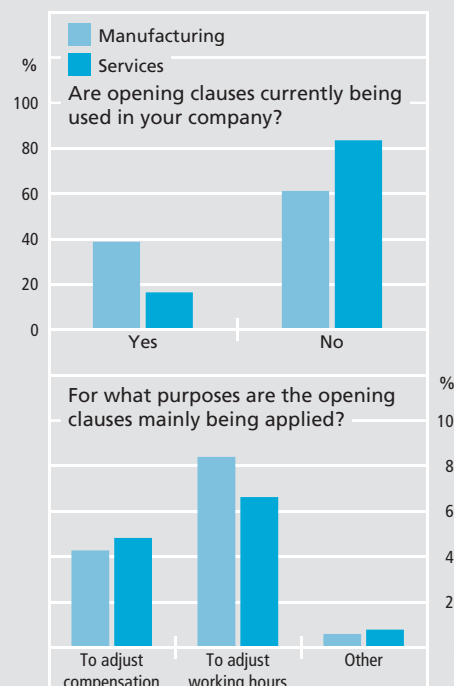
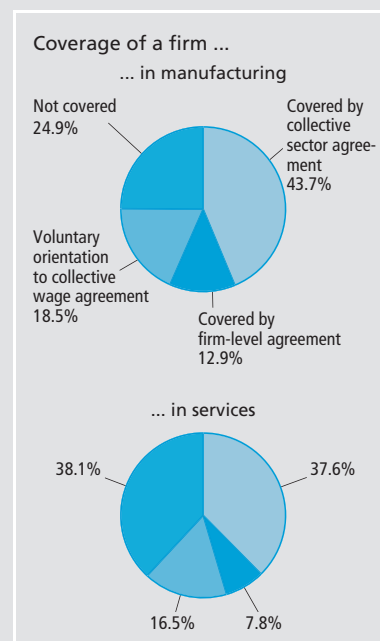
Opening clauses

The prevalence of collective wage agreement is merely a rough indicator of the limits to wage flexibility imposed by collective bargaining agreements; in Germany, even collective wage agreements themselves have become increasingly more flexible.⁷ In many sectors, opening clauses give firms the option of departing from the agreed norms under certain conditions. The WDN survey results show that, in Germany, one-third of firms covered by collective bargaining agreements apply such opening clauses. They are used primarily in manufacturing and less in the services sector. They mostly concern non-standard work-

⁶ The comparable values for the other European countries in this report are taken from European Central Bank, New survey evidence on wage setting in Europe, Monthly Bulletin, February 2009, pp 69-83.

⁷ See Deutsche Bundesbank, Greater flexibility on the German labour market, Monthly Report, September 2004, pp 43-57.

Extent and flexibility of coverage by collective bargaining agreements*



* Results of a corporate survey.

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ing hours and not so much non-standard compensation.⁸

Minimum wages

Whereas opening clauses loosen the rigidity typical of collective bargaining agreements, this rigidity is entrenched by government-mandated or government-approved minimum wages. In Germany, unlike many of its European partners, statutory minimum wages have been of only minor importance in the past. The gradual introduction of sector-specific minimum wages will engender new rigidity at the lower end of the wage scale, which will constrain the macroeconomically desired increase in wage flexibility, precisely in particularly sensitive areas.

Extent of wage rigidity

Reasons for nominal wage rigidity

Wage flexibility is a key prerequisite for firms to adjust successfully to variations in shortages of labour. In an overall climate of sluggish real growth and a monetary policy oriented to price stability, the average (nominal) wage growth, however, can be so small that the adjustment of relative wages can require (nominal) wage cuts in individual segments of the labour market. In addition, a cut in real wages which would be necessary to restore overall competitiveness, given the low rate of inflation, could at the same time require a reduction in nominal wages as well. Such nominal wage cuts are often extremely difficult to enforce. Psychological reasons are at work here. Employees could, for instance, suffer from "money illusion", in which they assess real wage cuts differently depending on whether the reduction was through nominal

wage reductions or a relatively sharp increase in prices. A study in which employers were surveyed on their wage policy does, in fact, find evidence that individuals react differently to alternative views of one and the same situation depending on whether the situation is described in nominal or real terms.⁹ Employers also seem to assume money illusion among employees and factor this into their decisions. In addition, employees tend to attach greater importance to losses (ie wage cuts) than gains (ie wage increases).¹⁰ Fairness considerations play a significant role. Employees compare themselves to yardsticks such as the wages of other employees in similar jobs either within their own companies or elsewhere.¹¹ Behaviour perceived as unfair impacts negatively on the working climate and morale and is therefore avoided wherever possible. However, such reasons not to cut nominal wages, understandable from the company's perspective, can have adverse macroeconomic effects by disrupting the labour market's self-corrective mechanisms.

⁸ Opening clauses are only infrequently used for other purposes, such as to make changes to direct insurance plans, to make working hours generally more flexible or to reschedule breaks. See also the figures in C Schnabel and S Kohaut (2006), *Tarifliche Öffnungsklauseln: Verbreitung, Inanspruchnahme und Bedeutung*, Diskussionspapier Nr. 41, Lehrstuhl für VWL, Friedrich-Alexander-Universität Erlangen-Nürnberg; and W D Heinbach and S Schröpfer (2007), *Typisierung der Tarifvertragslandschaft*, Jahrbücher für Nationalökonomie und Statistik, Vol 227/3, pp 219-235 (both available in German only).

⁹ See J Agell and H Bennmarker (2007), *Wage incentives and wage rigidity: a representative view from within*, *Labor Economics*, 14(3), pp 347-369.

¹⁰ See D Kahneman and A Tversky (1979), *Prospect theory: an analysis of decision under risk*, *Econometrica*, 47, pp 263-292.

¹¹ See A Blinder and D H Choi (1990), *A shred of evidence on theories of wage stickiness*, *Quarterly Journal of Economics*, 105(4), pp 1003-1015; and T Bewley (1999), *Why wages don't fall during a recession*, Cambridge, MA: Cambridge University Press.

*Frequency of
nominal wage
rigidity in
Germany*

This raises the question of how widespread nominal wage rigidity is in Germany.

The WDN survey asked firms whether they had kept wages and salaries¹² constant over the past five years or even cut them instead of increasing them for economic reasons. Around half of firms surveyed in Germany admitted to having frozen wages at least temporarily. Only 15% of firms cut wages over that period. In manufacturing, both wage increases and wage cuts occurred more frequently than in the services sector. This finding, at first glance surprising, could indicate a generally higher level of wage flexibility in manufacturing. However, it is also possible that the shocks in manufacturing may be stronger than in the services sector.

Evidence on the prevalence of nominal downward wage rigidity across the time period covered by the WDN survey can be obtained from the wage data of the factually anonymous IAB Employment Sample which covers the years 1975 to 2004.¹³ Although some segments of socially secured employees were forced to accept nominal wage cuts in individual years, the distribution of annual wage changes tends to spike at exactly zero nearly every year, indicating nominal wage rigidity.¹⁴

Microeconomic methods can be applied to assess the extent of wage rigidity more accurately for this dataset.¹⁵ The result is that, on average, 40% of all socially secured employees in the private sector that still work in the same job were affected by nominal wage rigidity. This is reasonably consistent with the range of values reported in the literature.¹⁶

The percentage of full-time workers affected by wage rigidity trended downwards from the beginning of the 1990s, jumped in 2000 and held firm at a high level until 2004. Indicators for the following years cannot be calculated at present owing to a lack of availability of statistical input data. When interpreting this 40% share, which seems at first glance to be quite high, it must be borne in mind that only full-time employees who were working in the same position at the same establishment for three successive years were included. Part-time workers, workers who change company or persons who otherwise change professions were excluded from the dataset since they were extremely difficult to capture for measuring purposes when quantifying rigidity. However, it is precisely in the ex-

¹² Fixed gross wages (including holiday pay and Christmas bonuses, one-off payments and overtime bonuses) less individual performance bonuses.

¹³ Data access was provided via a Scientific User File (IABS-R04) supplied by the Research Data Centre (Forschungsdatenzentrum, FDZ) of the German Federal Employment Agency (Bundesagentur für Arbeit, BA) at the IAB. For more information on the micro data, see N Drews, *Das Regionalfile der IAB-Beschäftigtenstichprobe 1975-2004*, FDZ Datenreport 2/2008, Nuremberg (available in German only).

¹⁴ See eg W T Dickens et al (2007), *How wages change: micro evidence from the International Wage Flexibility Project*, *Journal of Economic Perspectives* 21(2), Spring, pp 195-214.

¹⁵ The empirical distribution is adjusted for measurement error and then compared with a hypothetical unbiased distribution. This mixed method-of-moments estimator used here also forms the basis for the evaluations in the "International Wage Flexibility Project" (IWFP). See W T Dickens and L Goette (2006), *Estimating wage rigidity for the International Wage Flexibility Project*, mimeo.

¹⁶ See, for example, C Knoppik and T Beissinger (2003), *How rigid are nominal wages? Evidence and implications for Germany*, *Scandinavian Journal of Economics* 105(4), pp 619-641; F Pfeiffer (2003), *Lohnrigiditäten im gemischten Lohnbildungssystem*, Baden-Baden, Nomos; B Bläs (2006), *Ausmaß und reale Konsequenzen nach unten starrer Nominallohne. Eine Untersuchung auf dem deutschen Arbeitsmarkt*, *Regensburger Diskussionsbeiträge* 416 (the latter two available in German only).

cluded segments where wage flexibility is likely to be higher.

How Germany compares with the rest of the world

According to the WDN survey, nominal wage rigidity is much more prevalent in Germany than in other countries. Whereas, within the euro area excluding Germany, 8% (14% outside the euro area) of firms were subject to such constraints at least temporarily during the reporting period, in Germany the figure was around 50%. At the same time, however, nominal wages in Germany were cut much more frequently in the 2003 to 2007 period than in the other countries – in 15% of firms in Germany, as against 2.4% in the rest of the euro area and 3.8% of non-euro-area firms. Although these results seem to contradict one another, this inconsistency is resolved if the below-average wage growth in Germany over this period is taken into consideration. For this reason, the distribution of individual rates of wage changes relative to other countries is likely to be shifted to the left for Germany; therefore, there will be a larger number of data points to the left of the zero (ie more wage cuts) yet a peak at the zero itself that is far higher than average (ie greater wage rigidity). From this observation, however, it does not necessarily follow that wages in Germany are structurally more rigid than in other countries. What is more likely, in fact, is that it is only higher wage growth in other countries which prevented the rigidity inherent in the wage-setting mechanism from taking effect.

Insufficient wage flexibility despite wage moderation

Despite pronounced wage moderation, Germany saw unemployment rise sharply in the 2001 to 2005 period. One factor may be that

the aforementioned nominal wage rigidity prevented adjustments to relative wages and price competitiveness, amidst weak overall nominal growth, and that the functioning of the labour market was therefore additionally hampered. Without such downward wage rigidity, the necessary adjustment of wage levels relative to Germany's partners would have occurred more quickly; moreover, the sector and qualification-related relative wages would have adjusted more easily to the changed circumstances.

A distinction is necessary between nominal wage rigidity and real wage rigidity. The latter occurs when wage growth is strongly indexed to price developments. This real rigidity is institutionally entrenched in the case of wage indexation, which is standard practice in some euro-area countries (but not in Germany).¹⁷ Wages then always rise by at least the inflation rate, which is defined differently from one country to another. Real wage rigidity is just as capable as nominal wage rigidity of impairing the ability of the labour market to function effectively. Individual data are used to identify real wage rigidity by looking at spikes in wage change distribution which match the inflation rate. Unlike the other euro-area countries, in Germany, real wages fell in individual years within the reference period. This counters the notion that real wage rigidity is a major problem in Germany. The "International Wage Flexibility Project"

Real wage rigidity

¹⁷ See M Druant, S Fabiani, G Kezdi, A Lamo, F Martins and R Sabbatini (2008), How are firms' wages and prices linked: survey evidence in Europe, mimeo (WDN); P Du Caju, E Gautier, D Momferatou and M Ward-Warmedinger (2008), Institutional features of wage bargaining in 23 European countries, the US and Japan, ECB Working Paper No 974.

Probit model: wage freezes and wage reduction °

Item	Wage stagnation		Wage reduction	
	(1)	(2)	(3)	(4)
Firm size	- 0.047***	- 0.040**	0.011	0.007
Employment growth	- 0.412**	- 0.413**	- 0.205	- 0.203
Worker turnover	0.043	0.032	- 0.161*	- 0.127
Firm age	0.001	0.001	0.000	0.000
Labour cost share	0.003***	0.003***	0.000	0.000
Share of low-skilled workers	0.020	0.063	- 0.025	- 0.057
Availability of new hires	0.036	0.036	0.048	0.048
Collective wage agreement	- 0.200***	- 0.207***	- 0.043	- 0.040
Eastern Germany	- 0.014	- 0.002	- 0.062***	- 0.068**
Export share	- 0.001**	- 0.001	- 0.000	- 0.000
Stiff price competition	0.097***	0.099***	0.044*	0.045*
Services sector	-	0.092*	-	- 0.064*
Number of observations	832	832	837	837
Pseudo-R ²	0.077	0.081	0.032	0.037

° Figures in the table denote the percentage increase in the probability that wage freezes or wage reduction will occur if the respective variable is 1 (dummy) or rises by 1 per cent (continuous variable). Hint: at the mean, the propensity of wage freezes is 20 percentage points smaller for firms covered by a collective bargaining agree-

ment than for firms without a collective wage agreement (column 1). The difference between columns 1 and 2 as well as between columns 3 and 4 is the addition of a (0,1) variable for the services sector. Marginal effects. *** Significant at the 1% level; ** 5%; * 10%.

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likewise finds evidence for above-average real wage rigidity in Germany.¹⁸ At the same time, there are indications that real wage rigidity has diminished over time,¹⁹ which could be associated with the successful anchoring of inflation expectations at a low level.

(relatively frequent wage hikes and cuts) is also motivated by the expected impact on employee fluctuation. One-third of service firms fear that higher-skilled workers will leave their firms, leading to higher additional costs for hiring and training new workers.²⁰

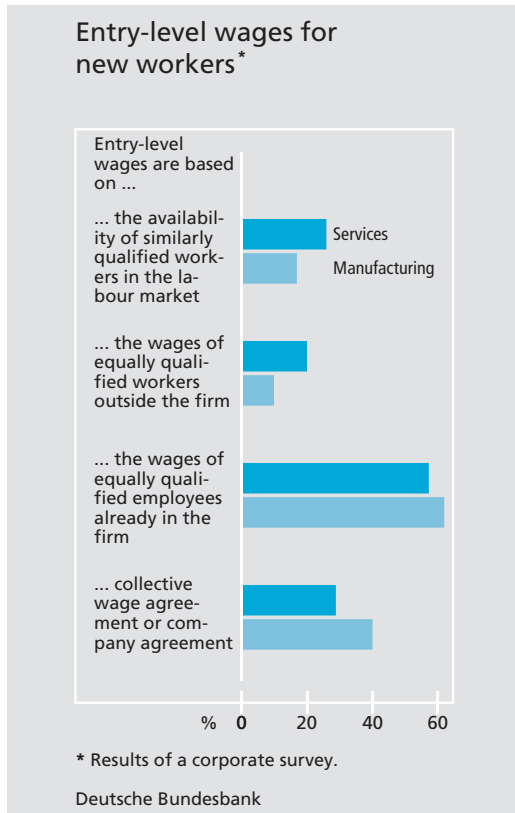
*Causes of
nominal wage
rigidity*

In the WDN survey, firms were asked for the reasons for wage rigidity. In Germany, three-quarters of all employers fear that wage cuts could demoralise employees and cause them to significantly reduce their personal investment, a finding which is consistent with the economic literature. Labour law and collective wage agreements prevent, respectively, 60% and 40% of all firms from cutting their employees' pay. The difference noted in the survey between service firms (relatively frequent wage rigidity) and the manufacturing industry

¹⁸ See W T Dickens et al (2007), How wages change: micro evidence from the International Wage Flexibility Project, *Journal of Economic Perspectives* 21(2), Spring, pp 195-214. This international research project, headed by W T Dickens, uses its own standardised microeconomic method to measure the extent and the determinants of nominal and real wage rigidity in numerous countries.

¹⁹ See T Bauer, H Bonin, L Goette and U Sunde (2007), Real and nominal wage rigidities and the rate of inflation: evidence from west German micro data, *Economic Journal* 117(524), pp F508-F529.

²⁰ See D Radowski and H Bonin (2008), Sectoral differences in wage freezes and wage cuts: evidence from a new firm survey, Deutsche Bundesbank Research Centre, Discussion Paper, Series 1, No 24/2008.



*Results of a
probit model*

In order to analyse the determinants of wage rigidity and wage cuts more precisely, additional econometric research was conducted, with the help of a probit model, in order to measure the impact of exogenous influences on the relevant probabilities. Wage cuts occur with above-average frequency among firms that face stiff price competition and for which the price therefore no longer serves as an independent action parameter. If firms cannot cut wages, they then suffer from wage rigidity. Moreover, such rigidity frequently occurs in firms that engage in domestic and services-oriented business as well as labour cost-intensive firms with a low level of collective bargaining coverage. By contrast, larger and expanding firms tend to freeze wages much less frequently. One reason for the observed size effect could lie in the

stronger influence of trade unions and works councils in large firms.

The barriers to wage cuts apply only to a limited extent to newly hired employees, although they also have to be paid the negotiated wages if such an agreement has been reached. Some collective wage agreements additionally provide special terms for newly hired employees. Fairness considerations are also likely to play a role. In a difficult labour market environment, new employees will initially settle for a below-average salary; however, sometime later they will compare their wages to those of their co-workers and demand similar and, in their view, fairer compensation. In the WDN survey, firms were therefore asked to report the criteria they use to set entry-level wages. According to the survey, firms tend to orient their entry-level wages mainly to factors specific to the firms. Some 60% of firms orient their entry-level wages to the wages of equally qualified workers already employed by the firm. This would make the increased pay flexibility gained by personnel fluctuation relatively small. External factors such as the availability of similarly qualified staff in the labour market are relevant for one-fifth of respondents. The external labour market situation exerts a much greater impact among service providers and, in general, firms which have a high labour cost share. The cost structure of such firms makes it unaffordable for them to pay non-market wages.

*Entry-level
wages*

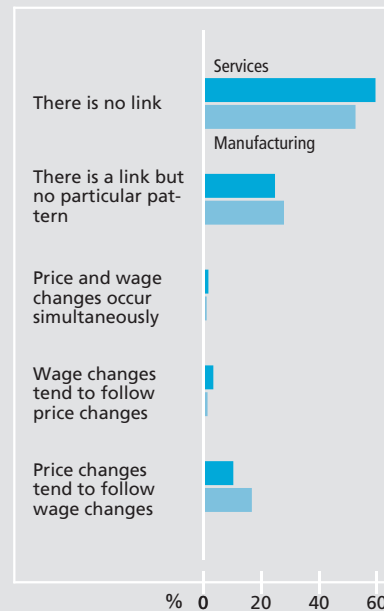
The link between prices and wages

Weak link with respect to timing

Most firms regard wages as a key determinant of overall production costs. Therefore, there should be a close link between wage and price increases. In analyses of wage and price setting, the literature distinguishes between time-dependent and state-dependent approaches. In time-dependent models, wages and prices are adjusted at regular intervals. By contrast, in state-dependent models, prices and wages are changed depending on the respective environment. Earlier studies on price setting by German firms revealed evidence for both approaches.²¹ Cost developments proved to be very significant in deciding whether or not to raise prices. A price increase becomes more likely if it is accompanied by a cumulative increase in (material and wage) costs since the previous price change. However, there was no evidence for a direct link between the timing of increases in negotiated wages and price adjustments.

The results of the WDN survey also show that the time dependency between wage and price adjustments at the firm level is not as pronounced as could be assumed. For half of the responding firms, there is no link in the timing of wage and price setting for the main product. Other cost factors seem to play a greater role than wages for these firms with regard to price changes. One-quarter of respondents indicated that a wage-price link did exist, but without any particular pattern. Only the remaining one-fifth of respondents reported a clear link between the timing of wage and price changes. Those firms with a

Link between price and wage changes*



* Results of a corporate survey.

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higher labour cost share report, as expected, a greater synchronisation of wage and price changes.²² Examples include the textile industry, labour recruitment and provision of personnel, and hotels and restaurants.

Adjustment to unexpected changes

Unexpected events such as demand or cost shocks frequently change the economic environment in which firms operate. The WDN

Firms' adjustment strategies

²¹ See also Deutsche Bundesbank, Price-setting behaviour in Germany, Monthly Report, December 2005, pp 15-27, as well as H Stahl (2005), Time-dependent or state-dependent price setting? – micro evidence from German metal-working industries, Deutsche Bundesbank Research Centre, Discussion Paper, Series 1, No 25/2005.

²² See also L J Álvarez, P Burriel and I Hernando (2005), Price-setting behaviour in Spain: evidence from micro PPI data, ECB Working Paper No 552.

Type of shock and adjustment instruments

Responses as a percentage of firms surveyed¹

Instrument	Type of shock					
	Rising wages		Rising input prices		Falling demand	
	Manu- facturing	Services	Manu- facturing	Services	Manu- facturing	Services
Adjust prices	36	42	63	59	16	24
Reduce costs	50	40	18	20	23	44
Reduce margins	13	18	18	20	9	14
Reduce output	2	1	1	2	53	19

¹ Owing to rounding, the columns do not always add up to 100.

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survey asked firms to indicate how they respond to such changes. Three types of shocks were defined: an unanticipated sharp increase in the cost of an intermediate input (eg oil prices), an unanticipated permanent sharp increase in wages (eg owing to the negotiation of a new wage agreement) and an unanticipated slowdown in demand. These hypothetical shocks are assumed to affect all firms active in a certain market segment in the same manner. Firms were asked to assess which of the four strategies – adjusting prices, reducing costs, reducing margins or reducing output – was the most important. After a cost-push shock, a firm is likely to adjust prices if demand is regarded as sufficiently price-inelastic, especially if the firm expects the competition to raise prices as well. By contrast, if demand reacts strongly to price

changes, either the output will be adjusted or costs reduced, either by introducing another, more capital-intensive production method, or by exploiting efficiency reserves.

There are some similarities, but also some very striking differences, between manufacturing and services firms in terms of their adjustment strategies. The preferred response method for both types of firm (three-fifths of respondents in each category) to an unanticipated increase in the prices of raw materials and intermediate inputs is to raise sales prices. However, these two types of firms set different priorities for wage and demand shocks. When wages rise unexpectedly, just under half of firms cut other costs and attempt to exploit the potential for cost savings. In the event of a negative demand

*Differences
between
sectors*

shock, manufacturing firms mostly reduce output. Reducing costs and cutting prices are less of a priority for these firms. In the case of personnel-intensive services firms, by contrast, cost adjustments are more important, with price and output adjustment ranking only second and third respectively.

*Cost-cutting
mainly by
downsizing
staff*

The German firms surveyed attach a high priority to exploiting any available potential for cost reduction. This reduction is focused particularly on non-wage elements – ie working hours and staffing levels. The wage component – for instance, cutting bonus payments – is used less frequently. This may owe something to the aforementioned wage rigidity. For each sector, one-third of respondents listed workforce reduction, and another one-third, the reduction of non-wage costs, as their preferred instrument. One-quarter of firms cited the adjustment of hours worked per employee as their preferred instrument.

Concluding remarks

*Nominal wage
rigidity more
frequent, real
wage rigidity
less so*

The results obtained by the Wage Dynamics Network show that Germany was affected to a greater extent than other countries by nominal wage rigidity in the past few years. This has probably impaired the effective functioning of the German labour market and delayed the necessary adjustment processes. Real wage rigidity, by contrast, has affected Ger-

many to a lesser extent than its partners. This is ultimately why Germany's overall competitiveness has been restored, albeit with a delay caused by nominal wage rigidity.

The above-average level of nominal wage rigidity in Germany established in surveys and wage data may be associated above all with the relatively low rate of domestic wage increases. It would therefore be mistaken to infer from these results that wages in Germany are structurally more rigid than in other countries in the euro area. The larger number of nominal wage cuts in Germany is already one counterargument. In fact, it is more likely that, in the past, the rigidity inherent in the wage-setting mechanism was only prevented from taking effect in other countries owing to higher wage growth.

*Wages not
necessary
structurally
more rigid in
Germany*

The labour market reforms that have been enacted over the past few years have promoted wage flexibility and thus the adaptability of Germany's macro economy. The same cannot be said, however, of the growing number of sector-specific minimum wages, which are considerably constraining wage flexibility, particularly in sensitive areas of labour market policy. It remains necessary to eliminate the existing rigidity in order to enhance the German economy's ability to adapt to changes in the economic environment.

*Misguided
constraint to
wage flexibility*