

SPARE CAPACITY IN THE LABOUR MARKET

Troels Kromand Danielsen and
Casper Winther Jørgensen, Economics

INTRODUCTION AND SUMMARY

The Danish economy is in an upswing. The labour market is improving, and private sector employment has risen by more than 53,000 persons since the 2nd quarter of 2013. The improvement remains moderate, and there are still spare resources in the Danish labour market.

According to Danmarks Nationalbank's projection, the labour market – and the economy overall – is expected to return to normal capacity around the end of 2017. Against this background, wage growth is expected to accelerate in the next few years as a natural element of the economic recovery, and there may gradually be more indications of labour shortages in parts of the economy without this resulting in a general pressure on the labour market or overheating.

It is assessed that employment may rise by a total of almost 100,000 from 2014 to 2017 before general capacity constraints and actual wage pressures set in. Structural unemployment has been reduced considerably over the last 25 years. This has increased employment and prosperity. However, it also means that unemployment is currently low, so a labour force expansion is necessary for rising employment when the upswing gathers momentum. The assessment of spare resources both in and outside the labour force is subject to considerable uncertainty. This applies particularly to the potential additional labour input in the coming years as a result of the labour market and pension reforms implemented, as well as from the young age groups and labour from abroad. Spare resources may thus be over- or underestimated.

History shows that employment may grow both faster and more suddenly than currently projected. If the Danish labour market overheats, it will sooner or later require a correction, which implies a risk of a sudden slowdown later on. Moreover, history shows that labour market pressures may not be signalled by wages until at a late stage. They may, however, emerge elsewhere in the economy. Possible indicators are e.g. dampened productivity development or bottlenecks in specific industries. A higher import ratio may also indicate labour market pressures, but this does not pose a problem in itself in the present situation, given the current account surplus and considerable net foreign assets.

The failure to identify the overheating in the mid-2000s meant, inter alia, that economic policy was not sufficiently tailored to ensuring stable economic development with sustainable employment growth. Due diligence in economic policy is therefore a prerequisite for a stable course of the Danish economy in the coming years. Basically, this will require gradual tightening and neutralisation of fiscal policy over the next few years. At the same time, it is necessary that recent labour market reforms have the intended effect on the supply of labour, and firms must be able to recruit staff from abroad. A shortage of labour will raise the requirements for both fiscal and structural policy.

CYCLICAL LABOUR MARKET PRESSURES ARE TYPICALLY ASSESSED ON THE BASIS OF WAGE DEVELOPMENTS

CYCLICAL PRESSURES ARE ESTIMATED ON THE BASIS OF WAGES AND PRODUCTIVITY

The cyclical position of the labour market is not directly observable. As an indicator of labour market pressures, Danmarks Nationalbank estimates an unemployment gap, i.e. the difference between actual and structural unemployment, cf. Chart 1. Structural unemployment can be interpreted as the level of unemployment that is sustainable in the long term, typically defined as stable price development. In Denmark, inflation is a weak signal of labour market pressures. This is due to Denmark's fixed exchange rate policy, which requires that price developments in Denmark do not deviate persistently from price developments in the currency anchor, and hence they are less determined by domestic factors. In addition, short-term price developments may be characterised by strong fluctuations in e.g. energy and food prices.

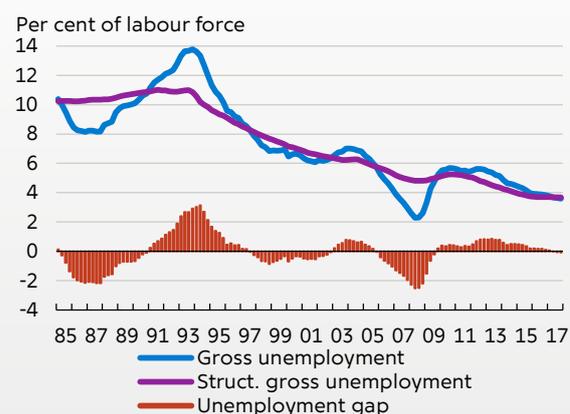
The cyclical position of the labour market, on the other hand, is of paramount importance to wage developments. Situations with labour market pressures and unemployment below the structural level push up wage growth, and vice versa when unemployment is above the structural level. However, wage development as such is not necessarily a signal of labour market pressure either. Viewed in a longer perspective, growth in real wages basically reflects labour productivity. Consequently, high growth in real wages does not necessarily indicate strong pressure, provided that it is matched by productivity growth.

That is why Danmarks Nationalbank uses the wage share as a signal in its estimation of the unemployment gap¹. The wage share indicates the share of income generation in the economy that goes to labour compensation, and it is calculated as compensation of employees divided by gross value added. This translates into the relationship

1 See Andersen and Rasmussen (2011) for a review of Danmarks Nationalbank's estimation method, including the relationship between the wage share and the unemployment gap.

Actual and structural gross unemployment

Chart 1



Source: Statistics Denmark and own calculations.

between real wages and productivity, and therefore the wage share reflects the relative movements of wages and productivity. The wage share will rise if growth in real wages exceeds productivity growth. So the development in the wage share may give an indication of labour market pressures. An increasing wage share indicates a level of unemployment below the structural level, while a falling wage share indicates a level of unemployment above the structural level.

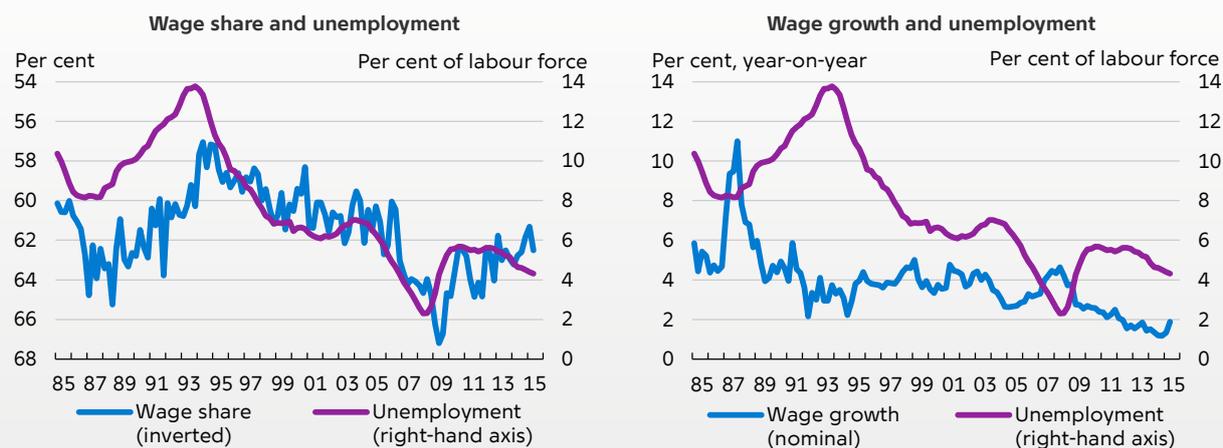
Subject to considerable uncertainty, the unemployment gap is currently estimated at around 0.4 per cent of the labour force, corresponding to approximately 10,000 persons, cf. Chart 1.

WAGE DEVELOPMENT IS NOT ALWAYS A STRONG SIGNAL OF LABOUR MARKET PRESSURE

The signal from the wage share is weakened by the fact that wages may respond with a lag to emerging labour market pressures. One reason is that stickiness in nominal wages and prices may prevent the immediate adjustment of the wage share to the current cyclical position. For example, in the mid-2000s the wage share reacted relatively late to emerging labour market pressures. The wage share did not begin to rise in earnest (inverted in the chart) until towards the end of 2008, when unemployment had begun to increase, cf.

Gross unemployment, wage share and wage growth

Chart 2



Note: Gross unemployment. Wage share for the private non-agricultural sector excluding energy extraction and housing.
Source: Statistics Denmark.

Chart 2 (left). Up to 2008 it may be difficult to distinguish the development in the wage share from the general trend since the mid-1990s.

This also applied to wage growth. Although wage increases began to gather momentum before the overheating, they really accelerated from the end of 2007 and in 2008, when labour market pressures culminated, cf. Chart 2 (right). Furthermore, wage growth peaked at the same level as in 2003, despite the stronger labour market pressure.

Therefore, a broad range of indicators of labour market developments must be considered in order to obtain a clearer picture of current labour market pressures and identify any early indications of overheating.

NO SIGNS OF GENERAL CYCLICAL PRESSURES

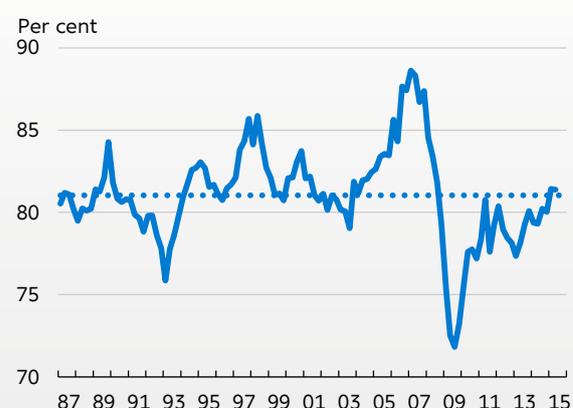
The available labour market indicators still point to some slack in the labour market. Firms still find that a shortage of labour is only to a limited extent impeding production. It remains relatively easy to recruit labour, and the number of jobs advertised is still only slowly edging upwards. The improvement of the Danish labour market is seen in all regions and among all professional groups.

QUESTIONNAIRE SURVEYS INDICATE NORMAL CAPACITY UTILISATION AND INITIAL SIGNS OF LABOUR SHORTAGE

On average, industrial firms find that overall capacity utilisation is currently normal or in line with a historical average, cf. Chart 3. Normal capacity utilisation does not necessarily reflect that the situation is becoming critical for industrial firms. It may be an indication of a reduced capital stock after a prolonged period of dampened investment, and of a return to the negative trend in industrial employment seen over the last many years, as the

Capacity utilisation in industry

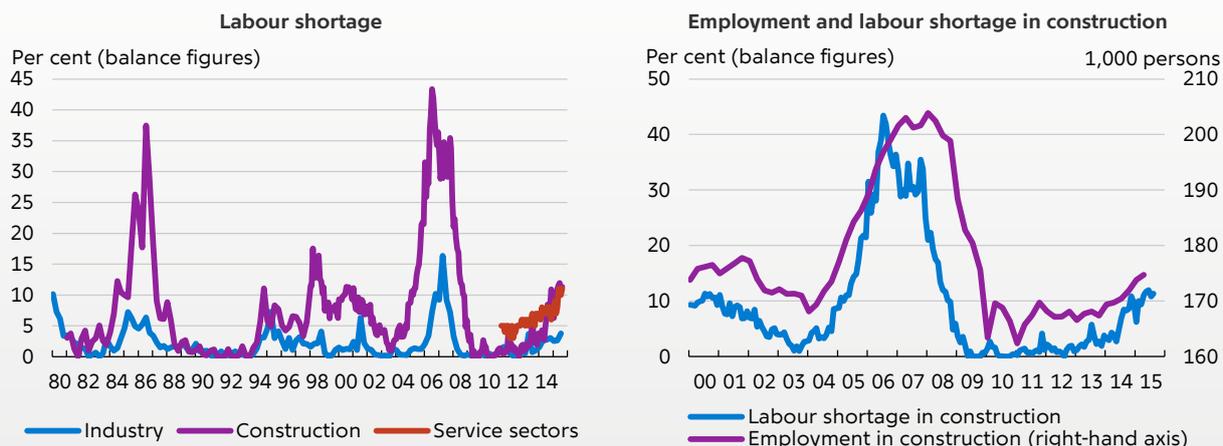
Chart 3



Note: The dotted line denotes the average since 1987.
Source: Statistics Denmark and own calculations.

Indicators of labour shortage and employment in construction

Chart 4



Note: There is no data for labour shortage for the service sector before 2011. Employment in construction is reported as employment in building and construction according to the national accounts.

Source: Statistics Denmark and own calculations.

service sector makes up an increasing share of the Danish economy.

Construction, industry and the service sectors all state that a gradually increasing labour shortage is an impediment to production. At the moment, this development does not give cause for concern, but experience from industry and construction shows that shortages can arise relatively quickly. According to the questionnaire survey, this happened especially during the strong increase in activity in the building and construction sector in the mid-2000s, cf. Chart 4 (left). Nevertheless, many construction firms also stated that there were no impediments to production in that period. Employment in construction had already risen to a relatively substantial extent before more and more construction firms assessed that they were short of labour, cf. Chart 4 (right). So far, employment in construction is rising at a slower pace in the current situation.

FEW UNSUCCESSFUL RECRUITMENT ATTEMPTS

Pressures may arise in some parts of the labour market before they potentially spread to the rest. For example, a certain type of labour may be in high demand. Currently, there are no signs that firms have problems recruiting staff in general. Around one in five firms with recruitment activity in the 1st half of 2015 found it challenging to recruit new staff, cf. Chart 5. This is still limited, but relative to the extent of recruitment, firms have

generally found recruitment more challenging over the last three years.

There will always be certain frictions in the labour market and very specific industries or specialised firms experiencing recruitment problems. Consequently, recruitment problems in a few industries are not necessarily an indication of an emerging general pressure.

Share of problematic recruitment attempts

Chart 5

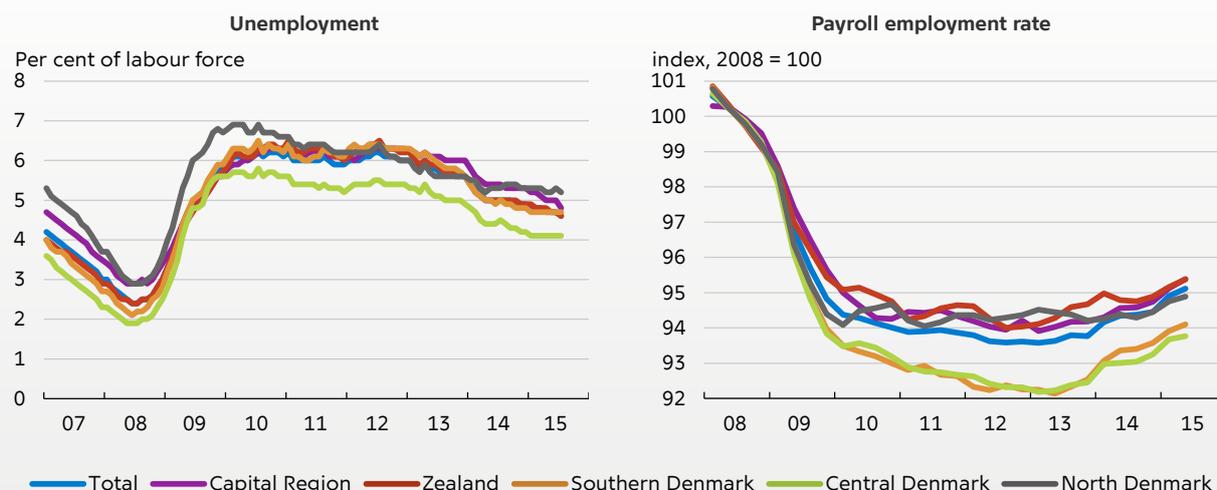


Note: The share of problematic recruitment attempts denotes the number of firms with recruitment challenges relative to the number of firms attempting to recruit. Semi-annual observations.

Source: Own calculations on the basis of data from the Danish Agency for Labour Market and Recruitment.

Regional unemployment and payroll employment rate

Chart 6



Note: The payroll employment rate denotes the total number of employees in a certain area, based on the location of the workplace, relative to the total number of 16-64-year-olds in that area.
Source: Statistics Denmark and own calculations.

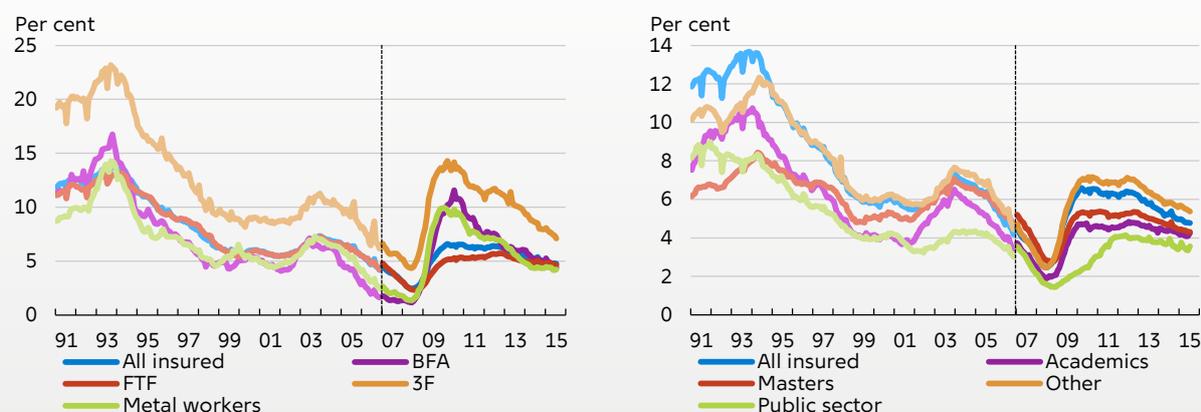
THE LABOUR MARKET SITUATION IS THE SAME ACROSS REGIONS AND PROFESSIONAL GROUPS

There are no signs of regional pressures in the Danish labour market either. The unemployment rate varies across the regions, reflecting, inter alia, differences in the industries found in the regions, but the general pattern of unemployment is the same across Denmark, cf. Chart 6 (left). Similarly, there are no signs of substantially faster employment growth in some regions, cf. Chart 6 (right).

Unemployment has declined for all professional groups, especially the cyclically sensitive unemployment insurance funds such as 3F, construction workers and metal workers, which also experienced strong increases in the wake of the downturn in 2008-09, cf. Chart 7. More than half of the increases have now been reversed for these unemployment insurance funds. For all professional groups, unemployment is currently close to the 2007 level. This is very low viewed in a longer per-

Unemployment by unemployment insurance funds

Chart 7



Note: Data breaks in 1996 and 2007. Before 2007 net unemployment, i.e. excluding people in activation, and from 2007 onwards gross unemployment. Before and after levels are not comparable.
Source: Statistics Denmark and own calculations.

spective, and it may heighten the risk of increasing shortages of labour in specific professional groups within the foreseeable future – despite the reduction in structural unemployment since 2006, cf. Chart 1.

FASTER JOB TURNOVER AND MORE ADVERTISED JOBS

More frequent job changes reflect rising activity in the labour market. Job turnover in the Danish labour market is generally high, as more than 500,000 people have found new jobs in the past year, cf. Chart 8 (left). Job turnover has increased in step with the improvement of the labour market, but remains low.

At the same time, the number of unemployed persons per advertised job has decreased and is now close to the 2008 level, cf. Chart 8 (right). A lower number of unemployed per advertised job makes it easier for the individual unemployed person to find a job, but may also make it more difficult for firms to find the right employees. However, the number of job vacancies is still somewhat below the 2008 level.

The number of jobs advertised on the Internet should be interpreted with caution. Not all jobs are advertised on the Internet or advertised at all. Changes in firms' recruitment patterns may influence the number of job advertisements

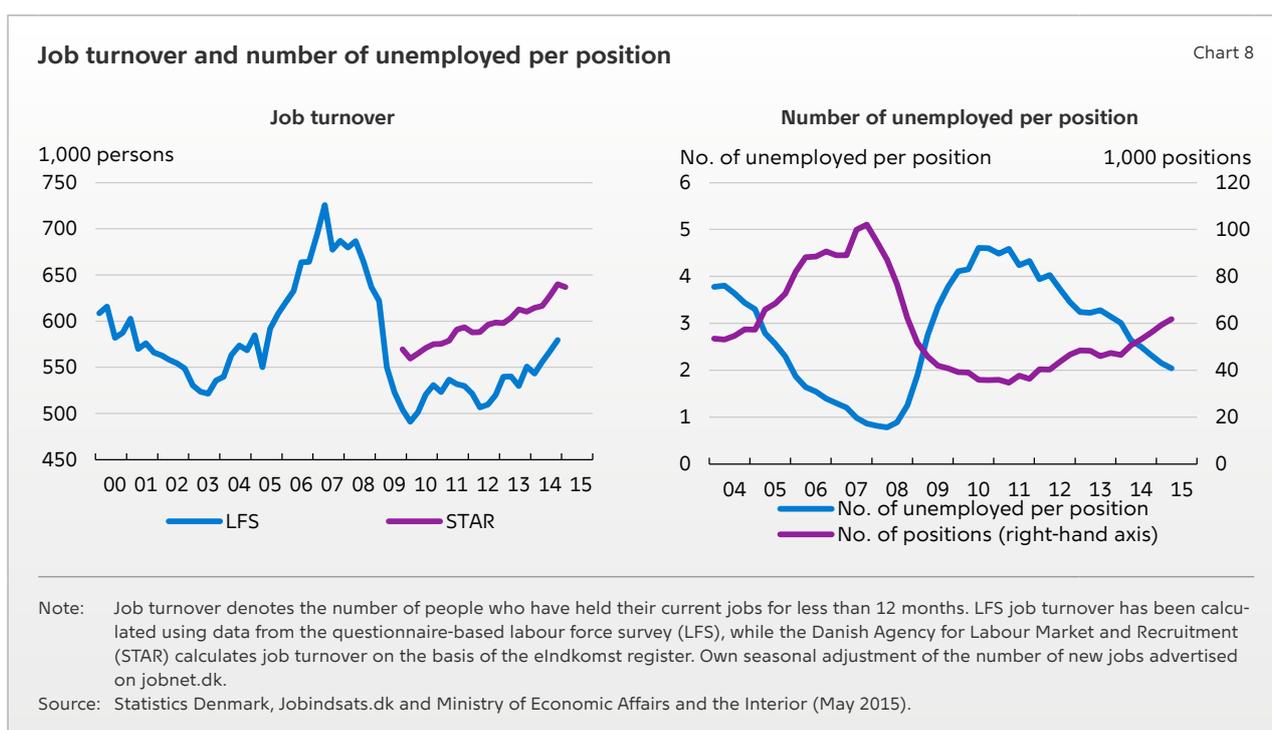
per unemployed person without necessarily signalling a shift in pressures. For example, the increase up to 2007 may also be partly explained by the higher number of firms advertising jobs on the Internet.

INCREASED EMPLOYMENT REQUIRES A LARGER LABOUR FORCE

The available resources in the labour force have diminished as actual and structural unemployment has been reduced over the last 25 years, and at the same time unemployment is close to its structural level. This entails the risk that even a small decrease in unemployment may generate wage pressures. Thus, it is vital that the labour force can increase to accommodate the rising activity and demand for labour.

Without an influx to the labour force, the employment growth during the boom in the 2000s could not have taken place either. The influx came from Danish residents outside the labour force, including e.g. students, and from foreign labour input.

In contrast to the 1990s, the upswing in the mid-2000s was not accompanied by a substantial increase in structural employment. As a result, there was no room for a similar rise in employ-



Previous upswings were accompanied by strong increases in employment. This was the case both in the 1990s and in the 2000s. However, the two upswings were quite different.

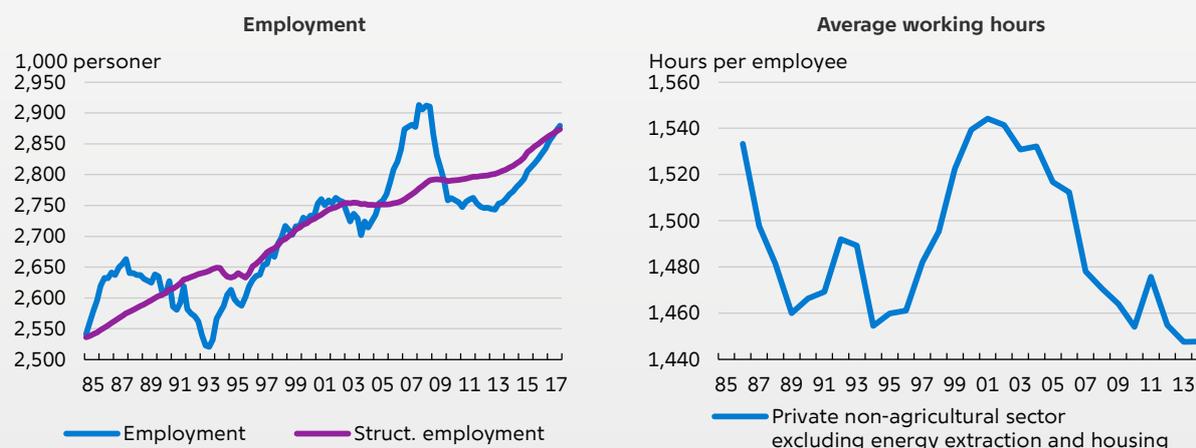
Employment growth in the 1990s was accompanied by several labour market reforms that entailed continuous improvement of the labour market structures by reducing structural unemployment. This led to an increase in both actual and structural employment during the upswing, cf. the left-hand chart. Together with the fiscal tightening in the late 1990s, the structural improvements enabled the upswing to run its course without any real overheating of the labour

market. Working hours also rose at the same time, cf. the right-hand chart.

The strong increase in employment during the upswing in the 2000s was not accompanied by similar structural improvements, resulting in considerable overheating and a subsequent strong correction in the labour market.

Viewed in a longer perspective, the rates of both cyclical and structural unemployment are low today, implying limited employment potential compared with previous upswings. Hence, increased employment – both actual and structural – must primarily come from an expansion of the labour force.

Employment and average working hours



Source: Statistics Denmark and own calculations.

ment without overheating of the labour market, cf. Box 1. This led to very weak productivity development during the overheating.

LABOUR MARKET REFORMS INCREASE EMPLOYMENT

In recent years, a number of labour market reforms have been implemented to increase the participation rate among the working age population in future. Examples are the 2006 welfare agreement and the 2011 retirement reform, which gradually raises the early retirement age from 60 to 62 years over the period 2014-17. The retirement reform has already resulted in a larger share of people entitled to early retirement remaining in employment until they reach the higher early retirement age, cf. Chart 9 (left).

The 1998 early retirement reform, which, inter alia, increased the share of self-financing and tightened the offsetting effect of private pension

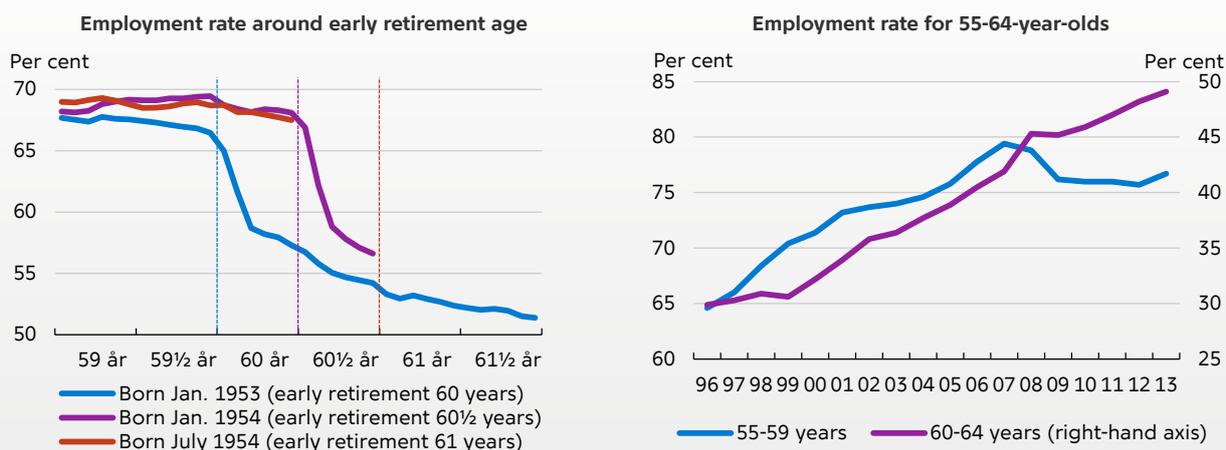
savings, had similar effects on the labour supply and on employment. The participation rate for 60-64-year-olds has risen continually since 1998, cf. Chart 9 (right). Similarly, the abolition of the transitional allowance ('overgangsydelse') for 50-59-year-olds in 1996 also contributed to a higher employment rate for people close to early retirement age. The early retirement reforms and the abolition of the transitional allowance are clear examples of labour market reforms that expand the supply of labour.

YOUNG PEOPLE STILL CONSTITUTE A LABOUR RESERVE

During the previous boom, there was a considerable influx of young people to the labour market. This should be viewed in light of the unusual job market situation, which prompted more young people to postpone or actually drop out of education or training in favour of employment.

Employment rate around early retirement age and employment rate for 55-64-year-olds

Chart 9



Note: Data break in 2008 in the right-hand chart.
 Source: Ministry of Economic Affairs and the Interior (May 2015) and Statistics Denmark.

Another explanation was that more students held jobs alongside their studies.

Young people and students still make up a potential labour reserve although it may be slightly smaller than previously. Since the downturn, the participation rate in education and training has returned to the steady increase seen before the upswing. In addition, the 'progress reform' may limit student job opportunities. In the longer term, however, it will contribute to students graduating faster and fully entering the labour market sooner than is the case now. It will take a number of years for this reform to take effect, so it is hardly likely to contribute to countering pressures in the next few years.

FOREIGN LABOUR

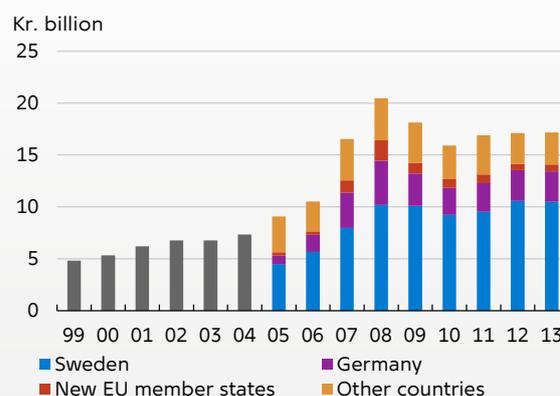
MAKES UP A CONSIDERABLE LABOUR RESERVE

Since Denmark is an EU member state, the Danish labour market is open to other EU citizens, who make up a considerable labour reserve for Danish firms. This reserve increased markedly with the EU enlargements in 2004 and 2007. There are no complete statistics for the influx of foreign labour during the 2000s, but compensation of employees on the balance of payments may give an indication. Compensation of employees do not provide a complete picture of foreign labour in Denmark, since they comprise only persons (irrespective of nationality) either living abroad or staying in Denmark for less

than one year. This means that compensation of employees do not include foreign citizens living and working in Denmark for more than one year, who can be assumed to account for a substantial share of foreign labour in Denmark. compensation

Compensation of employees on the balance of payments

Chart 10



Note: Compensation of employees on the balance of payments denote payment of wages earned in Denmark to persons (irrespective of nationality) either living abroad or staying in Denmark for less than one year. The development in compensation of employees is affected by the number of persons, working hours and hourly wages. Excessive wage disbursements to non-specified countries make a breakdown by countries impossible before 2005. New EU member states are Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.
 Source: Statistics Denmark.

Payroll employment

Table 1

1,000 persons	Q4 2014	Change Q4 2013 - Q4 2014	Change Q4 2011 - Q4 2014
Private sector employees, total ¹	2,012	34	45
- Danish citizens ¹	1,813	18	10
- Foreign citizens ¹	195	16	37
- From Nordic countries ²	24	1	1
- From new EU member states ²	70	7	21
- From Poland ²	30	2	7
- From Romania ²	15	2	7
- From other EU member states ²	43	3	7
- Citizenship unknown ¹	4	0	-1
- Total population aged 16-66 years	3,714	5	5
- Danish citizens	3,372	-17	-46
- Foreign citizens	341	22	52
Payroll employment rate, private sector (per cent)	54	0.8	1.1
- Danish citizens	54	0.8	1.0
- Foreign citizens	57	1.0	2.5

Note: The payroll employment rate is reported from different sources, so caution should be exerted when making direct comparisons, cf. the notes below.

Source: Ministry of Employment, Jobindsats.dk, Statistics Denmark and own calculations.

Statistics from the Ministry of Employment about payroll employment in the private sector are stated as persons concerned, broken down by Danish and foreign citizens (16-70 years). Citizenship unknown applies where the employer has reported to elndkomst without a CPR number (civil registration number). <http://bm.dk/da/Aktuelt/Nyheder/Arkiv/2015/08/Lonmodtagerbeskaeftigelsen.aspx> Jobindsats' statistics of employees with foreign citizenship. The statistics cover employees in both the private and public sectors. See the note to Chart 10 for specification of the new EU member states.

tion of employees indicate that the influx accelerated especially in 2007 and 2008, cf. Chart 10. The reserve of foreign labour turned out to be relatively mobile throughout the most recent business cycle and contributed to easing the labour market pressure at its peak. The influx was from Sweden and Germany in particular, but also from the new EU member states.

Recent developments in the labour market do not point to any weakening of the mobility of international labour in the wake of the crisis. Foreign payroll employment in the private sector rose by around 37,000 from the 4th quarter of 2011 to the 4th quarter of 2014, cf. Table 1. In the same period, the number of wage earners from the new EU member states increased by 21,000 – most of them from Romania and Poland. The foreign labour contributed to boosting employment

in a period when the number of Danish citizens of working age declined.

The foreign labour works in all industries, but is typically overrepresented in agriculture and certain service sectors such as hotels, restaurants and cleaning, etc. Especially labour from the new EU member states also works in industry and construction, cf. Table 2. Without the foreign influx, the shortage of labour in these sectors would most likely be larger.

OVERHEATING MAY OCCUR SOON IF THE SUPPLY OF LABOUR DOES NOT INCREASE

Danmarks Nationalbank's projection assumes an increase in the structural labour force by 45-50,000 persons from 2014 to 2017. In the absence of an increase, labour market pressures may set in faster and more strongly when the upswing

Foreign employees by industry

Table 2

1,000 persons	Foreign employees, total			Foreign employees from new EU member states		
	Q4 14	Q4 13 - Q4 14	Q4 11 - Q4 14	Q4 14	Q4 13 - Q4 14	Q4 11 - Q4 14
Total	195	15	38	70	7	21
- Agriculture, etc.	16	1	3	12	1	2
- Industry	24	2	3	10	1	2
- Building and construction	15	2	4	9	1	3
- Trade	18	1	3	5	0	2
- Transport	15	1	4	5	1	2
- Hotels and restaurants	19	2	5	6	1	2
- Knowledge service	10	1	3	2	0	1
- Travel agency, cleaning, etc.	32	2	6	16	1	5
- Public admin., etc.	36	2	6	5	0	1
- Other industries	21	2	4	4	1	1

Note: All places of employment for a person within the selected period are included in the statistics. Therefore the sum of the numbers of foreign citizens in the individual industries may exceed the total number of foreign citizens earning wage income in Denmark. See the note to Chart 10 for specification of the new EU member states.

Source: Jobindsats.dk.

accelerates and employment grows. This risk is amplified by the low unemployment rate.

Already in a few years' time, the Danish economy may be facing circumstances similar to those of the period before the overheating in the mid-2000s, cf. Box 2. Strong forces are now boosting demand, and the preconditions for a faster and stronger increase in demand exist, cf. Pedersen et al. (2015). That is why it is important to ensure that firms have access to qualified labour when the upswing gains momentum.

Ministry of Economic Affairs and the Interior (2015), *Economic Survey*, May 2015.

LITERATURE

Andersen, Asger Lau and Morten Hedegaard Rasmussen (2011), Potential output in Denmark, Danmarks Nationalbank, *Monetary Review*, 3rd Quarter, Part 2.

Pedersen, Erik Haller, Rasmus Mose Jensen and Tina Saaby Hvolbøl (2015), Risks associated with the current upswing in the Danish economy, Danmarks Nationalbank, *Monetary Review*, 2nd Quarter.

Alternative scenario without an underlying increase in the labour force

Box 2

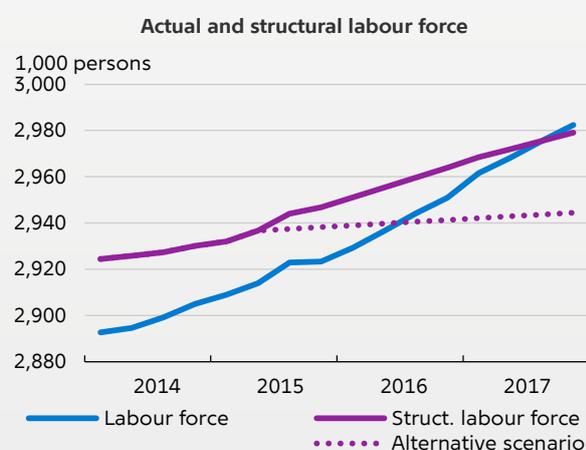
With a view to illustrating the importance of the reform effects to the supply of labour, Danmarks Nationalbank's projection can be regarded in a hypothetical alternative scenario where only demographic factors have an impact on the labour force (i.e. the participation rate is maintained for all groups by age, gender and origin). This roughly corresponds to an unchanged structural labour force, cf. the left-hand chart.

It is assumed that demand is not affected in the example. The projection expects a relatively moderate increase in demand and employment, but the preconditions for faster and stronger growth in demand exist. The upswing in the Danish economy is already underway, and it is uncertain whether there is enough time in the alternative scenario for wages

to respond to any significant extent towards 2017. Hence, it is not certain that demand and employment growth will be substantially different. Under this assumption, the example illustrates that in a few years the Danish economy may be in a situation similar to the period just before the full impact of the overheating in the 2000s on the Danish labour market, cf. the right-hand chart.

The example emphasises the need to expand the supply of labour in the coming years in step with growing demand. Reforms and an influx of foreign labour can ensure the foundation for employment growth in future without this leading to unsustainable wage increases and build-up of imbalances in the economy.

Alternative scenario



Note: The labour market gap is defined as the unemployment gap less the labour force gap. A negative labour market gap denotes that the total input of labour exceeds the structural level. One possible reason is that unemployment is lower than structural unemployment, another that the labour force is larger than its structural level.

Source: Own calculations.

