GEOGRAPHICAL JOB MOBILITY AND WAGE FLEXIBILITY

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INTRODUCTION AND SUMMARY

Labour market flexibility is a key prerequisite for stable macroeconomic development. It is important for stable development in output, unemployment and employment that wages can be adjusted to the current situation, and that economic resources are used effectively. Increased flexibility may also reduce structural unemployment, i.e. the level of unemployment that is compatible with stable wage and price development in the long term.

Denmark's consistent fixed exchange rate policy since 1982 may have contributed to the development of a more flexible labour market, as there are no longer any expectations of currency devaluations countering the effect of high wage increases on competitiveness. This may have facilitated the creation of a flexible labour market with increasingly decentralised wage formation and new wage systems that allow wages to be adjusted to the current conditions.

In the present situation, wage flexibility and smooth labour market structures are essential to the current upswing in order to prevent bottlenecks and frictions from impeding the recovery of the Danish economy. There are several signs of increasing pressures on the Danish labour market. This is particularly true in construction, which is traditionally a very cyclically sensitive sector, but recently also in the industrial sector. At present, Denmark's competitiveness is good, and there is scope for slightly higher wage increases in the coming years, as labour market pressures intensify.

Kristoffersen (2016) conducts a detailed empirical study of two key aspects of the labour market flexibility: geographical job mobility and wage flexibility. This overview article summarises the most important findings and conclusions of the analysis.

Although Danish employees show a relatively high willingness to change jobs, the level of geographical job mobility is only moderate by international standards. Geographical job mobility is important if labour is to be effectively distributed across the country, and if regional bottlenecks are to be avoided.

Employees who are insured against unemployment exhibit a lower degree of geographical job mobility than those with no such insurance. The difference is particularly pronounced for younger employees, but the labour market reforms implemented in the past 25 years seem to have improved geographical job mobility. This is particularly true among employees with unemployment insurance who experience unemployment.

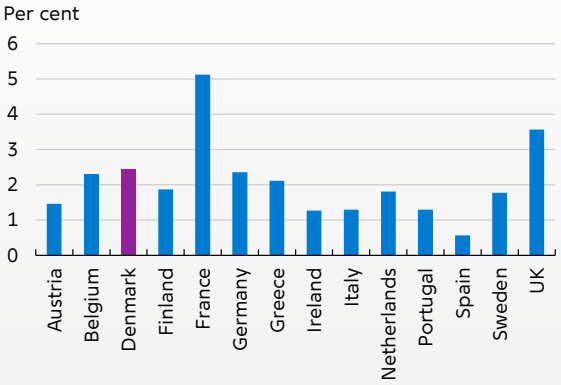
Wage flexibility is another important aspect of labour market flexibility overall. In a number of countries, legal and other constraints make it difficult to implement downward wage adjustments. Such constraints constitute a barrier to wage flexibility. In Denmark, downward wage flexibility is relatively more pronounced than in other countries. This is true of both nominal wages, i.e. wages in monetary terms, and real wages. In a fixed exchange rate regime like the Danish one, it is particularly important that wages

and prices can adjust to the current economic situation.

By international comparison, the Danish labour market stands out due to its combination of fairly high union density and flexible wage formation. This should be viewed in light of the Danish labour market model, where the social partners collectively determine wages and working conditions, and of the trend towards decentralisation in collective bargaining since the 1980s. Wage flexibility is particularly high in export-oriented industries.

Historically, there is some degree of stickiness in the downward adjustment of real wages at the beginning of an economic downturn, but downward wage flexibility increases during the downturn. This was also the case in the euro area during the financial crisis from 2008 onwards. The wage response was fairly limited in the first phase of the crisis, whereas wages were more responsive in later phases of the crisis.

Residential mobility in the EU-15, 2011 Chart 1



Note: The chart shows the share of the population that moved to different geographical area within the country during the last year. The breakdown of countries into geographical areas follows level 3 of the NUTS nomenclature (from French: nomenclature d'unités territoriales statistiques). There are 11 NUTS-3 regions in Denmark, corresponding to the different provinces. Luxembourg is not included in the chart since it constitutes one NUTS-3 region. Eurostat notes that the data for France has low reliability.
Source: Kristoffersen (2016).

GEOGRAPHICAL JOB MOBILITY

The Danish labour market is characterised by a "flexicurity" model, cf. e.g. Pedersen and Riishøj (2007) and Andersen and Svarer (2008). The flexicurity model comprises three main components: considerable flexibility in the employer's right to hire and fire employees, an extensive social safety net in case of unemployment, and active labour market policies where the entitlement to compensation in the event of unemployment is countered by the obligation to actively seek a job and to participate in job-related activities.

However, previous studies show that the Danish labour market does not stand out positively in terms of geographical mobility. On the contrary, Economic Council (2002) finds that despite the relatively high job turnover rates in Denmark, the extent of geographical mobility is fairly limited.

The share of the Danish population who moved to another geographical area within the country from 2010 to 2011 is at a level close to the average for EU-15, cf. Chart 1. But compared with e.g. Australia and the USA, geographical mobility in the EU is low, both within and across countries, cf. Bonin et al. (2008) and OECD (2007). European Commission (2008) also finds that European employees are much less willing to move to another country or to another region within the country than employees in the USA.

EMPLOYEES AND MOBILITY

Job mobility increased substantially in the period 2005-07, but fell back during the subsequent economic downturn, cf. Chart 2. It increased again in the period 2010-12. Job mobility has tended to increase during upswings and to decrease during downturns. Job mobility, defined as the share of employees who change their workplace within a year, cf. Box 1, was around 20 per cent in the period 1981-2004. The fall in job mobility in the period after 2007 may partly reflect that job mobility in the preceding years became so high that firms found it difficult to retain the necessary skills that are acquired during an employment relationship.

Geographical job mobility increased from around 7 per cent in the early 1980s to around 15 per cent in 2012, cf. Chart 2. Most of the increase occurred in the period after 2004. The cyclical fluctuations in geographical job mobility mirror the fluctuations in job mobility overall, improving during upswings and deteriorating slightly during downturns.

However, geographical job mobility varies considerably across population groups. Men gen-

Data

Box 1

The analyses in the article are conducted using register data from Statistics Denmark. This makes it possible to link employees with their employers. As a main rule, the population consists of all employees in Denmark aged 15-66.

The analyses of geographical job mobility primarily use data from IDA (integrated database for labour market research), which measures all employment relationships in November every year, cf. Statistics Denmark (1991). The analyses include all employees employed at a workplace for which the location (municipality) is observed in two consecutive years. However, they include neither self-employed individuals nor employees whose workplace changes address compared to the previous year. The data covers the period 1980 to 2012. Geographical job mobility is measured with an indicator of whether individual employees have changed to a workplace in a different municipality during the past year.[1] The structural reform effective from 2007 leads to a break in division into municipalities. To obtain a consistent time series, Denmark is divided into the 98 after-reform municipalities throughout the period 1981-2012, cf. Kristoffersen (2016). The final sample includes 58,679,755 observations.

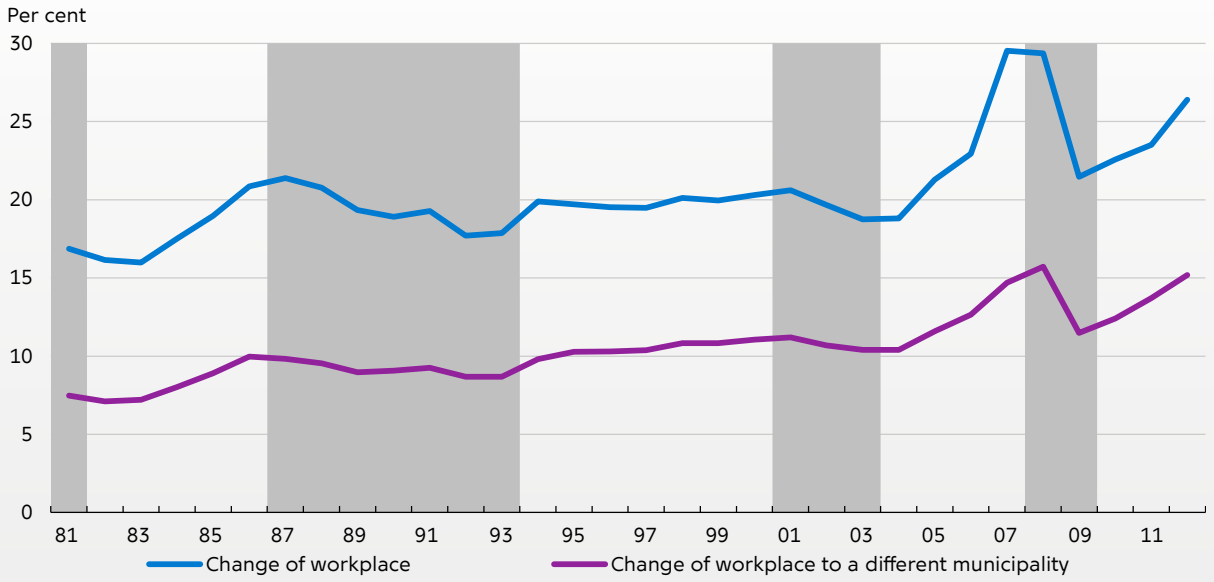
The analyses of wage flexibility use mainly data from the Services Register of the Earnings Statistics, cf. Statistics Denmark (2015). The register comprises information on employees employed in firms with a staff equivalent to 10 or more full-time employees who have been employed for minimum one month in a job of more than eight hours a week. Employees in agriculture and fisheries are not included in the register. Another requirement is that employees are employed under "normal conditions". This means that e.g. employees who are paid exceptionally low wage rates due to disability, etc., and employees who are not taxed under ordinary tax conditions in Denmark are not included.

The Services Register of the Earnings Statistics includes all employment relationships for each individual during the year, but the analyses focus exclusively on the employment relationship with the most hours worked during the year. Wage flexibility is estimated on the basis of employees in the private sector with the same employer as the year before.[2] The purpose of this delimitation is to focus on wage flexibility in the individual employment relationship. Data covers the period from 1997 to 2010. The final sample comprises 6,449,162 observations. Firms are grouped into 19 industries, and the incidence of downward wage rigidity is estimated for 10 of those industries. In principle, the wage concept used is remuneration per hour worked, i.e. the part of the wage that is paid on a current basis, which does not include absence pay or nuisance bonus.

1. Other measures of geographical job mobility also exist, e.g. commuting distance, and division into alternative geographical units might also be used, cf. the discussion in Kristoffersen (2016). Confederation of Danish Employers (2013) considers commuting distance and against this background concludes that geographical mobility in Denmark is moderate.
2. See Ministry of Economic Affairs and the Interior (2014) for a recent Danish study focusing on wage mobility among job switchers. In keeping with the results of this article, they find that wage mobility is relatively high in the Danish labour market.

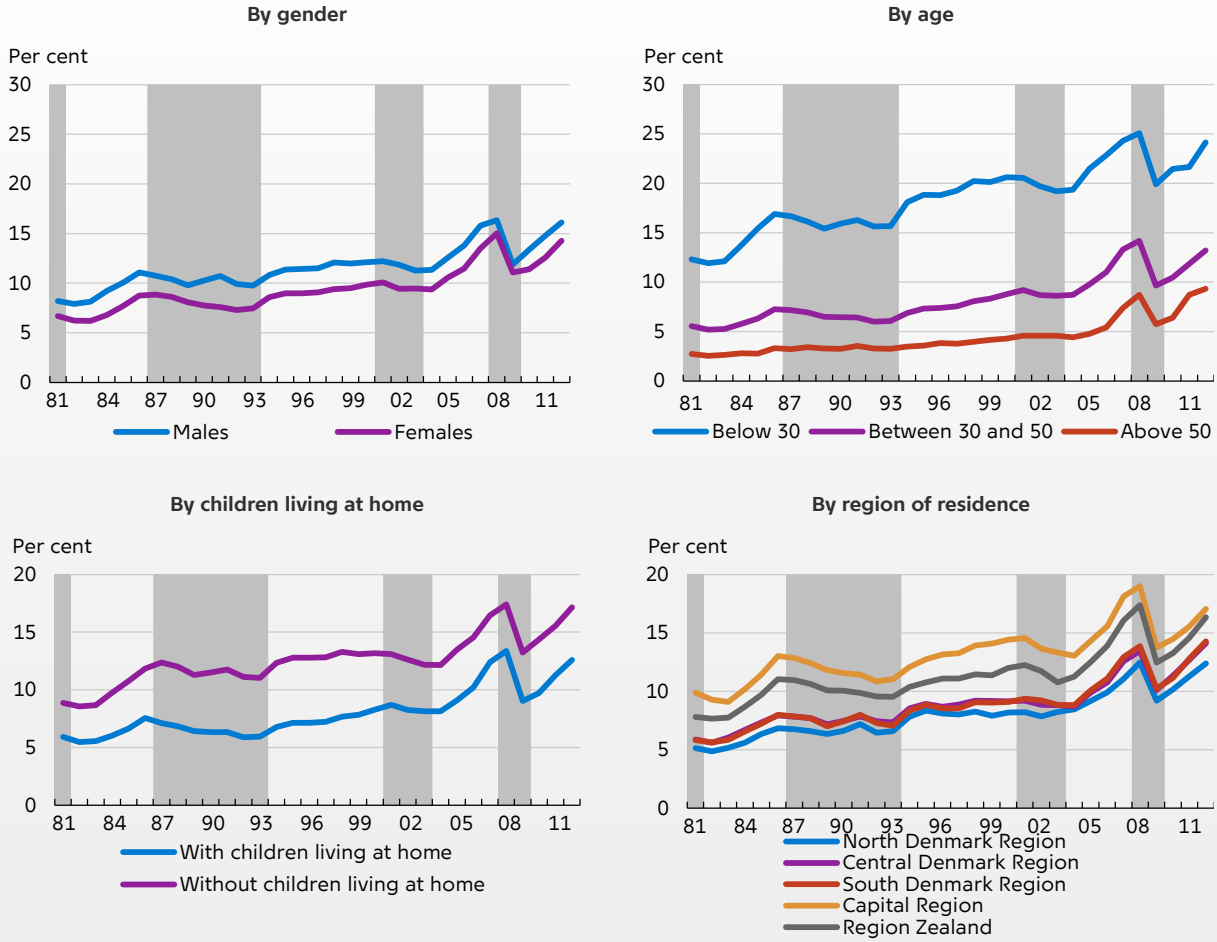
Job mobility and geographical job mobility

Chart 2



Note: The blue curve shows job mobility measured as the share of employees who changed their workplace compared to the previous year. The purple curve shows geographical job mobility measured as the share of employees who changed to a workplace in a different municipality compared to the previous year. The grey areas show periods of economic downturn, cf. Abildgren et al. (2011).
Source: Kristoffersen (2016).

Geographical job mobility and personal characteristics Chart 3



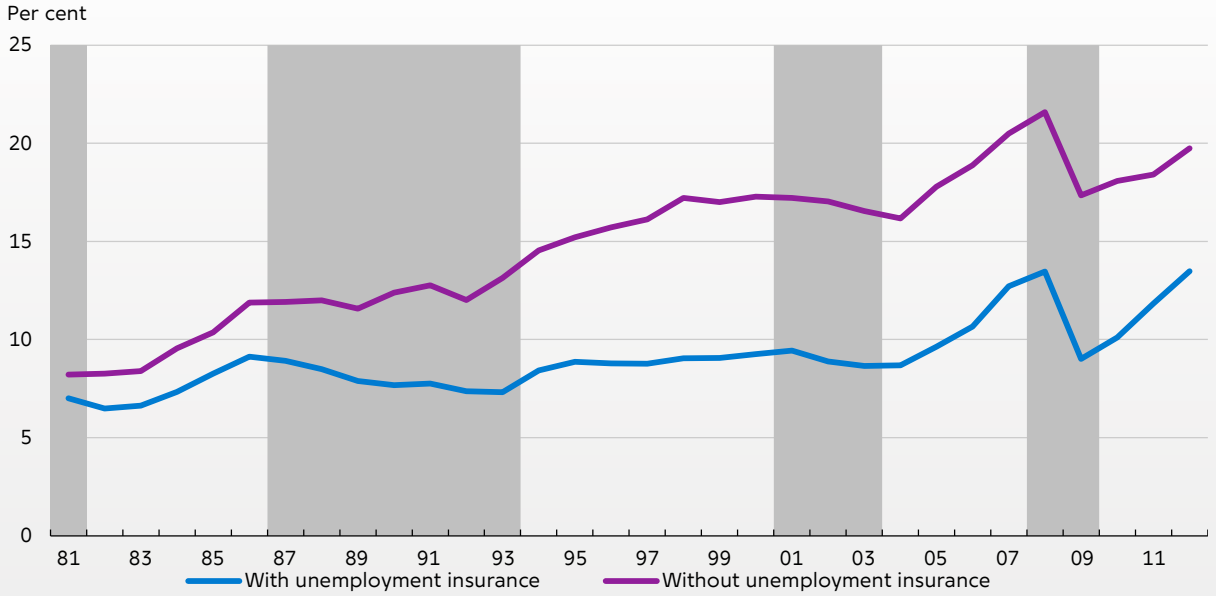
Note: The chart shows the share of employees who changed to a workplace in a different municipality (after-reform) compared to the previous year. Personal characteristics are measured in the previous year. The region of residence refers to the after-reform region; see Kristoffersen (2016) for a more detailed explanation. The grey areas show periods of economic downturn, cf. Abildgren et al. (2011).
Source: Kristoffersen (2016).

erally exhibit greater geographical job mobility than women, cf. Chart 3. Besides, there are clear indications that younger employees in particular are willing to find a job in another municipality, while the extent of geographical job mobility is lower among those with children living at home. This illustrates that younger employees constitute an important part of a flexible labour market.

Employees living in the Capital Region of Denmark exhibit a higher degree of geographical job mobility than those living in the rest of Denmark, especially compared to the North Denmark Region (Northern Jutland). This is partly explained by the fact that the geographical distance between municipalities is greater in Northern Jutland than in the Capital Region. Accordingly, switching to a workplace in another municipality more often requires moving to another address in Northern Jutland compared with the Capital Region. Hence, the increase in overall geographical job mobility for all of Denmark may partly reflect a tendency for a number of employees to move from rural to urban areas.

Employees with unemployment insurance are less likely to switch to a workplace in another municipality than employees without unemployment insurance, cf. Chart 4. The difference in geographical job mobility between the two groups averages around 6 percentage points over the period 1981-2012. This is equivalent to around 60 per cent of overall geographical job mobility, which is at a level of around 10 per cent, cf. Chart 2.

Geographical job mobility and unemployment insurance Chart 4



Note: The chart shows the share of employees who changed to a workplace in a different municipality (after-reform) compared to the previous year. The unemployment insurance status is measured in the previous year. The grey areas show periods of economic downturn, cf. Abildgren et al. (2011).
Source: Kristoffersen (2016).

There are, however, many differences between the group of employees with unemployment insurance and the group of non-insured employees, e.g. in terms of their employment history and age composition. To get a closer idea of the link between geographical job mobility and unemployment insurance, an econometric analysis is conducted, taking a number of observable differences between the two groups into account. The analysis considers many of the factors expected to impact employees' decision of whether to switch to a workplace in another municipality, including both firm characteristics and personal characteristics such as gender, age, job experience, level of education, job function and employment history.

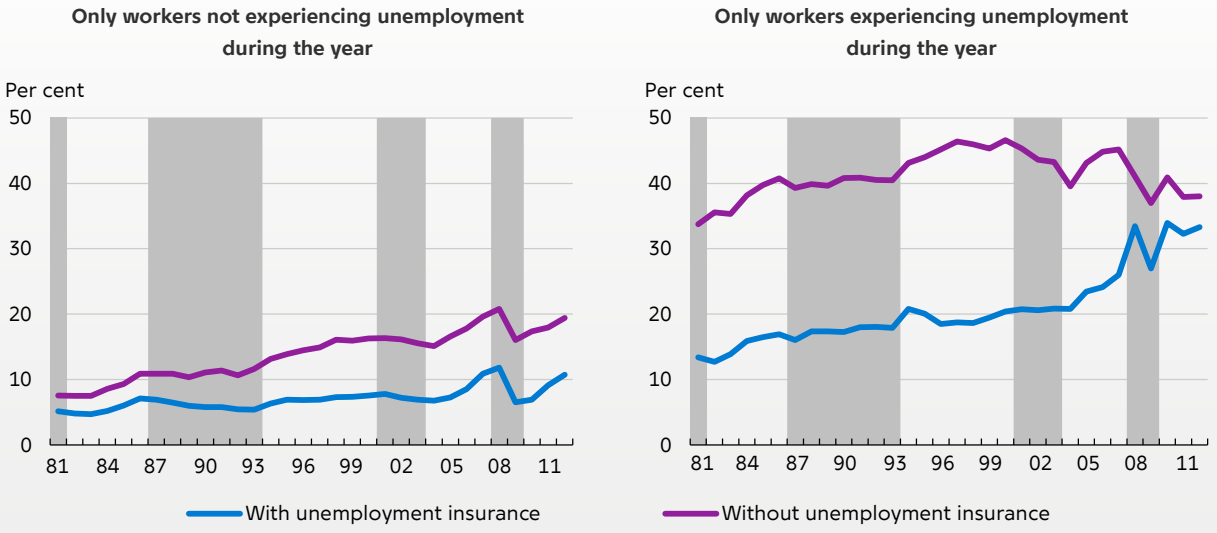
The difference in geographical job mobility between the two groups is around 0.5 percentage point over the period 1981-2012 when the differences observed between the groups are taken into account, cf. Kristoffersen (2016). This is the effect that can be attributed directly to whether an employee is insured against unemployment or not, and it corresponds to around 5 per cent of geographical job mobility overall.

The results match the findings of previous Danish and international studies. Economic Council (2002) finds that a higher compensation rate for unemployed persons with unemployment insurance reduces the probability of finding a job in another geographical area more than it reduces the probability of finding a job locally. Based on Spanish data for the period 1987-1991, Antolin and Bover (1997) find that the estimated probability of moving to another region is higher among unemployed persons who do not receive unemployment benefits than among other groups.

Employees who experience unemployment during the year are more geographically job mobile than employees without a history of unemployment, cf. Chart 5. This is natural, since there is a greater incentive for unemployed people to find a new job than for those who have a job relative to the preceding year. Some of those jobs will be in another municipality. In principle, mobility among people without jobs can never get too high, as the need to retain skills built up during an existing employment relationship is not applicable to that group.

This should also be seen in the light of the rules on being available for work. In Denmark, recipients of unemployment benefits are required to accept up to three daily hours of public transpor-

Geographical job mobility and unemployment insurance, by history of unemployment Chart 5



Note: The chart shows the share of employees who changed to a workplace in a different municipality (after-reform) compared to the previous year. The unemployment insurance status is measured in the previous year. The grey areas show periods of economic downturn, cf. Abildgren et al. (2011).
Source: Own calculations based on data from Statistics Denmark.

tation, and, after three months of unemployment in total, more than three daily hours of transportation, cf. Ministry of Employment (2015). Unemployed people with medium-cycle or long-cycle educations are required to accept job offers regardless of the transportation time if this is necessary in order to fill job vacancies with qualified labour.

There are clear indications of geographical job mobility having improved in recent years, particularly for employees with unemployment insurance who experience unemployment. This should be viewed in the light of the labour market reforms that have been implemented since the mid-1990s, including tightening of the availability rules and reduction of the unemployment benefit entitlement period. The narrowing of the spread in geographical job mobility between insured and non-insured employees who experience unemployment is confirmed by an econometric analysis, cf. Kristoffersen (2016).

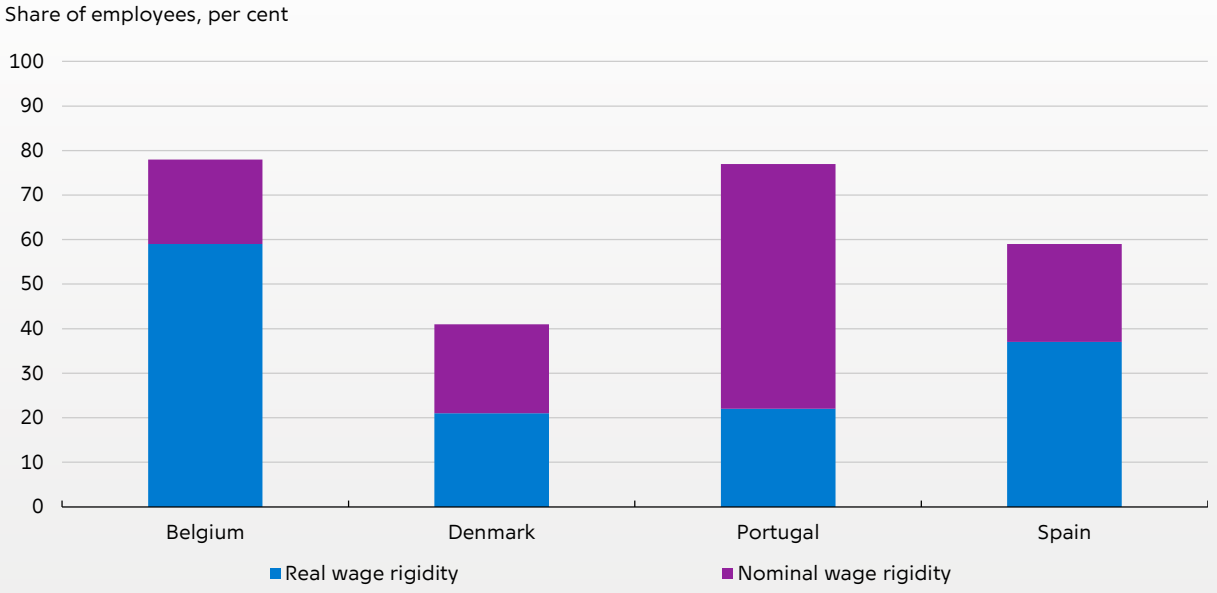
WAGE FLEXIBILITY

Wage flexibility is another important aspect of labour market flexibility overall. This applies to individual firms as well as to the economy as a whole. The development in firms' costs is highly dependent on the wage development, cf. Storgaard (2009), so wage formation is an important element in the price setting. Moreover, flexible wage formation is essential in relation to effective utilisation of the economic resources.

In a small, open economy such as the Danish one, the wage development also plays a key role in relation to competitiveness. Higher wage increases than abroad lead to deteriorating competitiveness unless the wage increases reflect a more favourable productivity development, or that firms are able to sell their products at a higher price. The deteriorating competitiveness resulting from excessive wage increases has an adverse impact on exports and increases unemployment. Declining pressures on the labour market will gradually lead to lower wage increases than abroad, thereby restoring competitiveness. Hence, wage flexibility may dampen cyclical fluctuations, especially in countries with substantial foreign trade.[1]

1 It is worth noting, however, that enhanced wage flexibility does not necessarily cause faster adjustment following economic shocks and increased macroeconomic stability. Fast and stable adjustment to transitory shocks depends, among other things, on how quickly export prices adjust to the change in wages, cf. Hansen (1998).

Downward wage rigidity in an international comparison Chart 6



Note: The chart shows the share of employees who are potentially affected by downward wage rigidity. The data is described in Box 1, while the method used is described in Kristoffersen (2016). For Denmark, a weighted average of the estimated wage rigidity across all industries considered is shown, using data for the period 1997-2010. The percentage employed in each industry is used as weight. For Belgium, Portugal and Spain, the results are from Messina et al. (2010), who use data from various sources over the period 1990-2007.
Source: Own calculations based on data from Statistics Denmark and Messina et al. (2010).

Denmark's consistent fixed exchange rate policy since 1982 may have contributed to the development of a more flexible labour market, as there are no longer any expectations of currency devaluations countering the effect of high wage increases on competitiveness. This may have encouraged the establishment of a flexible labour market where wages can be adjusted to the current conditions.

Constraints to the possibilities of downward wage adjustment are referred to as downward wage rigidity. Downward wage rigidity is a potentially important barrier to wage flexibility in terms of both nominal wages, i.e. wages in monetary terms, and real wages. Both economic and legal constraints may impede downward wage adjustments. In a fixed exchange rate regime like the Danish one, it is particularly important that wages and prices can be adjusted to the current economic situation, cf. Mundell (1961). In periods of low inflation, downward rigidity in nominal wages will reduce the possibility of adjusting real wages to the economic situation.

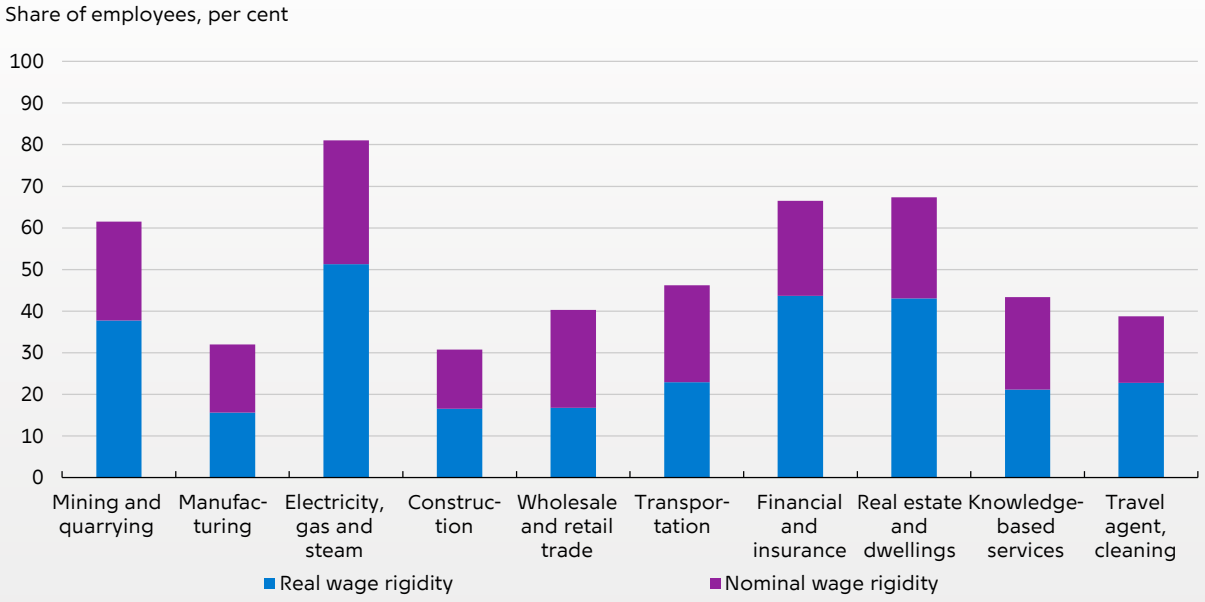
On average for all industries, 21 per cent of Danish employees are potentially affected by downward real wage rigidity, while 20 per cent are potentially affected by downward nominal wage rigidity. Overall, around 40 per cent of Danish employees are potentially affected by downward wage rigidity. This is a relatively small share by international standards, cf. Chart 6. The method used and the measures applied for wage rigidities (both nominal and real) are described in Kristoffersen (2016).

In an international comparison, the Danish labour market stands out due to its combination of relatively high union density and flexible wages. This should be viewed in light of the Danish labour market model where the social partners collectively determine wages and working conditions and in light of the trend towards decentralisation in collective bargaining. Since the late 1980s, flexible wage systems have gained ground in the Danish labour market with the trend towards more decentralised collective bargaining, cf. Hansen and Storgaard (2011).

WAGE FLEXIBILITY AND INDUSTRY

There are substantial differences in the incidence of downward wage rigidity across industries, cf.

Downward wage rigidity across industries, 1998-2010 Chart 7



Note: The chart shows the share of employees who are potentially affected by downward wage rigidity. The data is described in Box 1, while the method used is described in Kristoffersen (2016).
Source: Kristoffersen (2016).

Chart 7. Constraints to downward wage adjustment are most prevalent within energy supply, property trading, financing and insurance, and least prevalent within particularly competitive sectors such as construction and industry.

The differences across industries may reflect the wage bargaining structure. Downward wage rigidity is higher within transportation than within manufacturing. The transport sector is a "normal wage" area in which pay is typically determined at a central level by the social partners.[2] The manufacturing industry, on the other hand, is dominant within the minimum-wage area which generally has a more decentralised wage system, as only a wage rate is determined centrally as a lower bound for employees' personal pay.

Within manufacturing, around 16 per cent of all employees were potentially affected by downward real wage rigidity, while 16 per cent were potentially affected by downward nominal wage rigidity. The estimates are very low in an international comparison, cf. above, which supports the fact that wage flexibility is high in export-oriented industries in Denmark.

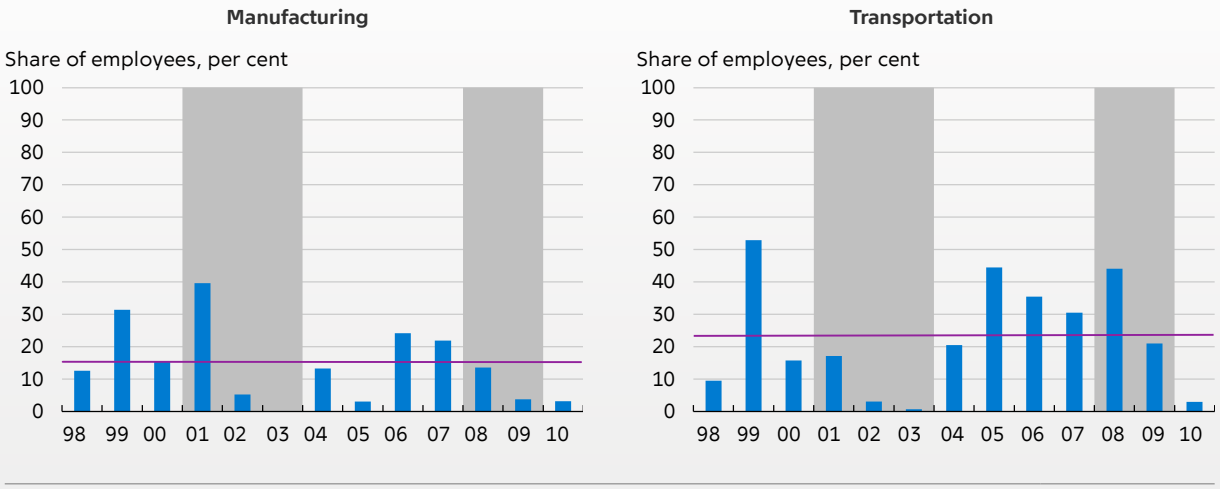
In the transport sector, around 23 per cent of employees were potentially affected by downward real wage rigidity, while 23 per cent were potentially affected by downward nominal wage rigidity. The incidence of downward wage rigidity is lowest within construction, where wage systems are typically based on individual contracts with performance-related pay.

Messina et al. (2010) find that institutional differences across countries are more important for the degree of downward rigidity than differences across industries. There are, however, still significant differences in the prevalence of downward wage rigidity across industries within the individual countries. Real wages are found to be less downward rigid in industries with a high degree of firm-level wage bargaining. Nominal wages are found to be less downward rigid in industries with a high degree of product market competition, cf. Messina et al. (2010).

The incidence of downward real wage rigidity has also been higher in transportation than in manufacturing in most of the years 1998-2010, cf.

2 However, in step with the trend for greater decentralisation of wage formation, it has become increasingly common to combine the normal wage with more flexible wage systems, cf. Hansen and Storgaard (2011).

Downward real wage rigidity over time Chart 8



Note: The chart shows the share of employees who are potentially affected by downward real wage rigidity. The purple lines show the average for all years. The data is described in Box 1, while the method used is described in Kristoffersen (2016). The grey areas show periods of economic downturn, cf. Abildgren et al. (2011).
Source: Kristoffersen (2016).

Chart 8. In both these industries the incidence of downward real wage rigidity has tended to be higher in the first phase of an economic downturn than in later stages. These results are in line with evidence from the euro area, cf. Anderton et al. (2015). Their findings suggest that the wage response in the euro area was fairly limited during the first phase of the financial crisis from 2008, whereas wages were more responsive in the second phase of the crisis.

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