

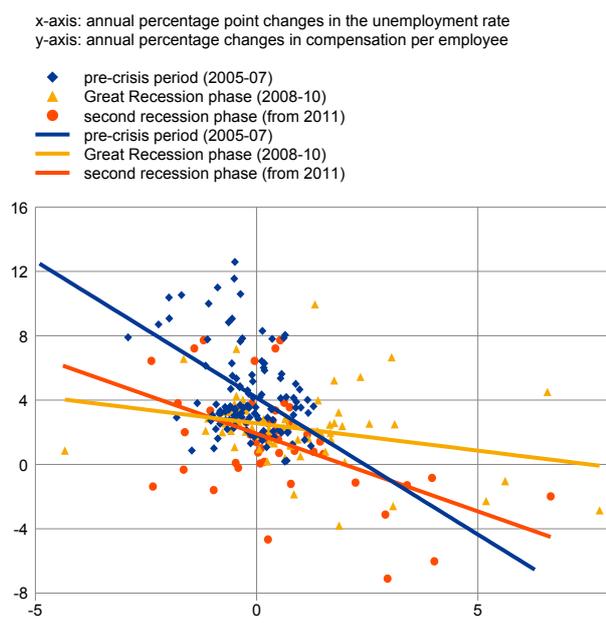
Box 4

Downward wage rigidity and the role of structural reforms in the euro area

This box discusses the role of structural reforms and labour market institutions in wage adjustment in the euro area, with a focus on downward wage rigidity. In addition to the possibility that the productivity of workers may suffer owing to lower wages, as argued by the efficiency wage theory, downward wage rigidity has other important macroeconomic consequences. Empirical evidence seems to support the view that labour adjustment is slower when wages are rigid and that structural reforms can facilitate the adjustment process.

The reaction of wages to the unemployment rate in the euro area seems to vary significantly across different time periods. Chart A shows that in the period

Chart A
Changes in compensation per employee and changes in the unemployment rate in euro area countries



Source: "Comparisons and contrasts of the impact of the crisis on euro area labour markets", Chart 50 (updated), *Occasional Paper Series*, No 159, ECB, Frankfurt am Main, February 2015.

of strong GDP growth before the crisis wages reacted relatively strongly to changes in the unemployment rate. However, in the first phase of the crisis, namely the "Great Recession", this relationship weakened substantially, possibly showing downward wage rigidity. The reaction of wages to unemployment strengthened again during the second phase of the crisis (characterised by the recession which started towards the end of 2011), but was still notably weaker than in the pre-crisis period.

Different reactions of wages to unemployment at different stages of the business cycle seem to be partly explained by downward wage rigidities that characterise various euro area countries. Evidence of micro-level wage rigidity is relatively well established and supports the finding that cutting wages is difficult.¹ This is also confirmed by recent results from the third wave of the firm-level survey by the Wage Dynamics Network. At the macro level, Heinz and Rusinova (2011)² show that wages seem to be less responsive to unemployment in the presence of a positive unemployment gap. This is confirmed by a recent

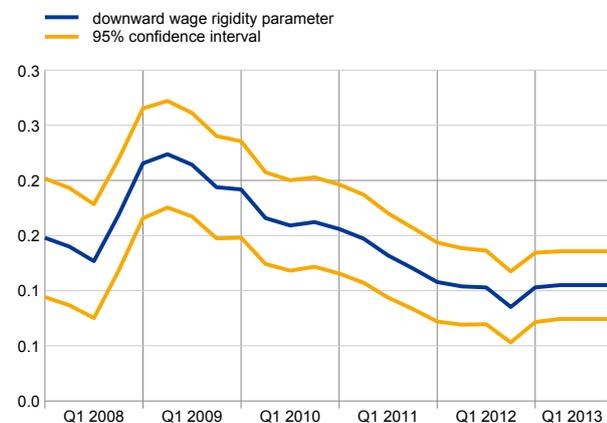
¹ See, for example, Babecký, J., Du Caju, P., Kosma, T., Lawless, M., Messina, J. and Rööm, T., "Downward Nominal and Real Wage Rigidity: Survey Evidence from European Firms", *Scandinavian Journal of Economics*, Wiley Blackwell, Vol. 112(4), pp. 884-910, December 2010. See also Boeri, T. and Jimeno, J.F., "Unemployment in Europe: What does it take to bring it down?", May 2015 (available at <http://economyinfo.com/wp-content/uploads/2015/05/Boeri.pdf>). Available evidence suggests that wage freezes seem to be a lower bound on wage flexibility. For example, the December 2014 edition of the Economic Bulletin of the Banco de España reports that in 2008 5% of wage settlements in Spain were wage freezes, but by 2013 almost one-third of wages were frozen in the private sector.

² Heinz, F. F. and Rusinova, D., "How flexible are real wages in EU countries? A panel investigation", *Working Paper Series*, No 1360, ECB, Frankfurt am Main, July 2011.

Chart B

Time path of the downward wage rigidity parameter for the euro area

(rolling regressions; percentage points)



Source: Anderton and Bonthuis (2015).

Notes: The parameter indicates the extent to which the response of nominal wage growth to changes in unemployment is dampened during economic downturns (based on panel regressions pooling the data across euro area countries). The more positive the parameter, the weaker the response of wages to unemployment during downturns. The time path of the parameter is derived from rolling regressions.

study by Anderton and Bonthuis (2015)³, which shows a lower downward responsiveness of wages to higher unemployment during downturns. Chart B shows the time path of the wage rigidity parameter estimated in Anderton and Bonthuis (2015) which also seems consistent with the information in Chart A, as both suggest evidence of downward wage rigidity which weakened as the crisis became more protracted.

Labour market institutions seem to play an important role in wage adjustment. The table provides an overview of the wage bargaining characteristics of euro area labour markets and confirms substantial cross-country heterogeneity in labour market institutions in the euro area countries. Some of them, such as the Baltic States, are usually defined as “flexible”, given their decentralised wage bargaining process and relatively low trade union density. However, many other euro area countries are characterised by a strong trade union presence (e.g. Belgium, Malta and Finland), a high

Table

Wage bargaining characteristics in euro area countries in 2014 and developments since 2007

Country	Union density	Coordination of wage bargaining	The dominant level(s) at which wage bargaining takes place	Minimum wage setting
Belgium	55* ↗	5 ↔	5 ↔	3 ↔
Germany	18* ↘	4 ↔	3 ↔	1 ↔
Estonia	7** ↘	1 ↘	1 ↔	3 ↔
Ireland	34* ↗	1 ↘	1 ↘	6* ↔
Greece	22* ↘	2 ↘	2 ↘	8 ↗
Spain	17* ↗	3 ↘	3 ↔	8 ↗
France	8* ↗	2 ↔	3 ↔	8 ↔
Italy	37* ↗	3 ↔	3 ↔	1 ↔
Cyprus	45* ↘	2 ↔	2 ↔	7 ↔
Latvia	13** ↘	1 ↔	1 ↔	8 ↗
Lithuania	9** ↘	1 ↔	1 ↔	5 ↔
Luxembourg	33** ↘	2 ↔	2 ↔	7 ↔
Malta	53** ↘	2 ↔	1 ↔	7 ↔
Netherlands	18* ↘	4 ↔	3 ↔	7 ↔
Austria	27* ↘	4 ↔	3 ↔	2 ↗
Portugal	19** ↘	2 ↔	3 ↔	8* ↔
Slovenia	21* ↘	3 ↘	3 ↘	7 ↔
Slovakia	13* ↘	3 ↗	2 ↔	8 ↗
Finland	69* ↘	5 ↗	4 ↗	2 ↘

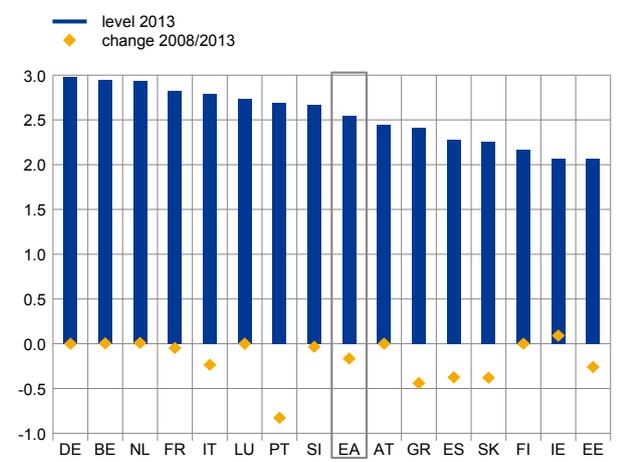
Sources: Jelle Visser, ICTWSS: Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts in 51 countries between 1960 and 2014, version 5.0, Amsterdam Institute for Advanced Labour Studies (AIAS), October 2015; and ECB calculations.

Notes: The data refer to 2014 unless otherwise indicated (data marked * refer to 2013 and those marked ** refer to 2012). For further details, see the codebook at <http://www.uva-aias.net/208>. The arrows show the direction of changes compared with 2007. Union density is net union membership as a proportion of wage and salary earners in employment. Coordination of wage bargaining ranges from 5 = central or cross-industry-level bargaining to 1 = fragmented wage bargaining, mostly at the firm level. The dominant level(s) at which bargaining takes place ranges from 5 = central or cross-industry-level bargaining to 1 = local or firm-level bargaining. Minimum wage setting ranges from 0 = no statutory minimum wage, no sectoral or national agreements to 8 = the minimum wage is set by the government without a fixed rule.

³ Anderton, R. and Bonthuis, B., “Downward Wage Rigidities in the Euro Area”, *GEP Research Paper Series*, No 15/09, University of Nottingham, July 2015.

Chart C

Employment protection legislation



Source: OECD.

Notes: The countries are ordered by their rankings in 2013. Data are based on synthetic indicators of how strictly labour markets are regulated (e.g. notice periods, severance payments and the use of temporary contracts). Although the indicator does not capture all the factors which may affect regulation, it provides a reasonable indication of rigidities that can be compared across countries. A higher value denotes stricter regulation. The euro area average consists of countries which are members of the OECD and for which values are available.

degree of coordination of wage bargaining processes (e.g. Belgium, Germany, the Netherlands, Austria and Finland) and minimum wage setting (e.g. Greece, Spain, France, Latvia, Portugal and Slovakia). Together with economy-wide indexation schemes and strict employment protection legislation (see Chart C), this may result in downward wage rigidities.

Euro area countries, especially those more affected by the crisis, implemented comprehensive structural reform programmes. This is confirmed by the changes in employment protection legislation (see Chart C), where labour market reforms were mainly implemented by countries under stress. These reforms included decentralisation of collective wage bargaining with more firm-level bargaining, decreases in automatic wage indexation schemes, fewer collective agreements, increased flexibility of working time arrangements and a reduction in firing and hiring costs (see also Article 1, Box 2).

Labour market reforms have the potential to increase the responsiveness of wages to economic slack. Anderton and Bonthuis (2015), for example, find that in the presence of strict employment protection legislation and strong union coverage, wages can be less responsive to unemployment. Therefore, reductions in these indicators during the crisis may also partly explain the decline in downward wage rigidity in Charts A and B.⁴ For example, Font et al. (2015)⁵ explain that the responsiveness of real wages to unemployment in Spain seems to have increased after the implementation of labour market reforms in 2012-13. They also find that wage pro-cyclicality is lower for long tenured individuals, those with permanent contracts and older workers, who are more protected against wage adjustments in economic downturns. Additionally, Martin and Scarpetta (2012)⁶ provide evidence that labour market regulations affect a number of other propagation channels, such as labour reallocation and even productivity (see also Box 5), which can affect wage evolution indirectly.

Obtaining strong empirical evidence on the effects of some types of reform is challenging, particularly when looking at the evolution of aggregate wage data. Difficulties arise, for example, in disentangling the impact on wages of reforms from the impact of changes in the composition of employment and fiscal consolidation.

⁴ Charts A and B show an apparent decline in the degree of downward wage rigidity as the crisis became more protracted. This could be partly due to the wave of labour market reforms in many euro area countries during the crisis – sometimes associated with looser employment protection legislation, etc. – which may have increased the downward pressure on wages. However, other factors, such as fiscal consolidation, may have played a role.

⁵ Font, P., Izquierdo, M. and Puente, S., “Real wage responsiveness to unemployment in Spain: asymmetries along the business cycle”, *IZA Journal of European Labor Studies*, Springer, 4:13, June 2015.

⁶ Martin, J.P. and Scarpetta, S., “Setting it Right: Employment Protection, Labour Reallocation and Productivity”, *De Economist*, Springer, Vol. 160(2), pp. 89-116, June 2012.

Therefore, more analysis is needed to fully understand the underlying factors driving wage adjustment in the euro area during the crisis period.⁷

To enhance the resilience of the economy to shocks, wages must appropriately reflect labour market conditions and productivity developments, which underlines the importance of reforms conducive to greater wage flexibility and differentiation across workers, firms and sectors. In addition to the factors mentioned above, improved efficiency of active labour market policies, as well as increased labour mobility within and across euro area countries, will also help to reduce skill mismatches and structural unemployment, thereby increasing the responsiveness of wages to unemployment.

⁷ For an in-depth analysis of the channels via which labour and product market reforms affect the economy, see the article entitled “Progress with structural reforms across the euro area and their possible impacts”, *Economic Bulletin*, Issue 2, ECB, Frankfurt am Main, March 2015.