

English Summary

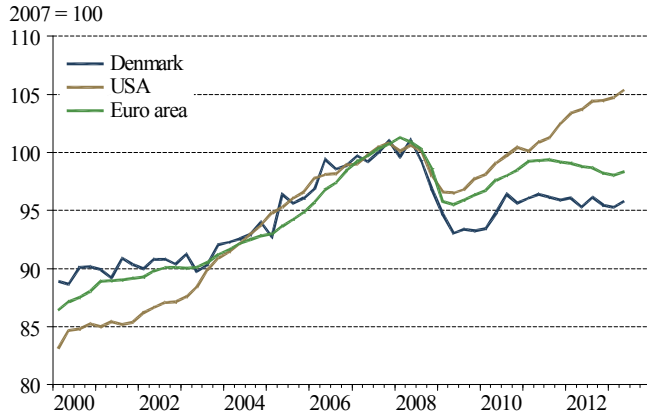
The report contains two chapters: Chapter I presents an economic outlook for the Danish economy and Chapter II analyses employment and productivity among Danish firms during high economic growth and the great recession.

Chapter I: Economic Outlook

Stagnation has characterized the Danish economy since mid-2010, cf. Figure A. However, indications of progress in the near future have emerged recently. These include an improved international economic outlook due to, inter alia, enhanced confidence in the public finances of several euro area countries under strain. In Denmark, business cycle indicators, in particular the consumer confidence indicator, have risen sharply suggesting a return to growth in the second half of 2013. GDP growth in 2013 is forecast to reach approximately $\frac{1}{4}$ pct. The forecast for modest annual growth in 2013 is strongly affected by the stagnation in 2012 and the fact that the Danish economy contracted in the 1st quarter of 2013. GDP is projected to grow by about $1\frac{1}{2}$ pct. in 2014 and by just above 2 pct. in 2015. In the projection, this growth is sufficient to increase employment and to decrease unemployment over the coming years. An overview of the economic forecast for the Danish economy is presented in Table A.

The Danish economy is affected by weak external demand caused by the cyclical slowdown in important trading partners. In the autumn of 2012, when the European sovereign debt crisis peaked, Danish exports contracted. In the first half of 2013 exports increased and it is estimated that they will grow at a rate of just below $\frac{3}{4}$ pct. in 2013. Along with improvements in the euro area, Danish exports are projected to grow at a modest pace over the coming years.

Figure A GDP



Note: Lastest observation is 2nd quarter 2013.

Source: Statistics Denmark and EcoWin.

The economic slump in the Danish economy since mid-2010 is mainly a result of weak domestic demand. A decline in real housing prices of almost 30 pct. from 2007 to 2013, a considerable decline in employment, and a bleak economic outlook affecting consumer confidence have caused three years of stagnation in private consumption. Private consumption is forecast to increase by barely ½ pct. in 2013, but in subsequent years consumption growth is estimated to increase to just below 2 pct. in 2014 and 2½ pct. in 2015. This is supported by improvements in the various business cycle indicators, including the consumer confidence indicator, and the fact that housing prices have been rising since mid-2012.

Gross fixed capital formation declined significantly in the years after the financial crisis of 2008. Business fixed investment is more than 20 pct. below its pre-crisis level. Despite years of subdued investment activity, gross fixed capital formation is expected to grow at a moderate rate over the next few years.

Table A Key figures from the forecast for the Danish economy

	Current prices	Per cent of GDP	Percentage change, volume				
	DKK bn.		2012	2013	2014	2015	2016
Private consumption	900.7	49.4	0.5	0.4	1.9	2.5	3.2
Public sector consumption	521.6	28.6	0.7	0.6	0.5	0.7	0.7
Gross fixed capital formation	315.2	17.3	-0.9	0.1	4.4	3.6	7.6
consisting of:							
Residential investment	78.8	4.3	-8.6	-1.5	4.3	1.7	4.0
Business fixed investment	191.7	9.8	1.5	2.6	4.2	7.1	10.0
Public sector investment	44.7	2.5	10.7	-10.1	6.8	-12.3	1.0
Stockbuilding ^{a)}	-4.0	-0.2	-0.4	0.4	0.0	0.5	0.1
Total domestic demand	1,733.5	95.0	0.0	0.8	1.9	2.6	3.4
Exports of goods and services	991.8	54.4	0.2	0.6	2.3	2.3	4.1
Imports of goods and services	901.3	49.4	1.0	1.6	3.0	3.1	6.0
GDP	1,824.0	100.0	-0.4	0.2	1.6	2.2	2.5
Key indicators							
Consumer prices, percentage change ^{b)}			2.5	0.8	1.3	1.9	2.2
Unemployment, per cent ^{c)}			4.2	4.1	4.2	4.2	3.9
Current account, DKK bn.			105.0	95.5	82.4	79.3	58.3
Current account, per cent of GDP			5.8	5.2	4.3	4.0	2.8
General government budget balance, DKK bn.			-77.5	-27.2	-32.1	-50.6	-40.8
General government bud. balance, per cent of GDP			-4.2	-1.5	-1.7	-2.6	-2.0
Hourly wage costs, percentage change			1.9	1.8	2.0	2.0	2.4
Terms of trade, percentage change			0.0	0.3	-0.5	0.4	-0.1

a) The percentage changes are calculated as real change in stock building relative to GDP in the previous year.

b) Implicit private consumption deflator.

c) Percentage of the total labour force. National definition.

Source: Statistics Denmark, National Accounts and own estimates.

The decline in investment activity may have adverse long run effects on productivity as capital accumulation is reduced. According to an examination of this issue in Section I.2, the capital-labour ratio in the private sector is currently at its estimated trend level. Therefore, the weak investment activity is in accordance with the employment decline and

thus the general cyclical slowdown in the Danish economy. Hence, there is no clear evidence that there is an outright Danish investment crisis that is keeping the Danish activity level below potential. Rather, subdued business fixed investment appears to be a sensible response to a bleak economic outlook.

Fiscal policy

The substantial decrease in Danish GDP following the financial crisis of 2008 and weak growth in subsequent years has left economic activity substantially below its potential. Danish GDP is estimated to be almost 4 pct. below its structural level, and employment is estimated to be almost 100,000 persons, equivalent to 3½ pct. of the labour force, below the structural level. The Danish economy is expected to operate significantly below potential for the next few years. Even in 2015, GDP is forecast to fall short of structural GDP by more than 2 pct.

The weak activity level and the fact that future planned fiscal policy is non-expansionary for the coming years speak in favour of a temporary fiscal stimulus. A stimulus package in the range of ¼ pct. of GDP is assessed to be in accordance with the Danish budget law imposing a limit on the structural public deficit of ½ pct. of GDP. Therefore, a fiscal stimulus of this size is recommended.

The assessment that a stimulus of ¼ pct. of GDP is in accordance with the budget law is based on an estimate of the structural public deficit using the Ministry of Finance method – and thus the calculation methodology stipulated in the budget law – combined with own estimates of the public balances and structural conditions. According to this estimate, the structural deficit in 2014 is just below ¼ pct. of GDP. This is somewhat smaller than the corresponding estimate by the Ministry of Finance. The discrepancy emanates mainly from a more positive estimate of structural conditions, in particular structural employment, in the projection presented in this report.

It is essential that fiscal policy not only abides by the institutional framework, but also that its long term sustainability is not put into doubt. Taking stock of the recent fiscal consolidation measures and implemented structural reforms that support future public finances, Danish fiscal policy is reckoned to be sustainable. This reckoning is supported by the fact that a small public surplus is projected for 2020. It is assessed, that a temporary small fiscal stimulus package, as outlined, would not endanger the healthiness of public finances in Denmark.

Danish fiscal policy has to be planned in accordance with the limits imposed by the deficit rules regarding the public deficit and the structural public deficit. These limits support the objectives of healthy and sustainable public finances in the long run, but complicate fiscal stimulus in the short run. Firstly, the structural deficit estimate is subject to uncertainty. For instance, the calculations may be affected by data revisions. If the structural deficit is close to the ½ pct. of GDP limit stipulated in the budget law, a data revision could lead to an adjustment of fiscal policy to ensure the estimated structural deficit stays within the limit. Secondly, the Danish public deficit itself is quite volatile. This is due to sizeable automatic stabilizers in Denmark and considerable fluctuations in certain tax revenues. Not least, the latter pertains to the revenue from taxation of returns on pension savings. These fluctuations impose risks of inappropriate fiscal tightening to keep the public deficit within the deficit limit of 3 pct. of GDP even if the structural deficit is estimated to be within the limit of ½ pct. of GDP.

In order to curtail the risks of inappropriate fiscal tightening it is necessary to aim for public finances in balance or surplus over the average of the business cycle. In practice, a public balance surplus during neutral cyclical conditions, corresponding to a structural surplus, is necessary if discretionary fiscal stimulus measures are to be possible during economic slumps. As Danish fiscal policy is sustainable, this policy implies a redistribution of wealth from current to future generations. This redistribution of wealth across generations does not reflect deliberate redistributive policies.

For several years public expenditure slippages have been the rule rather than the exception. The 2012 budget law addresses this problem. Importantly, the sanction instruments enforceable on Danish municipalities seem to have halted the previous sizeable excess spending in the municipalities' accounts.

The expenditure ceilings introduced with the budget law have been set for the period 2014-17. The fixing of the budget ceilings is based on the government's fiscal policy objectives announced in *Convergence Programme 2013*. The projection in the programme reflects the medium-term objective of fiscal balance in 2020 and public expenditures in the years 2014-17 ensuring that the structural deficit stays within the budget law's limit of ½ pct. of GDP, given the estimated public revenue.

In general, the medium-run projection in the present report is in line with *Convergence Programme 2013*. There are, however, some discrepancies regarding the underlying assumptions about, e.g., public transfer payments and revenues. The present projection forecasts a public surplus in 2020 and a structural deficit below ½ pct. of GDP in each year when using the Ministry of Finance calculation method. Based on the present projection and the assumptions regarding expenditures and revenues, the ceilings on government operations are assessed to be in accordance with the fiscal policy objectives. In the present projection the transfer payment expenses are below the announced ceilings. However, an assessment of the determination of the ceiling on transfer payments has not been conducted.

The assessment of the announced expenditure ceilings is impeded by the fact that documentation is incomplete at some points. It is essential that transparent and comprehensive supporting documents are available. This includes the documentation of the modalities of the ceiling on transfer payments and the corrections of the ceilings in the budget proposal for 2014.

The expenditure ceilings are likely to improve the management of public expenditure, but the current design has some

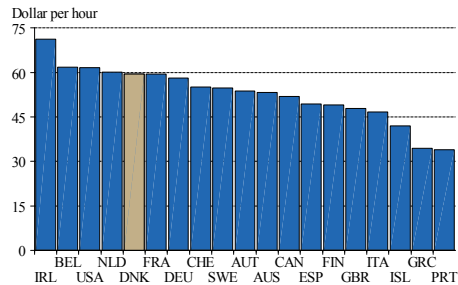
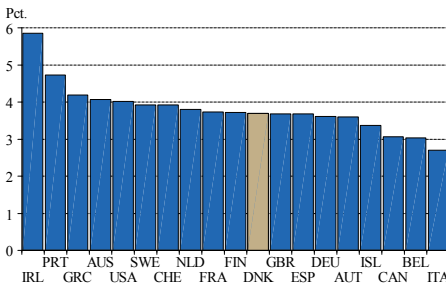
disadvantages. Not least, this pertains to the ceiling on transfer payments. The expenditures subject to this ceiling do not include expenditures related to unemployment. Nonetheless, it appears that these expenditures do fluctuate with the business cycle. This implies that a fiscal contraction could be needed to keep expenditures below the ceiling during a cyclical slowdown. In view of this disadvantage, it is recommended that the design of the ceiling on transfer payments be reconsidered. Further, the implementation of expenditure ceilings has reduced the scope for individual public institutions to save. Appropriate economic management of individual public institutions entails scope for saving and use of saved funds. With a limited scope for saving, there is a risk of inappropriate use of funds towards the end of each budget year.

Productivity and value added

Section I.5 presents an analysis of Danish productivity and value added. Danish real productivity growth was weaker than in a number of comparable countries from 1995 to 2009. From 2009 to 2012, real productivity growth rebounded. The rebound is supported by revised employment figures from Statistics Denmark that show that the level of productivity in general, and, in the years from 2007 to 2012, also the growth rate were higher than earlier figures indicated. Nonetheless, it is still the case that Danish real productivity growth was weaker than in a number of comparable countries from 1995 to 2012. On the other hand, growth in Danish value added has not been particularly weak in international comparison, cf. figure B. Indeed, there is no indication that the Danish economy lags behind comparable economies in terms of value added per working hour. This conclusion holds a fortiori with the revised employment figures.

Figure B.a Annual growth in value added per working hour, 1995-2012

Figure B.b Nominal GDP per working hour, 2012



Note: The figures use prices which are adjusted using purchasing power parity.

Source: OECD, Productivity database and Statistics Denmark.

Covered bonds

The use of covered bonds as a means of corporate finance is limited in Denmark. Arguably, this has to do with a Danish tradition for bank and mortgage institution financing and the Danish business structure, which is dominated by a large number of small and medium sized companies which cannot afford the sizeable fixed costs of bond issues. A market for covered bonds would provide Danish companies with an additional credit facility and promote competition in the financial sector. As the limited use of covered bonds is partly due to legal restrictions, that the government is contemplating legislative changes is a welcome move.

The contemplated changes include legalization of bond issues based on a pool of business loans provided by a bank, i.e. securitization. Securitization might give small and medium-sized companies indirect access to bond markets, as the sizeable fixed costs of bond issues can be distributed among a range of businesses. However, securitization entails risks of relaxed lending standards in banks providing the loans. Bearing this in mind, financial supervision and rating by an independent agency is important for keeping the intrinsic risks of securitization in check. In addition, it is advisable that the banks providing the loans be required to buy some of the issued bonds.

Reform of unemployment benefit system

In May 2013, the full implementation of the 2010 unemployment benefits reform was delayed once again. As stated in, amongst others, *Danish Economy, spring 2013*, repeated temporary extensions of the duration of unemployment insurance benefits might be undesirable as it promotes the expectation that extensions will become routine during protracted economic slumps. This reduces the effects of the reform by decreasing the incentive for intensive job search.

According to analyses in Section I.6, the hazard rate from unemployment increases substantially just before the expiration of unemployment insurance benefits. A survey has been conducted in conjunction with the organization of unemployment insurance institutions (AK-Samvirke) and the group of experts for examining the employment policy. The survey shows that the unemployed whose unemployment insurance benefits are at risk of expiring are willing to apply for jobs they would not otherwise apply for. The majority of these unemployed individuals specify that they search for jobs in different professional areas. This indicates that the reduced duration of unemployment insurance benefits has promoted the incentive for intensive job search.

The analyses indicate that the reduced duration of unemployment insurance benefits has a positive effect on employment. But, as the duration is shorter, more people lose their unemployment insurance benefits. Hence, there is a trade-off between efficiency (high employment) and distribution (long duration of unemployment insurance benefits).

Public investments

In recent decades, public investment has been part of the counter-cyclical fiscal policy measures. Section I.9 discusses the scope and limitations of public investments as a macroeconomic stabilization instrument.

An advantage of public investment as a stabilization instrument is the temporary nature of the implemented measures. Nonetheless, experience shows that the exact timing of

investment activity is difficult to manage. This bears the risk that public investment activity is inappropriately timed, especially when used to counter transient economic slumps. In the case of deep economic slumps, such as the current one, public investment is a suitable macroeconomic stabilization instrument since the risk of inappropriate timing is minor.

The need for better management of public investment activity suggests the establishment of investment plans for both approved and initiated investment projects. This includes investment activity in public enterprises and publicly controlled institutions (e.g. the Copenhagen metro). Investment plans provide a better foundation for making decisions about public investments.

Climate strategy

In August the government presented a catalogue of various instruments for achieving the objective of reducing CO₂-emissions by 40 pct by 2020, compared to emissions in 1990. The objective does not distinguish between the emissions covered by quotas, which are subject to the EU quota system, and emissions that are not, and where Denmark has to satisfy an EU reduction requirement. Danish energy and climate policies should focus on cost-effective achievement of the national requirements in the non-quota sector, as stated in, e.g., *Economy and Environment, 2013*.

Chapter II: Employment and Productivity in Danish Firms during the Economic Up- and Downturn

The Danish economy saw a strong and accelerating economic upturn between 2004/05 and 2007/08, which, as a result of both an overheated domestic economy and the effects from the international financial crisis, turned into a serious and abrupt downturn in 2008/09. Chapter II contains an examination of employment and productivity in Danish firms during the upturn and the subsequent downturn.

A well-functioning market economy is characterised by a continuous reallocation of resources, including labour, among firms to facilitate the highest possible socio-economic benefit. The large change in economic conditions in 2007/08 is a unique opportunity to examine the ability of Danish firms to reallocate resources to the most productive use and adapt to the economic conditions.

The economic upturn was driven by strong and rising demand and both production and employment increased across most sectors. The subsequent downturn affected the manufacturing and construction sectors particularly severely, while the service sector only saw a minor decline. This differential effect of the crisis is in line with the longer-term shift in the private sector from manufacturing towards service industries. In spite of the large fall in employment during the downturn, employment in manufacturing, for instance, does not seem to be substantially below the long-term trend for the sector.

Job creation and job destruction

The overall development in employment reflects a persistent turnover of jobs and firms. New firms enter and existing firms increase or decrease employment or exit. The analysis presented thus distinguishes between jobs created (gross job creation), jobs destroyed (gross job destruction), and the resulting net job creation. Firms with at least one full-time employee within the private sector, i.e. manufacturing, private services and construction, are the focus of the analyses in the chapter.

A high level of gross job creation and destruction makes it possible for labour to reallocate between firms in order to generate the highest possible value added and receive the highest possible wage payment. This may take place through reduced activity among low-productivity firms, or through expanding activity among highly productive firms. In the case of an unchanged employment level, job destruction is a prerequisite for job creation. In 2004-05 for instance, which may be viewed as an approximately cyclically neutral period in Denmark, both gross job creation and

gross job destruction amounted to 120,000 jobs on an annual basis. The levels corresponded to about 10 percent of total employment in the private sector, and resulted in net job creation being close to zero.

Employment growth during the boom was due to a combination of higher gross job creation and lower gross job destruction, while the employment decline after 2007 was primarily driven by an increase in the job destruction rate. A lower gross job creation rate accounted only for approximately one third of the decline in employment. Firms thus continued to create jobs during the decline, amounting to approximately 70,000 jobs in 2009, which corresponded to an annual gross job creation rate as high as 6-7 per cent.

After the great employment reduction in the period 2008-09 private employment stabilized at a lower level and the levels of both the number of jobs created and jobs destroyed in 2011 were almost back at the levels before the upturn.

Job creation and destruction across different groups of firms – e.g. by size and age – can be assessed at two levels. A group's job creation rate characterises the ability of firms within the group to create jobs, i.e. the change in employment within the group of firms relative to the size of the group in terms of employment. The contribution of the group of firms to total employment growth, however, is determined both by the group's rate of job creation and its share of total employment.

Business start-ups can be an important source of job creation, but many new firms only exist for a short time. In 2005 approximately 25,000 full-time jobs were created as a result of firm births, while approximately the same number of jobs was destroyed as a result of firm closures. The level corresponds to about one-fifth of total gross job creation and job destruction, respectively. In 2010 about 14 percent of total employment was located in firms established after 2001. Levels of job creation and destruction derived from start-ups and closures should, however, generally be interpreted with caution, since data quality and differences in defini-

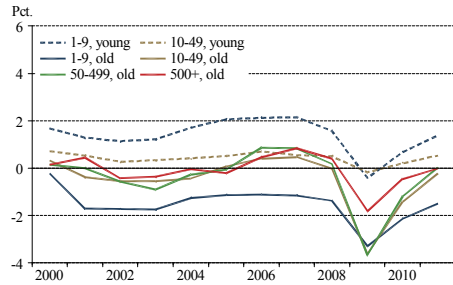
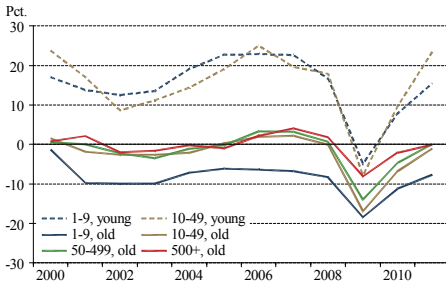
tions of firm births and closures may lead to considerable variation across studies.

In comparison with continuing firms, however, firm births and closures cover only a small amount of the cyclical variation in employment. During the upturn net job creation from additional start-ups and fewer closures contributed less than 5 percent of employment growth. Similarly, only around 10 percent of the decline in employment during the crisis could be attributed to a change in start-ups and closures, whereas the continuing firms covered the remaining 90 percent of the decline.

The analysis shows that job creation rates vary depending on firms' age and size. Overall, it appears that primarily firm age is essential for job creation rates. Young firms both create and destroy many jobs and generally have significantly higher net job creation rates than older firms, see figure C.a. At the same time young firms also seem to have reacted more strongly to the business cycle fluctuations in the period 2004-09. Generally, older firms destroy more jobs than they create annually. On the other hand, older firms displayed relatively minor fluctuations in their job creation and job destruction rates during the upturn and the crisis.

Figure C.a Net job creation rate by firm age and size

Figure C.b Net job creation rate by firm age and size, employment-weighted



Note: Young firms are less than five years old. Firm size is the average size in year t and $t-1$, while firm age is measured in year $t-1$.

Source: Own calculations based on Danish registry data.

The contributions to the major employment growth and decline for most size and age groups were roughly equal to the groups' employment shares. However, small firms tended to buck this trend. Small, young firms contributed proportionately more to both the increase and decrease in total employment compared to their employment share, while the opposite was true for small, old firms, see figure C.b.

High-growth firms

Firms that manage to grow rapidly in a short time attract much attention. Increasing demand and ample funding opportunities during the upturn in the period 2004-07 may have led some firms to expand over optimistically. In this light it is relevant to study whether the fast-growing firms from the period 2004-07 were more likely to exit or reduce employment abruptly when the crisis set in.

It turns out that the high-growth firms had about the same survival rate during the period 2008-11 as other firms within their size group. Overall, the high-growth firms had a lower job destruction rate than other firms during the crisis. Thus, overall nothing suggests that high-growth firms were

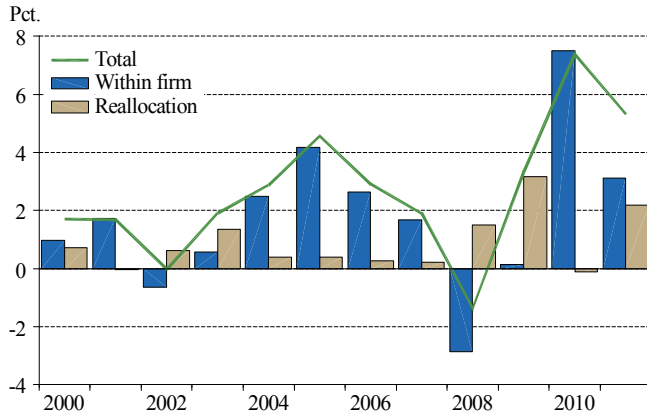
more exposed to or badly hit by the crisis than other firms. A closer examination of the subsequent employment dynamics in the period 2008-11 shows that a relatively higher number of high-growth firms compared to other firms either reduced or increased employment significantly.

Productivity growth and reallocation of labour

Growth in total productivity may be induced by within firm productivity growth and/or by reallocation of market share across firms, where firms with above average productivity levels increase their market share and/or their share of the production inputs in the sector.

A decomposition analysis of productivity growth finds that within firm productivity growth mirrors total productivity growth. Thus, within firm growth declined during the upturn (2005-07) and in the first year of the recession there was a direct fall in within firm productivity, see figure D. After the first impact of the recession, the within firm productivity growth was positive and large (2009-11). During the boom firms increased labour inputs to match increasing demand for goods, while other inputs, in particular capital, were adjusted gradually and slowly. This may explain the declining within firm growth in that period. During the recession labour inputs were reduced, which contributed to the positive productivity growth.

Figure D Productivity growth decomposition

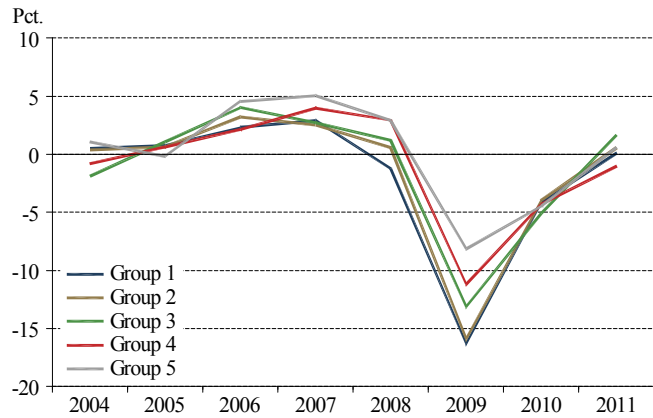


Note: Analysis for firms with at least 20 employees.

Source: Own calculations based on Danish registry data.

In general, the reallocation of resources contributed slightly positively to the total productivity growth during the period 1999-2011. However, reallocation played a bigger role during years of recession. This applies to the most recent recession, but can also be seen during the recession in 2002-03, although to a smaller extent.

The positive overall contribution from reallocation to labour productivity growth is underpinned by an analysis of job dynamics across firms with varying levels of wages. This analysis allows the inclusion of, in particular, smaller firms, for which information about gross value added, and hence, labour productivity, cannot be obtained. An examination of net job creation across five groups of firms with varying wage levels shows that the fall in employment in 2008-10 was larger among low-wage firms, see figure E. This implied that firms with higher wages after the downturn represented a larger share of total private sector employment. If the average wage in a firm is taken as an approximate measure for labour productivity, this development, where the least productive firms saw the largest fall in employment, contributed to increased average labour productivity.

Figure E *Net job creation rates across wage groups*

Note: The groups have an increasing average wage, rising from group 1 to group 5.

Source: Own calculations based on Danish registry data.

Even though the economic downturn and the relatively larger reduction in employment among low-productivity firms contributed positively to average labour productivity growth, it is still too early to assess the full effect of the ongoing crisis on productivity growth. Current employment is still below its structural level, even though general indicators (see chapter I) point to an impending recovery. The observed increase in average labour productivity can only be sustained during a coming growth in employment if net employment growth is as high or higher among high productivity firms as among low productivity firms. This will ensure that labour productivity does not fall during a recovery of the economy. Observations for 2010 and 2011, i.e. after the initial fall in employment, point to homogeneous net employment growth rates across wage groups. This indicates that the gain in labour productivity was sustained after the initial adjustment in employment.