



Danmarks  
Nationalbank

Monetary Review  
2nd Quarter  
Part 1

D A N M A R K S  
N A T I O N A L  
B A N K 2 0 1 2



## MONETARY REVIEW 2nd QUARTER 2012

The small picture on the front cover shows the "Banker's" clock, which was designed by Arne Jacobsen for the Danmarks Nationalbank building.

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The Monetary Review is available on Danmarks Nationalbank's website:  
[www.nationalbanken.dk](http://www.nationalbanken.dk) under publications.

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This edition closed for contributions on 8 June 2012.

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Rosendahls - Schultz Grafisk A/S  
ISSN 0011-6149  
(Online) ISSN 1398-3865

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# Contents

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|  |   |
|--|---|
| Current Economic and Monetary Trends ..... | 1 |
|--|---|

|  |    |
|--|----|
| The Wealth and Debt of Danish Families ..... | 39 |
|--|----|

Asger Lau Andersen, Anders Møller Christensen and Nick Fabrin Nielsen, Economics, Sigrid Alexandra Koob and Martin Oksbjerg, Statistics and Ri Kaarup, Financial Markets

Compared with other countries, Danish households have a very high debt-to-income ratio. Internationally, this has attracted considerable negative attention. The wealth and debt of Danish families are analysed in more detail in Part 2 of this Monetary Review. Danish families are frequent users of the financial system, since gross debt is generally offset by even larger assets. The balance between gross debt and assets can be explained especially in terms of family income, age, house prices and the structure of the pension system. Given the current economic outlook, the extent of the actually indebted families cannot be assumed to pose a threat to the household or the financial sector.

|  |    |
|--|----|
| Denmark's Competitiveness and Export Performance – Summary ... | 47 |
|--|----|

Christian Helbo Andersen, Jacob Isaksen and Morten Spange, Economics

Exports of goods and services play a key role in economic development in Denmark. Although Denmark's exports have doubled since 1995, their share of the total import market has declined. The underlying factors are analysed in more detail in Part 2 of this Monetary Review. This article summarises the main findings. Measured in terms of production costs, Danish firms have lost competitiveness since 1995. However, there are indications that Danish firms have improved their competitiveness on other factors than price. The composition of exports across product groups and destination countries also plays a role. While the composition of goods exports across product groups has made a moderately positive contribution to Denmark's market share in the eight largest export markets since 1995, the contribution from the composition of exports across countries has been virtually neutral.

**Fiscal Policy in the EU – What Have We Learned from the Crisis? .... 59**

Jens Bech Agerholm, Uffe Mikkelsen and Karoline Garm Nissen, Economics

For a number of euro area member states, the financial crisis has evolved into an actual sovereign debt crisis. In many member states, expansionary fiscal policy during the boom of the pre-crisis years has been replaced by significant consolidation. The article analyses some fundamental weaknesses in economic cooperation within the EU, which have been highlighted by the crisis. Moreover, the article discusses regulations adopted by the EU member states' in recent years to address these weaknesses.

**Public Expenditure Management in Denmark ..... 77**

Pernille Bomholdt Nielsen and Morten Hedegaard Rasmussen, Economics

There is political agreement in the Folketing (Danish parliament) on a new Budget Act, containing, among other elements, 4-year rolling expenditure ceilings for the central government, regions and municipalities. This entails stricter public expenditure management. The measures are implemented after almost 20 years of growth in public consumption exceeding the medium-term plan targets. The overruns are to a large extent due to the municipalities spending more money than agreed with the central government. However, this trend has not been observed during the last few years due to the introduction in several steps of sanctions on the municipalities for exceeding the level of expenditure agreed with the central government.

**Developments in the Danish Labour Market in Recent Years ..... 91**

Peter Beck Nellemann and Erik Haller Pedersen, Economics

This article analyses the performance of the Danish labour market during first the overheating of the economy, then the recession. A characteristic feature is that staff turnover has been high irrespective of the cyclical position. In general, the rising unemployment during the crisis does not seem to have entailed higher structural unemployment, and viewed over a longer period long-term unemployment is very low. Therefore, the challenge in the current downturn is that some people leave the labour market permanently rather than a permanent increase in unemployment.

|   |     |
|---|-----|
| Costs of Card and Cash Payments in Denmark .....  | 109 |
| Johan Gustav Kaas Jacobsen and Anders Mølgaard Pedersen, Payment Systems  |     |
| A breakdown of payment costs into fixed and variable costs shows that cash is the cheapest payment method for society as a whole for amounts below kr. 29. For larger amounts, the Dankort is the cheapest payment method. This type of breakdown can also be used to calculate the social cost savings of e.g. replacing a given number of cash payments by Dankort payments. Assuming that 25 per cent of all cash payments exceeding kr. 200 were made by Dankort instead, the social costs would be reduced by kr. 145 million annually. The findings are consistent with studies in other countries. |     |
| <br>  |     |
| Speech by Governor Nils Bernstein at the Annual Meeting of the Danish Mortgage Banks' Federation, 29 March 2012 .....   | 123 |
| <br>  |     |
| Press Releases .....  | 129 |

Tables



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# Current Economic and Monetary Trends

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## SUMMARY

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Considerable uncertainty still prevails in the financial markets, mainly due to concerns about the sustainability of public finances and the robustness of the banking sectors in southern euro area member states. This has led to a large inflow of capital to, among others, several northern European countries, including Denmark, where interest rates reached an extraordinarily low level in early June.

International economic activity picked up in the 1st quarter. Growth was moderate in the USA, sound in Japan as a result of rebuilding after the earthquake and still high, albeit receding, in China. At the same time, activity was stagnant in the euro area, but with considerable differences between the southern member states in recession and Germany in an upswing. The most recent macroeconomic indicators point to weaker improvement in activity in the 2nd quarter.

The international organisations forecast that the global economy will gradually recover, with moderate growth in the USA, a slow return to weak growth in the euro area and a soft landing for the Chinese economy. A significant risk factor is an escalation of the southern European debt crisis, which, combined with problems in the financial sector, may lead to a serious economic downturn. Hence, it is important to ensure confidence in the ability to manage the debts of the crisis-ridden euro area member states.

Activity in Denmark rose by 0.3 per cent in the 1st quarter of 2012, mainly driven by higher private consumption and investment. For the full year, the gross domestic product, GDP, is set to grow by 1.2 per cent, rising to just over 1.5 per cent in the next two years. The very low interest rates buoy up the Danish economy. They also make it possible to lock interest expenses on mortgage loans at a very low level, thereby ensuring protection against future increases. This may eliminate some of the uncertainty linked to variable-rate financing.

The still unresolved situation in the debt-ridden euro area member states is an uncertainty which may weaken growth in Denmark relative to the forecast estimate. On the other hand, a considerable savings surplus in the private sector and very low interest rates provide a potential for stronger-than-expected growth in private consumption and investment.

For some time, higher indirect taxes have contributed to price inflation. Excluding food and energy, prices have been rising at an unchanged rate of around 1.5 per cent a year, so there are no strong underlying inflationary pressures.

There are plans to ease fiscal policy substantially this year. The government deficit is expected to be kr. 63 billion, corresponding to 3.4 per cent of GDP. The planned fiscal tightening in 2013 should be observed.

To address the challenges listed in the 2020 plan, the Danish government has presented an extensive reform agenda. Negotiations for a tax reform are currently underway. The agenda also includes reforms of cash benefits and social pensions. On the current basis, Danmarks Nationalbank finds that the outlined reforms will make an important contribution overall to meeting the challenges facing the Danish economy in the short and slightly longer term. A speedy conclusion to the ongoing negotiations would reduce uncertainty among households and firms, to the benefit of growth in consumption and investment. Conversely, drawn-out negotiations with political uncertainty about the implementation of reforms could lead to concerns about future conditions, adding to the uncertainty arising from conditions abroad. That would have a negative impact on Danish output and employment.

## **THE INTERNATIONAL ECONOMY AND THE FINANCIAL MARKETS**

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### **Economic developments**

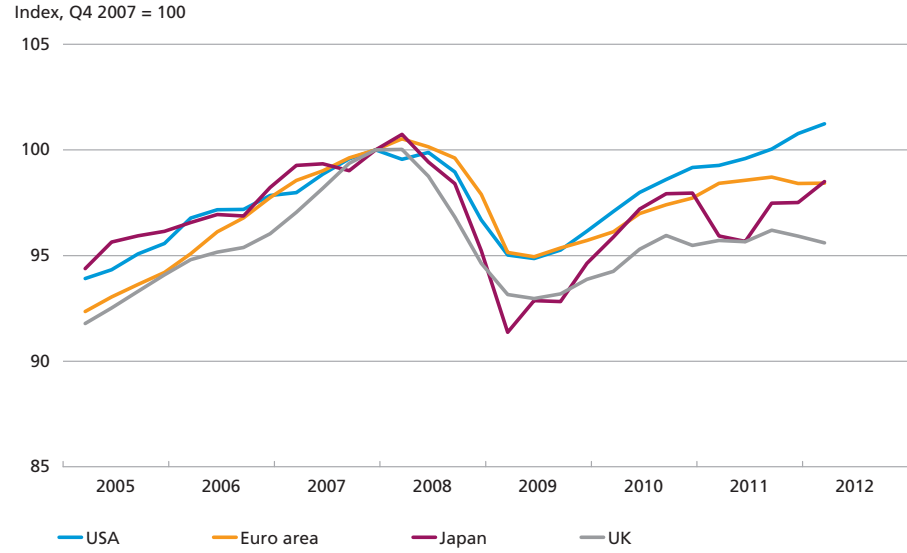
The global economic situation is characterised by great uncertainty. Economic activity picked up early in the year, but with considerable differences across countries. The US economy has regained momentum since the halt in growth in the 1st half of 2011 and grew by 0.5 per cent in the 1st quarter of 2012, driven by relatively strong private consumption. Euro area GDP was unchanged in the 1st quarter, after having fallen in the 4th quarter of 2011. But while the Italian and Spanish economies continued to contract, by 0.8 and 0.3 per cent respectively, GDP grew by 0.5 per cent in Germany and was flat in France. In the UK, GDP fell by 0.3 per cent in the 1st quarter and is still well below the pre-crisis level, cf. Chart 1. The Japanese economy continued its trend from the 2nd half of 2011 and grew by 1 per cent in the 1st quarter of 2012, reflecting factors such as the ongoing rebuilding after the earthquake in March 2011.

The emerging market economies still have momentum, but there are signs of a slowdown, especially in China, where quarterly growth has been below 2 per cent in the last two quarters, down from a stable level of 2.2-2.4 per cent in 2010-11.



DEVELOPMENT IN REAL GDP FOR SELECTED ECONOMIES

Chart 1



Source: Reuters EcoWin.

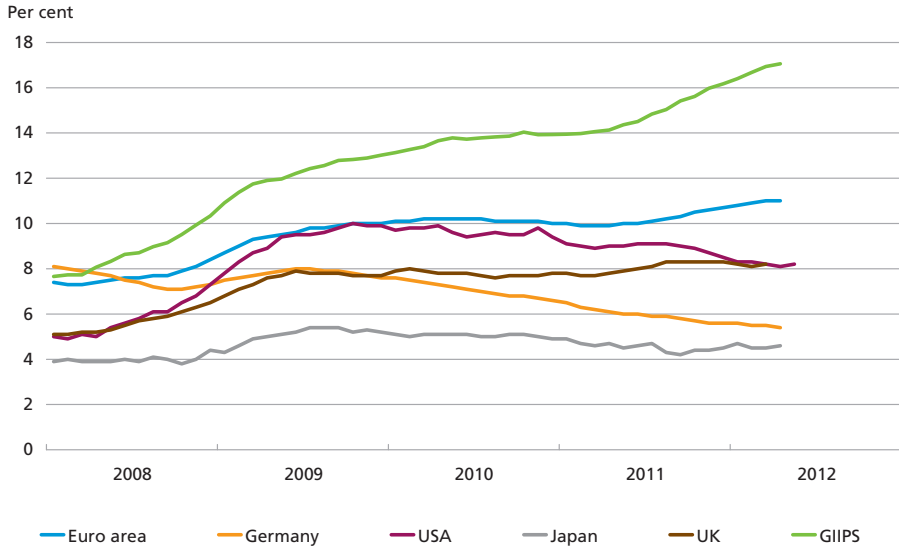
The benchmark economic indicators still point to global activity picking up, although there have been marked signs of weakness in the 2nd quarter with a predominantly negative tendency in the macroeconomic indicators in May. The PMI indices, which are good indicators of current developments in economic activity, have stabilised at a level indicating continued growth in global economic activity, but with considerable differences across countries. In the USA there are signs of moderate growth, while activity is set to decline in the euro area. Especially the euro area economies Italy and Spain have weakened further, while the German economy has been more stable, although confidence in Germany has also been affected by the uncertainty surrounding southern Europe.

The diverging trends across the advanced economies are reflected in the labour markets. The weak level of activity in the euro area has led to rising unemployment, cf. Chart 2, while US unemployment has fallen since last summer.

There is substantial dispersion within the euro area. In Greece, Spain and Portugal, unemployment has soared to 21, 24 and 15 per cent, respectively, of the labour force. In Germany, on the other hand, unemployment has been decreasing steadily over a number of years. This has led to expectations of rising real income in Germany, and the results of the wage bargaining point to somewhat higher wage inflation in the coming years.

## UNEMPLOYMENT IN THE LARGEST ADVANCED ECONOMIES AND THE GIIPS COUNTRIES

Chart 2



Note: GIIPS countries are Greece, Ireland, Italy, Portugal and Spain. Unemployment in these countries is weighted relative to their labour forces.

Source: Eurostat.

US unemployment has fallen more since its peak than the growth in GDP would normally have indicated. According to the Federal Reserve<sup>1</sup>, one explanation could be that firms laid off too many people during the crisis and are now gradually normalising their staffing. However, recent months have seen a smaller rise in employment than the preceding six months and unemployment has stopped falling. Moreover, part of the decrease in unemployment since the peak reflects a lower participation rate. The participation rate has been going down since the late 1990s, but this trend accelerated during the crisis. It is likely that demographics also play a role, and that baby boomers have opted for early retirement. Presumably, structural unemployment has also risen, reflecting factors such as reduced mobility in the weakened housing market, the need to adjust employment in the construction sector, higher minimum wages and longer entitlement to unemployment benefits.

Inflation has declined in most advanced economies, but at a slightly slower pace than expected, partly because of the oil price hike at the beginning of the year. Higher direct and indirect taxes have also pushed up consumer price inflation. Inflation remains high in view of the weak economic outlook, but inflation expectations have been very stable. In

<sup>1</sup> Ben Bernanke, Recent developments in the labour market, speech at the National Association for Business Economics Annual Conference, Washington D.C., 26 March 2012.

China, price inflation has subsided markedly, which has dampened concerns about overheating.

### **The financial markets**

The financial markets have been characterised by extensive uncertainty recently, following a calm period at the beginning of the year after the ECB's 3-year liquidity allotments. The deterioration is mainly attributable to renewed concerns about Greece and Spain and, to a lesser extent, Italy. The turmoil led to extraordinarily low interest rates in early June in countries seen as safe havens, including Germany and the USA. The level of interest rates reflects an unusual situation in which investors accept negative real returns.

The general election in Greece in May led to a defeat for the parties behind the EU-IMF loan programme and it has not been possible to form a new government. Consequently, a new election will be held on 17 June. The EU and IMF assessments of the loan programme, which are prerequisites for disbursement of the next loan tranches, have been postponed until a new government is in place. The political uncertainty has raised concerns about the future of Greece within the single currency.

Another major source of the recent turmoil is uncertainty about the Spanish banks' portfolios of bad housing loans and the banks' potential need for new capital injections from the Spanish government. In view of the very high unemployment rate and deep recession, this has caused the 10-year Spanish yield spread to Germany to widen so that it now exceeds the level in the autumn, cf. Chart 3.

The situation in the euro area has also contributed to a weakening of the euro against the dollar since February, following a strengthening at the beginning of the year. Overall, the euro has depreciated by more than 10 per cent vis-à-vis the dollar since the summer of 2011.

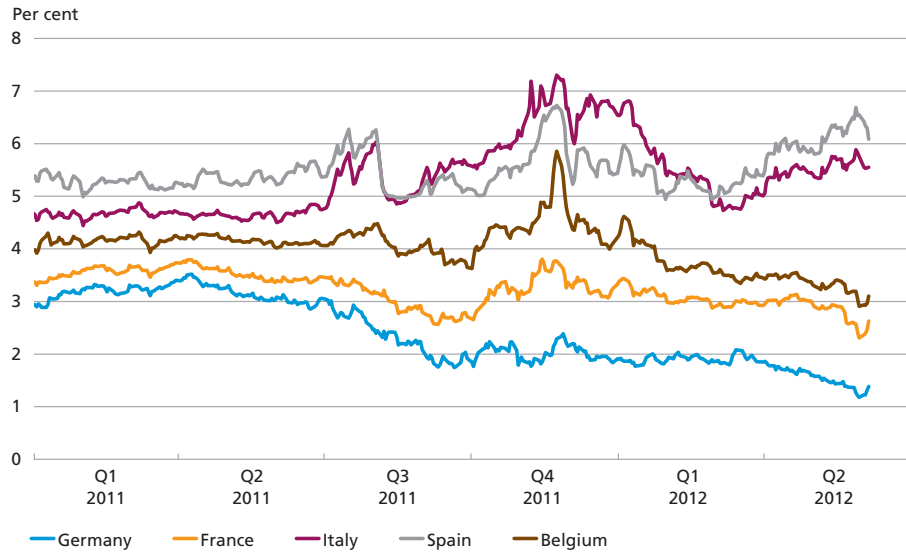
The price of oil has been going down in recent months. In early June it was 10 per cent below the average for 2011 in dollar terms, while it was at roughly the 2011 average in euro terms. Stock indices have also been falling after having risen in the first months of the year.

In the euro area, the ECB's 3-year liquidity allotments have so far helped to prevent an actual credit crunch. The ECB's lending survey for the 1st quarter of 2012 showed a more moderate tightening of credit standards than in the preceding quarter and far more moderate than the banks themselves had expected.

Viewed in isolation, the increase of the Common Equity Tier 1 ratio to 9 per cent – a target which the largest European banks must observe by end-June – is not assessed to lead to any substantial decline in lending,

10-YEAR GOVERNMENT BOND YIELDS FOR SELECTED EURO AREA MEMBER STATES

Chart 3



Source: Bloomberg.

cf. Box 1. However, the euro area financial sector is consolidating and European banks are seeking to deleverage and reduce the size of their balance sheets. This is a natural response to the weak economy and expectations of higher future capital requirements. Looking ahead, this process may impede lending growth, thereby halting euro area activity. In the assessment of the IMF, balance-sheet reductions by European banks will curb lending by 1.7 per cent of GDP until end-2013.

### Growth outlook

The international organisations are more or less in agreement on the growth outlook, cf. Table 1. Economic activity in the euro area is expected to be a little lower in 2012 than in 2011, followed by weak positive growth in 2013. The US economy is still expected to show moderate growth at around its potential in 2012 and 2013, while China is heading for a soft landing with slower growth than in the preceding years. The Japanese economy is expected to grow, partly as a result of rebuilding after the earthquake in the spring of 2011.

Inflation is expected to fall in the near term as the effects of the oil price hikes in 2011 and early 2012 fade away and in view of the substantial spare capacity in most economies.

Euro area activity is impeded by the necessary fiscal consolidation in 2012 and 2013. Overall, the euro area will be implementing discre-

## DELEVERAGING IN EUROPEAN BANKS

Box 1

Banks can deleverage in two ways: either by strengthening their Tier 1 capital or by reducing risk-weighted assets, RWA, which may have various economic consequences. On the basis of the conclusions from the European Council in October 2011, the European Banking Authority, EBA, has increased the target for Common Equity Tier 1 to 9.0 per cent for 65 large European banks and has also encouraged the banks to build up capital buffers. This recapitalisation must be in place by end-June 2012. This has led to concerns about fire sales of assets and strong reduction of bank lending activities. However, the unconventional measures introduced by central banks (liquidity allotments and dollar swap lines) and the EBA's call for recapitalisation have played an important role in terms of ensuring a more gradual adjustment process without significant consequences for the extension of credit.

Following a review of the banks' reporting, the EBA concluded that the banks' compliance with the increased capital requirement as from 1 July 2012 will not affect the real economy negatively via reduced lending. The reason is that banks will predominantly recapitalise by divesting assets, retaining profits and issuing in the market.

In its quarterly review from March, the Bank for International Settlements, BIS, concluded that European banks are not involved in fire sales. All the same, assets were sold and credit activities reduced in late 2011 and early 2012. But there have not been any signs that the actual or expected sales have influenced asset prices, and overall credit volumes have been retained for most credit types. On the basis of information from the EBA, the BIS estimated that the banks' plans for meeting the increased capital requirement will reduce the extension of credit by 39 billion euro, corresponding to 0.4 per cent of total lending to non-financial corporations and households in the euro area.

The IMF's Global Financial Stability Report from April presents three scenarios for the potential impact of the European banks' deleveraging. In addition to the planned recapitalisation (in an EBA context) until the summer of 2012, the IMF baseline scenario expects European banks to reduce their assets by a total of around 2,000 billion euro (approximately 20 per cent of GDP) until end-2013. This corresponds to a 7-per-cent reduction of total assets. In the assessment of the IMF, around one fourth of this can be achieved by reducing lending activities, while the rest can be achieved by divesting subsidiaries and non-core activities such as insurance and asset management. Overall, this will, according to the IMF, reduce credit extension in the euro area by 1.7 per cent of GDP during 2012 and 2013, but with a stronger effect in the vulnerable southern European member states. Viewed in isolation, this may cause euro area GDP to contract by 0.9 per cent in 2012 and another 0.6 per cent in 2013.

tionary fiscal tightening of around 4 per cent of GDP in the period 2011-13, mainly by cutting expenses for transfer benefits and raising indirect taxes, cf. Table 2.

In the assessment of the IMF, fiscal tightening and the banks' balance-sheet reductions will, viewed in isolation, cause euro area GDP to contract by 2-2.5 percentage points in 2012. Accommodative monetary pol-

## INTERNATIONAL ORGANISATIONS' GROWTH ESTIMATES FOR SELECTED ECONOMIES

Table 1

| Per cent        | 2011 | 2012            |                   |                  | 2013            |                   |                  |
|-----------------|------|-----------------|-------------------|------------------|-----------------|-------------------|------------------|
|                 |      | EU <sup>1</sup> | OECD <sup>2</sup> | IMF <sup>3</sup> | EU <sup>1</sup> | OECD <sup>2</sup> | IMF <sup>3</sup> |
| USA .....       | 1.7  | 2.0             | 2.4               | 2.1              | 2.1             | 2.6               | 2.4              |
| Euro area ..... | 1.5  | -0.3            | -0.1              | -0.3             | 1.0             | 0.9               | 0.9              |
| Germany .....   | 3.0  | 0.7             | 1.2               | 0.6              | 1.7             | 2.0               | 1.5              |
| France .....    | 1.7  | 0.5             | 0.6               | 0.5              | 1.3             | 1.2               | 1.0              |
| Italy .....     | 0.4  | -1.4            | -1.7              | -1.9             | 0.4             | -0.4              | -0.3             |
| Spain .....     | 0.7  | -1.8            | -1.6              | -1.8             | -0.3            | -0.8              | 0.1              |
| UK .....        | 0.7  | 0.5             | 0.5               | 0.8              | 1.7             | 1.9               | 2.0              |
| Sweden .....    | 4.0  | 0.3             | 0.6               | 0.9              | 2.1             | 2.8               | 2.3              |
| Japan .....     | -0.7 | 1.9             | 2.0               | 2.0              | 1.7             | 1.5               | 1.7              |
| China .....     | 9.2  | 8.4             | 8.2               | 8.2              | 8.2             | 9.3               | 8.8              |

Source: <sup>1</sup> European Commission, *European Economic Forecast*, 11 May 2012.

<sup>2</sup> OECD, *Economic Outlook*, 22 May 2012.

<sup>3</sup> IMF, *World Economic Outlook*, April 2012.

icies and very low interest rates in the countries not affected by higher interest rates point in the opposite direction.

Nevertheless, risks to global economic activity remain considerable and are to a large extent linked to events in southern Europe. The international organisations see the situation as vulnerable. The most significant risk is that the sovereign debt crisis will flare up again. The IMF believes that this could compel governments to bring forward fiscal tightening measures and lead to tighter credit standards, thereby triggering a serious downturn in both the euro area and the global economy. According to the IMF, this scenario would reduce euro area GDP by 3½ per cent relative to the forecast's baseline scenario after 2 years, and global GDP by approximately 2 per cent.

Oil prices also remain a significant factor of uncertainty. The price of oil has fallen markedly since late March. A negative supply shock as a

## DISCRETIONARY FISCAL MEASURES IN THE EURO AREA 2011-13

Table 2

| Per cent of GDP                        | 2011 | 2012 | 2013 | 2011-13 |
|--|------|------|------|---------|
| Direct taxes .....                     | 0.3  | 0.3  | 0.0  | 0.6     |
| Indirect taxes .....                   | 0.3  | 0.4  | 0.2  | 0.9     |
| <i>Total revenue</i> .....             | 0.6  | 0.7  | 0.2  | 1.5     |
| Public transfer benefits .....         | -1.0 | -0.2 | -0.3 | -1.5    |
| Public consumption .....               | -0.2 | -0.2 | -0.1 | -0.5    |
| Public investment .....                | -0.2 | -0.2 | 0.0  | -0.4    |
| <i>Total expenditure</i> .....         | -1.5 | -0.5 | -0.5 | -2.5    |
| <i>Government budget balance</i> ..... | 2.0  | 1.3  | 0.7  | 4.0     |

Note: Changes in public spending broken down by subcomponents may not add up due to rounding.

Source: European Commission, *European Economic Forecast*, Spring 2012, 11 May 2012.

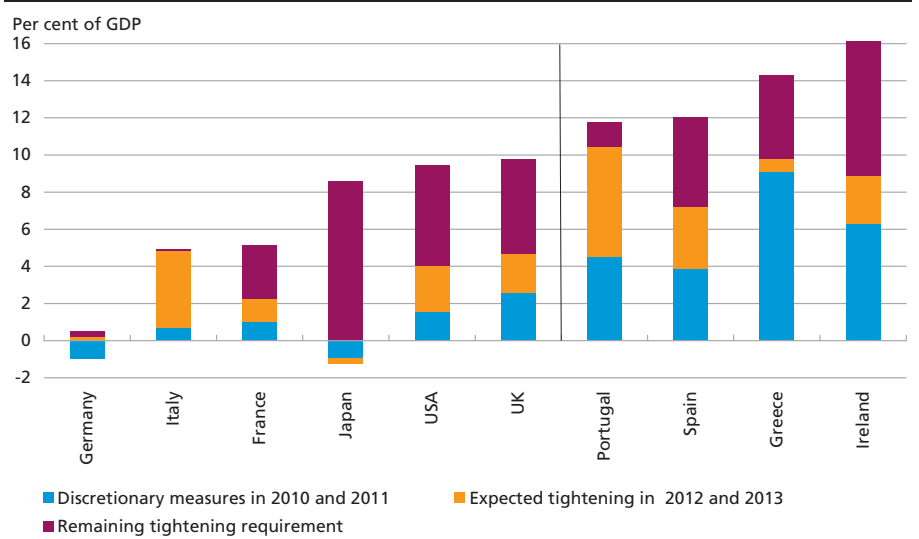
result of tensions around the Persian Gulf could, however, make oil prices soar, thereby reducing growth.

**Economic policy**

Most advanced economies are restoring their public finances. In the euro area, an extensive consolidation process is underway, which is necessary in order to ensure sustainable debt developments. In Greece, fiscal intervention to the tune of 10 per cent of GDP was seen in 2010-11, while Ireland, Portugal and Spain have consolidated public finances by 4-6 per cent of GDP, cf. Chart 4. Further tightening measures have been planned for this year and next year. In Spain, weaker macroeconomic indicators and government budget overruns have made it necessary to adjust the budget target for 2012. Given the weak starting point, tightening measures will also be required in the coming years, although the size of such measures remains uncertain.

In the USA, there is considerable uncertainty about the extent of fiscal consolidation in 2012-13 due to strong political disagreement. According to the OECD, there is a risk that fiscal policy may be tightened by around

REQUIRED FISCAL ADJUSTMENT TO ACHIEVE A STRUCTURAL GOVERNMENT BUDGET BALANCE IN BALANCE Chart 4



Note: The discretionary fiscal measures have been calculated by adding up the budget impacts of the specific fiscal measures outlined in the European Commission's annual assessments of the member states' stability programmes as well as the programme reviews in connection with loan programmes for Greece, Ireland and Portugal. For the USA and Japan, the change in the structural primary government budget balance has been applied. Expected tightening in 2012-13 is based on the European Commission's estimates of changes in the structural primary government budget balance. The remaining tightening requirement is the adjustment still required in order to achieve a structural government budget balance in balance. The calculations and estimates of the structural balance are subject to considerable uncertainty due to e.g. the uncertainty linked to assessing potential GDP.

Source: European Commission, various reports. For non-EU countries, OECD, *Economic Outlook*, May 2012.

4 per cent of GDP in 2013 following the expiry of a number of stimulus initiatives and the commencement of the automatic savings measures resulting from last year's agreement to raise the debt ceiling. The OECD's current forecast operates with tightening of only 1.5 per cent of GDP since it is assumed that the automatic savings measures will be postponed and some of the stimulus initiatives will be continued.

A major challenge in the euro area is to break the negative link between the weak banking sector and public finances. In several countries, notably Spain, concerns about the banking sector have led to uncertainty about the sustainability of public debt if it becomes necessary to provide further government support for the banks. Since the banks are exposed to domestic government debt, this may further weaken the banks.

Hence, an important element of a Spanish recovery is to restore confidence in the banking sector, which is weighed down by many bad property-related loans. Against that background, the Spanish government has so far initiated an extensive restructuring plan for the banks with tighter loan impairment charge requirements for problematic property loans, as well as recapitalisation of the banks. The recapitalisation requirement will be based on external consulting firms' assessments of the banks' balance sheets; these assessments are expected to be finalised in the second half of June.

In response to the renewed uncertainty about the situation in southern Europe, the international community has strengthened the financial firewalls. This has been achieved by increasing the capacity of the European support facilities (the European Financial Stability Facility and the European Stability Mechanism) and by boosting the IMF's lending resources via bilateral loans, cf. Box 2. Denmark's Nationalbank has made an extra loan commitment of kr. 40 billion to the IMF. These firewalls have been established so that countries which are unable to obtain market funding at a sustainable level may have time to implement the necessary economic adjustments. Awareness of the firewalls may reduce market concerns since distressed countries will be able to obtain assistance for meeting their obligations rather than having to suspend payments. It is a prerequisite that the firewalls are substantial enough to cover the potential funding requirement and that the countries in question are willing to apply for support in time. Furthermore, they must accept the loan conditions, as well as increased oversight by the international organisations. In the case of Spain, current discussions indicate that the euro area member states are working on a solution involving a selective loan programme for strengthening the Spanish banking sector, while the conditions and oversight of fiscal and structural policies etc.



## STRENGTHENED EUROPEAN AND GLOBAL FINANCIAL FIREWALLS

Box 2

International financial firewalls have become a core element of addressing the debt crisis. So far, the euro area member states and the IMF have lent crisis-ridden euro area member states approximately 350 billion euro. These loans have been provided to help the economies in question to restore macroeconomic sustainability and market access and to limit the contagion effects in other member states.

The euro area firewalls include the temporary European Financial Stability Facility, EFSF, and from 1 July 2012 the permanent European Stability Mechanism, ESM. These facilities are to fund loan programmes for crisis-ridden euro area member states with a view to ensuring financial stability in the euro area. The EFSF is based purely on guarantees, while the ESM also comprises paid-up capital. To strengthen the euro area firewalls, the Eurogroup on 30 March decided to increase the total lending capacity of the EFSF and ESM to 700 billion euro (from 500 billion euro), corresponding to the sum of the ESM's lending capacity of 500 billion euro and the 200 billion euro already granted by the EFSF. Moreover, it was decided to contribute capital to the ESM over a 2-year period rather than a 5-year period so that it will be operating at full capacity sooner. In a period until 30 June 2013 the EFSF may also commit itself to new loan programmes if necessary. Hence, the total "new" lending capacity will be 500 billion euro already from 1 July 2012. With the bilateral loans already granted by euro area member states and the loans granted by the European Financial Stabilisation Mechanism, EFSM, the euro area member states' total firewall will be 800 billion euro.

In connection with the IMF's spring meeting on 20-21 April, it was agreed to increase the IMF's resources by a good 430 billion dollars (equivalent to 325 billion euro) via bilateral loans, of which only 360 billion dollars have been finally confirmed, however. This will more than double the IMF's effective lending capacity, which is currently just under 400 billion dollars. The increase will be a concerted global effort, a number of non-European countries also having made commitments. The largest individual commitment, 60 billion dollars, comes from Japan. The euro area member states will contribute a total of 150 billion euro, while the Danish contribution from Danmarks Nationalbank is 5.3 billion euro (approximately kr. 40 billion). The new funds are not earmarked for particular countries, but will be included in the IMF's general resources for funding loans to countries with balance-of-payments problems and will be used for funding IMF loan programmes to the current membership on conditionalities to be laid down.

will be handled within the existing EU and IMF framework without the establishment of an IMF programme.

In order to ensure the necessary economic adjustment in the euro area, it is essential to avoid unsustainable increases in interest rates. Member states that have seen surging interest rates have, however, to some extent been able to obtain funding through issuance of short-term government bonds. This applies to e.g. Italy and Spain, but also to Portugal, which still issues T-bills under an EU-IMF programme.

Highly accommodative monetary policies in the advanced economies support the financial sector and the real economy, e.g. by increasing the

## ADJUSTMENT OF DOMESTIC DEMAND AND REAL LABOUR COSTS IN EUROPE, 2008-11

Chart 5



Note: Real labour costs are real unit labour costs relative to EU15.  
Source: European Commission.

incentive to consume and invest. The European Central Bank, ECB, has kept its interest rates low, and most recently the US Federal Open Market Committee, FOMC, has indicated that it will keep the fed funds target rate at an extraordinarily low level until end-2014. Add to this "quantitative easing", whereby a number of central banks have bought securities in order to influence the level of interest rates.<sup>1</sup> However, the investment level is not expected to rise notably until the considerable economic uncertainty linked to the debt crisis in southern Europe has abated.

Besides consolidating their public finances, the crisis-ridden euro area member states are implementing extensive reforms to improve competitiveness, strengthen the export sector and increase the growth potential, cf. Box 3. The implementation and effects of such reforms take time and will, in conjunction with tight fiscal policies, entail a period of lower domestic demand, which will help to restore competitiveness. This necessary adjustment process is already underway, and previous years' unsustainably high domestic demand is being redressed, cf. Chart 5. But ana

<sup>1</sup> Most recently, the Bank of England and the Bank of Japan have expanded their asset purchases by around 3 per cent of GDP (the Bank of England in February and the Bank of Japan in two stages in February and April). For a more detailed description of the effect and purposes of central banks' buy-backs of securities, see Niels Blomquist, Niels Arne Dam and Morten Spange, Monetary-policy strategies at the zero lower bound on interest rates, Danmarks Nationalbank, *Monetary Review*, 4th Quarter 2011, Part 1.

## STRUCTURAL ECONOMIC ADJUSTMENT IN GIIPS COUNTRIES

Box 3

The extent of and background to the problems in the GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) differ, but there are important common traits. In all cases, the economic crisis has been a catalyst for radical reforms.

All of the countries are implementing fiscal tightening in the form of tax reforms, public spending cuts and reforms of the public sector. This entails e.g. lower public-sector wages, more efficient management of expenses, more efficient tax collection, higher tax rates and a broader tax base. A key element of ensuring the long-term sustainability of public finances is to reform the pension system. Significant pension reforms have been introduced by postponing the retirement age (Greece, Italy and Spain) and cutting pension disbursements (Greece, Portugal, Italy and Spain). Hence, pension expenses are no longer set to rise in Italy, while the pension reforms implemented in Greece will limit the increase until 2050 to 2.5 per cent of GDP, which is 10 percentage points lower than without the reforms.

High unemployment is a particularly large problem in Greece, Portugal and Spain. Consequently, labour market reforms are being implemented to increase flexibility and the option to adjust wage levels. Among other things, this means easing job-protection rules (Greece, Italy, Portugal and Spain) and introducing more flexible wage formation via increased decentralisation of wage agreements or freedom to deviate from collective wage agreements (Greece, Portugal and Spain). Both Greece and Portugal are assessed by the IMF and the European Commission to have some way to go before the necessary reforms have been implemented, and in Italy the proposed labour market reform has not yet been passed by both chambers of parliament.

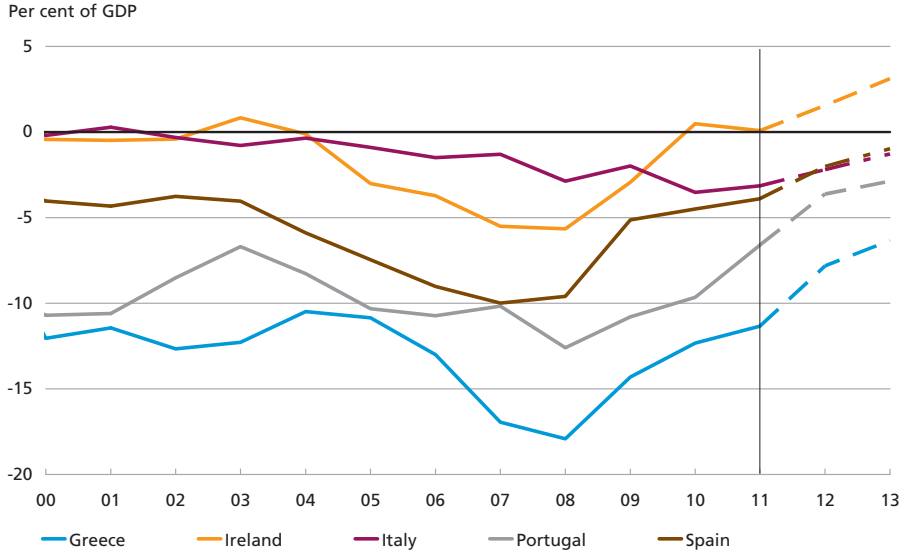
A common trait in the southern euro area member states has also been insufficient competition and flexibility in product markets, while Ireland is assessed by the international organisations to have come far in its adjustment process. In Greece, Italy and Portugal, protection within certain sectors, as well as regulation and administrative requirements, has made it difficult to start up new firms, thereby impeding growth. Greece is introducing reforms to remove barriers to setting up new firms in more than 150 different "closed" sectors.

Analyses by the European Commission and the IMF indicate that only just over one third of recent years' loss of competitiveness has been regained in Spain and Greece, while competitiveness has improved even less in Portugal.

The adjustment of domestic demand and the gradual improvement of competitiveness in the debt-ridden member states have reduced their current-account deficits. In fact, Ireland even has a small surplus now. In Spain, Portugal and Greece, deficits have only been halved despite weak economic developments, cf. Chart 6. It is essential for these member states to eliminate their deficits so that they can begin to reduce their foreign debts, which are in several cases close to or in excess of 100 per cent of GDP. Lower foreign debts would reduce interest expenses payable to abroad, and via improved confidence this could lead to further

## CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS

Chart 6



Source: European Commission.

falls in interest rates. Hence, economic adjustment is a precondition for bringing the economy into a "virtuous circle".

For some time, euro area growth is expected to be driven extensively by the northern member states. As a result of the adjustment process, the level of inflation in euro area member states with a better point of departure is higher than the overall euro area average.

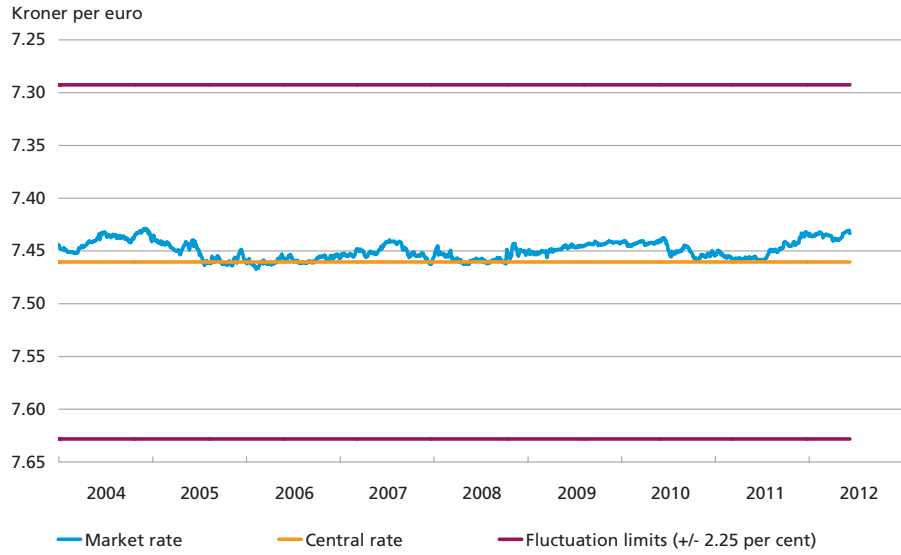
## MONETARY AND EXCHANGE-RATE CONDITIONS

Following considerable intervention purchases, Danmarks Nationalbank in late May and early June reduced its interest rates to a historically low level. The krone has been stable vis-à-vis the euro, at a level which is 0.25-0.4 per cent stronger than its central rate in ERM 2 since the turn of the year, cf. Chart 7. The fluctuation band for the krone in ERM 2 is +/- 2.25 per cent.

Effective 25 May, Danmarks Nationalbank reduced its lending rate, rate of interest on certificates of deposit and current-account rate by 0.1 percentage points. All three rates were reduced by a further 0.15 percentage point on 1 June, when the discount rate was also reduced by 0.50 percentage point. Before that, Danmarks Nationalbank had been purchasing foreign exchange in the market. The lending rate landed at 0.45 per cent, the rate of interest on certificates of deposit at 0.05 per cent, the current-account rate at 0.00 per cent and the discount rate at 0.25 per cent. The money-market interest rates followed suit, cf. Chart 8.

EXCHANGE RATE OF THE KRONE VIS-À-VIS THE EURO

Chart 7

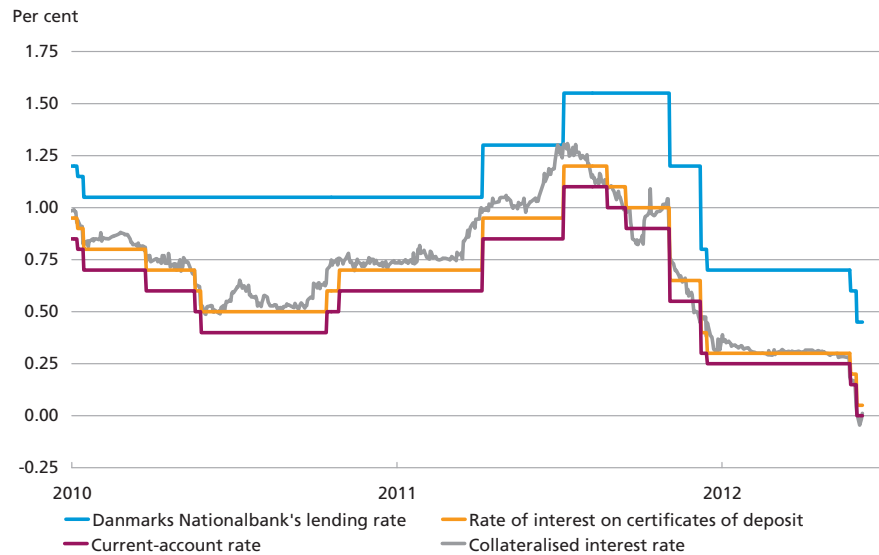


Note: Reverse scale. The most recent observation is from 7 June 2012.  
Source: Danmarks Nationalbank.

If the fixed-exchange-rate policy requires further interest-rate reductions, Danmarks Nationalbank has instruments for handling negative interest rates, cf. Box 4.

DANMARKS NATIONALBANK'S INTEREST RATES AND THE COLLATERALISED MONEY-MARKET INTEREST RATE

Chart 8



Note: The collateralised interest rate is the 1-month rate in overnight interest-rate swaps. The most recent observations are from 7 June 2012.

Source: Reuters EcoWin and Danmarks Nationalbank.

## TECHNICAL ASPECTS OF NEGATIVE MONETARY-POLICY INTEREST RATES

Box 4

The monetary-policy interest rates are key to the money-market interest rates, which in turn determine the exchange rate of the krone. Following the most recent reductions, monetary-policy interest rates are close to zero. In the current situation, with banks and mortgage banks overall needing to deposit funds at Danmarks Nationalbank, the rate of interest on certificates of deposit is the key monetary-policy rate for the money-market rates.

Should it be necessary to cut monetary-policy interest rates further, due to the fixed-exchange-rate policy against the euro, the rate of interest on certificates of deposit will become negative and lower than the current-account rate. This will give the monetary-policy counterparties an incentive to place funds in current accounts rather than in certificates of deposit.

The current-account limits, which limit the counterparties' current-account deposits, will be adjusted upwards to reduce the impact that a negative interest rate on certificates of deposit will have on counterparties. The current-account limits will be determined so that investment in certificates of deposit is sufficient to ensure the pass-through from the rate of interest on certificates of deposit to money-market interest rates. If the total current-account deposit exceeds the total current-account limit, Danmarks Nationalbank will convert deposits into certificates of deposit as it is currently the case.

The current-account limits are normally aimed at reducing the funds immediately available for speculation in a weakening of the krone. In a situation with a sustained inflow of capital and a tendency for the krone to strengthen, increasing the current-account limits does not constitute a problem in relation to the fixed-exchange-rate policy.

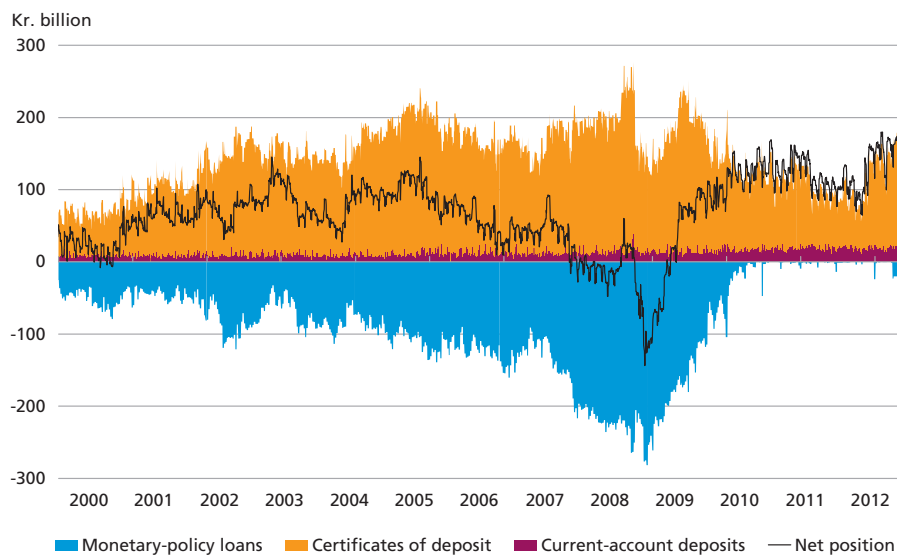
In May, Danmarks Nationalbank made intervention purchases of foreign exchange for a total of kr. 29.6 billion. This was the first time Danmarks Nationalbank intervened in the foreign-exchange market in 2012. At end-May the foreign-exchange reserve was kr. 502.4 billion, having increased by kr. 3.7 billion since February 2012. The increase reflects the intervention purchases in May, among other things. Furthermore, Danmarks Nationalbank sold foreign exchange for kr. 2.2 billion net, and the central government redeemed foreign loans for kr. 23.6 billion net from March to May.

Danmarks Nationalbank offered 3-year loans on 30 March 2012, when the banks and mortgage banks raised loans for kr. 19 billion. The 3-year loans make up almost the entire volume of outstanding monetary-policy loans, cf. Chart 9. Utilisation of this arrangement is determined by demand among the banks. Danmarks Nationalbank will be offering further 3-year loans on 28 September 2012.

On 1 May 2012, the collateral basis for monetary-policy loans and intraday credit was extended to include the banks' credit claims of good quality in other currencies than kroner and euro. Credit claims in kroner and euro have been part of the collateral basis since October 2011. At

**THE BANKS' AND MORTGAGE BANKS' LOANS FROM AND DEPOSITS AT  
DANMARKS NATIONALBANK**

Chart 9



Note: The most recent observations are from 7 June 2012.

Source: Danmarks Nationalbank.

the same time, the temporary collateral basis was expanded to include bonds issued by companies primarily owned by a number of financial corporations, i.e. sector companies. The collateral basis was temporarily expanded to include sector company shares in August 2011.

### Interest rates in the money and capital markets

Interest rates in the money and capital markets in Denmark have been falling recently, cf. Chart 10, and were extraordinarily low in early June. This development should be seen in the light of renewed tensions in the euro area.

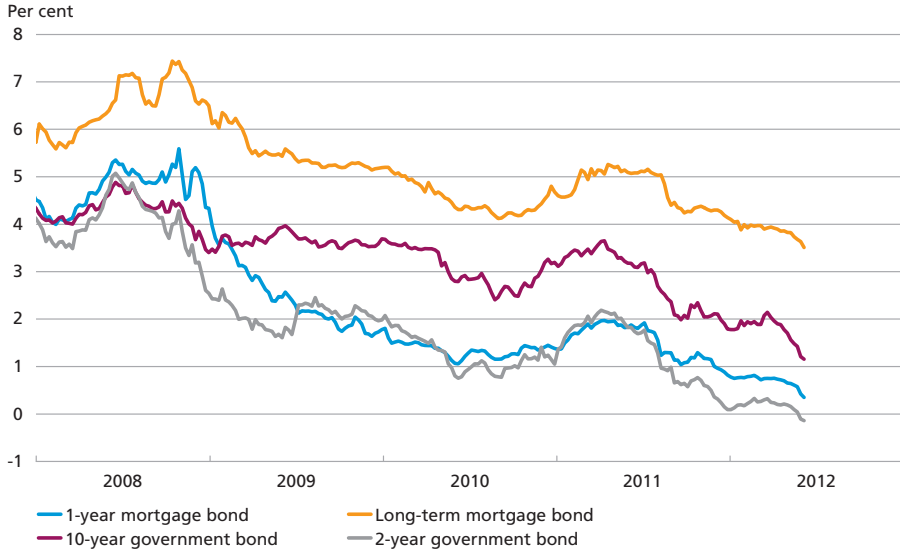
The yield on 10-year Danish government bonds was stable in the first part of the year, but fell by 0.6 percentage point from mid-March. In early June 2012, the yield spread to Germany was close to -0.1 percentage point. At the same time, the yield on Danish government securities with maturities of up to 3½ years was negative.

At the auction on 30 May 2012, 3-, 6- and 9-month T-bills sold at -0.06, -0.05 and 0.00 per cent, respectively. Collateralised money-market interest rates with maturities of up to one year were also negative in early June.

On 24 May 2012, Danmarks Nationalbank held an auction of a new, inflation-linked government bond maturing in 2023. The bond is linked to Danish consumer prices. This bond is opened in response to indications of investor interest, especially from the Danish insurance and pension

YIELDS ON DANISH GOVERNMENT AND MORTGAGE BONDS

Chart 10



Note: The short-term yield is the 1-year yield on fixed bullets. The long-term yield is an average yield to maturity based on 30-year fixed-rate callable mortgage bonds. The most recent observations are from calendar week 23.

Source: Nordea, Association of Danish Mortgage Banks and Danmarks Nationalbank.

sector and from foreign institutional investors. Sales totalled kr. 6 billion, corresponding to the announced maximum in the opening auction.

The yields on both 1-year and long-term mortgage bonds have fallen by just over 0.3 percentage point since end-February 2012. In early June 2012, the 1-year yield was 0.4 per cent, while the long-term yield was 3.6 per cent – which is historically low.

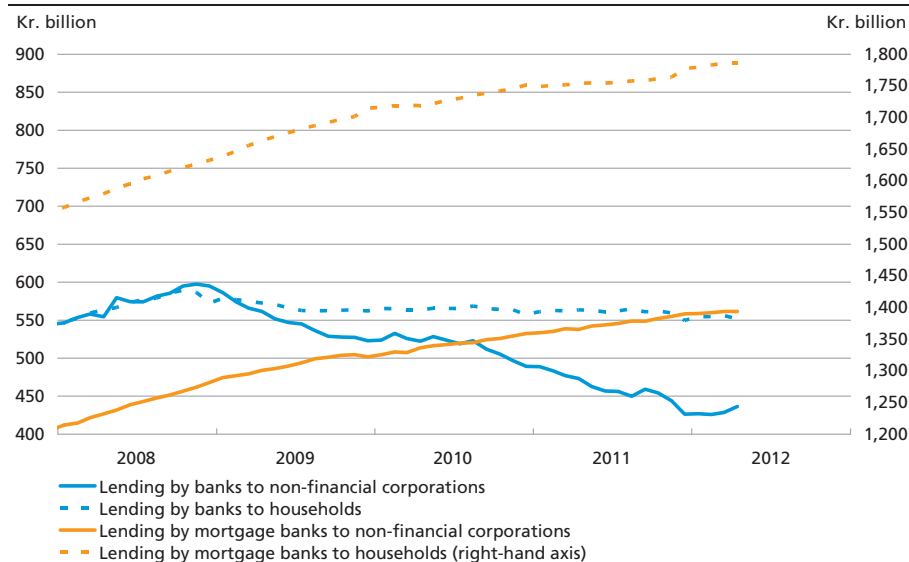
The low level of interest rates squeezes bank earnings. Interest margins, which had been more or less stable for some time, have been raised again since the autumn of 2011. This improves the banks' opportunities to augment their capital and reflects the tougher funding conditions in the international money and capital markets, as well as the banks' assessments of increased risk on lending.

In February 2012, the rating agency Moody's started reviewing the credit situation of European banks. A number of banks in several European countries were subsequently downgraded. In Denmark, nine banks and mortgage banks were downgraded on 30 May 2012. The reasons given included a difficult operating environment in Denmark and especially the mortgage banks' substantial reliance on market funding. On 30 May 2012, Danske Bank was downgraded by one notch by the rating agency Standard & Poor's. In Danmarks Nationalbank's assessment, the banks are more strongly positioned in terms of both capitalisation and



## LENDING BY BANKS AND MORTGAGE BANKS TO HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS

Chart 11



Note: Seasonally adjusted data. Outstanding lending volumes for banks and mortgage banks located in Denmark. The most recent observations are from April 2012.

Source: Danmarks Nationalbank.

liquidity in 2012 than they were in 2011, cf. *Financial stability 2012*. It is yet too early to assess the impact of the downgradings.

### Lending by banks and mortgage banks

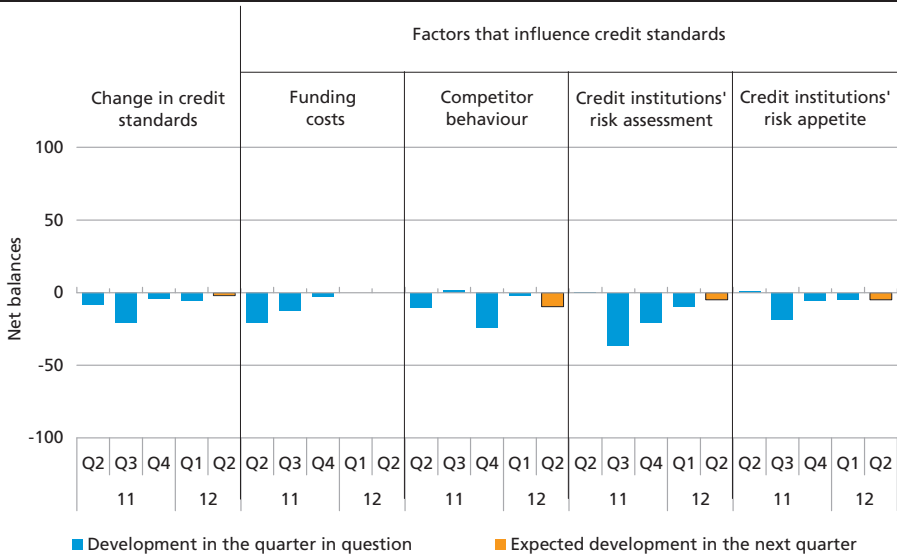
The banks' and mortgage banks' total seasonally adjusted lending to households was practically unchanged from February to April 2012, while lending to non-financial corporations rose slightly, cf. Chart 11. Lower lending by banks to households has been offset by higher lending by mortgage banks. The modest increase in lending to non-financial corporations is mainly attributable to increased bank lending.

According to Danmarks Nationalbank's lending survey, the Danish banks and mortgage banks have overall tightened their credit standards a little over the last year, cf. Chart 12. The same pattern has been seen in the euro area. This is reflected in e.g. higher prices, including higher interest margins.

This is the first time since early 2009 that the banks have tightened their credit standards to any notable extent. However, they have been tightened far less than in 2008-09 and generally the tightening has been less pronounced since the 3rd quarter of 2011. The most significant factor behind the change in credit standards has been the banks' risk assessment, which indicates that the tightening measures are to some

**BANKS' AND MORTGAGE BANKS' CREDIT STANDARDS FOR CORPORATE LENDING AND UNDERLYING FACTORS**

Chart 12



Note: Banks and mortgage banks taken as one. For each question there are five possible answers, which are assigned the following values: -100 (tightened considerably/contributed considerably to tightening), -50 (tightened a little/contributed a little to tightening), 0 (unchanged), +50 (eased a little/contributed a little to easing), +100 (eased considerably/contributed considerably to easing). Net balances are calculated by weighting the value of the individual credit institutions' responses by their share of total lending.

Source: Danmarks Nationalbank.

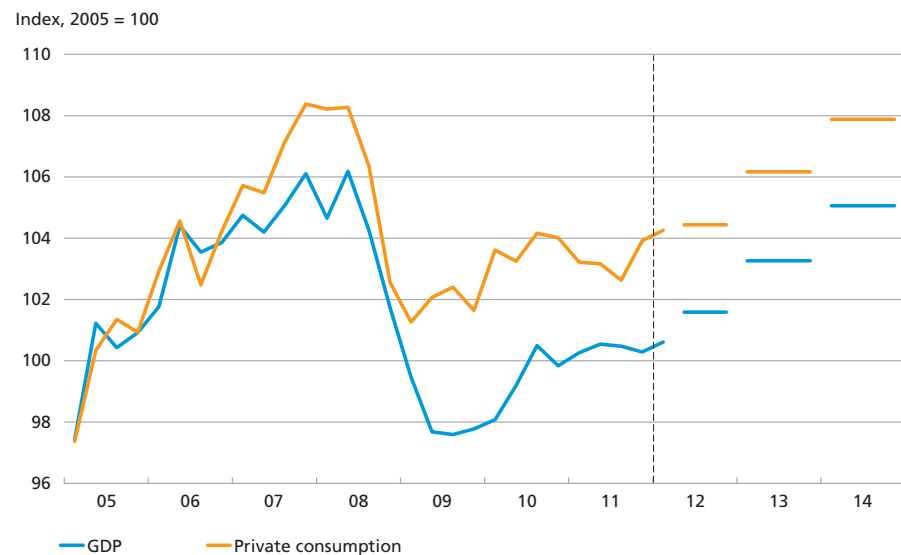
extent driven by cyclical factors. All the same, factors such as waning risk appetite and competitor behaviour also play a role, while funding costs, which had a certain impact in the 2nd and 3rd quarters of 2011, have not contributed much for the credit institutions overall in recent quarters. For the banks, funding costs also contributed to tightening in the 4th quarter of 2011. Conditions were tightened only marginally more for small and medium-sized firms than for large firms. The banks and mortgage banks increasingly differentiate between customer groups, and for some firms or industries loans may have become more difficult to obtain.

**THE DANISH ECONOMY**

GDP grew by 0.3 per cent in the 1st quarter of 2012, to slightly over the level in the same period of 2011, cf. Chart 13. Growth in the 1st quarter was mainly driven by private consumption and business investment. Total investment excluding inventory investment rose by 2.3 per cent despite a fall in public investment and residential construction. After having fallen for two quarters, public consumption increased slightly in the 1st quarter. Exports also grew a little, while imports rose somewhat more.

GDP AND PRIVATE CONSUMPTION

Chart 13



Note: GDP and private consumption in volumes. The projection is shown as annual averages.  
Source: Statistics Denmark and Danmarks Nationalbank's forecast.

Consumption showed good growth in the 4th quarter of 2011 and into the 1st quarter of 2012 so that the households' savings ratio has been reduced somewhat, although it remains fairly high in a long-term perspective. A lower wealth ratio, i.e. wealth as a ratio of disposable income, is a key factor behind the weak trend in consumption in recent years. Household borrowing has been rising moderately, while the strong fall in house and equity prices has reduced the value of household assets. As a result, loan-to-value ratios are now at the highest level seen since 1973. Without doubt, the households' large balance sheets<sup>1</sup> also have a negative impact on consumption. Large assets and liabilities increase risk, e.g. in connection with changes in interest rates.

The subdued trend in consumption in the forecast, cf. Table 3, also reflects that wage increases are expected to be moderate and that the labour market will scarcely improve much over the next year. Nevertheless, it is predicted that the consumption ratio, i.e. household consumption as a ratio of disposable income, will rise from the current low level.

Both short-term and long-term interest rates have reached historically low levels, cf. Chart 14. It is now possible to finance e.g. a house purchase by taking out a 30-year fixed-rate loan at a nominal interest rate of 3 per cent or a 20-year loan at 2 per cent. This makes it possible to

<sup>1</sup> For an elaboration, see "Household Balance Sheets and Debt – an International Country Study", Danmarks Nationalbank, *Monetary Review*, 4th Quarter 2011, Part 2, and "The Wealth and Debt of Danish Families", Danmarks Nationalbank, *Monetary Review*, 2nd Quarter 2012, Part 2.

KEY ECONOMIC VARIABLES Table 3

| Real growth on preceding period,<br>per cent     | 2011  | 2012  | 2013  | 2014  | 2011/2012 |       |       |
|--|-------|-------|-------|-------|-----------|-------|-------|
|  |       |       |       |       | Q3        | Q4    | Q1    |
| GDP .....  | 1.0   | 1.2   | 1.6   | 1.7   | -0.1      | -0.2  | 0.3   |
| Private consumption .....                        | -0.5  | 1.2   | 1.7   | 1.6   | -0.5      | 1.3   | 0.3   |
| Public consumption .....                         | -1.0  | 0.9   | 0.6   | 0.7   | -1.5      | -0.4  | 0.2   |
| Residential investment .....                     | 8.7   | -3.3  | 4.3   | 2.7   | 1.6       | -2.6  | -4.1  |
| Public investment .....                          | 3.8   | 6.2   | -10.6 | -0.4  | -2.1      | 1.7   | -7.9  |
| Business investment .....                        | -3.5  | 8.5   | 6.5   | 4.0   | 2.3       | 0.5   | 7.4   |
| Inventory investment <sup>1</sup> .....          | 0.4   | 0.2   | 0.0   | 0.2   | 0.6       | -1.3  | 0.5   |
| Exports .....                                    | 6.8   | 1.7   | 3.5   | 3.6   | 0.4       | 0.1   | 0.3   |
| Industrial exports .....                         | 8.6   | 2.1   | 5.9   | 5.5   | 0.1       | -1.4  | 1.1   |
| Imports .....                                    | 5.2   | 3.2   | 3.8   | 3.9   | 0.9       | -1.2  | 2.0   |
| Employment, 1,000 persons .....                  | 2,741 | 2,735 | 2,743 | 2,759 | 2,741     | 2,737 | 2,728 |
| Gross unemployment, 1,000<br>persons .....       | 162   | 159   | 151   | 143   | 163       | 162   | 162   |
| Net unemployment, 1,000 persons                  | 109   | 110   | 113   | 108   | 110       | 109   | 110   |
| Balance of payments, per cent of<br>GDP .....    | 6.5   | 5.4   | 5.3   | 5.0   | 6.3       | 6.1   | 4.8   |
| Government balance, per cent of<br>GDP .....     | -1.9  | -3.4  | -2.0  | -1.9  | -1.9      | -1.8  | -2.6  |
| House prices, per cent year-on-year              | -3.0  | -3.7  | 3.6   | 2.9   | -4.3      | -7.5  | -7.6  |
| Consumer prices, per cent year-on-<br>year ..... | 2.7   | 2.3   | 1.8   | 1.8   | 2.6       | 2.6   | 2.7   |
| Hourly wages, per cent year-on-<br>year .....    | 2.3   | 2.2   | 2.5   | 2.6   | 2.3       | 2.5   | 2.1   |

<sup>1</sup> Contribution to GDP growth.

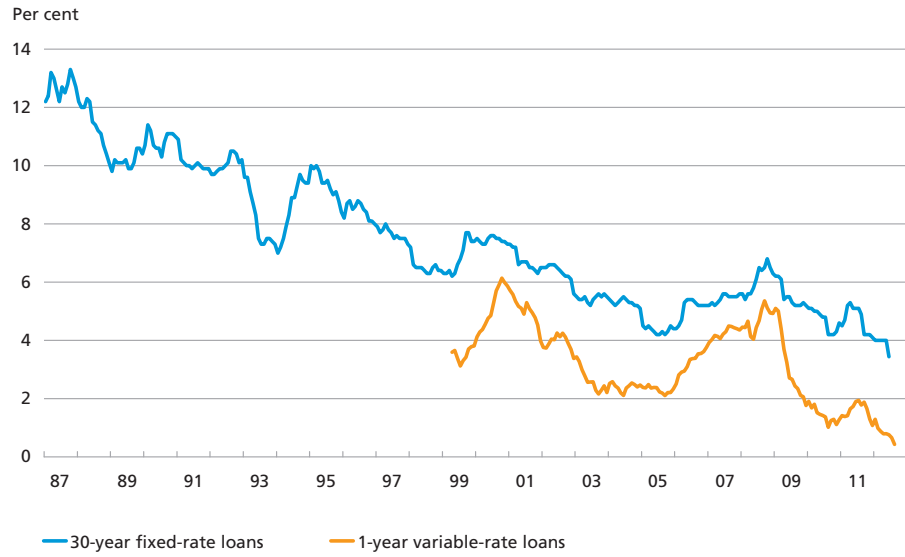
Note: Calculations are based on statistical information available up to and including 8 June 2012.

lock interest expenses on mortgage loans at a very low level, thereby ensuring protection against future increases. This may eliminate some of the uncertainty linked to variable-rate financing.

Business investment has risen from a very low level. More new commercial construction projects were initiated in the first part of 2012, but investment in ships and aircraft, etc. has also picked up. Purchases of aircraft for approximately kr. 2 billion in the 1st quarter increased imports and business investment, but did not have any impact on the GDP growth rate. Looking ahead, recent years' considerable savings surplus in non-financial corporations provides a basis for higher investment as capacity utilisation rises and firms become more optimistic. Hence, investment can be boosted without the need for more external funding. This would be in step with previous experience that corporate borrowing does not begin to increase until some time after a cyclical turning point. In the forecast, higher private investment, supported in 2012 and 2013 by the recently agreed easing of depreciation rules, will gradually fuel growth in demand.

LONG-TERM AND SHORT-TERM MORTGAGE YIELDS

Chart 14



Note: Monthly observations. The most recent observations are from 8 June 2012.  
Source: Danmarks Nationalbank.

Sluggish activity in parts of the euro area and among some of Denmark's other trading partners means that the export market is expected to show weak growth this year, cf. Appendix 1. However, the structure of Danish exports implies a lower degree of sensitivity to cyclical fluctuations in foreign markets, compared with the exports of many other countries. Consequently, Denmark's market share is expected to be virtually unchanged in 2012, and exports will grow moderately despite poor growth prospects abroad. In the last two years of the projection, export market growth will pick up, and market shares will fall back a little.

Since 2009, imports have grown more rapidly than output, i.e. the import ratio has risen and is now back at the level seen before the financial crisis. Imports have grown despite spare production capacity in Denmark, reflecting factors such as international specialisation, whereby many types of goods are only produced abroad. This development is expected to continue in the coming years, with imports still showing stronger growth than exports. This will contribute to reducing the current-account surplus from the present level of approximately 5 per cent of GDP, but the surplus will still be substantial.

Overall, growth is expected to be moderate this year. GDP growth is estimated at 1.2 per cent, rising to 1.6 and 1.7 per cent in 2013 and 2014, respectively, cf. Table 3. Thus, the growth estimates are unchanged relative to the most recent forecast, cf. Appendix 2.

The moderate growth in 2012 is attributable to weak developments abroad and a certain restraint on the part of households and firms. But with a considerable savings surplus in the private sector and very low interest rates, there is a potential for boosting private consumption and investment, and in the projection, growth in domestic private-sector demand picks up in the coming years. Private-sector employment is not expected to increase in earnest until 2013.

Interest rates are very low, and confidence may be restored quickly. As a result, private consumption and investment may start to rise sooner and at a faster pace than forecast. On the other hand, there are downside risks linked to the unresolved European sovereign debt crisis. This may weaken export markets and lead to slower-than-estimated growth in Denmark, cf. Box 5.

### **Housing market**

After having picked up a little in the 2nd half of 2009 and in 2010, the housing market weakened during 2011. Around the turn of the year 2011/12, seasonally adjusted data pointed to some degree of stabilisation, but prices fell again in February and March 2012. In March, prices of single-family and terraced houses were 8.6 per cent lower than one year earlier. However, there has been a tendency for subsequent upward adjustment of the most recent monthly figures published by Statistics Denmark, which are based on approximately 70 per cent of all trades. Prices of owner-occupied flats have remained virtually unchanged over the past six months. Exactly when the reversal in the housing market will happen is difficult to predict. In the forecast, house prices fall by 3.7 per cent in 2012.

The national average for house prices is back at the level from mid-2005. The monthly series cannot be broken down by geography, but according to the quarterly data house prices have fallen in all regions over the last year.

Turnover in the housing market is at around two-thirds of the average for the last decade. At 52,000 in April, the supply of homes for sale remains high, summer cottages disregarded. The many homes for sale and the low turnover mean that the average time on market for single-family and terraced houses is approximately nine months, while it is slightly less for owner-occupied flats. Time on market varies considerably across Denmark, being lowest in Greater Copenhagen.

Assessed on the basis of Danmarks Nationalbank's house-price relation<sup>1</sup>, house prices are currently below their equilibrium level, cf. Chart 16.

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<sup>1</sup> Danmarks Nationalbank's house-price relation is described in Niels Arne Dam, Tina Saaby Hvolbøl, Erik Haller Pedersen, Peter Birch Sørensen and Susanne Hougaard Thamsborg, Developments in the market for owner-occupied housing in recent years – can house prices be explained?, Danmarks Nationalbank, *Monetary Review*, 1st Quarter 2011, Part 2.

ALTERNATIVE SCENARIOS

Box 5

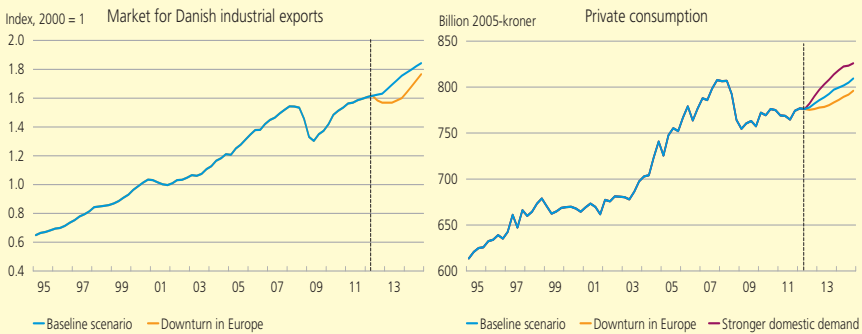
The economic and financial crisis in southern Europe has accelerated recently. The forecast is based on the assumption that the challenges are met in an adequate manner. If not, the euro area may soon be facing a new economic downturn, which will invariably have negative consequences for the Danish economy.

On the other hand, the risk outlook for domestic factors in the Danish economy holds considerable potential for stronger growth in private demand than the forecast assumes. The low interest rates make it possible to raise inexpensive loans to buy a house or make business investments via the mortgage-credit market, and at the same time households and firms have, on aggregate, consolidated their finances substantially in recent years. Hence, renewed confidence may soon be reflected in higher consumption, increased investment and recovery of the housing market.

The consequences to the Danish economy of a new economic downturn in Europe, or stronger growth in domestic demand, respectively, are shown in two alternative scenarios in Table 4. In the downturn scenario, the Danish economy is hit by a decline in the market for Danish exports in the 2nd half of 2012, with stagnation in 2013, cf. Chart 15 (left). Combined with renewed uncertainty in the financial markets, this will also weaken confidence among Danish firms and households, which will further dampen the housing market, construction activity and consumption, cf. Chart 15 (right). Compared with the forecast's baseline scenario, GDP growth will decline by 1½ percentage points in 2013, when the impact peaks. In the labour market, which is affected with a certain lag, unemployment will rise so that by 2014 it will be almost 40,000 higher than in the baseline scenario. The worsened economy will squeeze public finances, and the government budget deficit will increase to approximately 3 per cent of GDP in both 2013 and 2014. The lower exports will reduce the current-account surplus, although the effect will be limited due to the weaker domestic demand.

ALTERNATIVE SCENARIOS FOR MARKET FOR INDUSTRIAL EXPORTS AND PRIVATE CONSUMPTION

Chart 15



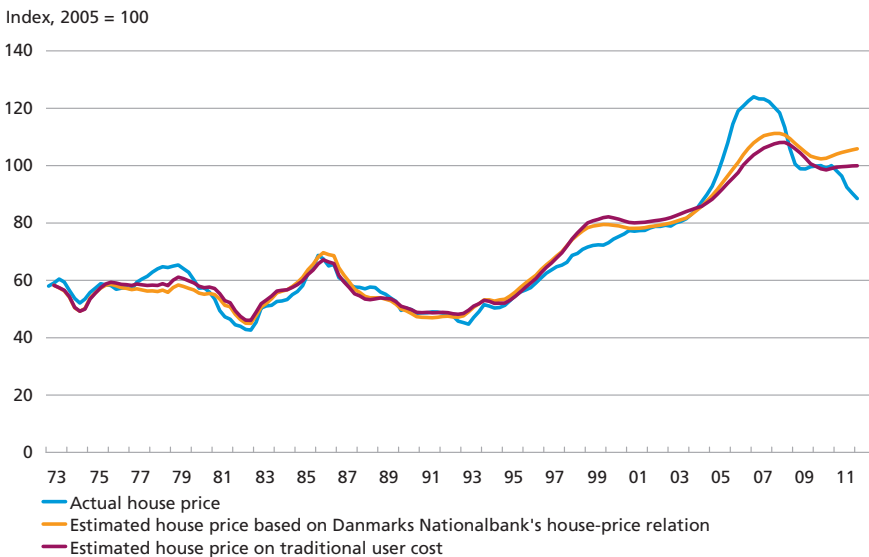
Source: Statistics Denmark, OECD and own calculations.

In the scenario in which the low interest rates and recent years' consolidation are converted into increased consumption and growth in the housing and construction markets, GDP growth increases by approximately ¾ percentage point in 2013 and less than ¼ in 2012 and 2014 relative to the baseline scenario. The stronger growth gradually generates more jobs, so that by 2014 unemployment is 12,000 lower than in the baseline scenario. Imports also grow so that the balance of payments deteriorates by approximately 1 per cent of GDP in 2013-14.

| CONTINUED                                    |                   | Box 5                       |                          |
|--|-------------------|-----------------------------|--------------------------|
| BASELINE SCENARIO AND ALTERNATIVE SCENARIOS  |                   |                             | Table 4                  |
|  | Baseline scenario | Economic downturn in Europe | Stronger domestic demand |
| <b>2012</b>                                  |                   |                             |                          |
| GDP, per cent year-on-year .....             | 1.2               | 0.9                         | 1.4                      |
| Net unemployment, 1,000 persons .....        | 110               | 111                         | 109                      |
| Balance of payments, per cent of GDP .....   | 5.4               | 5.4                         | 5.3                      |
| Government balance, per cent of GDP .....    | -3.4              | -3.5                        | -3.3                     |
| Inflation, HICP, per cent year-on-year ..... | 2.3               | 2.3                         | 2.3                      |
| <b>2013</b>                                  |                   |                             |                          |
| GDP, per cent year-on-year .....             | 1.6               | 0.1                         | 2.4                      |
| Net unemployment, 1,000 persons .....        | 113               | 131                         | 106                      |
| Balance of payments, per cent of GDP .....   | 5.3               | 5.0                         | 4.4                      |
| Government balance, per cent of GDP .....    | -2.0              | -2.8                        | -1.5                     |
| Inflation, HICP, per cent year-on-year ..... | 1.8               | 1.8                         | 1.8                      |
| <b>2014</b>                                  |                   |                             |                          |
| GDP, per cent year-on-year .....             | 1.7               | 1.3                         | 1.8                      |
| Net unemployment, 1,000 persons .....        | 108               | 146                         | 96                       |
| Balance of payments, per cent of GDP .....   | 5.0               | 4.7                         | 4.1                      |
| Government balance, per cent of GDP .....    | -1.9              | -3.1                        | -1.2                     |
| Inflation, HICP, per cent year-on-year ..... | 1.8               | 1.6                         | 1.8                      |

ACTUAL AND ESTIMATED HOUSE PRICES

Chart 16



Source: Statistics Denmark and own calculations.



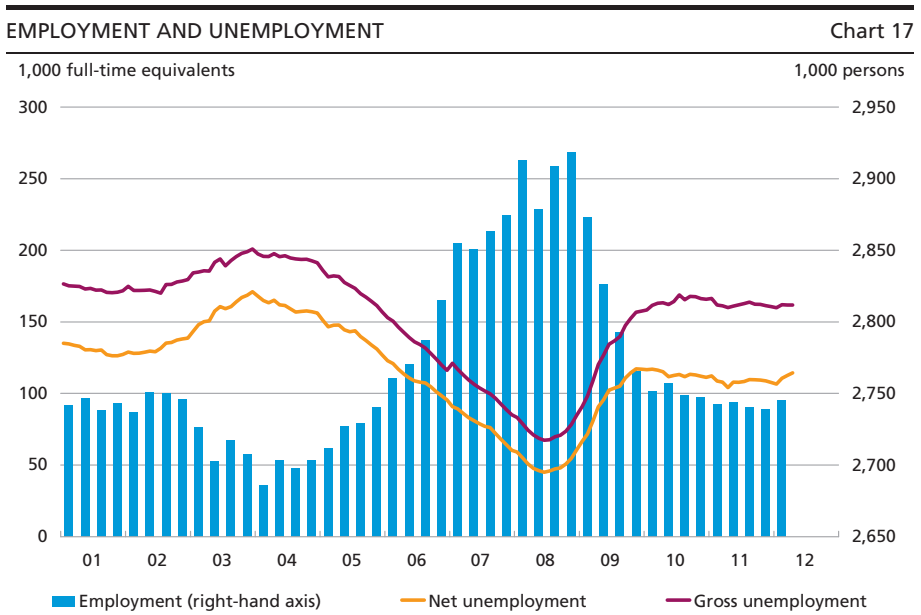
To illustrate whether this is attributable to the inclusion of the new loan types (adjustable-rate and deferred-amortisation loans) in the relation, an alternative relation has been constructed, which disregards the new loan types. According to this calculation, the conclusion that prices are currently below their equilibrium level does not depend on whether or not new loan types are included in an expanded user cost when estimating the house-price relation.

**Labour market**

According to the national accounts, employment has been more or less flat in the last couple of years, cf. Chart 17. Private-sector employment has risen a little over the last year, while public-sector employment has declined since mid-2010. Hence, the influx of around 20,000 public-sector employees from late 2008 to mid-2010 has now been rolled back. However, the national accounts' employment data for the last few years are subject to uncertainty due to the shift of source to *elndkomst* (electronic reporting to Skat, the Danish tax authorities).

Looking ahead, employment is expected to continue to rise slightly as the economy improves. This will boost the labour force a little. Both private-sector and public-sector employment is expected to rise.

Unemployment has also been flat for the last 2½ years at just under the level before the most recent boom. In April, gross unemployment



Note: Employment according to the national accounts. The most recent observations are from the 1st quarter of 2012 for employment and April 2012 for unemployment.

Source: Statistics Denmark.

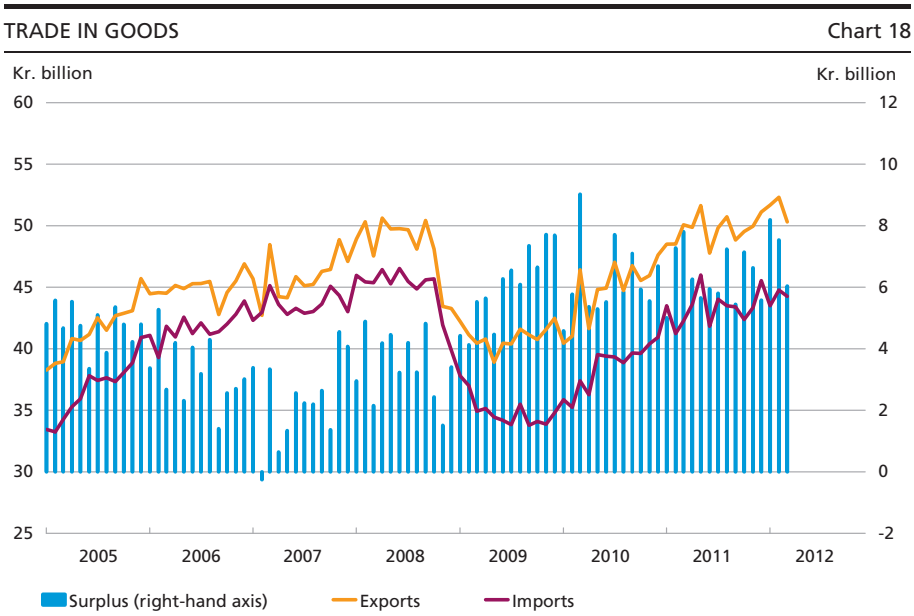
was 161,700, corresponding to 6.2 per cent of the labour force. Gross unemployment includes recipients of unemployment benefits and recipients of cash benefits who are ready to join the labour market, i.e. net unemployment, as well as people on activation schemes who are ready to take a job. Unemployment is expected to remain at the current level in 2012 and 2013, followed by a small decline in 2014.

**Foreign trade and balance of payments**

Exports of goods excluding ships and aircraft, etc. rose in the 2nd half of 2011 and the first few months of 2012, adjusted for normal seasonal patterns, while imports showed a more flat trend, cf. Chart 18. The trade surplus was kr. 6.0 billion in March, which is in line with the monthly surpluses in recent years.

In the 1st quarter, exports to China rose by almost 20 per cent, reflecting increased sales of e.g. oil, mink furs and pharmaceuticals. Over the same period, exports to the USA also rose by 20 per cent due to higher sales of oil products and pharmaceuticals.

In volume terms, growth in exports is expected to be around 2 per cent, reflecting factors such as weak growth among Denmark's trading partners in parts of the euro area. On the other hand, depreciation of the effective krone rate by approximately 4 per cent in 2011 boosts the competitiveness of Danish firms and supports exports, cf. the article "Denmark's Competitiveness and Export Performance" in this Monetary Review.



Source: Statistics Denmark.

The current account showed a surplus of kr. 2.2 billion in March 2012, which is the lowest level since January 2010. Accumulated over 12 months, the surplus was kr. 105 billion in March, corresponding to 5.8 per cent of GDP.

The investment income surplus fell by more than kr. 4 billion from February to March 2012, mainly because most Danish firms distribute dividends in March. Dividend paid by Danish firms to foreign shareholders has a negative impact on investment income. The opposite applies to dividend from foreign firms to Danish shareholders, but such disbursements are spread more across the year.

In the coming years, the current-account surplus is expected to shrink as domestic demand recovers in Denmark.

### **Wages**

Private-sector wage inflation declined further in early 2012. In the sectors covered by agreements with the Confederation of Danish Employers, the annual rate of increase was 1.7 per cent in the 1st quarter, down from 2.1 per cent in the 4th quarter of 2011. In the competitive manufacturing sectors, wage inflation fell to 1.8 per cent in the 1st quarter.

Weighted by the weights in the krone-rate index, wages among Denmark's trading partners rose by 2.3 per cent in the 1st quarter. This means that wage inflation has been lower in Denmark than abroad in recent quarters. However, this was preceded by a long period of stronger wage inflation in Denmark, leading to a considerable accumulated loss of competitiveness for Danish firms. It will take a long period of lower wage increases in Denmark than abroad to make up for this loss.

In early 2012, 2-year collective agreements for the private-sector labour market were negotiated, commencing on 1 March. The results reflect the weak labour market. In the minimum-wage area, annual wage increases of just under 1.3 per cent were agreed. The subsequent decentralised negotiations will determine actual wage increases within each firm. In the normal-wage area, where there are no decentralised wage negotiations afterwards, annual wage increases of approximately 1.5 per cent were agreed. In both areas, better conditions were also negotiated in respect of wages during sickness and education/training, and senior arrangements were improved so that older employees may work reduced hours and opt to have the current pension contributions paid out in addition to wages.

On the basis of the collective agreements concluded, wage inflation is expected to rise slightly over the projection period, to 2.6 per cent p.a. by 2014. Hence, wage inflation is moderate throughout the forecast period.

## Prices

The year-on-year increase in the Harmonised Index of Consumer Prices, HICP, was 2.3 per cent in April compared with 2.7 per cent in March, cf. Chart 19. In the euro area, consumer price inflation was 2.4 per cent in May according to the preliminary data. Price inflation in April was at the lowest rate seen in Denmark for 18 months. Above all, lower price increases for energy and clothing exerted downward pressure on the index compared with the preceding month.

Over the last year, prices for tobacco, cigarettes, wine and beer have risen by more than 8 per cent. Food and non-alcoholic beverages have risen by 4.3 per cent, mainly due to higher prices for meat and confectionery such as jam and marmalade, sweets and ice cream. Exclusive of taxes, consumer prices have risen by 1.5 per cent over the last year.

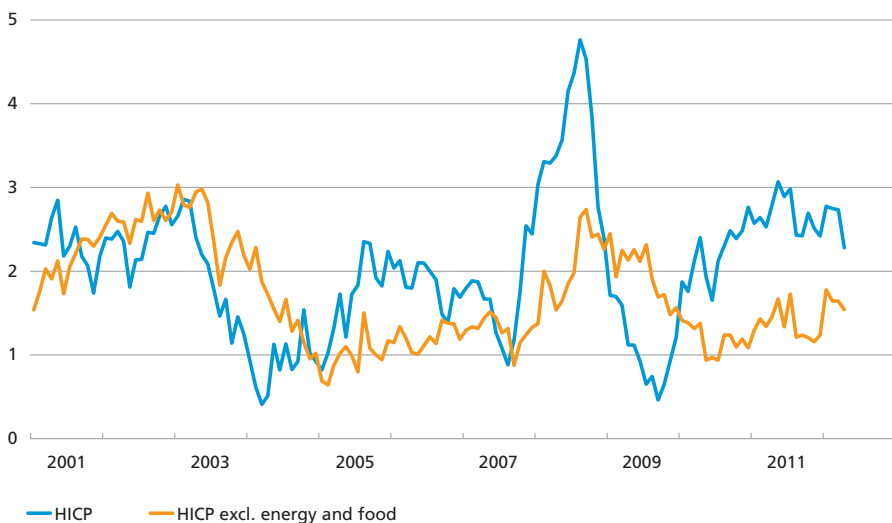
Looking ahead, there are plans to expand the tax base for confectionery from January 2013. In connection with the energy agreement from March this year it was decided that households are to pay higher electricity taxes, and the taxes for security of supply are also to be raised. These increases will be phased in from 2013 to 2020.

Viewed in isolation, the indirect taxes already adopted will push up consumer prices by almost 0.5 percentage point in 2012, almost 0.3 percentage points in 2013 and 0.1 percentage point in 2014. The government's proposed tax reform includes further increases to indirect taxes.

PRICE DEVELOPMENTS

Chart 19

Per cent, year-on-year



Note: HICP is the EU's Harmonised Index of Consumer Prices.

Source: Statistics Denmark.

Underlying inflation, i.e. core inflation, which excludes the food and energy components of the consumer price index, was unchanged at around 1.5 per cent in April. This level has persisted for a couple of years. The price index for the domestic supply of goods, the wholesale price index – an indicator of price developments in the first link of the sales chain, calculated exclusive of indirect taxes – was 2.2 per cent higher in April than one year earlier. This increase was mainly driven by energy prices.

So overall there are no strong underlying inflationary pressures in the Danish economy, and price inflation is expected to decline further over the forecast period – to around 1.8 per cent in 2013 and 2014, cf. Table 5.

### Public finances

There are plans to ease fiscal policy substantially this year. This is primarily due to the option of voluntary, tax-free disbursement of early retirement contributions adopted as part of the Finance Act for 2012, as well as the bringing forward of public investments. To this should be added the potential effect of the proposed tax reform, which will, if implemented as proposed and viewed in isolation, increase activity by 0.1 per cent of GDP this year and 0.4 per cent in 2013 according to the government's estimates.

At the same time, an underlying consolidation of public finances is taking place, e.g. in the form of low growth in public consumption and a freeze on income tax thresholds in the period 2011-13. In the forecast, real public consumption is set to increase by 0.9 per cent in 2012, following a fall of 1 per cent in 2011. Growth is expected to be 0.6 per

| CONSUMER PRICES                     |                     |      |      |      |      | Table 5 |     |      |      |     |      |
|-------------------------------------|---------------------|------|------|------|------|---------|-----|------|------|-----|------|
| Per cent,<br>year-on-year           | Weight <sup>1</sup> | 2011 | 2012 | 2013 | 2014 | 2012    |     |      |      |     |      |
|                                     |                     |      |      |      |      | Q1      | Q2  | Q3   | Apr. | May | Jun. |
| HICP .....                          |                     | 2.7  | 2.3  | 1.8  | 1.8  | 2.7     | 2.1 | 2.3  | 2.3  | 2.2 | 2.4  |
| Index of net<br>retail prices ..... | 100                 | 2.6  | 1.8  | 1.5  | 1.7  | 2.4     | 1.5 | 1.7  | 1.6  | 1.4 | 1.7  |
| Exogenous: .....                    |                     |      |      |      |      |         |     |      |      |     |      |
| Energy .....                        | 8.5                 | 12.5 | 0.8  | -2.1 | -0.4 | 6.9     | 1.5 | -0.8 | 2.5  | 0.6 | 1.7  |
| Food .....                          | 13.6                | 3.8  | 2.4  | 2.0  | 2.2  | 3.3     | 1.5 | 2.3  | 1.9  | 1.5 | 1.4  |
| Adm. prices ....                    | 4.6                 | 2.4  | 2.1  | 2.7  | 2.6  | 1.9     | 2.0 | 2.3  | 2.0  | 2.1 | 1.9  |
| Rent .....                          | 21.8                | 2.9  | 2.7  | 2.4  | 2.5  | 2.8     | 2.6 | 2.8  | 2.7  | 2.6 | 2.7  |
| Excl. exogenous                     | 51.6                | 0.5  | 1.4  | 1.5  | 1.4  | 1.3     | 1.0 | 1.5  | 0.8  | 1.0 | 1.4  |
| Imports .....                       | 14.7                | 3.9  | 1.6  | 2.5  | 2.2  | 1.1     | 0.7 | 1.9  | 0.4  | 0.6 | 1.1  |
| IMI .....                           | 36.9                | -0.9 | 1.4  | 1.0  | 1.1  | 1.3     | 1.1 | 1.3  | 1.0  | 1.1 | 1.5  |

Note: The most recent actual figures are from April 2012.

<sup>1</sup> Weight in the index of net retail prices, per cent.

cent in 2013 and 0.7 per cent in 2014. These growth rates are considerably below those seen over the last 10 years.

The subdued growth in public consumption in recent years indicates that the sanctions introduced for exceeding local government budgets have had the desired effect. With the new Budget Act, which is expected to be fully phased-in in 2014, budget discipline will be improved further. The Budget Act entails continuation of the sanctions vis-à-vis local government, as well as introduction of sanctions for regional government. In addition, economic follow-up during the year will be introduced. See the article "Public Expenditure Management in Denmark" in this Monetary Review.

The government deficit is expected to be kr. 63 billion this year, corresponding to 3.4 per cent of GDP. Compared with 2011, this is a deterioration of almost kr. 30 billion. However, this is not purely attributable to underlying deterioration, but also to a number of temporary factors, including the above tax-free disbursement of early retirement contributions to those wishing to leave the scheme. In 2013 and 2014, the government budget balance is expected to improve gradually. Next year, the deficit is expected to fall to 2.0 per cent of GDP, reflecting factors such as an improved economic outlook, further consolidation of public finances and roll-back of the temporary increase in public investment in 2012.

The estimated deficit for 2013 will bring Denmark in line with the EU recommendation to reduce the government budget deficit to below 3 per cent of GDP in 2013. Furthermore, structural balance will be achieved next year according to the government. Hence, the requirement for average structural improvement of 0.5 per cent of GDP per year in 2011-13 will also be met. Finally, the improvement means that the balance rule of the Fiscal Compact will be observed. Under this rule, the structural budget balance must be higher than -0.5 per cent of GDP, cf. the article "Fiscal Policy in the EU – What Have We Learned from the Crisis?" in this Monetary Review.

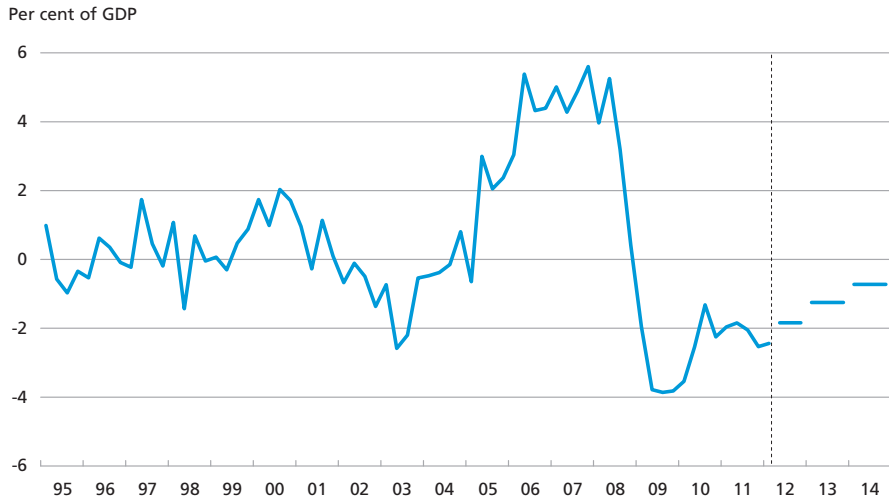
### **How large is the spare capacity?**

When laying down economic policy, and especially fiscal policy, it is essential to have a true and fair view of capacity pressures in the economy, including labour market pressures. The Danish labour market is analysed in more detail in the article "Developments in the Danish Labour Market in Recent Years" in this Monetary Review.

Capacity pressures in the Danish economy can be assessed on the basis of e.g. the output gap, which shows how much actual output deviates from potential output, cf. Chart 20. The latter is the output which is

## OUTPUT GAP

Chart 20



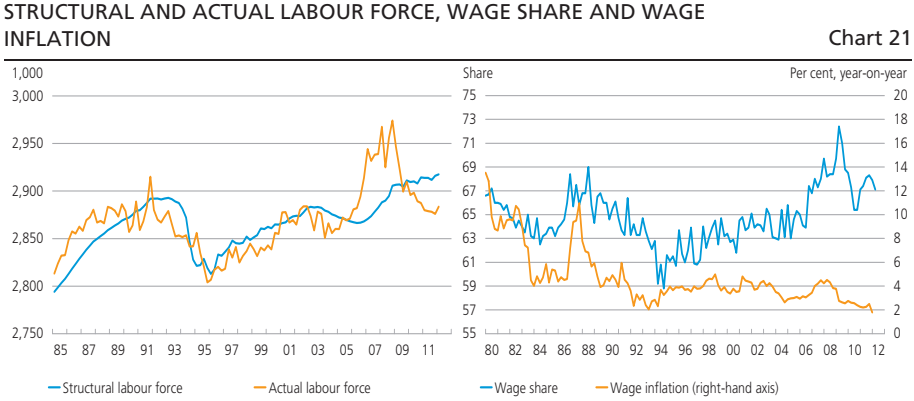
Note: The output gap is the difference between actual and potential output as a percentage of GDP.  
Source: Statistics Denmark and own calculations.

compatible with balanced long-term growth in the economy. The output gap was positive and very large during the most recent boom, but shrank rapidly in the wake of the downturn and became markedly negative. Currently Denmark's Nationalbank estimates the output gap at -2.4 per cent of GDP, decreasing towards the end of 2014 as growth picks up.

The negative output gap shows that productivity in the private non-agricultural sector, which fell strongly in 2006-09, has not yet resumed its trend, and that the labour force is assessed to be below its structural level. In contrast, unemployment is assessed to be close to its sustainable level.

As regards the labour market, the spare capacity can be illustrated using the gaps for employment, labour force and unemployment, i.e. the difference between actual levels and estimated structural levels. In Denmark's Nationalbank's estimate, the current labour market gap, also referred to as the employment gap, in 2012 is approximately 55,000 people, while the estimates of the Danish government and the Economic Councils are in the interval 70-90,000, i.e. some 25,000 higher. The gap is an estimate of the increase in employment which is possible without creating renewed wage pressures, given the current structure of the labour market. This also assumes normalisation of the labour force.

It is important not to overestimate the spare capacity in the labour market and thereby underestimate the need for reforms to increase the



Source: Statistics Denmark and own calculations.

sustainable structural level of employment. Employment is currently at more or less the same level as at the turn of the year 2005/06, i.e. just before the strong overheating really set in. At the same time, both unemployment and employment levels are reasonable compared with the northern European countries that have navigated the crisis best. In Denmark's Nationalbank's assessment, the temporary increase in the labour force during the overheating, cf. Chart 21 (left), was of such a nature that it cannot be repeated without leading to a new situation with strong wage pressures and loss of competitiveness. This increase reflected factors such as an extraordinary fall in educational activities and an influx of frontier workers, etc.

The wage share, i.e. payroll costs relative to value added in the business sectors, has declined since the overheating, but remains relatively high compared with the average for recent decades, cf. Chart 21, right. Wage inflation has subsided considerably to below the historical average, but on the other hand it has been lower than the level abroad in few quarters only, and the difference has been as small as ½ per cent or so on an annual basis. This confirms that there is spare capacity in the labour market, cf. the Chart, but also that it should not be overestimated.

Given the extensive loss of competitiveness over the preceding 15 years, it is key to achieving a sustainable increase in employment that competitiveness does not deteriorate further; on the contrary, it should gradually improve. In view of recent wage developments, cf. above, a strong surge in employment driven by an isolated increase in demand for labour in Denmark does not seem realistic without wage inflation once again being pushed up to a level matching or exceeding the level abroad. Consequently, reforms should be aimed at increasing the supply of labour while reducing structural unemployment at a pace conducive to a steady rise in employment.



**Economic policy**

Although the economy is set to pick up only slowly or moderately, it is important to go on with the planned consolidation of public finances in 2013. The economy has now stabilised after the downturn in the wake of the financial crisis, and it is necessary to restore a sustainable balance between public-sector and private-sector demand. Consolidation in 2013 is an important precondition for the calm and stability in the Danish economy that can ensure sustainable growth in private-sector demand.

In May the government presented an updated 2020 plan outlining the long-term challenges facing the Danish economy. According to the plan, fiscal consolidation to the tune of kr. 7 billion will be required in order to achieve structural balance in 2020. At the same time a number of new expenses are proposed, so that a total of kr. 17 billion must be found in 2020. Much of this is to be achieved by permanently increasing the labour force by 60,000 people through new reforms. This is an ambitious but appropriate target.

To address the challenges facing the Danish economy, the government has presented a comprehensive reform agenda. Negotiations for a tax reform are currently underway, one element of which – more favourable depreciation rules for firms – has already been agreed with the parties in the Folketing (Parliament). The agenda also includes reforms of the cash benefit and social pension systems, among other things. Add to this the effect of the retirement reform adopted by a large majority in the Folketing at the end of 2011.

On the current basis, Danmarks Nationalbank finds that the outlined reforms will make an important contribution overall to meeting the challenges faced by the Danish economy in the short and slightly longer term. A speedy conclusion to the ongoing negotiations would reduce uncertainty among households and firms, to the benefit of growth in consumption and investment. Conversely, protracted negotiations with political uncertainty about the implementation of reforms could lead to concerns about future conditions, adding to the uncertainty arising from conditions abroad. That would have a negative impact on Danish output and employment.

## **APPENDIX 1: ASSUMPTIONS IN THE FORECAST FOR THE DANISH ECONOMY**

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The forecast has been produced using the macroeconometric model MONA<sup>1</sup> and is based on available economic statistics, including Statistics Denmark's preliminary quarterly national accounts for the 1st quarter of 2012.

The projection is based on a number of assumptions concerning the international economy, financial conditions and fiscal policy.

### **The international economy**

The international organisations expect weak growth in global activity in 2012 and slightly stronger growth in 2013. The euro area is expected to be in a mild recession in the first part of 2012. Growth among Denmark's key trading partners, including Germany, is expected to be a little stronger. Against that background, the market for Danish exports is assumed to grow by a modest 2.6 per cent in 2012, after which the rate of growth is expected to increase to just under 5.4 per cent by 2014, cf. Table 6.

On account of the weak growth outlook, the increase in foreign prices is expected to be marginal this year, rising to just over 2 per cent by 2014. The same applies to price developments in the export market. Wage inflation abroad is estimated to rise only little throughout the projection period due to weak labour markets in most countries.

### **Interest rates, exchange rates and oil prices**

Developments in short-term and long-term interest rates in the forecast are based on the expectations of future developments that can be derived from the yield curves in the financial markets. Short-term Danish interest rates are expected to mirror money-market interest rates in the euro area. At the beginning of June 2012, the 3-month money-market interest rate, measured by the Cita swap rate, was 0.0 per cent; it is expected to fall marginally to -0.1 per cent by 2014.

The average bond yield is defined as an average of the yields to maturity on outstanding government and mortgage bonds. The average bond yield was 1.4 per cent in early June, which is lower than at the time of preparation of the previous forecast. It is expected to rise during the projection period, to 2.6 per cent at the end of 2014.

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<sup>1</sup> The model is described in Danmarks Nationalbank, *MONA – a quarterly model of the Danish economy*, 2003.

The effective exchange rate of the krone has weakened in recent months. The reason is that the euro, and hence also the Danish krone, has generally weakened vis-à-vis a number of currencies. In the projection, the dollar rate and the effective krone rate are assumed to remain constant at the level from early June.

At the time of forecasting, the oil price was 100 dollars per barrel. In the projection, the oil price is assumed to develop in line with futures prices, falling to approximately 94 dollars per barrel by 2014.

### Fiscal assumptions

The fiscal assumptions in the forecast are based on the announced fiscal policy, including the Finance Act for 2012 and the new political agreement to ease depreciation rules for investments in 2012-13. Real public consumption is assumed to rise by 0.9 per cent this year, cf. Table 6. Consumption growth is expected to be 0.6 per cent in 2013 and 0.7 per cent in 2014. Public investment is expected to rise by a good 6 per cent this year, but then to be reduced over the next few years as the temporary increase in the level of investment is phased out.

| OVERVIEW OF FORECAST ASSUMPTIONS                               |       |       |       | Table 6 |
|--|-------|-------|-------|---------|
|  | 2011  | 2012  | 2013  | 2014    |
| International economy:   |       |       |       |         |
| Export market growth, per cent year-on-year .....              | 6.1   | 2.6   | 5.4   | 6.0     |
| Export market price <sup>1</sup> , per cent year-on-year ..... | 1.9   | 0.2   | 1.5   | 2.3     |
| Foreign price <sup>2</sup> , per cent year-on-year .....       | 2.1   | 0.4   | 1.6   | 2.3     |
| Foreign hourly wages, per cent year-on-year .....              | 2.4   | 2.5   | 2.4   | 2.4     |
| Financial conditions, etc.:                                    |       |       |       |         |
| 3-month money-market interest rate, per cent p.a. ....         | 0.9   | 0.0   | -0.2  | -0.1    |
| Average bond yield, per cent p.a. ....                         | 2.7   | 1.8   | 2.1   | 2.6     |
| Effective krone rate, 1980 = 100 .....                         | 103.6 | 100.9 | 100.5 | 100.5   |
| Dollar exchange rate, DKK per USD .....                        | 5.4   | 5.8   | 5.9   | 5.9     |
| Oil price, Brent, USD per barrel .....                         | 110.8 | 105.8 | 96.0  | 93.8    |
| Fiscal policy:   |       |       |       |         |
| Public consumption, per cent year-on-year                      | -1.0  | 0.9   | 0.6   | 0.7     |
| Public investment, per cent year-on-year ..                    | 3.8   | 6.2   | -10.6 | -0.4    |
| Public-sector employment, 1,000 persons ..                     | 828.9 | 829.3 | 834.9 | 839.9   |

<sup>1</sup> Weighted import price for all countries to which Denmark exports.

<sup>2</sup> Weighted export price for all countries from which Denmark imports.

## APPENDIX 2: REVISIONS IN RELATION TO THE PREVIOUS FORECAST

The estimated growth in GDP over the forecast period, i.e. until end-2014, is unchanged relative to the March forecast, cf. Table 7, which shows a breakdown of the revisions to GDP and consumer prices by key background factors.

The unchanged growth estimates for 2012-13 mask several opposite changes in the basis for the forecast. Export market growth has been adjusted downwards in view of recent months' developments in the European economies; this points to lower GDP growth. At the same time, developments in the financial markets have weakened the krone and pushed interest rates very far down in Denmark; other things being equal this should boost economic growth. Furthermore, the price of oil in the projection is considerably lower than in the March forecast, which also contributes to higher growth. But especially the low interest rates reflect increased uncertainty about the economic outlook for Europe, and hence the pass-through to GDP growth is subdued. This is one of the reasons for the negative growth contribution from the "other factors" item, which also includes historical revisions for 2011.

Consumer price inflation has been revised downwards in 2012 and is unchanged in 2013-14. The lower oil price in the forecast period dampens price inflation substantially this year and next year, while the weaker effective exchange rate of the krone makes imported goods more expensive, thereby reducing the oil-price impact.

REVISIONS IN RELATION TO THE PREVIOUS FORECAST Table 7

| Per cent, year-on-year                 | GDP  |      |      | Consumer prices, HICP |      |      |
|--|------|------|------|-----------------------|------|------|
|  | 2012 | 2013 | 2014 | 2012                  | 2013 | 2014 |
| Forecast, March 2012 .....             | 1.2  | 1.6  | 1.7  | 2.5                   | 1.8  | 1.8  |
| Contribution to revised estimate from: |      |      |      |                       |      |      |
| Export market growth .....             | -0.1 | -0.3 | -0.2 | 0.0                   | 0.0  | 0.0  |
| Interest rates .....                   | 0.0  | 0.2  | 0.2  | 0.0                   | 0.0  | 0.0  |
| Exchange rates .....                   | 0.2  | 0.2  | 0.1  | 0.1                   | 0.2  | 0.1  |
| Oil prices .....                       | 0.1  | 0.2  | 0.0  | -0.3                  | -0.3 | 0.1  |
| Other factors .....                    | -0.2 | -0.2 | -0.2 | 0.0                   | 0.1  | -0.1 |
| This forecast .....                    | 1.2  | 1.6  | 1.7  | 2.3                   | 1.8  | 1.8  |

Note: The transition from the previous to this forecast may not add up due to rounding. "Other factors" includes data revisions.

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# The Wealth and Debt of Danish Families

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*By Asger Lau Andersen, Anders Møller Christensen and Nick Fabrin Nielsen, Economics, Sigrid Alexandra Koob and Martin Oksbjerg, Statistics, and Ri Kaarup, Financial Markets*

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## INTRODUCTION AND SUMMARY

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Compared with other countries, Danish households have a very high debt-to-income ratio. This has attracted considerable attention from the International Monetary Fund, IMF, and the credit rating agencies, among others. The European Commission (2012) recently pointed out the households' high gross debt as a danger signal, while also acknowledging that it partly reflects very substantial pension savings and an extensive social safety net.

At the aggregate level, these issues have recently been discussed in the Monetary Review by Isaksen et al. (2011) and Kramp et al. (2012). Overall, the high gross debt is offset by large assets, e.g. via the widespread use of labour-market pensions, but whether this also holds at the level of the individual family cannot be determined using aggregate data for the whole economy. If this is the case, the development is less of a concern than if debt and assets are held by different persons.

In this article, we summarise the main findings from a study – at family level – of the composition of gross debt for families in different income and age groups and the degree to which debt is offset by various types of assets. Relative to other studies, e.g. Danish Economic Councils (2008) and the Ministry of Economic and Business Affairs (2010), we focus more on the distribution of debt. The findings are documented in an article in Part 2 of this Monetary Review.

The large gross debt of Danish families indicates that, for many reasons, they are frequent users of the financial system, since gross debt is generally offset by even more substantial assets. The balance between gross debt and assets can be explained especially in terms of family income, age, house prices and the structure of the pension system.

Families predominantly use the financial system, they do not abuse it. However, the general picture cannot hide the fact that some families are so heavily indebted that they are assessed to find it difficult to manage their debt using their own income. The debt problems of families with net debt have grown in the period under review, but the

drop in the general level of interest rates and the increased popularity of adjustable-rate loans have reduced the interest burden. Given the current economic outlook, the extent of the indebted families cannot, however, be assumed to pose a threat to the household sector or the financial sector.

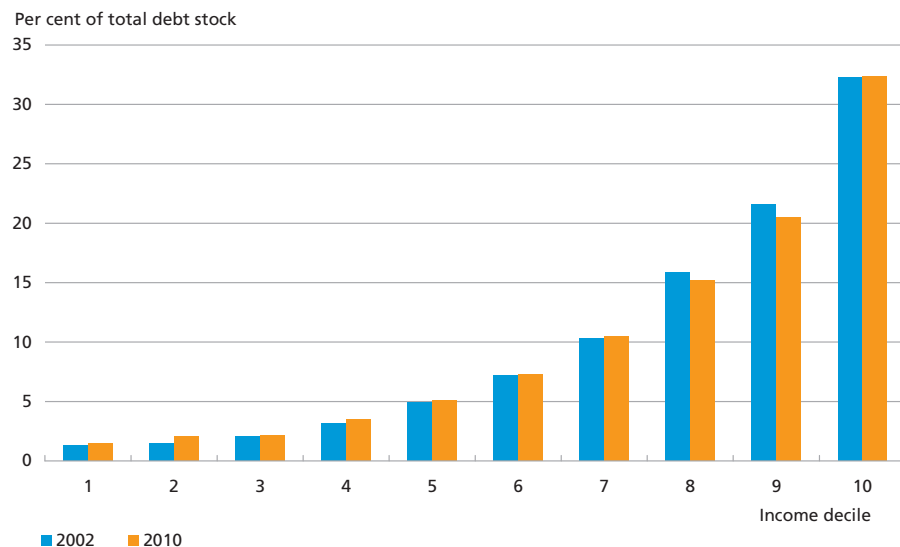
As regards the soundness of the financial sector, the results support the conclusion that the most pronounced threats to financial stability do not come from family debt-to-income ratios. So far, the financial sector's losses on household exposures have been modest despite rising gross debt and some years of rising unemployment. But, as expected, it is also clear that families who experience prolonged periods of unemployment are more vulnerable than other families. Should unemployment become more widespread than the current level, losses on private customers should therefore be expected to increase.

### DISTRIBUTION OF GROSS DEBT BY INCOME AND AGE GROUPS

The high gross debt of Danish families, viewed in an international perspective, is concentrated in families with the highest incomes. Ranking of families by income after tax shows that the 20 per cent of the families with the highest incomes after tax in 2010 accounted for around 53 per cent of total family gross debt. The half with the lowest incomes accounted for 14 per cent in total of the gross debt, cf. Chart 1.

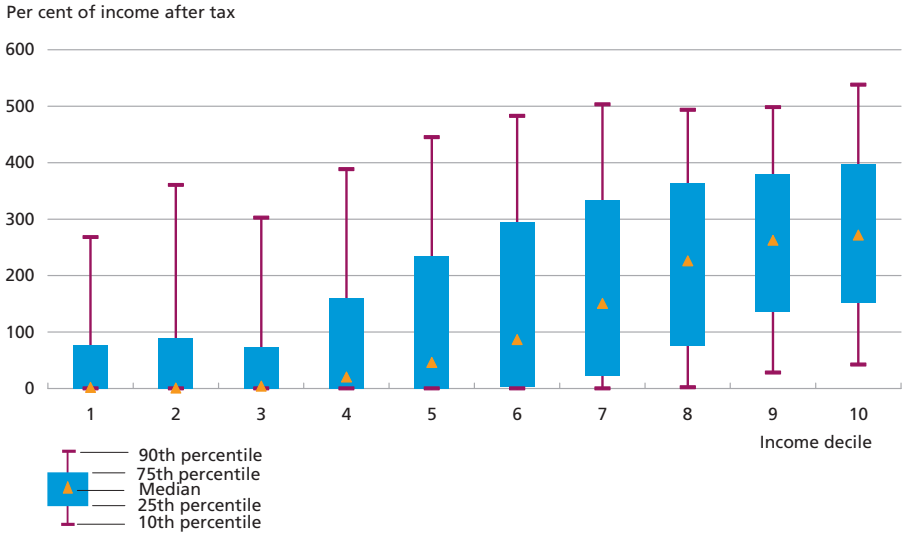
GROSS DEBT STOCK BY INCOME DECILE

Chart 1



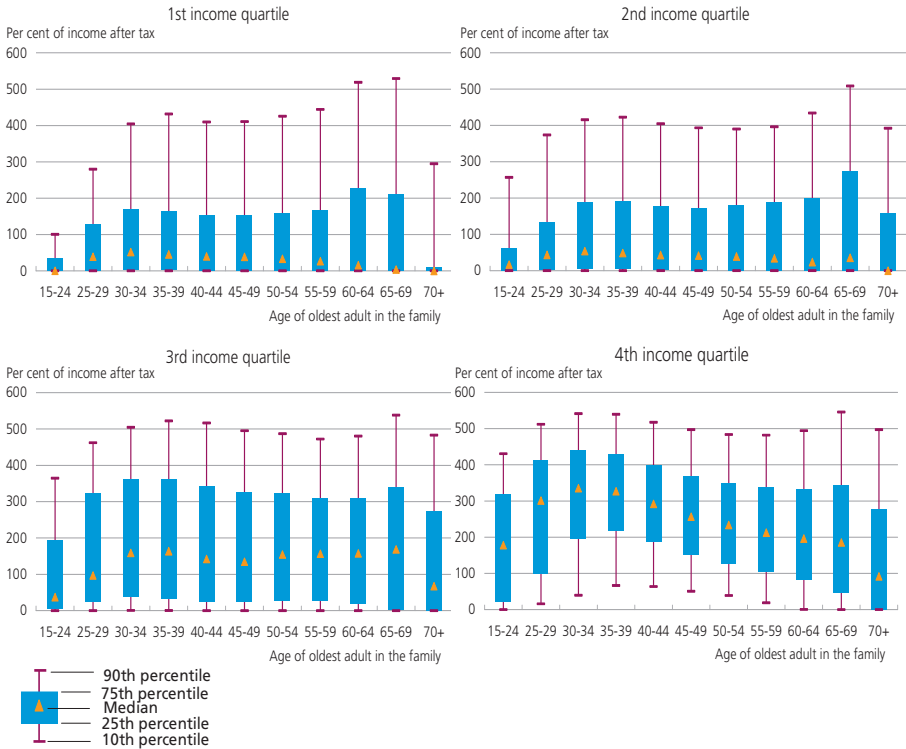
Source: Own calculations on the basis of register data from Statistics Denmark.

DISTRIBUTION OF FAMILY GROSS DEBT RATIO ACROSS INCOME DECILES, 2010 Chart 2



Note: The grouping of families into income deciles is based on income after tax.  
 Source: Own calculations on the basis of register data from Statistics Denmark.

GROSS DEBT RATIO BY AGE AND INCOME QUARTILE, 2010 Chart 3



Source: Own calculations on the basis of register data from Statistics Denmark.

The ratio of gross debt to income after tax, the gross debt ratio, rises with increasing income, cf. Chart 2. A characteristic feature of the data set, irrespective of supplementary grouping, is that families with the highest income have the largest gross debt.

Among the families with the highest incomes, the gross debt ratio is highest in families whose oldest member is in his or her thirties. The gross debt ratio then generally decreases with age, cf. Chart 3.

In each age group, the gross debt ratio is usually higher, the higher the family income. This indicates that debt is often raised in order to finance purchases of a larger home or actual luxury goods.

The overall impression is that families with debt also have the income required to service the debt.

The percentage increase in gross debt from 2002 to 2010 is strongest for the oldest age groups in the study, but to some extent also for families in the lowest income groups. Measured in kroner, high-income families and families in the middle of the age distribution interval have clearly accounted for the strongest increases.

## **ASSETS AND NET DEBT EXCLUDING PENSION WEALTH**

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At end-2010, the assets of the more than 2.5 million families included in the analysis totalled almost kr. 3,400 billion, excluding family pension wealth. This value is around twice the value of the gross debt, and real property in Denmark worth around kr. 2,600 billion is the dominant asset type. Besides pension wealth, the analysis also excludes a number of other assets due to insufficient data. Such assets are, *inter alia*, cash holdings and the value of the family's durable consumer goods, e.g. cars, boats, household effects, etc. The value of private cooperative housing has not been stated either.

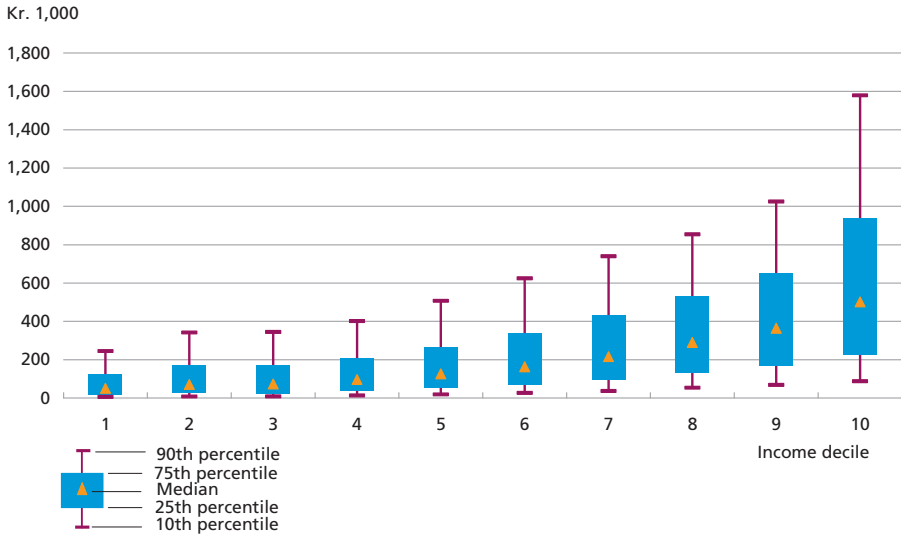
Like the distribution of gross debt, the distribution of assets is very uneven. Substantial assets are predominantly held by families with substantial gross debt. However, the group of families with no gross debt at all also includes a number of families with considerable assets.

Although the value of the assets is almost twice as high as the gross debt, more than one out of three families still had net debt in 2010.

Among families with net debt, the families with the highest income account for the largest net debt, cf. Chart 4.

Net debt is not prevalent in the oldest age groups. But more than half of the families in the 25-34 age group have net debt, irrespective of the size of their income, which should be attributed to education-related debt, among other factors.



DISTRIBUTION OF FAMILY NET DEBT, ONLY FAMILIES WITH NET DEBT, 2010 Chart 4

Source: Own calculations on the basis of register data from Statistics Denmark.

## GROSS AND NET DEBT INCLUDING PENSION WEALTH

Most families with current or previous affiliation with the labour market will have assets in the form of pension savings. The savings-based pension system is still under expansion, entailing considerably stronger growth in pension wealth than in incomes over the last decades.

A family's pension wealth is generally less liquid than its other assets, but knowledge of active pension saving should be expected to enter into the family's other decisions. Families of retirement age will thus increasingly be able to service their debt without compromising on lifestyle. Consequently, gross debt of a certain size will be less of a problem than previously for persons reaching retirement age.

As opposed to most other assets, pension wealth is taxed when released. After estimated taxation, family pension wealth, excluding the value of civil servants' public service pensions, amounted to approximately kr. 1,500 billion at end-2010. For one third of the families, pension wealth after tax exceeded kr. 1 million.

Chart 5 shows that gross debt is primarily found among the families with most financial assets, including pension wealth after tax. The trend was somewhat more pronounced in 2010 than in 2003. This confirms the picture that debt is generally concentrated in families who have the funds to meet the related obligations.

GROSS DEBT STOCK BY SIZE OF FAMILY ASSETS, INCLUDING PENSION WEALTH AFTER TAX, EXCLUDING HOMES IN DENMARK

Chart 5

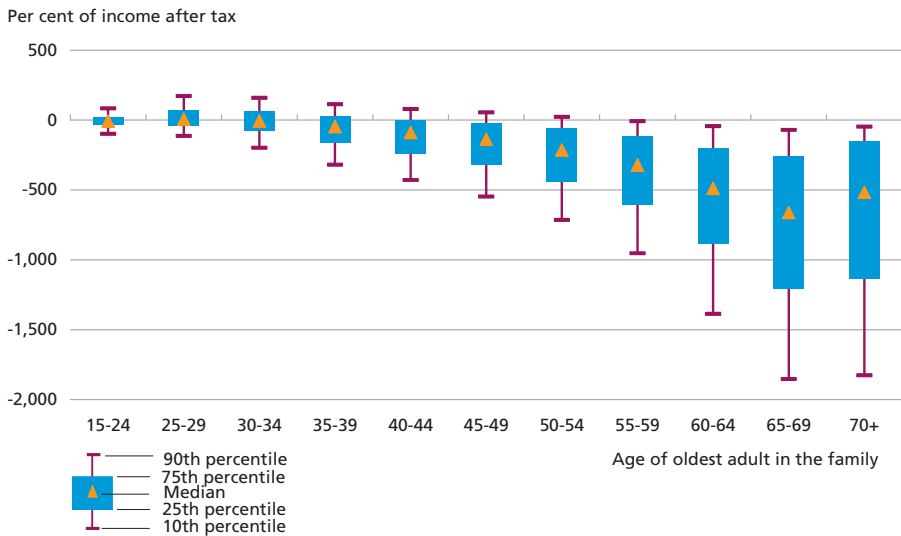


Note: Pension wealth has been calculated after tax, i.e. with deduction of estimated future income tax on disbursements. The value of family pension wealth thus becomes comparable with other financial savings, which are not deductible and thus not taxable.

Source: Register data from Statistics Denmark and own calculations.

NET DEBT RATIO INCLUDING PENSION WEALTH, BY AGE, 2010

Chart 6



Note: Pension wealth has been calculated after tax, i.e. with deduction of estimated future income tax on disbursements. The value of family pension wealth thus becomes comparable with other financial savings, which are not deductible and thus not taxable.

Source: Register data from Statistics Denmark and own calculations.

Taking pension wealth into account, less than one out of four families has net debt. Net wealth grows strongly with age, cf. Chart 6. Half of the families in the 60-64 age group have net wealth of more than five times their annual income after tax, and for one out of four of the families in this age group net wealth is more than eight times the family's annual income.

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# Denmark's Competitiveness and Export Performance – Summary

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## **INTRODUCTION AND SUMMARY**

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The Danish economy is characterised by close integration with the rest of the world in both financial and real economic terms. The sum of Denmark's imports and exports almost matches the total gross domestic product, GDP, and about one in every four jobs depends directly or indirectly on exports. While Danish exports of goods and services in volume terms have doubled since 1995, exports have fallen as a share of the overall import market. Part of this fall reflects the increased emerging market share of world trade, but Denmark's competitiveness also plays a role. Part 2 of this Monetary Review contains a longer article on Denmark's competitiveness and export performance. This article summarises the most important points and conclusions.

Exports make up the difference between the influx of resources (production and imports) on the one hand, and domestic absorption (consumption and investment) on the other. During periods of strong domestic demand, a smaller share of output will be left for exports compared with periods of normal economic conditions. This was the case during the boom years in the mid-2000s.

Periods of strong domestic demand are usually characterised by a tight labour market. This normally leads to wage increases exceeding what is warranted by productivity growth. The result is an adverse impact on competitiveness and squeezed exports. In recent years, Danish firms' international competitiveness has deteriorated when calculated on the basis of relative unit labour costs, reflecting both higher wage growth and weaker productivity growth in Denmark than abroad.

Under a fixed-exchange-rate regime such as the Danish one, where the principal objective of monetary policy is to keep the krone stable, fiscal policy is the primary instrument for managing domestic demand. Denmark's competitiveness calculated as production costs relative to international production costs thus depends on the fiscal policy pursued.

A country's export performance is not just dependent on the corporate sector's ability to compete with foreign firms through low produc-

tion costs. The composition of exports across product groups and destination countries also plays a role. By being present in expanding markets, Denmark may see its share of global exports grow, even if its market shares in individual submarkets remain unchanged. We find that the composition of Denmark's exports of goods across product groups since 1995 has made a moderately positive contribution to the market shares in its eight largest export markets. The composition across countries has made a largely neutral contribution to the market share over the period as a whole.

Low-tech products account for a large share of Denmark's exports compared with the other OECD countries. This reflects Denmark's specialisation in food, beverages and tobacco, among other products. On the other hand, Danish firms are underspecialised when it comes to high-tech products. What is important is that Denmark is present in industries offering opportunities to benefit from a high level of knowledge in order to cover the high Danish wages. This is also possible in industries other than the high-tech ones. For example, the technological level of the manufacturing process may be high as regards low-tech products. The ability to be present in the fastest growing markets through flexibility and adaptability is also an expression of competitiveness. This ability is best promoted through structural-policy measures that ensure free competition and a flexible labour market.

Traditionally, Denmark's competitiveness has been associated with price competitiveness, which is calculated on the basis of the prices of goods manufactured in Denmark relative to goods manufactured in competitor countries. But in recent years, there has been growing focus on the countries' non-price competitiveness. It is difficult to measure a country's non-price competitiveness, so it is usually assessed on the basis of indicators. Examples include expenditure for research and development, the number of patents awarded and the level of education of the labour force. Assessed on the basis of these indicators, Denmark's non-price competitiveness is good compared with other Western countries. This is reflected in improved terms of trade.

In order to analyse the drivers of export market growth for a group of OECD countries, we construct an econometric model. The model explains exports in terms of both price and non-price factors. While there is a clear relationship between the development in a country's price competitiveness and its export performance, the effect of non-price competitiveness is less evident. However, countries where research and development expenditure has risen markedly have tended to perform better. The analysis also confirms that in Denmark, price competitiveness has curbed exports, while non-price competitiveness has made a positive contribution.

Despite the loss of market shares, the Danish economy continues to be in a relatively favourable position. The balance of payments displays a surplus, and structural unemployment is moderate. For this to continue, it is crucial that fiscal policy and the other economic policies are designed so as to ensure that domestic demand develops in accordance with the output potential of the economy. This offers the best conditions for stable export growth combined with wage increases in step with the growth in productivity.

Furthermore, being present in the fastest growing markets may also have a favourable effect. This applies across both countries and product groups. The composition of exports across countries and markets is largely a result of Denmark's business structure, which evolves only slowly over time.

It is difficult to predict the markets where demand will see the strongest future growth. However, it is important to focus on the flexibility and adaptability of the Danish economy to ensure that production resources will be attracted to the industries that are internationally competitive. Finally, the ability to compete on other factors besides price may be improved, e.g. through stronger focus on research and development. While there is a clear favourable effect of adapting fiscal policy to cyclical developments, the other ways to improve competitiveness are associated with a higher degree of uncertainty.

## **EXPORT MARKET SHARES AND PRICE COMPETITIVENESS**

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A country's market share is measured as its exports relative to its export markets. Like France, Sweden and the UK, Denmark has been unable to maintain its market share for exports of goods in volume terms, cf. Chart 1. However, the loss of market shares is less pronounced when including exports of services. This reflects how the market share for total exports is supported by growth in exports of sea transport.

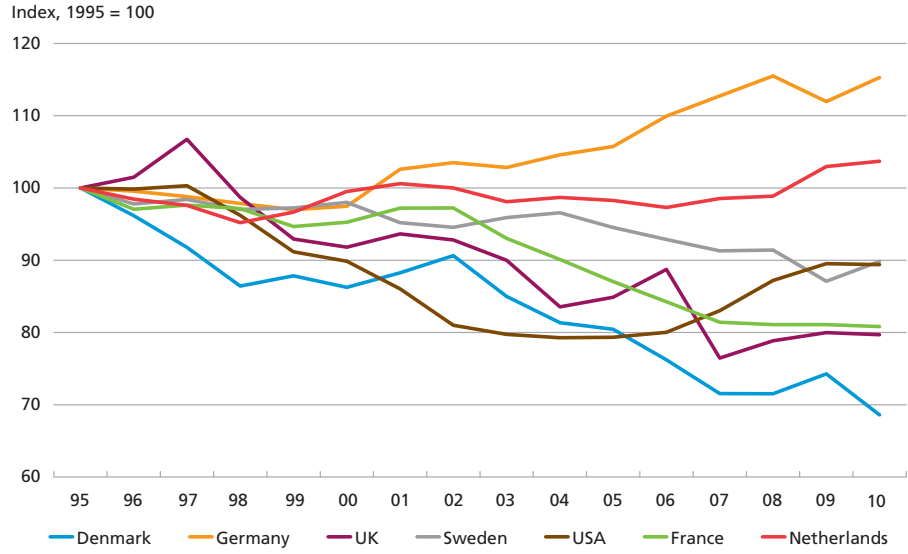
Denmark's loss of market shares in volume terms reflects that import volumes abroad have grown at a faster rate than Danish exports. In a period of increased international division of work and integration of e.g. the BRIC countries in the world economy, generally declining market shares for Western European countries and the USA do not necessarily reflect a deterioration of competitiveness,<sup>1</sup> but Denmark's loss of market shares in volume terms is relatively large compared with other

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<sup>1</sup> The BRIC countries, i.e. Brazil, Russia, India and China, are often highlighted as examples of countries whose relative weights in the world economy have increased substantially in recent years.

MARKET SHARES FOR EXPORTS OF GOODS IN VOLUME TERMS

Chart 1



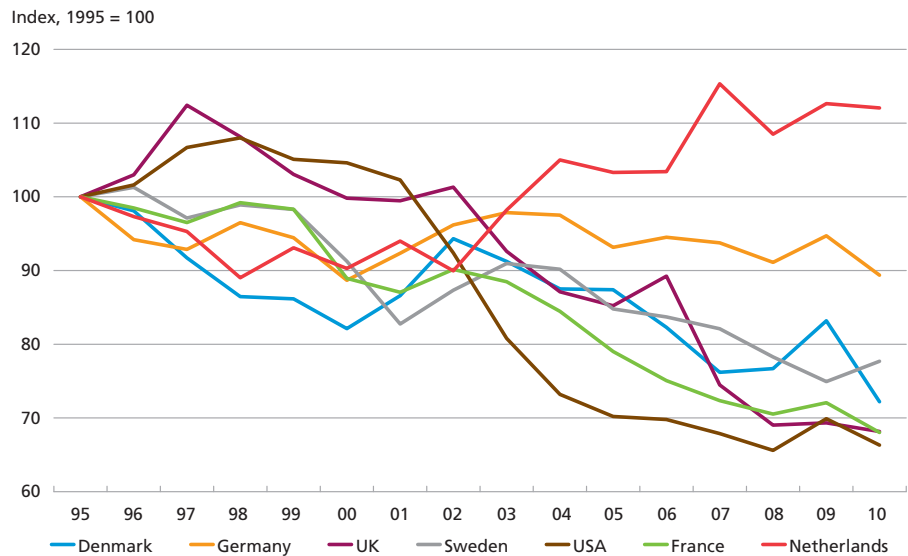
Note: Annual observations. The most recent observations are from 2010. The market shares are calculated as the country's exports of goods relative to its export market for goods. The export market is a weighted average of the destination countries' total imports. The sender country's 2005 market share in the country under review is used as weights.

Source: OECD, *International Trade Statistics*, OECD, *National Accounts*, and own calculations.

Western European countries. The loss of market shares in volume terms for Danish exports equalled just over 30 per cent over the period, cf. Chart 1, while the loss in value terms was slightly smaller, cf. Chart 2.

MARKET SHARES FOR EXPORTS OF GOODS IN VALUE TERMS

Chart 2



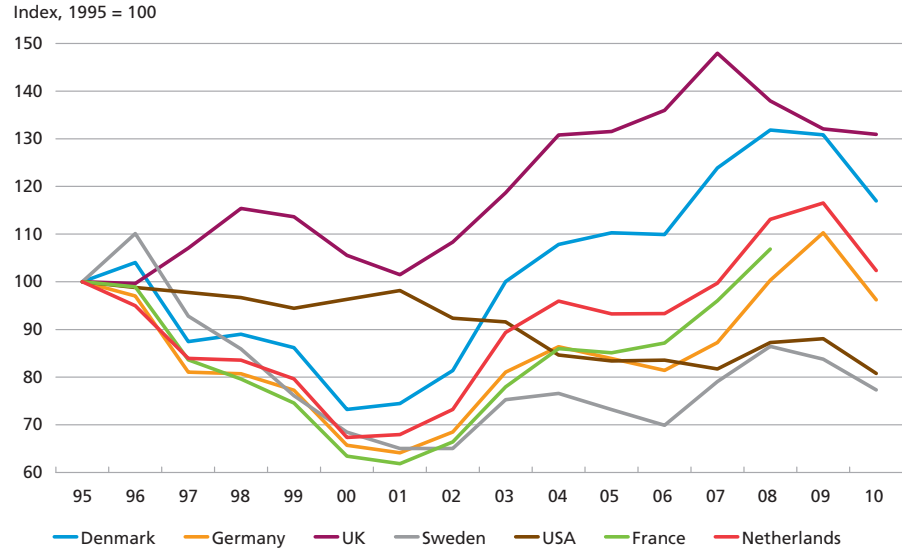
Note: See the note to Chart 1.

Source: OECD, *International Trade Statistics* and own calculations.



UNIT LABOUR COSTS FOR MANUFACTURING IN DOLLARS

Chart 3



Note: Annual observations. The most recent observations are from 2010 with the exception of France, for which the most recent observations are from 2008.

Source: OECD, *Main Economic Indicators*.

In 2011, labour costs amounted to about one third of the total production costs of Danish firms and two thirds of gross value added. So when assessing price competitiveness on a cost basis, it is important to consider the labour costs of manufacturing a unit of a given product, i.e. the unit labour costs, in a common currency to allow for the development in labour costs, exchange rates and productivity across countries. Over the period 1995-2010, the rise in unit labour costs was higher in Denmark than in most comparable countries, cf. Chart 3, reflecting that wages increased considerably more in Denmark than abroad, and that productivity growth was weak. The rise in unit labour costs is a major factor behind the decline in Denmark's market shares.

## DISAGGREGATED ANALYSIS OF DANISH EXPORT PERFORMANCE

Denmark's export performance does not only depend on its ability to compete with foreign manufacturers within individual product groups. The composition of exports across products and destination countries also plays a role. Being present in expanding markets may cause Denmark's total market share to grow, even if its market shares in individual submarkets remain unchanged. Thus, the ability to be present in the fastest growing markets through flexibility and adaptability is also an expression of competitiveness.

The importance of the composition of exports is analysed on the basis of detailed data for trade with Germany, France, the UK, Italy, the Netherlands, Norway, Sweden and the USA. These eight countries have accounted for a total of approximately 60 per cent of Denmark's exports of goods since 1995. We use data broken down by goods according to the Standard International Trade Classification (SITC) at two-digit level.

To prevent the results from being dominated by the large energy price fluctuations in recent years, the main category, "Mineral fuels, lubricants, etc.", is left out. The category entitled "Various goods and transactions not included elsewhere" is also excluded. This leaves 59 different product groups. Data are only available in value terms. This means that an increase in Denmark's market share may reflect both a strong development in exports in volume terms and improved terms of trade.

The development in Denmark's aggregate market share is decomposed into two overall effects, i.e. the *structure effect* and the *submarket-share effect*.<sup>1</sup> The *structure effect* indicates the hypothetical change in the aggregate export market share which would have occurred if Denmark's market share had remained unchanged across product groups and destination countries. The *submarket-share effect* is the difference between the overall change in the market share and the structure effect. This effect is thus an expression of exporters' performance in the individual submarkets. The submarket-share effect has had a clearly negative impact on market-share developments since 1995, cf. Chart 4. The contribution from the structure effect has varied over time and is now moderately positive in relation to 1995.

The structure effect can be further decomposed into three components: the *product effect*, measuring how export performance is affected by the composition of exports across products; the *market effect*, measuring how export performance is affected by the composition of exports across markets; and a third component, which captures the interaction between the product and market effects. This component is called the *mixed structure effect*.

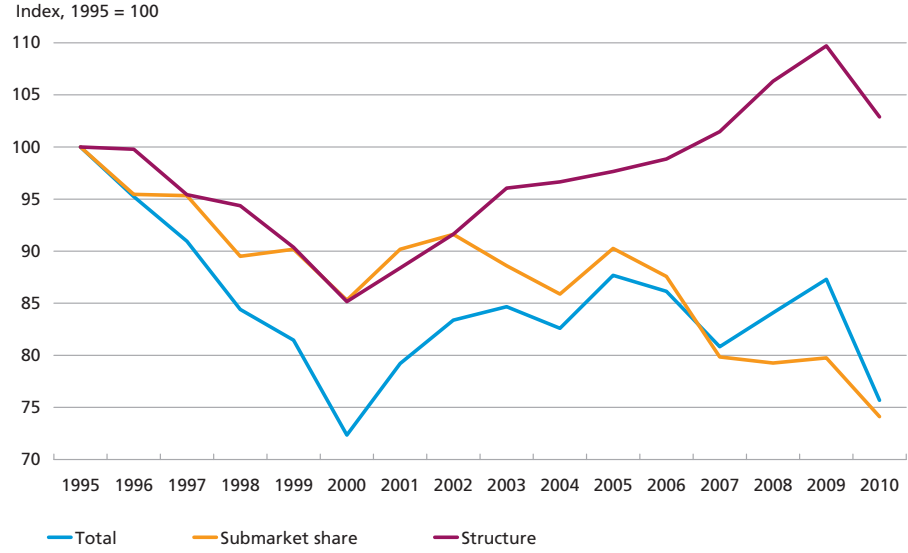
The positive structure effect reflects that Danish exports are concentrated on product groups for which the destination market has grown since 2000 relative to the total export market, cf. Chart 5. The composition of exports across the eight countries had a negative impact on Danish exports in the period 1995-2000, primarily because import growth in the USA was much higher during that period than import growth in the European countries. Since Denmark's presence in the US

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<sup>1</sup> A comparable analysis was conducted by the ECB (2005). The Ministry of Finance has conducted similar analyses on previous occasions, see e.g. Ministry of Finance (1986).

MARKET-SHARE, GOODS

Chart 4



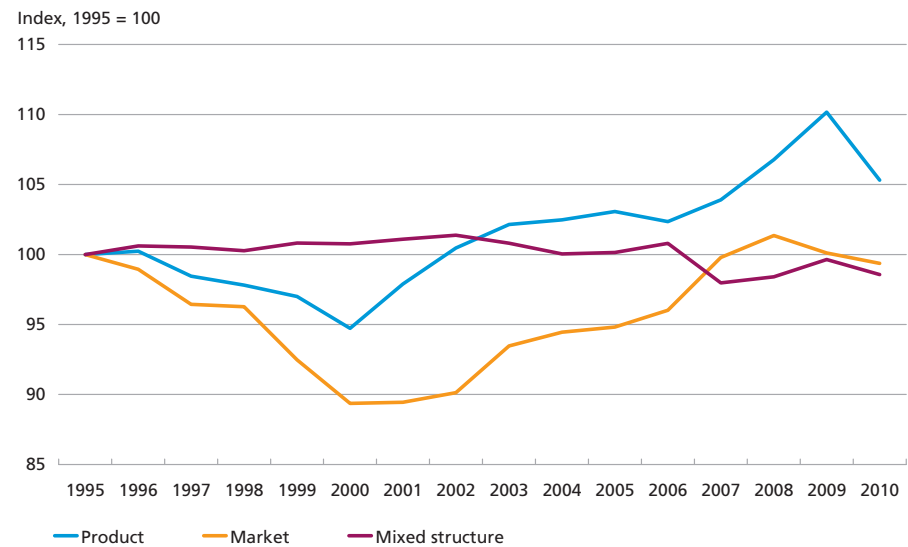
Source: OECD and own calculations.

market is relatively weak, this contributes to reducing Denmark's total market share.

Compared with the rest of the OECD, agriculture has traditionally made up a large part of Danish exports, cf. Chart 6. This is still the case, although to a lesser degree than before. On the other hand, Denmark is

MARKET SHARE, GOODS, STRUCTURE EFFECT

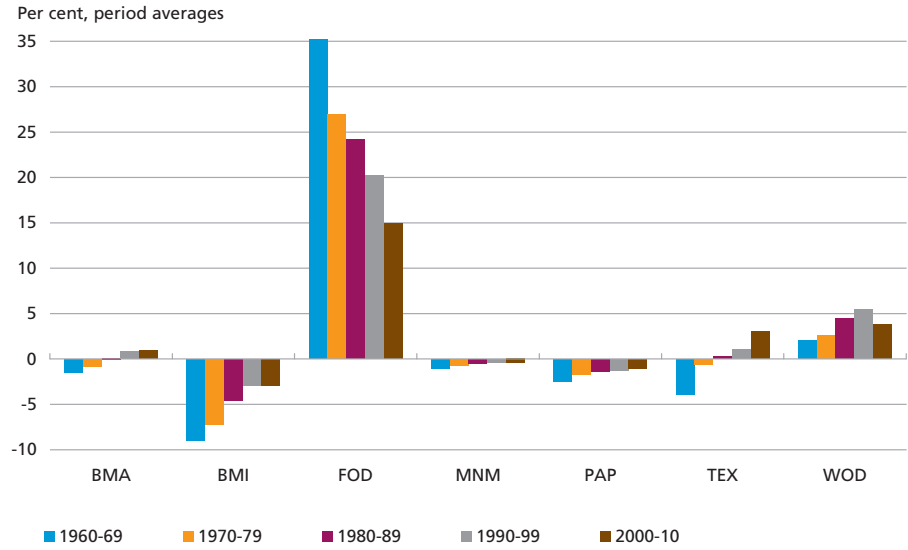
Chart 5



Source: OECD and own calculations.

DENMARK'S RELATIVE SPECIALISATION IN LOW-TECH PRODUCTS

Chart 6

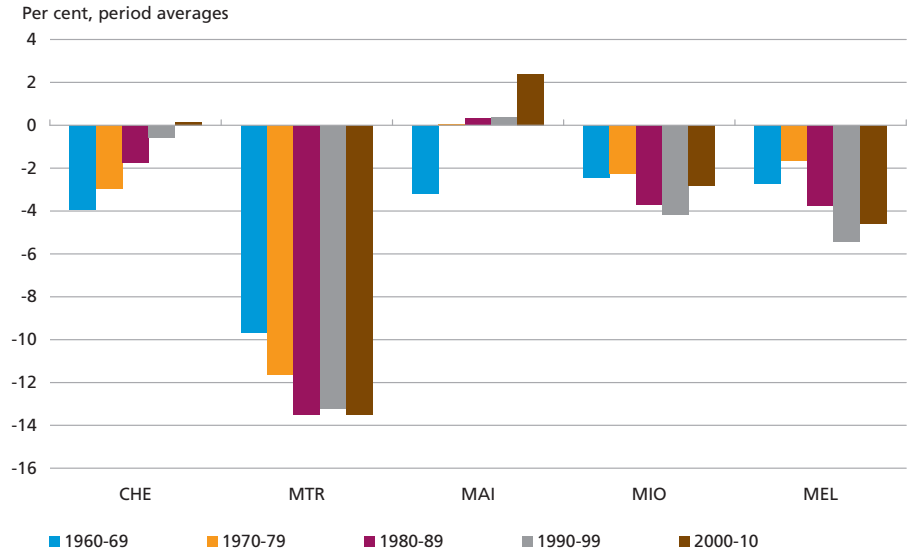


Note: The bars indicate the difference between a sector's share of Danish exports and its share of OECD exports calculated as the period average. A high value indicates that Denmark has a relatively high level of specialisation in the sector under review. BMA: fabricated metal products; BMI: basic metal; FOD: food, beverages and tobacco; MNM: non-metallic mineral products; PAP: paper and paper products; TEX: textile and leather apparel; WOD: wood and wood products.

Source: OECD and own calculations.

DENMARK'S RELATIVE SPECIALISATION IN MEDIUM-TECH AND HIGH-TECH PRODUCTS

Chart 7



Note: The bars indicate the difference between a sector's share of Danish exports and its share of OECD exports calculated as the period average. A high value indicates that Denmark has a relatively high level of specialisation in the sector under review. CHE: chemical products; MTR: manufacture of transport equipment, MAI: manufacture of agricultural/industrial machinery, MIO: professional and scientific equipment, MEL: electrical machinery.

Kilde: OECD and own calculations.

underspecialised in medium-tech and high-tech products, cf. Chart 7. The negative specialisation in medium-tech products is mainly attributable to Denmark not having an auto manufacturing sector. However, compared with the OECD as a whole, Denmark is specialised in manufacturing agricultural/industrial machinery. The negative specialisation in high-tech production is broadly based across the "Scientific equipment" and "Electrical machinery" industries.

Due to Denmark's high costs of production, it is essential that Danish firms manufacture goods with high value added. Against this backdrop, the relative specialisation in low-tech products may seem to be a cause for concern, but there is no unequivocal connection between a sector's value added and the technological level of manufacture. Thus, because of production technology improvements, labour productivity growth, e.g. in the agriculture sector, has exceeded the average productivity growth in the economy for several years. This has resulted in high value added within the sector, even though it is categorised as low-tech. Hence, Denmark's relative export specialisation is generally neither unequivocally good nor bad.

## **NON-PRICE COMPETITIVENESS**

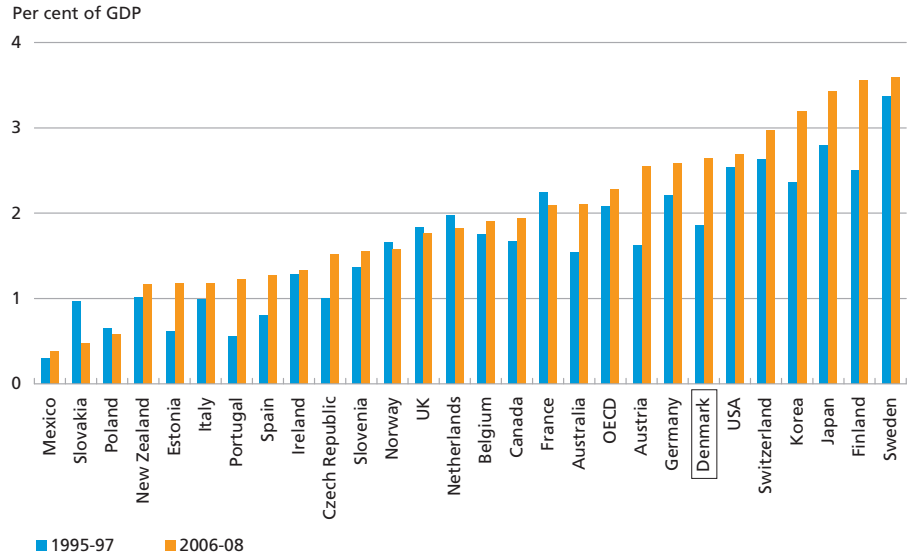
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Competitiveness often implies price competitiveness, for example calculated on the basis of relative unit labour costs. But competitiveness depends on other factors besides prices, wages and productivity. For example, a firm can strengthen its competitiveness by improving product quality or by expanding its product range.

Because it is difficult to measure differentiation by other parameters besides price, the use of indicators is necessary. Some of the indicators of non-price competitiveness are firm-specific, while others are of a more structural nature. The firm-specific indicators include technology, research and development and the number of patents, among others, while the structural indicators include the level of education, infrastructure, export barriers, etc. Where the structural indicators measure the extent to which the corporate sector of a country is generally in a position to manufacture products of higher quality and export them, the firm-specific indicators reflect the competitive position of individual exporters in the export market.

In Denmark, as is the case in e.g. Sweden and Finland, research and development account for a relatively large share of GDP, cf. Chart 8. Compared with 1995, Danish expenditure has risen by more than 1 percentage point, moving Denmark from a below-average to an above-average position in an OECD context. This is a possible indication of

EXPENDITURE FOR RESEARCH AND DEVELOPMENT (R&D) Chart 8



Note: The Chart shows a country's expenditure for research and development as an average ratio of GDP for the periods 1995-97 and 2006-08. For Mexico and New Zealand, an average for the period 2005-07 instead of 2006-08 is used for data availability reasons.

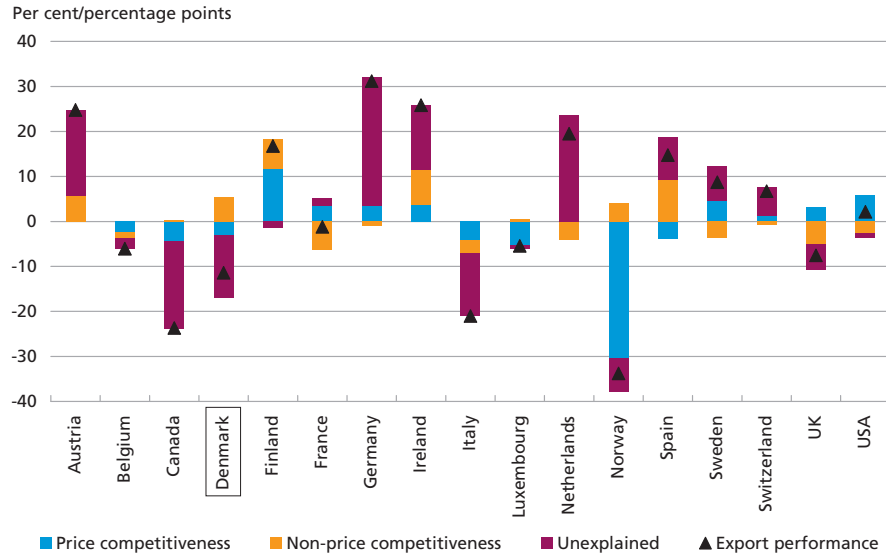
Source: OECD.

improved non-price competitiveness. Denmark's non-price competitiveness also shows a positive trend when assessed on the basis of the number of patent applications to the international patent offices. In addition, the share of the Danish population with tertiary education has increased slightly more over the last decade than in a number of comparable countries. Thus, Denmark has generally done relatively well in terms of some common indicators of non-price competitiveness.

In order to get a clearer indication of what has been driving exports from 1995 to 2010, we construct an econometric model estimated on the basis of data for 17 OECD countries. The model explains the growth in exports using price and non-price factors. While there is a clear relationship between the development in a country's price competitiveness and its export performance, the effect of non-price competition is less evident. However, countries where research and development expenditure has risen relatively markedly have tended to perform better. The results support the fact that non-price competitiveness has contributed positively to Danish exports, while price competitiveness has had the opposite effect, cf. Chart 9. That part of export growth which cannot be explained by the model varies across countries, being relatively large for Denmark. This indicates that some factors impacting a country's exports are not captured by the model.

DECOMPOSITION OF TREND-ADJUSTED IN EXPORT PERFORMANCE

Chart 9



Note: The decomposition has been performed around the negative common trend, showing whether the two measures of competitiveness have improved or reduced the countries' export performance relative to trend. The development is based on the average value for the period 1995-97 to 2008-10. For Luxembourg, the data are from 2000-02 to 2008-10, for Switzerland, the data are from 1996-98 to 2006-08, and for the USA, the data are from 1995-97 to 2007-09.

Source: OECD and own calculations.

As illustrated above, Denmark is placed at the low end in terms of price competitiveness. Denmark is better placed if the comparison is based on indicators of non-price competitiveness, its position having improved over the last 15 years. This may contribute to explaining the improvement in Denmark's terms of trade, but the effect of non-price competitiveness is generally subject to considerable uncertainty.

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# Fiscal Policy in the EU – What Have We Learned from the Crisis?

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## INTRODUCTION AND SUMMARY

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The economic and financial crisis has demonstrated that the public finances of euro area member states were on an unsustainable path in the pre-crisis years. Many member states failed to take advantage of the favourable economic environment to consolidate public finances and hence were ill-prepared when the crisis struck. Nevertheless, most member states eased their fiscal policies in 2009 as part of a European initiative to counter the negative effects of the crisis on growth and employment. As a result, public finances deteriorated further, leading to a sovereign debt crisis in a number of euro area member states. In many member states, expansionary fiscal policy during the boom of the pre-crisis years has been replaced by significant consolidation. Consequently, fiscal policy has amplified rather than dampened cyclical fluctuations.

For a number of member states, the unsustainable state of public finances was both due to their failure to adequately comply with the fiscal discipline rules of the Stability and Growth Pact and insufficient enforcement. Other member states, although in large measure complying with the rules, saw a sharp deterioration in public finances during the crisis. These member states had accumulated major macroeconomic imbalances, which boosted public finances in the pre-crisis years, e.g. through revenue from rising asset prices. When the crisis erupted, it became clear that this revenue had been misinterpreted as structural. At the same time, the underlying potential output had been overestimated, causing the boom to be underestimated. Collectively, these factors meant that the underlying position of public finances – in terms of the structural balance – was estimated to be better than it actually was in the pre-crisis years. Viewed in this light, fiscal policy should have been less expansionary.

The crisis has exposed at least two fundamental weaknesses of economic governance in the EU. Firstly, the incentives for exercising budget-

ary discipline were insufficient. Secondly, the unilateral focus on fiscal policy was too narrow. Broader macroeconomic surveillance was needed to provide an overall picture of the member states' economic situation.

In recent years, EU member states have adopted a number of new regulations to address these weaknesses. Following the adoption of the Fiscal Compact, member states must run an annual structural deficit – i.e. the actual balance adjusted for temporary factors – of no more than 0.5 per cent of the gross domestic product, GDP. This strengthens fiscal discipline requirements, but reduces fiscal flexibility. EU member states have also adopted regulations for the surveillance of macroeconomic imbalances, entailing that the European Commission is to monitor whether a member state is accumulating excessive imbalances.

These new measures for strengthening economic governance represent an important step towards increased budgetary discipline and broader macroeconomic surveillance. However, the political will to ensure that the fiscal policy stance does not amplify cyclical fluctuations to the same extent as during the pre-crisis and crisis years remains crucial. In this context, it is essential that the EU member states do not base fiscal policy on unrealistic assumptions of growth, employment, etc., since this blurs the actual fiscal policy requirements.

The crisis has demonstrated a need to improve the calculation of the structural balance, including better adjustment for fluctuations in asset prices. It is also relevant to supplement changes in the member states' structural balances as a measure of the fiscal policy stance with a calculation of the impact of the member states' specific fiscal policy measures. This provides a better overall picture of their fiscal policies.

## **FISCAL POLICY COORDINATION IN THE EU BEFORE THE ECONOMIC AND FINANCIAL CRISIS – RULES AND COMPLIANCE**

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### **The Stability and Growth Pact before the crisis**

The cornerstone of fiscal policy coordination in the EU is the Stability and Growth Pact, which elaborates on and clarifies the EU Treaty's fundamental provisions on ensuring budgetary discipline in the member states (avoiding "excessive deficits").

The Pact comprises two elements – a preventive and a corrective arm. The *preventive arm* sets out provisions for the EU member states' medium-term fiscal policies, including that, in the medium term, their public finances must be close to balance or in surplus. The idea is for member states to build a scope for the automatic stabilisers to operate freely during normal economic downturns without exceeding the 3-per cent limit on government deficits.

*The corrective arm* of the Pact takes effect if an EU member state exceeds the EU Treaty's limits on government deficits and gross debt of 3 per cent and 60 per cent of GDP, respectively. In practice, only the deficit requirement has been enforced. The member state in question will receive a recommendation to correct the deficit within a given deadline, and euro area member states may ultimately be fined for failing to comply with the provisions of the Pact.

The Stability and Growth Pact was adopted in 1997 and revised in 2005. The corrective arm of the Pact was eased, while the preventive arm was tightened. The possibility of exempting member states from the excessive deficit procedure in the event of low economic growth was extended, and it became possible to set a deadline of several years for correcting excessive deficits. On the other hand, more specific requirements for fiscal consolidation were introduced in the preventive arm of the Pact for member states failing to comply with their medium-term objectives, MTOs. These member states were to ensure that, as a point of departure, their structural balance – i.e. the government balance adjusted for cyclical and other temporary factors – improved by 0.5 per cent of GDP per year, until the MTO was achieved. In addition, country-specific MTOs were introduced, which were differentiated according to government debt and potential growth. MTOs were also to be differentiated according to member states' fiscal sustainability.<sup>1</sup> For euro area member states and members of the European Exchange Rate Mechanism, ERM2, MTOs were to be in the range from -1 per cent of GDP to balance or surplus.

The 2005 reform of the Stability and Growth Pact reflected the problems encountered by a number of euro area member states in complying with the provisions of the Stability and Growth Pact. In practice, the provisions had been applied more leniently, and to some extent the 2005 reform of the Pact represented adjustment to this reality. Critics noted that the reform would not solve the problems of implementing the Pact, but rather increase the risk of larger government budget deficits and higher debt ratios in the medium term (e.g. Deutsche Bundesbank (2005)).

### **Non-compliance with the Stability and Growth Pact before the crisis**

As our point of departure for assessing which euro area member states were in compliance with the provisions of the Stability and Growth Pact in the pre-crisis years, we apply government deficits, debt levels and

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<sup>1</sup> In 2009, MTOs were also differentiated according to the member states' fiscal sustainability. The new MTOs were implemented as part of the stability and convergence programmes for 2009-10.

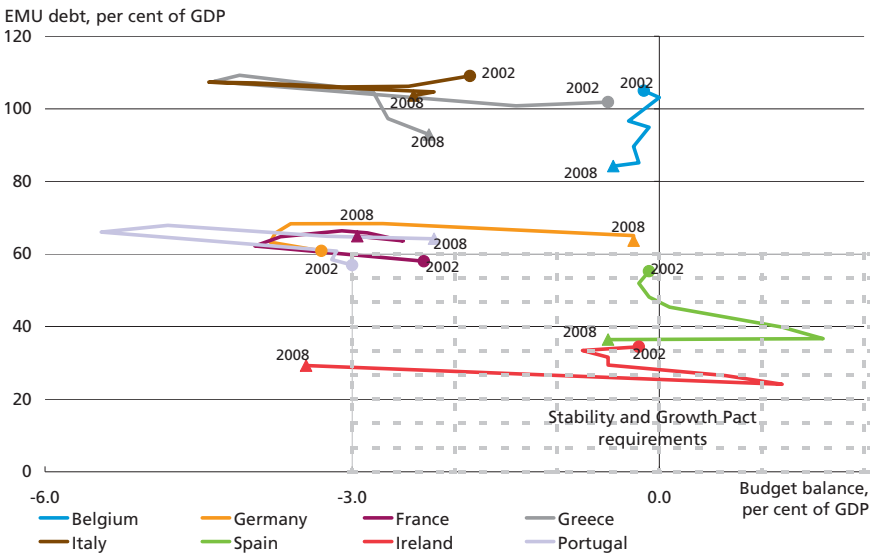
structural balances measured in *real time* – i.e. the estimates of the levels of these factors in the years in question. For any given year, the real-time target for e.g. the government deficit will show the deficit as estimated in European Commission Economic Forecasts for that year.

In the pre-financial crisis years, the (real-time) government debts and deficits of many euro area member states exceeded the Pact's limits of 60 and 3 per cent of GDP, respectively, cf. Chart 1. In 2004 when the highest number of member states exceeded the limits, half of the euro area member states had deficits of more than 3 per cent of GDP, and in 7 of 12 euro area member states, government debt exceeded 60 per cent of GDP. For the euro area as a whole, the government deficit was 2.8 per cent of GDP, while the government debt was approximately 70 per cent of GDP. In the run-up to the crisis, the budget deficits and debt levels of several member states increased – despite favourable economic conditions.

In the autumn of 2008, in response to the crisis, the EU member states adopted the European Economic Recovery Plan with a coordinated fiscal stimulus package totalling 1.5 per cent of the EU's GDP. As member states pursued active expansionary fiscal policies, allowed the automatic stabilisers to operate and implemented financial rescue packages, debts and deficits rose sharply in many member states after 2008.

GOVERNMENT DEBT AND BUDGET BALANCE FOR SELECTED MEMBER STATES, 2002-08 (IN REAL TIME)

Chart 1

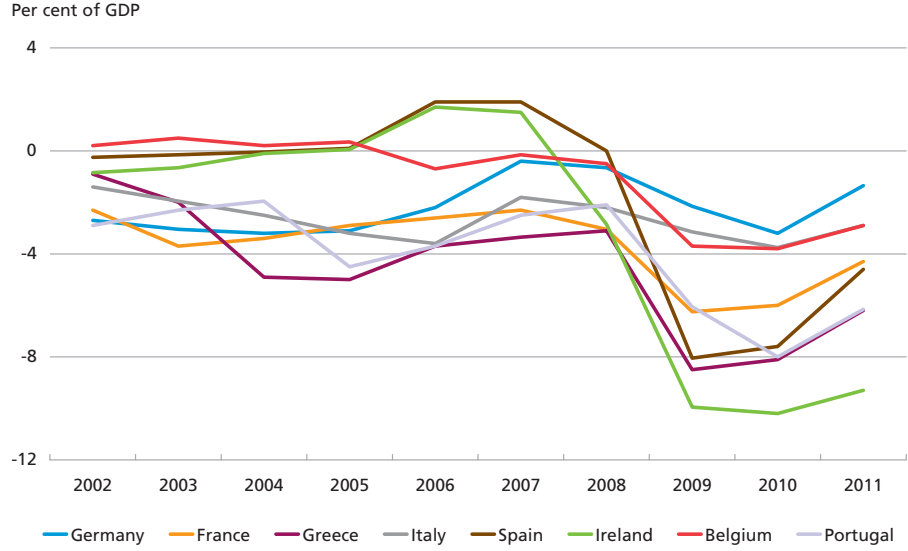


Note: The Chart shows the member states' deficit and debt measured in *real time*. For a given year, a simple average of the European Commission's spring and autumn forecast estimates of deficit and debt is applied.

Source: European Commission forecasts 2002-08.

STRUCTURAL BALANCE FOR SELECTED MEMBER STATES (IN REAL TIME)

Chart 2



Note: For the period 2002-05, the structural balance is approximated by the cyclically adjusted balance.  
 Source: European Commission forecasts 2002-11.

The requirement of the Pact's preventive arm for medium-term government budgets to be close to balance or in surplus was also exceeded to a large extent. In the pre-crisis years, the structural balance (in real

CHANGE IN STRUCTURAL BALANCE FOR EURO12 (IN REAL TIME)

Table 1

| Per cent of GDP                | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|--------------------------------|------|------|------|------|------|------|------|
| Portugal (EDP: 2002-08) .....  | -0.8 | 0.6  | 0.4  | -2.6 | 0.7  | 1.2  | 0.4  |
| Germany (EDP: 2003-07) .....   | -0.8 | -0.4 | -0.2 | 0.1  | 0.5  | 1.8  | -0.3 |
| France (EDP: 2003-07) .....    | -0.8 | -1.4 | 0.3  | 0.5  | 0.5  | 0.3  | -0.8 |
| Greece (EDP: 2004-07) .....    | -0.4 | -1.1 | -2.9 | -0.1 | 1.5  | 0.4  | 0.3  |
| Italy (EDP: 2004-08) .....     | -0.2 | -0.6 | -0.6 | -0.7 | -0.6 | 1.8  | -0.4 |
| Netherlands (EDP: 2004-05) ... | -0.7 | -0.7 | -0.6 | 0.9  | 0.7  | -0.9 | 1.0  |
| Austria .....                  | -0.3 | 0.0  | -0.1 | -0.8 | 0.3  | 0.2  | -0.2 |
| Ireland .....                  | -2.5 | 0.2  | 0.6  | 0.2  | 1.4  | -0.2 | -4.4 |
| Belgium .....                  | 0.5  | 0.3  | -0.3 | 0.2  | -0.3 | 0.6  | -0.4 |
| Luxembourg .....               | -1.4 | 0.0  | -2.3 | -0.6 | -0.2 | 2.0  | 1.7  |
| Spain .....                    | 0.1  | 0.1  | 0.1  | 0.2  | 1.5  | 0.0  | -1.9 |
| Finland .....                  | -0.2 | -0.2 | -0.8 | -0.3 | 0.8  | 1.1  | 0.8  |
| Simple average                 | -0.6 | -0.3 | -0.5 | -0.3 | 0.6  | 0.7  | -0.3 |

Note: For 2002-06, the Table indicates the change in the cyclically adjusted balance, and for 2007-08 the change in the structural balance. Red indicates that the member state did not – as required – consolidate by 0.5 per cent of GDP structurally. Grey background indicates that the member state met its MTO. The dashed line indicates the transition to the 2005 revision of the Stability and Growth Pact. The years in which they were in the excessive deficit procedure, EDP, are indicated next to the individual member states.

Source: European Commission forecasts 2001-09.

time) of just under half of the euro area member states showed a deficit of 2-4 per cent of GDP, cf. Chart 2. Germany and France were among the member states running large structural deficits for a number of years after the introduction of the euro. Other member states, such as Ireland and Spain, had small structural surpluses, which quickly turned into large deficits (8-10 per cent of GDP) during the crisis.

Although half of the euro area member states were in the excessive deficit procedure, and even more member states were running large structural deficits, fiscal consolidation in the euro area was modest in 2002-05, cf. Table 1. Fiscal consolidation apparently improved after 2005, when the new provisions established that member states in non-compliance with their MTOs or in the excessive deficit procedure, generally had to improve their structural balances by at least 0.5 per cent of GDP per year. Most member states improved their balances, although not all of them by 0.5 per cent of GDP. Data may be blurred by the boom of 2005-07 and rising asset prices, which made the structural balance improvement appear greater than reflected by the fiscal policy stance during those years.

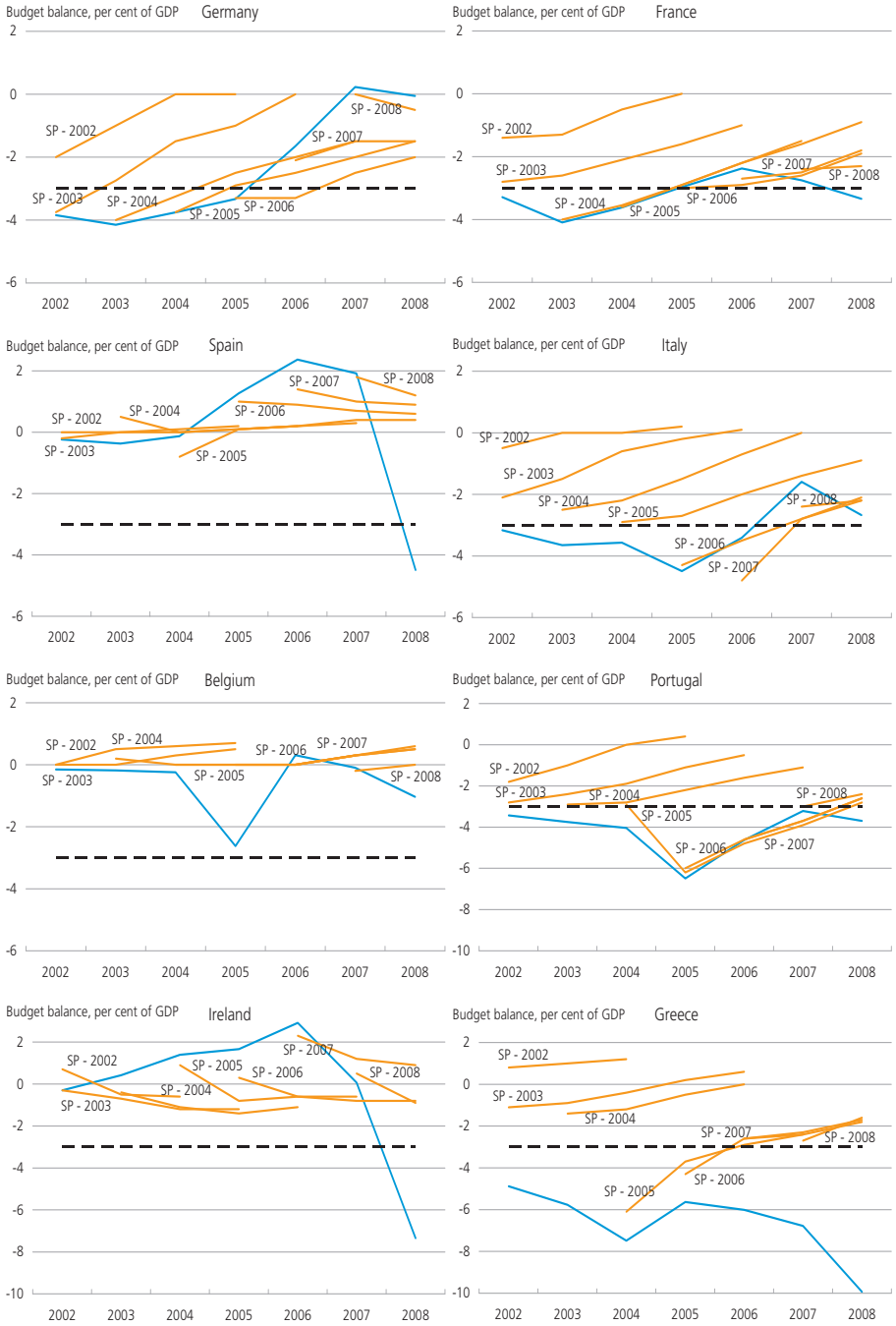
### **Stability programmes and unrealised growth assumptions**

In their annual stability programmes, the euro area member states specify their strategies for fiscal adjustment towards their MTOs and towards correcting any excessive deficits. In France, Italy, Portugal and Greece, among others, realised government budget deficits in the run-up to the crisis were generally larger than assumed in the programmes, cf. Chart 3. Other member states, such as Spain and Ireland, complied with the programme targets in the pre-crisis years. This should be seen in the context that, during those years, public finances of these two member states benefited from high revenue growth, especially from surging house prices, cf. ECB (2008).

A key reason why the member states' budget deficits did not develop as projected in the stability programmes was that the growth assumptions on which the programmes were based tended to be more optimistic than the realised growth rates, cf. Chart 4. In France, Italy, Portugal and, to some extent, Germany, the programmes built on the expectation that GDP growth would rise to 2.5-3 per cent in the course of a couple of years and subsequently remain at that level. Spain, Ireland and Greece, on the other hand, realised the projected growth. In other words, a number of member states had an optimistic view of potential growth. This was undoubtedly one of the reasons why they did not implement sufficient fiscal consolidation policies to brace themselves against sudden deterioration of their public finances.

**ANNOUNCED AND ACTUAL BUDGET BALANCE FOR SELECTED MEMBER STATES**

**Chart 3**

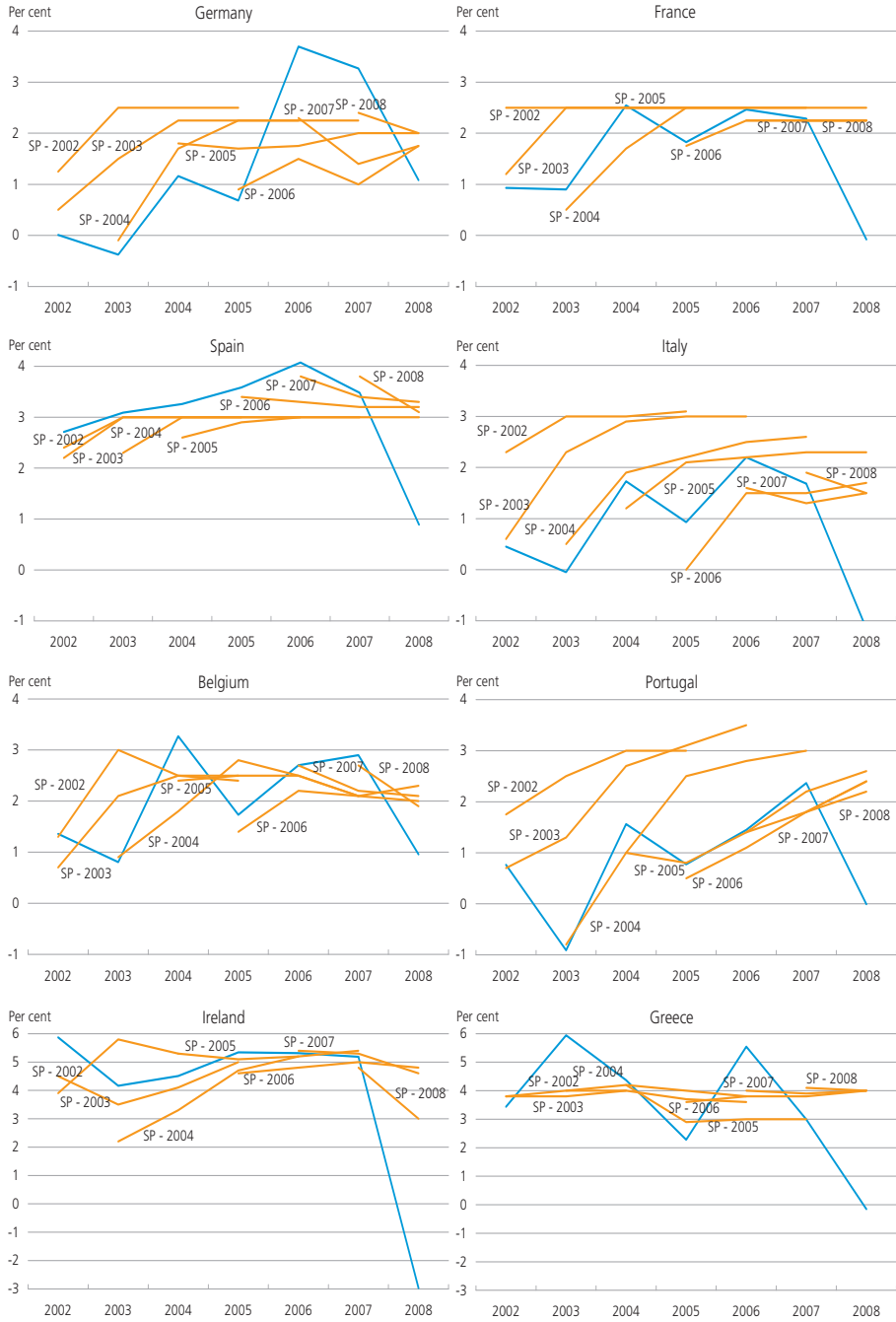


Note: The yellow lines indicate the planned development in the actual balance as indicated in the member states' stability programmes, SP, while the blue line indicates the realised development. 2009 saw a significant statistical revision of Greece's budget deficit for the years illustrated by the Chart.

Source: European Commission spring forecast 2012, and the individual member states' stability programmes 2002-08.

GROWTH ASSUMPTIONS AND ACTUAL REAL GDP GROWTH FOR SELECTED MEMBER STATES

Chart 4



Note: The yellow lines indicate the expected GDP growth in the member states' stability programmes, SP, while the blue line indicates the realised development. 2009 saw a significant statistical revision of Greece's GDP for the years illustrated by the Chart.

Source: European Commission spring forecast 2012, and the individual member states' stability programmes 2002-08.



## UNCERTAINTY ABOUT THE STRUCTURAL BALANCE AS A POLICY TARGET

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Measuring fiscal consolidation (or lack of same) solely by calculating the change in the structural balance is subject to considerable uncertainty and does not necessarily provide a complete picture of the fiscal policy stance. The structural balance is calculated residually by deducting cyclical government revenue and expenditure (i.e. cyclical components such as higher expenditure on unemployment benefits during a recession) and other temporary factors from the actual budget balance, cf. Winther (2011). The calculation of the cyclically adjusted balance takes only cyclical factors into account.

$$\text{Structural balance} = \overbrace{\text{Actual balance} - \text{Cyclical component}}^{\text{Cyclically adjusted balance}} - \text{Temporary factors}$$

Over- or underestimation of the structural balance is due to over- or underestimation of the actual balance, the cyclical component or temporary government revenue or expenditure.

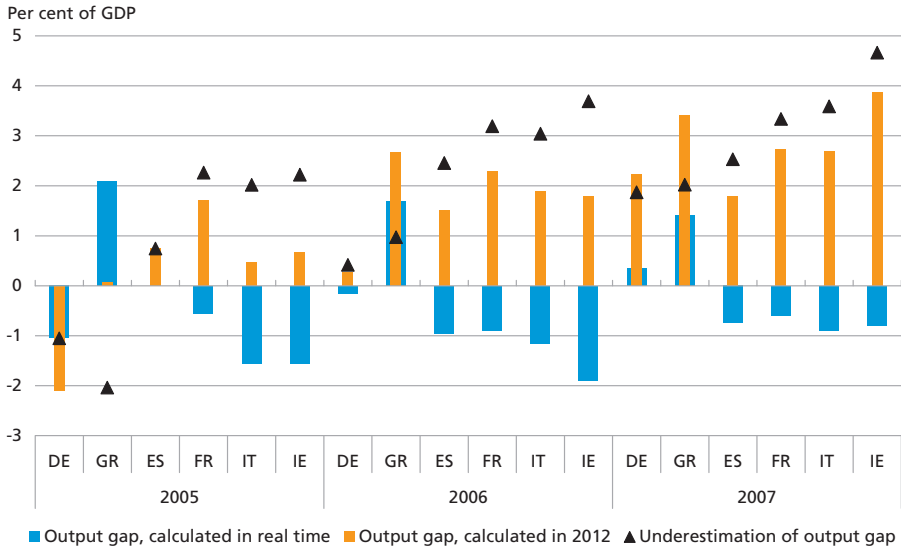
### Underestimation of the cyclical position in the pre-crisis years

The cyclical component of the government budget balance is calculated based on an assessment of the cyclical position of the economy measured by the output gap. In the years prior to the financial crisis, the output gaps of a number of member states were negative, calculated in real time. Hence, there were indications that the member states were in recession. But during the same years, calculated in 2012, a number of member states had large positive output gaps, cf. Chart 5. In other words, their economies were booming. For several member states, this underestimation of output gaps amounted to up to 3-4 per cent of GDP, reflecting that these gaps are difficult to calculate at cyclical turning points, cf. Andersen and Rasmussen (2011).

The underestimation of euro area member states' output gaps, and thus their cyclical position, also caused the cyclical component of the budget balance to be underestimated. Viewed in isolation, this meant that, in general, the structural balance was estimated to be better than it actually was, cf. Chart 6. On the other hand, the actual balance – with the exception of that of Greece – was underestimated at the same time. Consequently, the overall overestimation of the structural balance was smaller than the direct contribution from the underestimation of the cyclical position.

ESTIMATION OF OUTPUT GAP, 2005-07

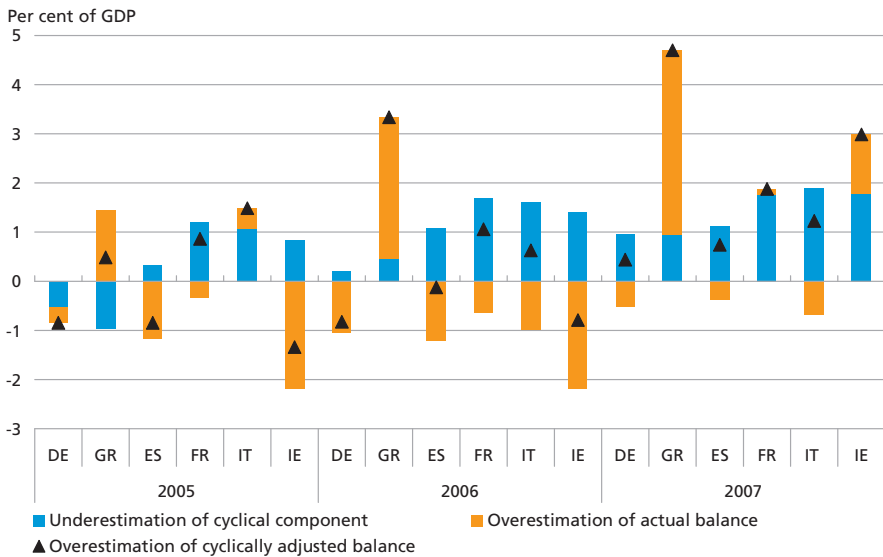
Chart 5



Source: European Commission forecasts 2005-12.

OVERESTIMATION OF CYCLICALLY ADJUSTED BALANCE, 2005-07

Chart 6



Note: In the Chart, the cyclically adjusted balance is applied for member states, since European Commission data is not available for 2012 estimates of the structural balance in 2005-07.

Source: European Commission forecasts 2005-12.

**Structural revenues turned out to be temporary in nature**

In the calculation of the structural balance, other temporary factors are deducted besides the cyclical component, e.g. privatisation revenue, expenses related to natural disasters, etc. If such temporary revenues (or expenses) are not deducted, they will be misinterpreted as structural.

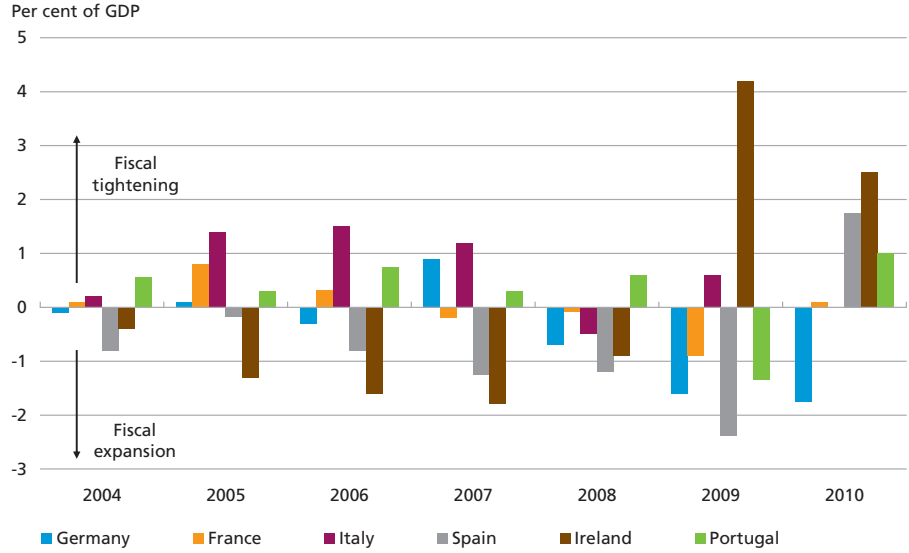
But a number of temporary revenues are not deducted in the Commission's calculation of the structural balance, including, in particular, supernormal tax revenues from temporary and abnormal increases in asset prices, such as house and equity prices. Kanda (2010) calculates the structural balance for Ireland using an approach that adjusts for the budgetary effect of the housing bubble. His conclusion is that the structural balance had been negative in the pre-crisis years, and that Ireland had a structural deficit of 7 per cent of GDP in 2007. The latest Commission figure for the structural deficit in 2007 was 1.8 per cent of GDP, and in real time the structural balance was estimated to be in surplus by 1.5 per cent of GDP.

The sharp declines in the structural balances of Ireland and Spain in 2007-09, cf. Chart 2, illustrate the difficulty of estimating the structural balance in real time. In these two member states, the balance deteriorated by approximately 10 per cent of GDP as a result of the crisis. These decreases were not attributable to discretionary fiscal easing, but rather to misinterpretation of the structural levels of government revenue and expenditure.

**Consolidation in terms of specific fiscal policy measures**

The uncertainty when it comes to measuring the structural balance means that it does not necessarily provide a complete picture of the fiscal policy stance. An alternative approach to assessing fiscal policy by measuring the change in the structural balance ("top-down") is to quantify the budgetary effect of specific discretionary fiscal policy measures ("bottom-up"). The euro area member states' stability programmes present the specific measures and the Commission assesses the effect of these measures across the EU member states on an ongoing basis. In principle, the effect of the actual measures is a more ideal approach to assessing the fiscal policy stance, but this approach requires member states to report very detailed as well as true and fair information on their fiscal policy measures, and to provide an accurate assessment of their effects. However, the problems of assessing the *level* of the structural balance are not addressed simply by assessing the specific measures and, at any rate, the level depends on an assessment of member states' output gaps.

DISCRETIONARY FISCAL POLICY MEASURES IN SELECTED MEMBER STATES Chart 7



Note: Discretionary fiscal policy measures have been calculated by adding up the budgetary effects of the specific fiscal policy measures specified in the European Commission's annual assessments of the member states' stability programmes.

Source: European Commission's annual publication, Public finances in EMU, and the Commission's assessments of the member states' stability programmes.

The discretionary measures provide a different picture of the fiscal policy stance in the euro area in the run-up to the crisis than the one indicated by the change in the structural balance. In Ireland and Spain, for example, the measures show that fiscal policy was eased by approximately 1 per cent of GDP per year in the period 2005-08, cf. Chart 7. In comparison, the changes in the structural balance were slightly positive, indicating some fiscal consolidation during those years, cf. Table 1. The expansionary measures should be seen in the context of strong economic growth in both member states in the pre-crisis years. At the time, growth was estimated to reflect structural rather than cyclical factors. This is illustrated by the significantly underestimated output gaps in the two member states during those years, cf. Chart 5. Therefore, the perception was that there was scope for easing fiscal policy.

The opposite is the case for Italy and, to some extent, Portugal. Discretionary measures for Italy e.g. indicate fiscal policy tightening of approximately 1 per cent of GDP annually in 2005-07. Although these member states tightened their fiscal policies in the pre-crisis years, their structural balances did not improve until 2006-07 and the tightening was insufficient to ensure that public finances were sufficiently robust when the crisis struck. A possible explanation why the structural balance did not improve could be weak potential growth, leading to a

worsening of the underlying position of public finances in these particular member states. For Germany and France, both approaches show that their fiscal policies were more or less neutral in 2005-07.

The cumulative effect of fiscal policy measures over time for the two calculation methods shows that during the period 2004-08, Ireland and Spain eased fiscal policy by the equivalent of 4-6 per cent of GDP, calculated by summing up direct discretionary measures, while the cumulative change in the structural balance was largely flat, cf. Chart 8.

CUMULATION OF DISCRETIONARY FISCAL POLICY MEASURES AND CHANGE IN STRUCTURAL BALANCE IN SELECTED MEMBER STATES Chart 8



Note: The yellow line indicates the cumulative change in the structural balance (in real time), while the blue line indicates the cumulative discretionary fiscal policy measures (bottom-up). Discretionary fiscal policy measures have been calculated by adding up the budgetary effects of the specific fiscal policy measures specified in the European Commission's annual assessments of the member states' stability programmes.

Source: European Commission's annual publication, Public finances in EMU, and Commission forecasts.

When the crisis hit Ireland and Spain, this was reflected in sharp declines in their structural balances, and already in 2009 the cumulative change in the structural balance was greater than the cumulative change in discretionary measures. The marked deterioration in structural balances in 2009-10 – despite extensive fiscal consolidation in Ireland and broadly neutral fiscal policy in Spain – probably reflects the drying-up of a number of temporary revenue sources which were perceived as structural in the run-up to the crisis.

As already mentioned, the EU member states in late 2008 agreed on a coordinated fiscal stimulus package equivalent to a total of 1.5 per cent of the EU's GDP. Therefore, discretionary fiscal policy measures in 2009 show that fiscal policy was eased substantially in most member states, although Ireland, among others, tightened its fiscal policy significantly. In 2010, when the financial crisis evolved into a sovereign debt crisis in a number of euro area member states, it became clear that several of these member states had not had sufficient fiscal scope. In the wake of the significant discretionary fiscal expansion in 2009, member states had to tighten fiscal policy considerably in 2010, cf. Chart 7. Spain and Portugal, in particular, had to make massive government spending cuts. Against this backdrop, the coordinated fiscal stimulus in the EU should have been more differentiated across member states.

Fiscal tightening has continued in the euro area in 2011 and 2012, and substantial fiscal consolidation is also planned for the coming years. In many euro area member states, expansionary fiscal policy during the boom of the pre-crisis years has been replaced by significant consolidation. In other words, fiscal policy has reinforced both the boom and the subsequent recession.

## **STRENGTHENING THE EU'S ECONOMIC GOVERNANCE RULES**

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The crisis exposed at least two fundamental weaknesses of economic governance in the EU. Firstly, there has not been sufficient incentive for member states to consolidate public finances and create fiscal space to counter the effects of a major economic downturn. The provisions of the Stability and Growth Pact were not adequately enforced, and because of weak market discipline, the markets failed to punish member states with unsustainable public finances.

Secondly, the unilateral focus on fiscal policy was too narrow. Although the provisions of the Pact were complied with, member states such as Spain and Ireland managed to build up substantial macroeconomic imbalances, and, as mentioned earlier, the crisis therefore took a particularly heavy toll on these member states. Consequently, broader

macroeconomic surveillance of the EU member states was required in order to form an overall picture of their economic situation.

Hence, the crisis demonstrated that the fiscal framework needed to be strengthened and that economic governance in the EU needed to be extended. This time around the need to restore confidence in the long-term sustainability of public finances and stabilise the financial markets generated broad political support in the EU for strengthening the rules. Initially, the Stability and Growth Pact was reformed and surveillance of macroeconomic imbalances was introduced – the "Six Pack" from 2011.<sup>1</sup>

### **Stability and Growth Pact reform**

The reform of the Stability and Growth Pact builds on the existing rules so as to tighten the rules and strengthen enforcement. One of the most important changes to the *preventive arm* of the Pact is that, in future, the assessment of the adjustment towards the MTO is to be based on an overall assessment, using the structural balance as a reference. Furthermore, member states with government debt exceeding 60 per cent of GDP must accelerate adjustment towards the MTO. Additionally, in future, an EU member state may become subject to a recommendation if it deviates significantly from the adjustment path. In the *corrective arm* of the Pact, the most significant change is that the debt criterion is operationalised. In future, EU member states with government debt exceeding 60 per cent of GDP must, as a main rule, reduce the difference between the current debt level and the 60 per cent of GDP by an annual rate of one twentieth (average over three years). Member states that fail to comply with this rule could become subject to the excessive deficit procedure although their actual deficit does not exceed 3 per cent of GDP.

For the euro area member states, the enforcement mechanisms are reinforced – both for the preventive and the corrective arms of the Pact. At the same time, more automatic action is introduced, and hence more efficiency in the adoption of sanctions as future decisions on economic sanctions will be made via "reverse qualified majority voting", making it more difficult to adopt exemptions to sanctions. This strengthens the Pact and increases the probability that sanctions are applied.

### **Surveillance of macroeconomic imbalances**

As part of the effort to broaden macroeconomic surveillance, the EU member states adopted a new procedure for the surveillance of macroeconomic imbalances. Under the new procedure, based on a number of

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<sup>1</sup> For an in-depth review of the elements of the Six Pack, see Gade and Thuesen (2010).

indicators – such as house prices, current account balance, external debt, private sector credit flow and debt – the Commission is to monitor whether an EU member state is accumulating excessive macroeconomic imbalances. A member state may ultimately become subject to a Council recommendation to correct the imbalances, and euro area member states may be fined for failing to comply with a recommendation.

The broadening of macroeconomic surveillance is an important supplement to fiscal surveillance, since macroeconomic imbalances are far from always reflected in a timely manner in government balances and debt. Imbalances may as well originate from the private sector and translate into e.g. unsustainable house price rises, weakened competitiveness, large current-account deficits and accumulation of external debt. Since significant uncertainty is associated with the calculation of the structural balance, unilateral focus on structural balances entails a risk that the planning of fiscal policy is inexpedient. If fiscal policy is based on annual assessments of the structural balance as a reference, there is a risk that member states will pursue policies which are inappropriate given the cyclical situation.

### **Fiscal Compact**

During the autumn of 2011, the sovereign debt crisis escalated, and it became clear – despite the strengthening of the Stability and Growth Pact, etc. – that the financial markets still doubted the political efforts to ensure sustainable public finances, especially in certain euro area member states. As a result, in early December 2011, the euro area member states entered into an intergovernmental agreement to strengthen fiscal policy coordination – the Fiscal Compact – with a possibility for non-euro area member states also to adopt the agreement.<sup>1</sup> Many of the elements of the Fiscal Compact correspond to fundamental elements of the Stability and Growth Pact, but the Fiscal Compact strengthens a number of provisions and also adds new initiatives.

The cornerstone of the Fiscal Compact is the fiscal rule that the budgetary position of the general government shall be balanced or in surplus. This rule is deemed to be respected if the *annual* structural balance is at the country-specific MTO, which must not exceed a deficit of 0.5 per cent of GDP (1 per cent of GDP for member states with low debt and low challenges in terms of fiscal sustainability). This rule is in line with the provisions of the preventive arm of the Stability and Growth Pact, but the provision that the annual structural balance must not ex-

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<sup>1</sup> All EU member states with the exception of the UK and the Czech Republic participate in the Fiscal Compact. It will take effect when ratified by at least 12 euro area member states.



ceed the MTO constitutes a strengthening. This rule tightens fiscal discipline requirements, but reduces fiscal flexibility. A new aspect is that the balanced budget rule must be transposed into national legislation, preferably at constitutional level, and the European Court of Justice may be asked to verify the implementation of these rules at national level, representing a clear strengthening.

The requirements for the calculation of the structural balance are reinforced by the Fiscal Compact requirement of annual compliance with the MTO. Consequently, member states should aim at a structural balance better than the lower limit of a structural deficit of 0.5 per cent of GDP. This should prevent calculation uncertainties from leading to inappropriate fiscal policy.

The fiscal rule is to be supplemented by a correction mechanism that is triggered automatically in the event of deviations from the rule. The objective is to make fiscal consolidation more automatic than is the case with the Stability and Growth Pact. The specific elements are currently not known, since the Commission has yet to make proposals for the implementation of the correction mechanism. One risk is that the mechanism will contain a number of exemptions that will, in practice, dilute the new balanced budget rule and hence weaken fiscal discipline.

Another new element is that the euro area member states commit to support proposals or recommendations submitted by the Commission regarding euro area member states in the excessive deficit procedure, unless a qualified majority is opposed. As previously mentioned, this voting rule was introduced by the reform of the Stability and Growth Pact, but it is extended and strengthened by the Fiscal Compact.

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# Public Expenditure Management in Denmark

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*Pernille Bomholdt Nielsen and Morten Hedegaard Rasmussen, Economics*

## **INTRODUCTION AND SUMMARY**

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There is political agreement in the Folketing (Danish parliament) on a Budget Act. The Act will introduce 4-year rolling expenditure ceilings for the central government, regions and municipalities. The expenditure ceilings will comprise most public expenditure, including public consumption and transfers. Moreover, a balanced budget rule will be introduced as required by the Fiscal Compact.

New and improved instruments for managing public expenditure have been needed as growth in public consumption has exceeded the planned level repeatedly in the past nearly 20 years. This put additional pressure on the Danish economy during the boom period in 2005-08. In the longer term, the overruns imply that public finances will be ill-prepared for the future challenges, including an ageing population and a smaller working-age population. With the sovereign debt crisis, the financial markets are also increasingly focused on fiscal and expenditure policies.

The excess public consumption is to a large extent due to municipalities spending more money than agreed with the central government. For many years, the overruns had no consequences. However, in the period 2008-10, the Folketing in several steps tightened its sanctions against the municipalities if the total expenditure exceeded the agreed level. Combined with stricter requirements for the current financial management, the tightening seems to have had an effect. As a result, growth in public consumption was lower than planned in 2011. Hence, it is positive that the sanctions will be continued in connection with the new Budget Act and will be applicable to the regions as well.

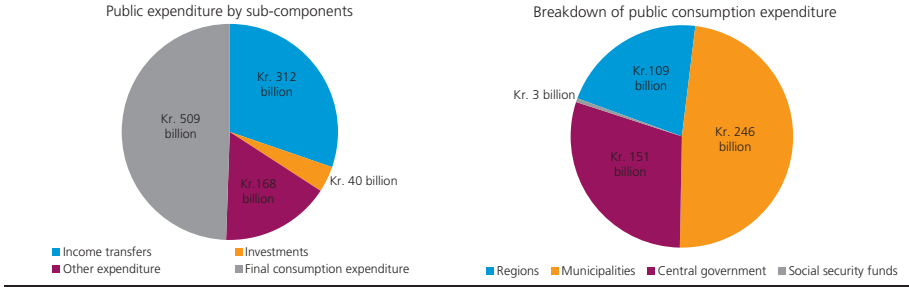
## **DEVELOPMENT IN PUBLIC CONSUMPTION**

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In 2011, public consumption was kr. 509 billion, corresponding to 28.5 per cent of the gross domestic product, GDP. Thus, it was equivalent to slightly less than half of public expenditure, which also comprises in-

**BREAKDOWN OF PUBLIC EXPENDITURE AND PUBLIC CONSUMPTION EXPENDITURE IN 2011**

Chart 1



Source: Statistics Denmark.

come transfer payments, cf. Chart 1. In 2011, the municipalities accounted for almost half of public consumption, the regions for just over 20 per cent and the central government for nearly 30 per cent. The municipalities' share covers schools, day care and care for the elderly while the expenditure of the regions is largely related to healthcare. The central government's consumption covers expenditure for higher education, the armed forces, the police, central government administration, etc.

A key measure of public expenditure management in the medium-term plans, among others, has been growth in public consumption. Therefore, it is remarkable that growth has repeatedly been higher than planned for almost 20 years. On average, the annual overruns were 1.5 percentage points in the period 1993-99 and 1 percentage point in 2000-10, cf. Chart 2.

Overruns in a single year may be well-founded and have a limited effect on public finances, but if the overruns are repeated year after year, they may be of a structural nature. Moreover, repeated budget overruns will add up and become a real burden on public finances, which will be less prepared to cope with future challenges, including an ageing population.

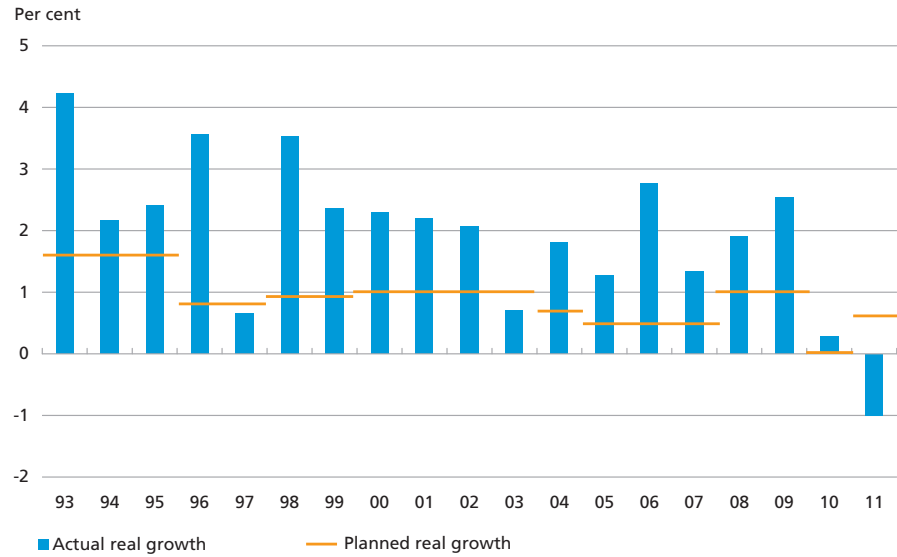
**The municipalities' budget overruns**

A large proportion of the total budget overruns is related to municipalities. This should be seen in the context of municipalities accounting for approximately half of public consumption. Allowing for the fact that municipalities' expenditure has been impacted by tasks being added or taken away after the budgets have been laid, the municipalities exceeded their budgets in 10 out of 11 years in the period 2000-10, cf. Chart 3.

The municipalities' investments exceeded the budget every year in the period 2000-09. This is also the case if adjustments are made for add-

DEVELOPMENT IN PUBLIC CONSUMPTION EXPENDITURE

Chart 2

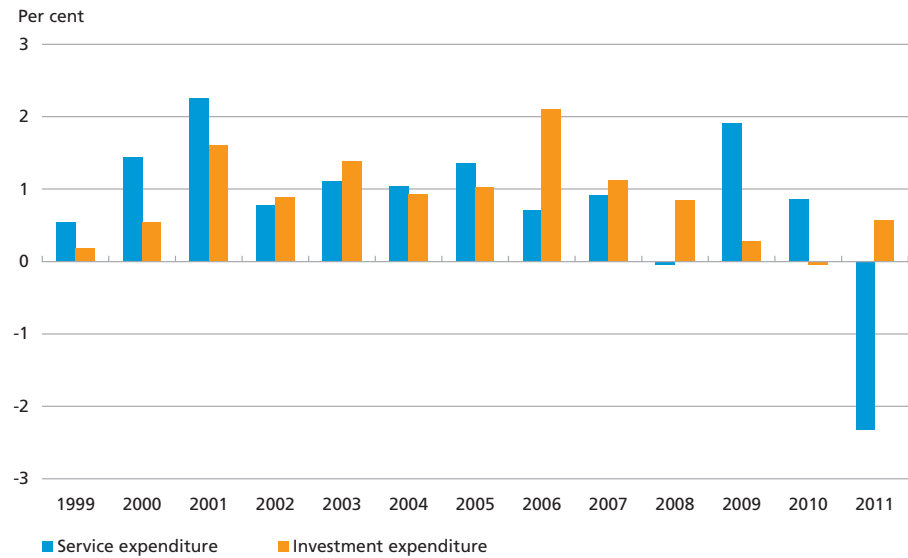


Note: Real growth in public consumption may be overestimated in the first half of the 1990s, cf. Sysser Davidsen and Nathalie Tuxen Hanus, *Analyse af det offentlige forbrug siden 1992 (Analysis of public consumption since 1992 – in Danish only)*, Ministry of Finance Working Papers, No. 1, 2001.

Source: Statistics Denmark, Ministry of Finance Budget Review 2004, 2005 plan, 2010 plan, 2015 plan, Lavere skat på arbejdsindkomst (Lower tax on income from employment – in Danish only) and Economic Survey, August 2010.

BUDGET OVERRUNS IN MUNICIPALITIES AS A SHARE OF TOTAL BUDGETED SERVICE AND INVESTMENT EXPENDITURE

Chart 3

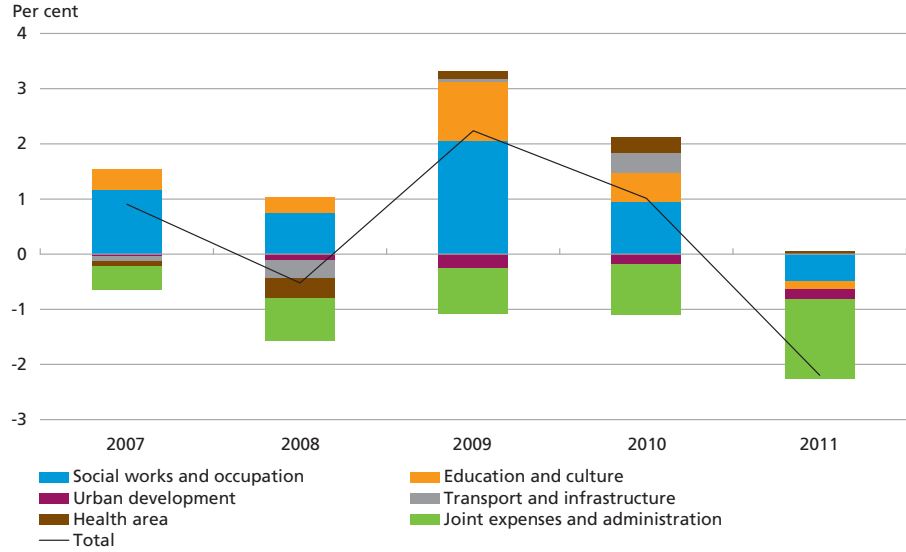


Note: Difference between budgeted and actual expenditure. The budgeted expenditure has been adjusted for developments in prices and wages as well as changes in tasks. The compilation only comprises municipalities under Local Government Denmark, i.e. up to 2006 the cities of Copenhagen and Frederiksberg were not included.

Source: Ministry of Finance and Ministry of Economic Affairs and the Interior.

**BUDGET OVERRUNS IN MUNICIPALITIES FOR SERVICE EXPENDITURE  
BROKEN DOWN BY TASKS**

Chart 4



Note: For 2007 and 2008, the budget and accounts have been adjusted for developments in prices and wages as well as additional tasks. This is not the case for 2009-11, where only limited adjustments have been made. The budget overruns are not fully compatible with those in Chart 3; here they are only viewed in relation to the budgeted service expenditure. The breakdown of service expenditure is in accordance with the breakdown made by Statistics Denmark which, however, does not include civil servant pensions relating to the supply area. Joint expenses and administration comprise political and administrative organisations, business development, tourism, pay pools, etc.

Source: Statistics Denmark, the former Ministry of the Interior and Health and the former Ministry of the Interior and Social Affairs.

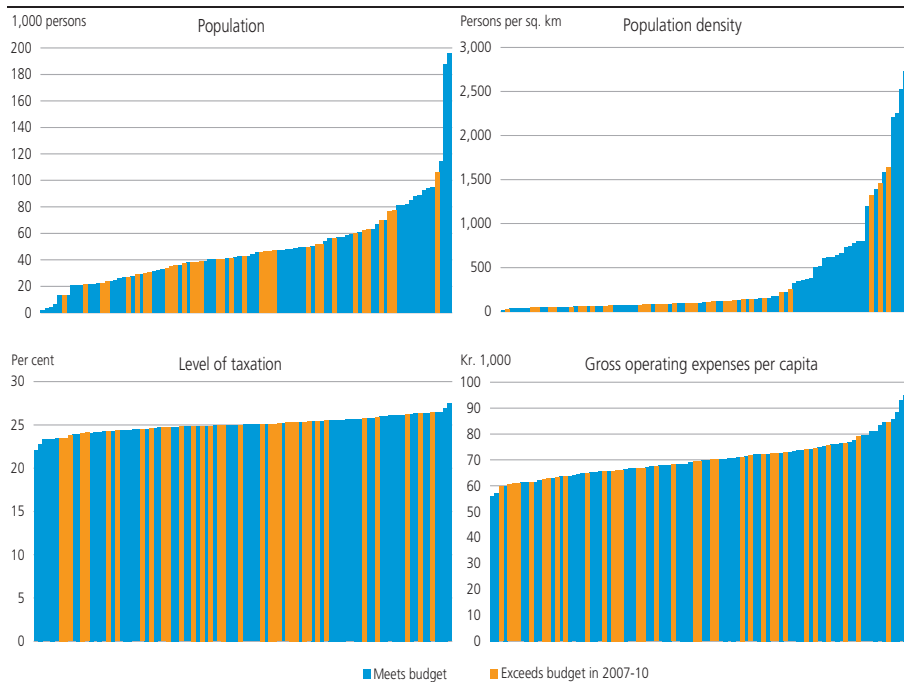
itional tasks. In other words, municipalities have not funded overruns of the consumption budget by spending less money on investments than budgeted. On the contrary, both items have contributed to higher expenditure than planned.

Until 2011, budget overruns in the municipalities largely reflected expenses for employment and social tasks, including care for the elderly and persons with special needs. Likewise, the budget overruns within education and culture have been of a permanent nature, cf. Chart 4. However, the total overrun has been lower because the expenditure for administration etc. has been systematically overbudgeted in recent years, indicating that budgeting has not reflected the actual priorities during the year. However, the required level of detail is lower for the budget than for the accounts, which makes it difficult to compare the two.

Apparently, the structural reform implemented with effect from 2007 has not had any effect on the budget overruns as they continued after the reform. Nor do the municipalities that repeatedly exceeded their budgets every year in the period 2007-10 seem to display any specific

## MUNICIPAL CHARACTERISTICS

Chart 5



Note: The budget overruns relate to net operating expenses. Adjustments have been made for large adjustments for additional tasks relating to service expenditure in 2008. The key ratios illustrating the municipal characteristics are from 2009. The charts illustrating population and population density do not include the two municipalities with the highest values. In both cases, the budget of the municipalities has been met. Gross operating expenses per capita cover the principal accounts 0-6, i.e. user- and tax-financed services.

Source: Statistics Denmark, the former Ministry of Social Welfare and the Ministry of Economic Affairs and the Interior.

characteristics. Hence, the municipalities that have exceeded their budgets are not overrepresented when grouped according to service expenditure, tax rate, population or population density, cf. Chart 5. But there are indications that the municipalities with the largest populations and highest population densities have been better at balancing their budgets. Moreover, it seems that municipalities with high service expenditure and resultant high tax rates have reached a level where expenditure is kept within the budget.

The planned local government expenditure is negotiated every year by Local Government Denmark and the central government, cf. Box 1. In the negotiations, the parties have to a large extent taken the actual and not the planned expenditure in the previous year as their point of reference. In practice, the budget overruns have therefore been accepted by both parties. This means that excess consumption in one year has not been offset by correspondingly lower consumption in another year. In consequence, the overruns have contributed to a permanently higher level of expenditure.

## EXPENDITURE MANAGEMENT IN THE MUNICIPALITIES

Box 1

Since the late 1970s, the government and Local Government Denmark have negotiated financial agreements which have been a key element in the management of local government expenditure. The framework agreement for local government finances for the coming calendar year is worked out during the negotiations. Typically, the parties agree on the overall level of service and investments while at the same time determining the framework for local taxes. The central government's block grant is calculated on the basis of the agreed expenditure.

In June, the government and Local Government Denmark agree on a framework for the overall local government finances. Subsequently, the individual municipalities draw up their preliminary budgets. If the agreed framework is subsequently exceeded, the municipalities have time to adjust their budgets in order for the national framework to be respected.

Once the individual municipalities have adopted their final budgets, the government assesses whether the agreement has been respected. If not, the government may ask the municipalities to reopen their budgets. On the other hand they can accept the overruns, possibly on the condition that they are dealt with in the following year's negotiations, as was the case in e.g. 2008.

The framework agreements concluded by the government and Local Government Denmark are not legally binding. This means that the system depends on mutual agreement that the framework must be respected. However, in 2008-10 the block grant was subject to statutory amendments; among other things, the government was empowered to reduce the grant if expenditure exceeded the agreed level.

### Incentives for municipalities to comply with agreements

In the past few years, the sanctions on the municipalities have been tightened. As from the municipality budgeting for 2009, kr. 1 billion of the central government's block grant was made conditional on the municipalities' budgets staying within the agreed financial framework. The sanctions seem to have served their purpose as in each of the budgets for 2009-12 the municipalities have budgeted their expenditure lower than agreed, cf. Chart 6.

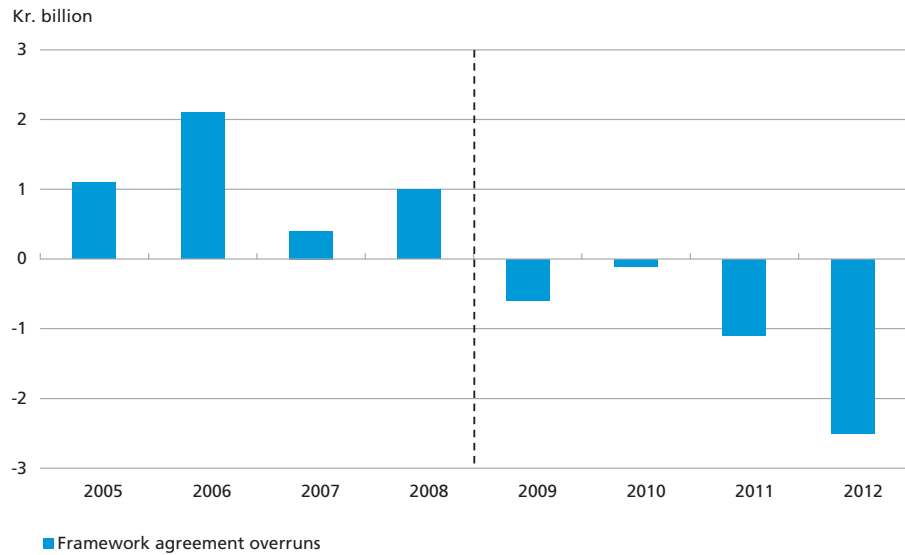
The sanction mechanisms were tightened further in 2010 in connection with the Fiscal Consolidation Agreement, in which very limited growth in real public consumption was a key element of the consolidation of government finances. Tight management of local government expenditure was therefore essential. Kr. 3 billion of the block grant was made conditional on the municipalities not exceeding the agreed level of service expenditure, both in the budgets and in the accounts. The conditional block grant also applied if the government wanted to impose a ceiling on investments in the financial agreements. This tightening applied from the financial agreement for 2011 and is still in force.

The conditional block grant implies that if the municipalities budget higher expenditure than set out in the framework agreement, a collect-



BUDGET OVERRUNS RELATIVE TO FRAMEWORK AGREEMENTS

Chart 6



Note: The agreed level of service expenditure has been adjusted relative to developments in prices and wages as well as additional tasks. The broken line indicates the introduction of the conditional block grant.

Source: The former Ministry of Social Welfare, the former Ministry of the Interior and Health and Local Government Denmark.

ive deduction will be made in the block grant. Once the local government accounts have been finalised in May, the government makes a preliminary assessment of whether the budgets have been respected. If not, the block grant will be reduced in the last three months of the year. The reduction will be 40 per cent on a collective basis and the remainder individually for the municipalities with budget overruns in order to induce the municipalities to comply with their budgets. The tightened sanction mechanisms combined with the political will to comply with the rules seem to have had an effect, given that the municipalities complied with the budgets in 2011, cf. Chart 3.

Moreover, financial management was tightened in connection with the implementation of the Fiscal Consolidation Agreement. The municipalities must prepare interim accounts for approval by the local councils in September. This will enable the municipalities to follow up on budget deviations during the year.

## BUDGET RULES

Over the years, budget rules have been introduced in connection with the management of public finances. However, as described above they have not – except in the past few years – been sufficient to ensure that growth in public consumption has developed as planned.

In this article, a budget rule is defined as a rule setting out conditions for the content of budget decisions<sup>1</sup>, such as a limit on public debt or on the general government budget deficit or specific rules for public sector revenue and expenditure. Basically, a rule cannot be deviated from. The alternative to a rule is targets that can be changed on an ongoing basis. They are more flexible than a rule but also widen the possibility of implementing decisions that may be optimal in the short term but are harmful in the longer term; for example a wish for an unfunded increase in public consumption which results in higher taxes or lower future public consumption.

One type of budget rule sets limits for key budget elements such as public debt or the government budget balance. In connection with the Stability and Growth Pact, Denmark has since 1999 committed itself to keep its government deficit below 3 per cent of GDP and its gross debt below 60 per cent of GDP.

The purpose of the rules has been to ensure a sound and sustainable development in public finances, and Danish fiscal policy has been planned in accordance with these rules. The Fiscal Consolidation Agreement from 2010 should be viewed against the fact that Denmark received an EU recommendation to reduce its deficit. The reason was that the European Commission at the time assessed that the deficit would exceed the reference value. So did several national and international institutions. However, this has still not been the case. Except in recent years, the 3-per-cent rule has not as such been a binding constraint, and the debt rule is still not, cf. Chart 7. In consequence, the rules set out in the Stability and Growth Pact have so far not required tight expenditure management.

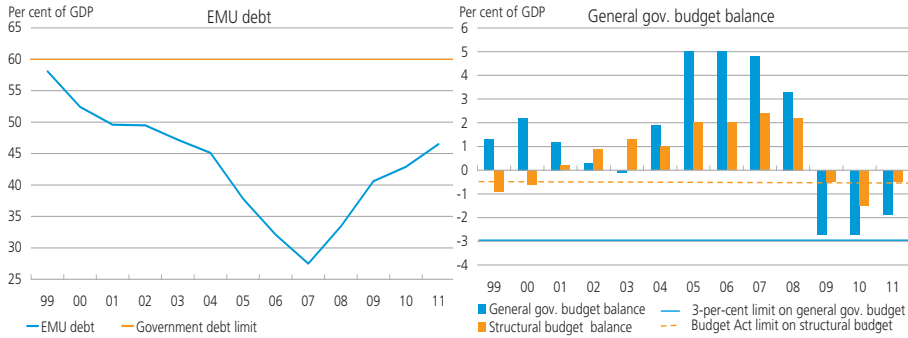
Budget rules can also be linked to revenue or expenditure. If, for instance, restrictions are imposed on revenue and an active improvement of the budget balance is required, then expenditure will have to be reduced. The revenue rule may, therefore, act as an indirect tool for managing expenditure. The tax freeze introduced in 2002 and ultimately abolished in 2011 may be considered as such a rule. The tax freeze was not a binding restriction, though, as revenue rose sharply driven by strong cyclical trends. In most municipalities, the tax freeze was not a binding restriction either. With unchanged tax rates, the budgets allowed for operating profits. As a result, the tax freeze had no impact on the consumption of most municipalities as higher-than-budgeted consumption could be funded in this way.

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<sup>1</sup> Alternatively, a budget rule can be defined more broadly: as the basic set of rules applying to the process of determining public expenditure and revenue.

**PUBLIC GROSS DEBT AND ACTUAL AND STRUCTURAL GOVERNMENT BUDGET BALANCE**

Chart 7



Note: The structural government budget balance is based on calculations made by the Ministry of Finance. The maximum structural budget balance of -0.5 per cent of GDP is the balance requirement set out in the new Budget Act.  
 Source: Statistics Denmark and Ministry of Finance.

As an alternative to rules, targets in fiscal and expenditure policy may also be applied. Unlike rules, objectives are not binding but consultative. Since the first half of the 1980s, the Danish Ministry of Finance has applied targets; first in its Financial Reports and later in the medium-term plans for public finances. The financial agreements with the regions and municipalities have been based on these objectives.

The first medium-term plan was introduced in 1997 and included targets until 2005. Since then other medium-term plans have followed, the 2020 plan from May 2012 being the most recent one. Every plan has contained targets for the actual or structural budget balance that adjust for the effect of cyclical fluctuations and other temporary factors affecting the budget. The targets of the 2020 plan are to ensure that the annual structural budget deficit does not exceed 0.5 per cent of GDP and to obtain balance in 2020. The planned growth in public consumption has been determined on the basis of these targets, among others. In practice, the medium-term objectives have served as an expenditure framework which could be departed from without any real consequences.

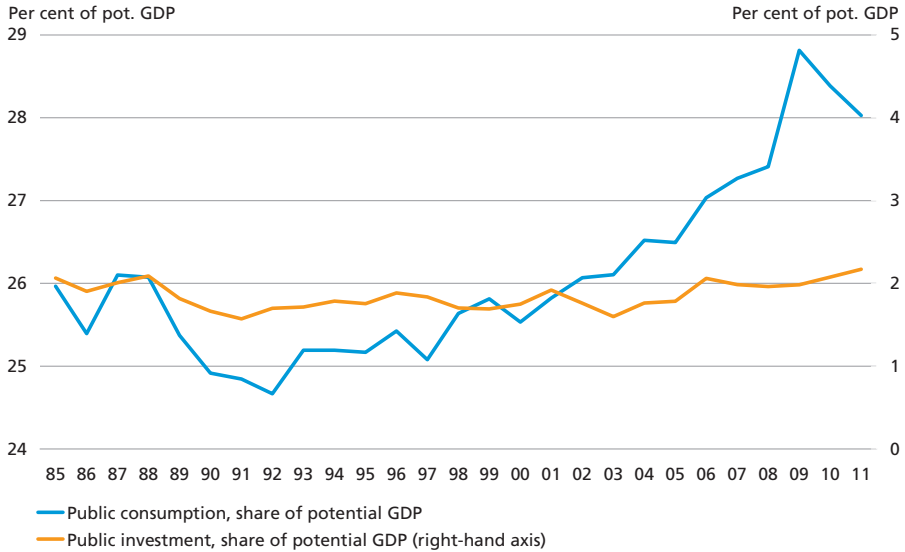
Since the millennium change the deviations from the plans have contributed to a steady rise in public consumption as a ratio of potential GDP<sup>1</sup>, cf. Chart 8. Potential GDP can be viewed as an indicator of the output which is to finance public consumption in the long term. With the growth targets for public consumption set out in the 2020 plan, public consumption will account for 27 per cent of GDP in 2020. This will require tight expenditure management in the years ahead. Unlike public consumption, government investment has been largely constant relative to potential GDP.

<sup>1</sup> Potential GDP is the underlying, cyclically adjusted GDP.

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**NOMINAL PUBLIC CONSUMPTION AND INVESTMENT AS A SHARE OF  
NOMINAL POTENTIAL GDP**

Chart 8



Source: Statistics Denmark and own calculations.

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**BUDGET ACT**

In the spring of 2012, a majority in the Folketing adopted a Budget Act to ensure more efficient management of public expenditure. The Act is expected to be fully implemented from 2014 and aims to ensure balance or surplus on the general government balance as well as appropriate expenditure management in the central government, regions and municipalities.

The balanced budget rule is a result of Denmark's participation in the Fiscal Compact. In practice, the rule imposes a limit of 0.5 per cent of GDP on the structural budget deficit. Among other things this limit has been determined on the basis of the debt level and the long-term economic outlook. The structural budget balance reflects the underlying position of public finances and influences the sustainability of fiscal policy. Managing fiscal policy on the basis of the structural budget balance will lead to an appropriate economic position in the long term.

The calculation of the structural budget balance is subject to some uncertainty, however, as significant adjustments may occur, cf. the article "Fiscal Policy in the EU – What Have We Learned from the Crisis?" in this Monetary Review. Based on the data available at a given time, the structural budget balance may be estimated at a level where the balanced budget rule requires tighter fiscal policy. But subsequent adjustments may prove that the fiscal tightening was unnecessary. If the

structural deficit is close to 0.5 per cent of GDP, the balanced budget rule will typically require more adjustments of fiscal policy than necessary. Also, there is a risk that the estimated structural budget balance does not include deterioration that is of a permanent nature. In consequence, the response of fiscal policy to such deterioration will be delayed.

As mentioned above, the medium-term plans have also contained targets for the budget balance. These objectives have been more ambitious than a structural deficit not exceeding 0.5 per cent of GDP. Although they were achieved, this did not result in tight government expenditure management, not even during the tax freeze period. One of the reasons was that revenue from North Sea production grew during that period.

**Expenditure ceilings**

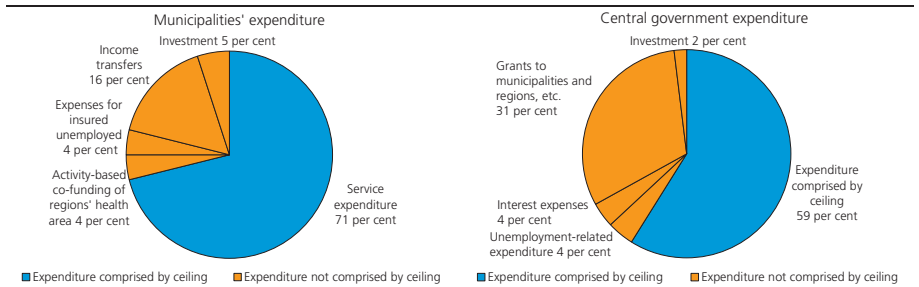
With the Budget Act, 4-year rolling ceilings on public expenditure will be introduced. This means that the Folketing will adopt maximum amounts for how large the expenditures comprised by the ceilings in the central government, regions and municipalities may be in the coming year and the next three years.

The expenditure ceilings will apply to public consumption but also to most central government transfer payments such as state retirement pension, early retirement benefits, student grants and housing benefits, cf. Chart 9. Unemployment-related expenditure, such as unemployment benefits and expenditure for employment measures, is not included as this is a very cyclical type of expenditure. This means that the automatic stabilisers still have an effect via this expenditure.

Although accounting for close to one third of government expenditure, transfer payments have not previously been a main focus area for public expenditure management. It can be difficult to manage current transfers as most of them are of a statutory nature. This means that the

EXPENDITURE COMPRISED BY CEILINGS

Figur 9



Anm.: 97 per cent of the regions expenditure is comprised by the expenditure ceilings as only investment is excluded. Kilde: Ministry of Finance.

rates are given beforehand and that citizens are entitled to benefits if they meet the requirements. Only by changing the law can this expenditure be changed.

Since transfers are comprised by the central government expenditure ceiling, the politicians will have to take action if the expenditure for a scheme is assessed to be permanently higher than expected. Either the expenditure for the scheme in question or the expenditure for other schemes will have to be reduced to ensure that the overall ceiling on transfers is not exceeded and to avoid a situation with permanently higher transfer expenditure.

Every expenditure ceiling imposed on the central government, regions and municipalities must be respected. Therefore, even if one sector spends less money than allowed, another sector cannot spend a correspondingly larger amount. The expenditure ceilings for regions and central government are split into two sub-ceilings, each of which must be respected. For example, the central government has a sub-ceiling on consumption and one on income transfers. Even if the transfer expenditure is below the ceiling and this scope is estimated to be of a temporary nature, it cannot be used to finance higher central government consumption. This will intensify the central government's focus on both consumption and transfers.

### **Sanctions**

The new expenditure ceilings are to be determined on the basis of the fiscal and expenditure policy targets set out in the medium-term plans. It is the task of the Danish Economic Council to assess whether the ceilings are aligned with the plans. In the most recent plan, real public consumption is allowed to grow by 0.8 per cent annually in the period 2014-20 and the expenditure ceilings must support this. Therefore, tight expenditure management is required.

Experience suggests that in order to be respected, the ceilings must be supported by sanctions. In the case of the municipalities, the sanction mechanisms will to a large extent remain unchanged, cf. above. Moreover, the budget act provides the individual municipalities with a stronger incentive to manage expenditure tightly by making an individual set-off, in full or in part, against the block grants for the municipalities that have caused the overall budget to exceed the agreed framework. The tightened rules also contribute to the individual local government budgeting low expenditure when drafting the budget and subsequently meeting the budget.

These sanctions will be extended to apply to the regions, whose conditional block grant is kr. 1 billion. Until now, no direct sanctions have

been imposed on the regions if they exceeded the financial agreement, so their situation will be significantly tightened.

In the case of the central government, budget overruns in one year must be offset by correspondingly lower expenditure in the following year, which prevents a permanent impact on the debt.

In order to improve the investment expenditure management in the municipalities and the regions, the Budget Act offers scope for a special conditional block grant concerning investments. Collective offsetting of up to kr. 1 billion may be effected in the case of municipalities and kr. 0.5 billion in the case of regions if their budgets exceed the framework agreement that the government may choose to conclude with them. This will strengthen investment expenditure management, an area in which repeated overruns have previously occurred, as in the case of consumption.

Once the accounts have been presented, the Danish Economic Council will assess whether government expenditure was actually kept below the ceilings. In this way, the final assessment is made by an independent body.





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# Developments in the Danish Labour Market in Recent Years

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*Peter Beck Nellemann and Erik Haller Pedersen, Economics*

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## INTRODUCTION AND SUMMARY

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During the years leading up to the economic crisis, the functioning of the Danish labour market attracted considerable attention, also internationally. The Danish approach is referred to as the "flexicurity model"<sup>1</sup>. This article analyses the performance of the Danish labour market during the overheating of the economy and the most recent recession.

During the boom years, unemployment fell considerably below the structural level, i.e. the level of unemployment in a normal cyclical position, without wages and salaries getting out of control. Not until the economy overheated, and actual unemployment was significantly below the structural level, did wage inflation soar.

Since the onset of the recession in 2008, employment and the labour force have declined. As a result of the decrease in the labour force, the rise in unemployment has not matched the fall in employment.

It appears that the rising unemployment has not entailed higher structural unemployment, and viewed over a longer period long-term unemployment is very low. Therefore, the challenge in the current downturn is that some people leave the labour market permanently rather than a permanent increase in unemployment.

It is decisive that labour-market inclusion of as many people as possible is maintained as a reduced labour force will result in lower growth in future. Among other things, it is important that the criteria on which a person is deemed eligible for public benefits without being available for work are not lowered. Such as the criteria for when cash-benefit recipients are deemed not ready to enter the labour market.

Structural unemployment has dropped considerably in the course of the past two decades, also in periods of rising unemployment. To maintain a low level of unemployment in the future, it is decisive that the active labour-market policy is maintained. During the recession, there

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<sup>1</sup> The flexicurity model is described in detail in Pedersen and Riishøj (2007).

has been a tendency towards focusing on placement services and activation of new jobless, whereas efforts directed at cash-benefit recipients have been weakened.

It is characteristic of the Danish labour-market model that labour-market turnover remains high even in a recession. Confident that they will be able to lay off employees if demand subsides, firms are willing to hire. Such dynamics make it easier for the jobless to find employment in a recession.

Another consequence of the model, however, is that in a recession firms tend to lay off employees rather than adopt work sharing. All things being equal, this implies periods of higher actual unemployment. In addition, the high degree of compensation acts as an incentive for some groups to keep claiming benefits. This is countered by availability requirements, activation schemes, qualification enhancement requirements, etc.

Moreover, the analysis shows that the Danish labour-market policy is very cost-intensive for the public sector, in particular in times of high unemployment. Denmark is one of the members of the OECD where public finances are most sensitive to whether or not people have a job.

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## THE DANISH LABOUR-MARKET MODEL AND THE BUSINESS CYCLE

### The flexicurity model

The Danish labour market is to a considerable degree characterised by agreements between the social parties, rather than legislation. This compilation of agreed rules, supplemented by legislation, constitutes the backbone of the flexicurity model. This approach is possible because of high unionisation levels.

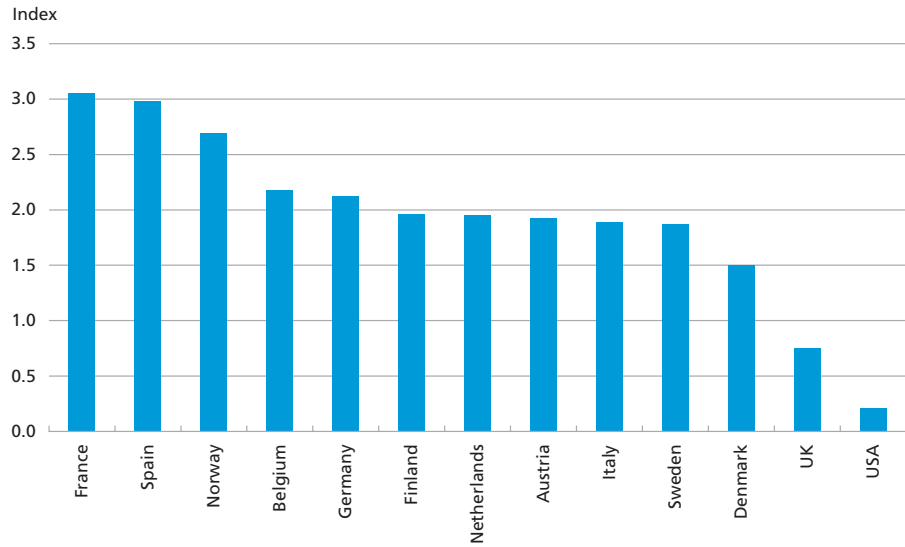
The flexicurity model comprises three main components: Flexibility in terms of hiring and firing, a social security network in the event of redundancy and an active labour-market policy. The three components are balanced so that it is difficult to adjust one without affecting the others.

The high degree of flexibility in terms of the right of employers to lay off staff means that the level of protection against redundancy for employees is fairly low in an international perspective, cf. Chart 1. In this way, the Danish model is similar to the labour markets in the USA and the UK, however not quite as far-reaching.

Employees are willing to accept the fairly low degree of job security in return for a high degree of financial security, should they lose their job. Payment of unemployment benefits presupposes voluntary membership of an unemployment insurance fund. Unemployment benefits amount to max. 90 per cent of income earned during the period leading up to

DEGREE OF JOB SECURITY, 2008

Chart 1



Note: On a scale from 0 (lowest security) to 6 (highest security).  
 Source: OECD, stats.oecd.org.

the period of unemployment; however, no more than kr. 17,000 per month. The cap means that the degree of compensation declines with rising income, and only for low-income groups is the degree of compensation high in Denmark by international standards. Additional unemployment insurance may be taken out with private insurance companies. The relatively low degree of compensation enjoyed by high-income groups contributes to maintaining a low level of structural unemployment.

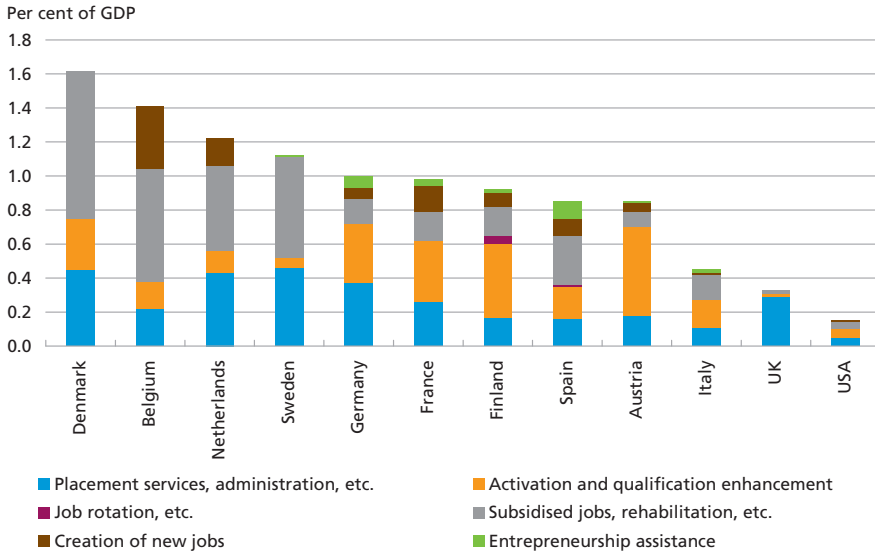
The third component of the flexicurity model is an active labour-market policy where the jobless are supported through activation schemes, qualification enhancement, subsidised jobs, etc. Denmark spends considerable economic resources on its labour-market policy relative to other comparable countries, cf. Chart 2.

### Development in the flexicurity model

The main components of flexicurity date back a long time, but have undergone regular adjustment. Since the mid-1990s, a number of reforms have been introduced making the labour-market policy increasingly active as well as enhancing incentives to find a job through active job seeking. The availability rules for recipients of unemployment and cash benefits have been tightened as have the rules for regaining the right to unemployment benefit. The unemployment benefit period has been shortened on several occasions, most recently from four to two

COSTS OF ACTIVE LABOUR-MARKET POLICY IN 2009

Chart 2



Source: OECD, stats.oecd.org.

years. Subsequently, however, it has been temporarily extended by six months for persons whose entitlement to benefits would expire in the 2nd half of 2012.

Like the active labour-market policy, the shorter unemployment benefit period acts as an incentive to seek employment, thus lowering structural unemployment, cf. Rosholm and Svarer (2004). Higher public benefits to certain groups outside the labour market (start-help benefits, for instance, have been abolished) have the opposite effect.

The general trend of the past few collective agreements has been towards increasing the cost of laying off employees. This means a less flexible labour market and may cause an increase in structural unemployment. At the same time, however, the rules regulating the distribution of working hours over the year have become less rigid and additional funds have been allocated to supplementary training. In addition, wage formation has become increasingly decentralised since the mid-1990s.

Recent years' significant fluctuations in economic activity have resembled a stress test of the Danish labour-market model. It has shown how, in practice, the flexicurity system handles a recession in the wake of an economic boom. During the boom years, unemployment fell considerably below the structural level, without wages and salaries getting out of control. Not until the economy overheated, and actual unemployment dropped significantly below the structural level, did wage inflation

soar. At present, what is important is whether the significant drop in structural unemployment recorded since the 1990s will be able to sustain a drastic setback in economic activity.

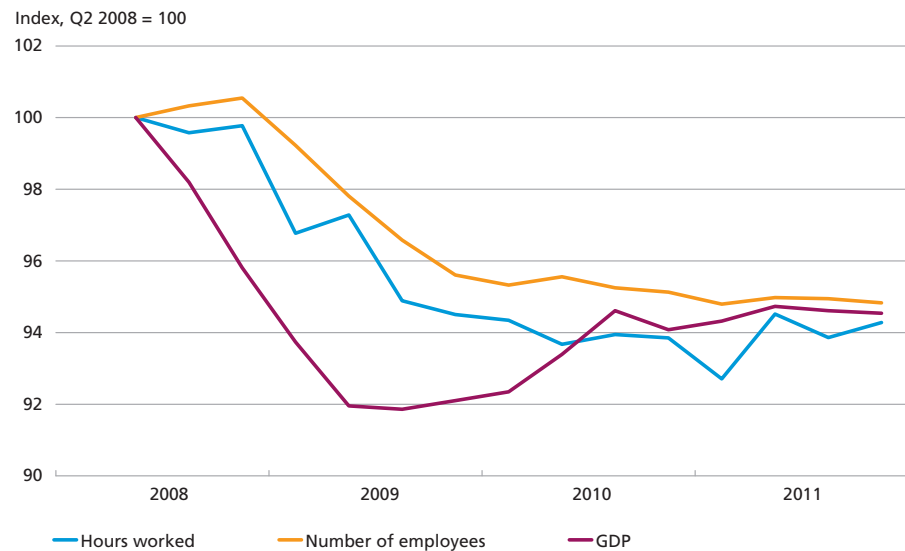
## HOW HAS THE DANISH LABOUR-MARKET MODEL PERFORMED THROUGH THE RECESSION?

The economic downturn has led to a significant decline in the gross domestic product, GDP, following the overheating of the economy in 2006-08. Seasonally adjusted GDP peaked in the 2nd quarter of 2008 and fell by approximately 8 per cent in the following year, after which it increased slightly, cf. Chart 3. Employment, too, has declined since 2008 accompanied by a slightly more pronounced decrease in the number of hours worked. The average number of working hours, therefore, has declined only slightly. This is only what is to be expected in a labour market where surplus labour can be laid off easily. In some countries where the laying off of employees is very costly to employers, the trend has been towards retaining employees, but at reduced hours. This is particularly true in Germany, where the approach is known as "Kurzarbeit".

A considerable advantage of the Danish model is that, contrary to the German model, its success is not conditional upon an increase in employment once the economic climate improves, in the same firms and

GDP AND EMPLOYMENT

Chart 3



Note: Seasonally-adjusted figures. The number of hours worked is also trading-day adjusted.

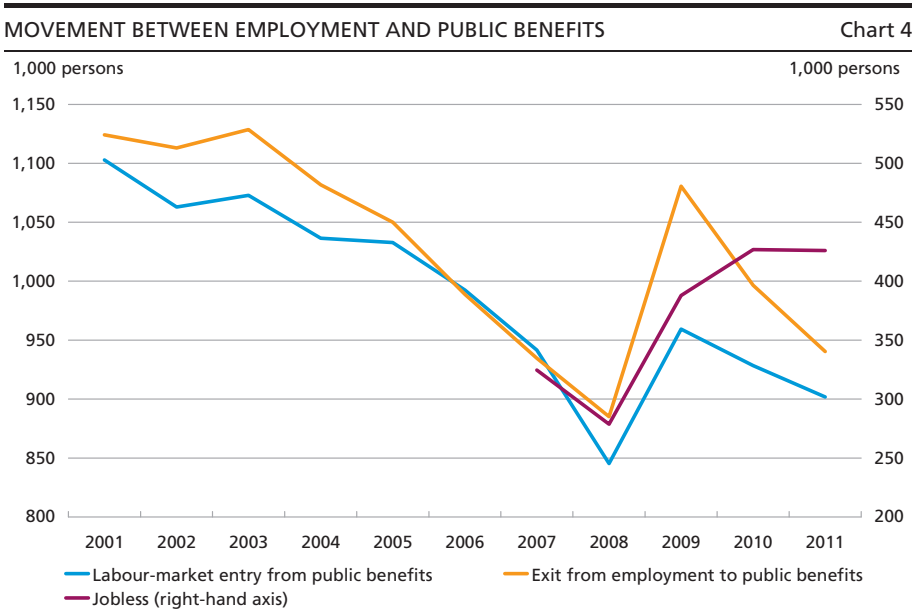
Source: Statistics Denmark.

sectors as those hit by the recession. This makes it easier to reallocate labour resources. During the period of overheating, employment in the Danish construction sector, in particular, increased, and subsequently construction workers have had to seek employment in other sectors.

At the onset of the recession, GDP dropped faster than employment and the number of hours worked, i.e. hourly productivity measured as GDP per hour worked fell. After approximately two years, hourly productivity had been re-established and has since remained relatively constant. However, this should be seen in light of the fact that productivity usually grows over time.

The decline in productivity at the beginning of the recession may be explained by the fact that firms were reluctant to lay off employees, fearing that it would be difficult to hire sufficient labour, should demand pick up again. This tendency is called "labour hoarding".

Firms' wishes to retain employees should be seen in combination with the very considerable demand for labour in the period leading up to the recession, which made it difficult for them to hire the employees they needed. Another clear indication of labour hoarding is that, viewed over a longer period, exits from the labour market to unemployment or other public benefits were fairly limited in 2009-10, cf. Chart 4.



Note: Labour-market entry measures the number of times a person has gone from public benefits for one week to no public benefits the next. The same person may thus enter the labour market several times in a year. It is a potential source of error that persons not receiving public benefits do not necessarily have a job. The Chart includes all persons 18 years or older. Labour-market exit is therefore explained in part by persons choosing old-age pension. Jobless states the number of persons who have been out of a job at some time within a 12-month period.

Source: The National Labour Market Authority's database, DREAM, and Statistics Denmark.

It remains a distinctive feature of the Danish labour market that employee turnover is high regardless of the cyclical position. A major difference between the labour-market fluctuations during the boom years and the recession was, however, that whereas many went directly from one job to another during the boom without experiencing any period of unemployment, an increasing number of persons experienced periods of unemployment when changing jobs during the recession.

The number of persons who went from receiving public benefits to employment, and *vice versa*, declined until 2008, only to increase in 2009 when the business cycle bottomed out. From then on, labour-market entries and exits declined once again, cf. Chart 4. This trend should be seen in light of the fluctuations in the number of jobless and thus the number of persons trying to move from public benefits to employment. See Box 1 for an overview of various unemployment concepts.

During the overheating of the economy, layoffs were relatively few, and the level of unemployment was low. The low number of jobless meant that relatively few people tried to go from public benefits to employment, resulting in a decline in the number of jobless entering the labour market from unemployment. During the recession, more people were laid off and unemployment increased. The higher number of jobless meant that more people tried to go from public benefits to employment, resulting in an increase in labour-market entries.

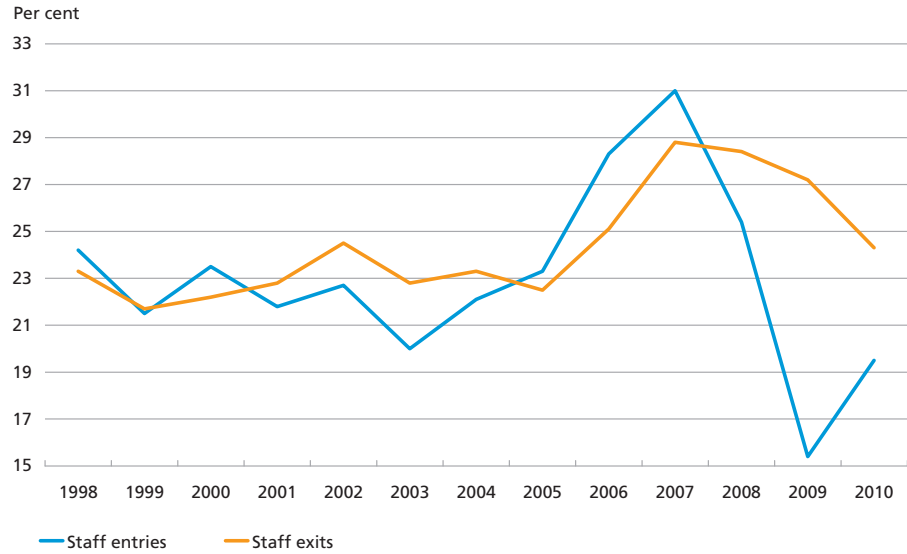
Firms' employee turnover, too, has been affected by the crisis. In addition to persons going from public benefits to employment or *vice versa*, employee turnover also includes persons changing jobs. Firms' staff entries and exits increased from 2005 until 2007 because the labour market strengthened during the boom years. From 2007, exits declined slowly from the historically high level. Labour-market entries, however, plunged until 2009, but rose in 2010, cf. Chart 5. But the strong decline in staff entries from 2007-09 should be seen in light of the high starting point.

The trend in firms' staff entries differs from the trend in labour-market entries from public benefits. Whereas the level of staff entries was high during the overheating of the economy, cf. Chart 5, the level of entries from public benefits to employment was relatively low and declining, cf. Chart 4. The reason is that many employees went from one job to another, whereas only few went from public benefits to employment, due in part to the low level of unemployment.

The situation was quite the reverse in 2009. While more employees went from public benefits to employment and *vice versa*, Danish firms saw a decline in employee turnover, i.e. fewer people went from one job to another. As a result of fewer job changes, firms' staff entries and

EMPLOYEE TURNOVER IN AREAS COVERED BY THE CONFEDERATION OF DANISH EMPLOYERS (DA)

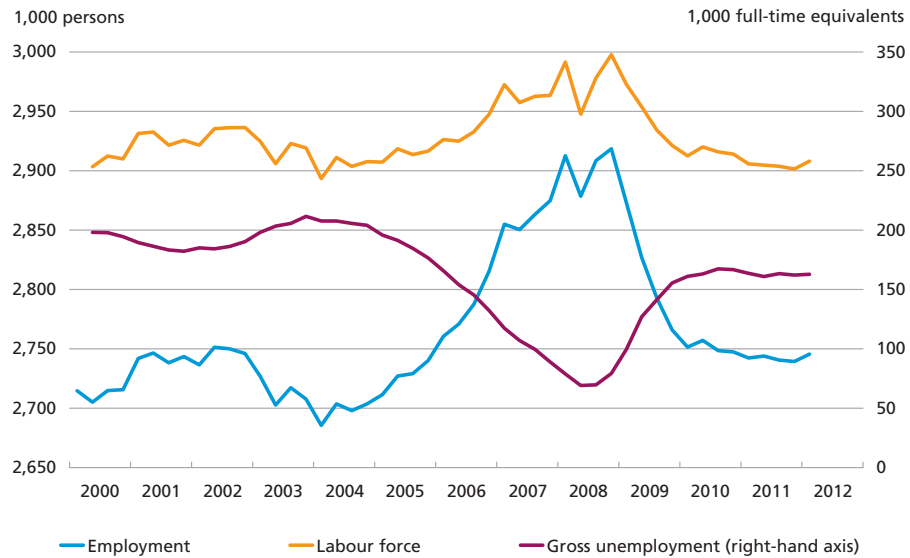
Chart 5



Note: The chart illustrates firms' employee turnover. To be included in the statistics in any given year, firms must have been active in the current and preceding year. New firms and firms going out of business are not included. The statistics are based on payroll reporting to DA's StrukturStatistik. The figures include all areas covered by DA.  
 Source: DA employee turnover figures.

EMPLOYMENT, UNEMPLOYMENT AND LABOUR FORCE

Chart 6



Note: There was a structural break in the source for the number of employed and number of persons in the labour force in 2008. The new employment source is based on the number of jobs and not the number of employed. As the number of secondary jobs is cyclically dependent, fluctuations in employment may thus be overestimated. In that case, the decline in the labour force, i.e. the sum of unemployed and employed, is overestimated as well.  
 Source: Statistics Denmark.

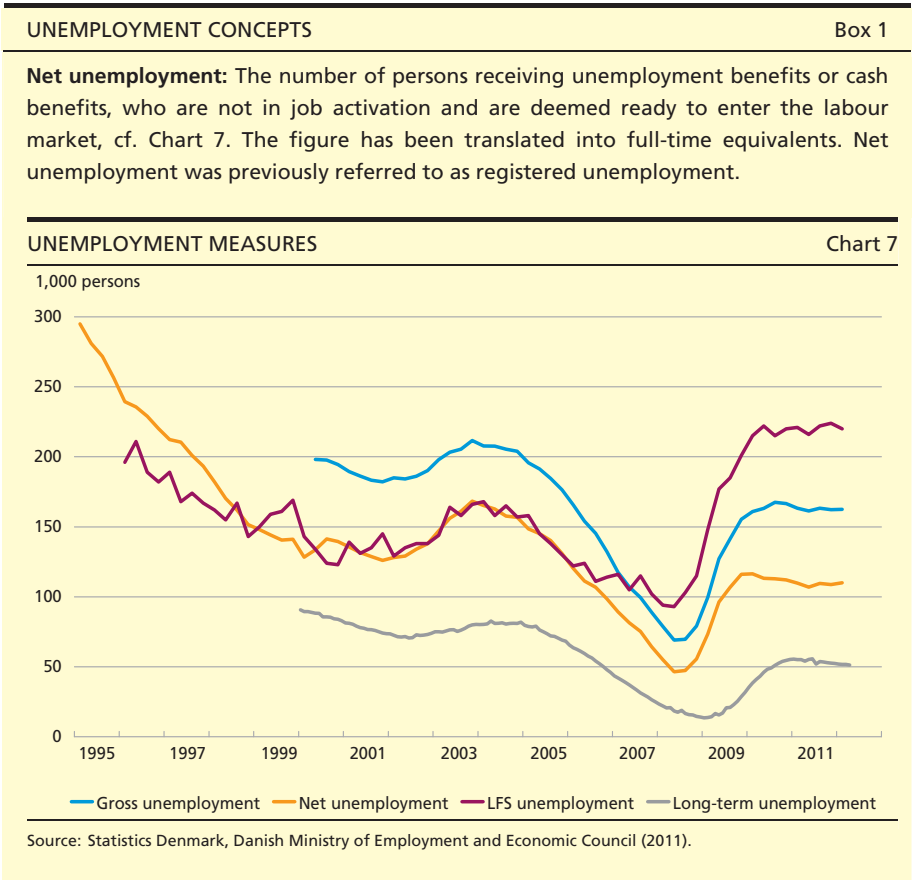


exits declined. Entries accounted for the strongest decline, as exits were in part supported by layoffs, among other reasons.

The decline in employment since 2008 is reflected in rising unemployment. At the same time the labour force has decreased, i.e. the decline in employment has been stronger than the increase in unemployment cf. Chart 6.

This is in contrast to previous recessions when the reaction in unemployment was stronger. Thus, the labour force has been more sensitive to cyclical changes during the current recession and the preceding boom.

The rise in unemployment since 2008 is due to the fact that more people have become jobless and that the average unemployment period has become longer. Labour-market entry from unemployment has been relatively high during the recession, and this has contributed to reducing the average unemployment period. As mentioned above, Danish firms are willing to hire in a recession, because they can easily lay off employees, should this become necessary. It is also worth noting that in a



CONTINUED

Box 1

**Gross unemployment:** Net unemployment plus the number of activated persons ready to enter the labour market.

**LFS unemployment:** As opposed to gross and net unemployment, which are both register-based, LFS unemployment is based on a random sample. LFS unemployment states the number of persons out of a job, but who would like to get a job, regardless of how many hours the person wants to work. Thus, LFS unemployment overestimates the potential number of full-time employees available for work. The number of registered jobless differs from the number of jobless in the LFS survey, as registered unemployment is stated as full-time equivalents, whereas LFS unemployment refers to the number of persons. Gross and LFS unemployment cover the same persons only to a certain extent. Typical groups included in LFS unemployment, but not in gross unemployment, are students and self-supporting persons. Not everyone included in the gross unemployment figures are included in the LFS unemployment figures, as the labour force survey shows that some of the persons receiving unemployment benefits or cash benefits and who are deemed ready to enter the labour market are not available for work. Gross unemployment is deemed to be the best measure of available resources – and thus the degree of pressure – in the labour market.

**Long-term unemployment:** Long-term unemployment is defined as the number of persons included in gross unemployment for more than 80 per cent of the past 52 weeks.

longer perspective long-term unemployment is very low and was lower only during the overheating of the economy. In early 2012, long-term unemployment accounts for just below 2 per cent of the labour force, cf. Chart 7.

### **Trend in unemployment by age, gender and industries**

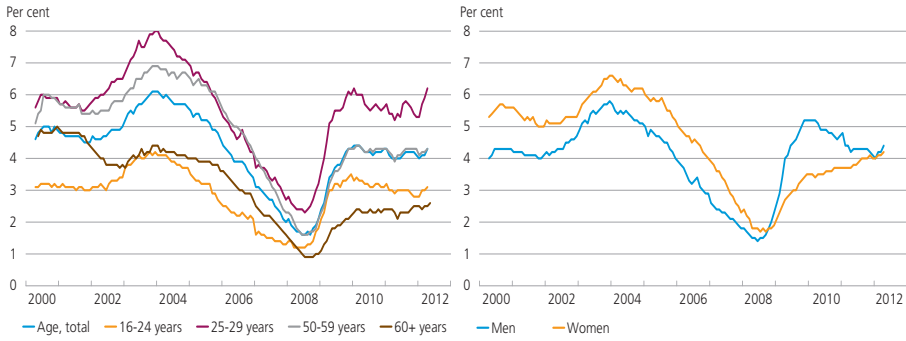
Since 2008 when unemployment reached a trough, it has increased for all age groups. The increase is especially significant for the 25-29 age group, cf. Chart 8, possibly because, during a recession, entry into the labour market is difficult, in particular for this age group. The considerably higher level of unemployment in the 25-29 age group compared with the 16-24 age group may be explained by the fact that many of the 16-24-year olds choose to get an education, whereas many of the 25-29-year olds have just graduated or completed their training.

Unemployment among persons over 60 is below average. This reflects that many in this age group, who are laid off, choose early retirement or retirement rather than unemployment. Unemployment in the 50-59 age group is in keeping with the general level of unemployment, having been slightly higher in 2000-07.

The rise in unemployment has impacted all of the labour market, but different occupational groups have been hit to varying degrees. When

NET UNEMPLOYMENT BY AGE AND GENDER

Chart 8



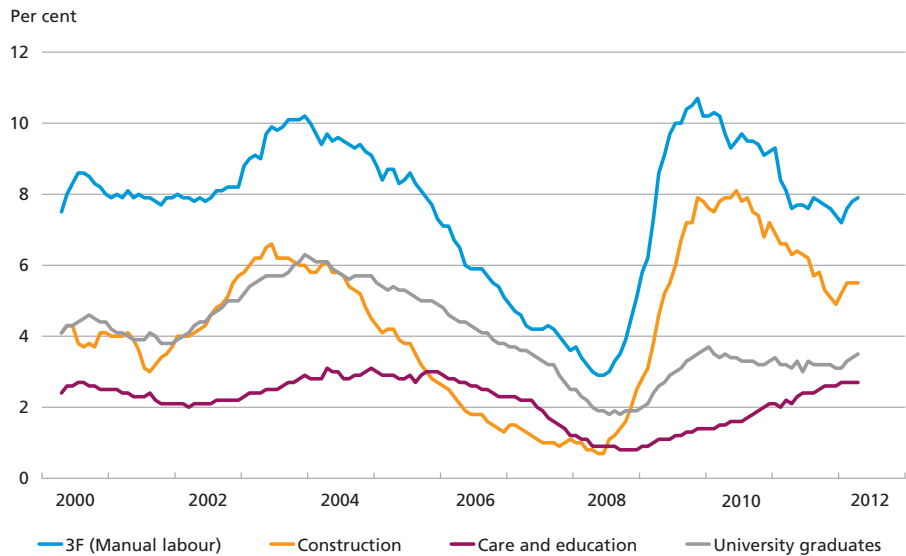
Note: Net unemployment includes non-activated unemployment-benefit and cash-benefit recipients ready to enter the labour market.

Source: Statistics Denmark, own seasonal adjustment.

the rate of unemployment started rising in 2008, private sector employees in particular were laid off. Workers organised in The United Federation of Danish Workers, 3F, together with construction workers, for example, were hit hard. Unemployment rates for these particular groups, however, declined during 2010 until early 2012, when they started rising again, cf. Chart 9.

UNEMPLOYMENT BY UNEMPLOYMENT INSURANCE FUND

Chart 9



Note: Unemployment is stated as the number of unemployment benefit recipients in the respective unemployment funds as a ratio of the total number of unemployment fund members.

The 3F unemployment fund includes the SiD, KAD, RestaurationsBranchen and Træ, Industri og Byg unemployment funds, which have been integrated into 3F. Construction includes Byggefagene, El-Faget and Blik og Rør and Malerfaget og Maritim, which were integrated into Construction during the period. Care and education includes the FOA, Danmarks Lærerforening, BUPL and Danske Sundhedsorganisationer unemployment funds. University graduates includes IAK, AAK and MA.

Source: Statistics Denmark, own seasonal adjustment.

Groups traditionally specialising in care and education have seen a gradual rise in unemployment since 2008. University graduates saw a rise in unemployment from mid-2008 until the end of 2009, when the trend stagnated.

Unemployment among different occupational groups affects unemployment by gender, cf. Chart 8. When unemployment started rising, traditional men's occupations were affected in particular. Consequently, male unemployment rose significantly from 2008 until early 2010, when it started to decline. Female unemployment, on the other hand, has been steadily rising since 2008 and has reached the level of male unemployment. This is primarily due to the concurrent decline in public sector employment. Historically, female unemployment has been slightly higher than male unemployment.

## **CONSEQUENCES FOR STRUCTURAL EMPLOYMENT AND THE LABOUR FORCE**

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A potential risk associated with an economic downturn like the present one is that it may affect the labour market in a way that could limit the long-term growth potential. This is the case if persons who are laid off are not available for work when their skills are in demand again, or if some persons never enter the labour market.<sup>1</sup>

Structural unemployment, i.e. the level of unemployment compatible with balanced economic development in a neutral cyclical position, has been declining since the early 1990s, but at a still slower pace, cf. Chart 10, the primary reason being the labour-market reforms of the mid-1990s and increasingly decentralised wage formation.<sup>2</sup>

The potential danger of the current downturn is that some persons leave the labour force permanently rather than an increase in structural unemployment. A labour force compatible with balanced economic development in a neutral cyclical position is referred to as the structural labour force. The difference between actual unemployment and the actual labour force and their structural levels is referred to as the unemployment and labour-force gaps. According to Danmarks Nationalbank's calculations, the unemployment gap in the 1st quarter of 2012 was close to zero, whereas the labour-force gap was just under 60,000 persons.

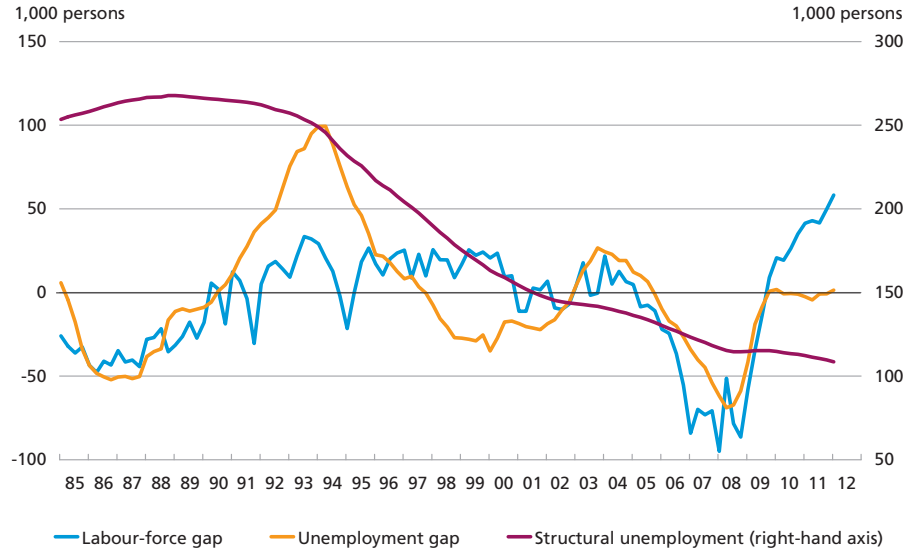
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<sup>1</sup> This is known as the "hysteresis effect." "Hysteresis" is understood to mean that historical and temporary fluctuations in unemployment may have permanent effects.

<sup>2</sup> See Economic Council (2007).

**STRUCTURAL UNEMPLOYMENT AND LABOUR-FORCE AND UNEMPLOYMENT GAP**

Chart 10



Note: For a detailed account, see Andersen and Rasmussen (2011).  
 Source: Statistics Denmark and own calculations.

**The effect of the recession on structural unemployment**

The number of non-activated recipients of unemployment benefits and cash-benefit recipients ready to enter the labour market has increased, cf. Table 1. Nevertheless, the number of jobless who reply that they are unable or not willing to work has only increased slightly. This supports the opinion that the jobless are in fact available for work so that structural unemployment is not affected to any significant degree.

**The effect of the recession on the structural labour force**

The decline in the labour force since 2008 may in part be explained by an increase in the number of unemployed students. Students enrolled in the Danish students' grants and loans scheme (SU) and who are un-

**JOBLESS IN THE LABOUR-FORCE SURVEY** Table 1

| 1,000 persons  | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|------|------|------|------|------|
| Net unemployment, jobless, total .....                         | 94   | 60   | 109  | 122  | 118  |
| Net unemployment, jobless, not willing or unable to work ..... | 16   | 9    | 10   | 11   | 13   |

Note: Net unemployment includes non-activated unemployment-benefit and cash-benefit recipients ready to enter the labour market. In the LFS statistics, persons not able or unwilling to work are defined as persons who do not want a job, are not actively looking for a job or who are unable to take up a position within 14 days. Annual unemployment is calculated as the average of the quarterly unemployment rates.

Source: Statistics Denmark.

employed are not included in the labour force, regardless of whether they want a job or not.

The number of students enrolled in the above scheme increased by approximately 70,000 from the 4th quarter of 2008 to the 4th quarter of 2011, and the labour-force survey indicates that the number of students looking for work increased by approximately 24,000 during the same period.

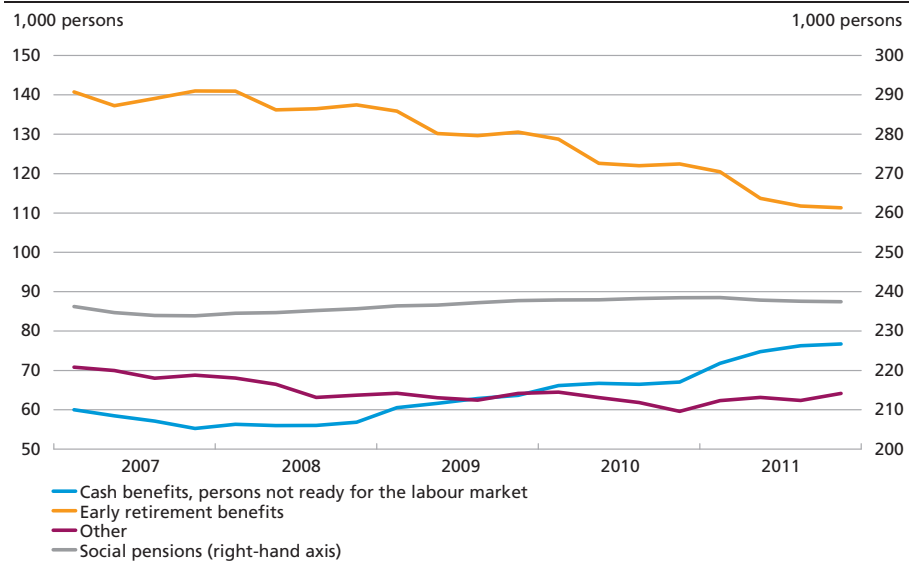
The number of persons on public benefits outside the labour force has remained fairly constant since 2007, but the composition has changed. The number of early retirement benefit recipients has declined due in particular to a decrease in the early retirement frequency, i.e. still fewer persons born in a particular year receive early retirement benefits. On the other hand, the number of cash-benefit recipients not ready to enter the labour market has increased, cf. Chart 11.

This is considered a problem as cash-benefit recipients not ready to enter the labour market may potentially be considered available for work for many years. If these persons do not re-enter the labour force, the structural labour force will decrease, and with it the future growth potential.

### Wage trends

The overheating of the economy in 2006-08 and the subsequent recession have impacted on wage trends. Labour-market pressure during the

PUBLIC BENEFIT RECIPIENTS OUTSIDE THE LABOUR FORCE Chart 11

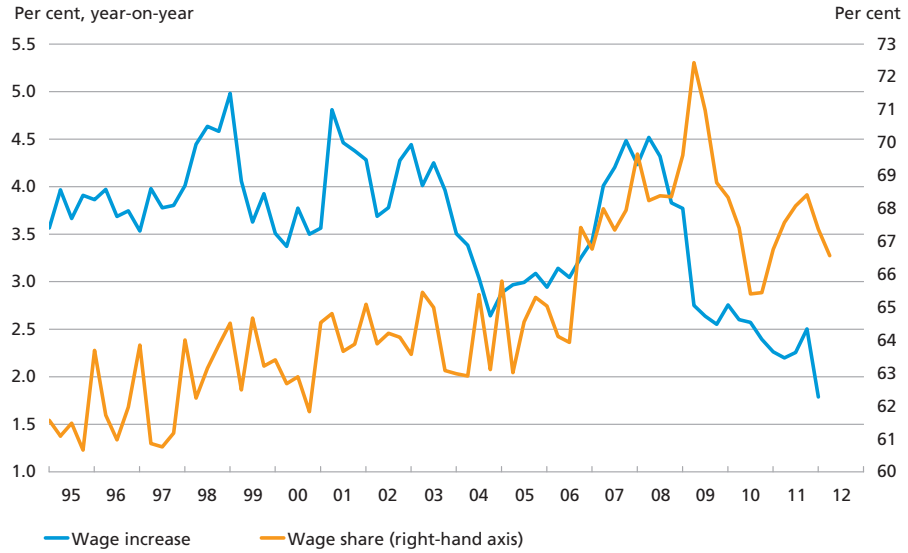


Note: Cash benefits include non-activated unemployment benefit recipients not ready to enter the labour market. Other includes introduction allowance, rehabilitation allowance, unemployment allowance as well as sickness benefits and maternity benefits to persons without a job.

Source: Statistics Denmark.

INCREASE IN HOURLY WAGES AND WAGE SHARE

Chart 12



Note: Wage increase illustrates the trend in the index of hourly wages in manufacturing sectors. The wage share illustrates payroll costs as a ratio of output value in private non-agricultural sectors.  
 Source: Statistics Denmark and own calculations.

boom years was reflected in a higher rate of increase in hourly wages, including in competition-exposed manufacturing sectors, cf. Chart 12. The rate of increase peaked at 4.5 per cent just before the economic reversal in the autumn of 2008. Danish competitiveness has suffered during this period – the loss was around 20 per cent measured by relative unit labour costs. The main reason, however, is the low rate of productivity growth.

As a consequence of the fall in output during the most recent recession, many firms reduced their staffing, but still the wage share, i.e. the ratio of wages and salaries to output value, immediately rose significantly, cf. the above discussion on labour hoarding. Since then, the wage share has declined again, but it remains relatively high in a long-term view.

In the manufacturing sector, annual growth in hourly wages has dropped to just below 2 per cent. The results of the private sector collective bargaining in the spring indicate similar moderate wage increases over the next two years. This is not much in light of an unemployment gap close to zero, but the growth in Danish wages and salaries, however, still matches growth rates abroad. The rate of wage increase, therefore, is hardly low enough to make up for some of the accumulated loss of competitiveness suffered in the preceding period.

## HOW HAS THE UNEMPLOYMENT SERVICE SYSTEM REACTED TO THE RECESSION?

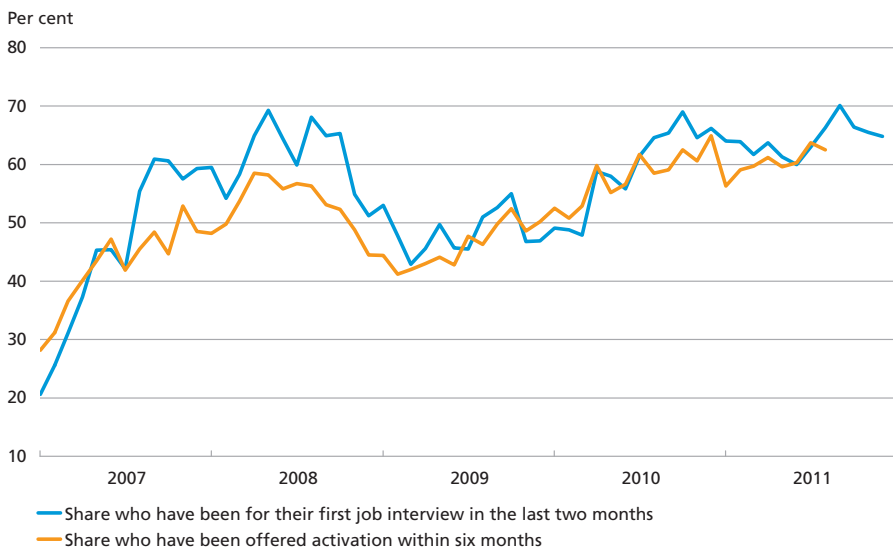
The risk that some persons receive public benefits on a permanent basis and remain outside the labour force, or that structural unemployment increases, depends in part on whether the unemployment service system is capable of handling the larger number of jobless. In the period up to the recession, labour-market policy was tightened on an ongoing basis, through the introduction of job interviews at job centres and offers of job activation early in the unemployment period. Once the recession became a reality and unemployment rose, the number of jobless who were offered relatively early interviews or job activation fell, but only temporarily, cf. Chart 13. On the basis of this criterion, therefore, labour-market policy has not been eased during the recession.

It appears, however, that during the recession efforts have to an increasing extent focused on placement services and activation of new jobless; whereas efforts aimed at cash-benefit recipients have diminished in recent years, cf. Chart 14.

The tendency towards a lower ratio of cash-benefit recipient activation is found in all match groups. That the increase in the number of cash-benefit recipients is largely found in match groups 2 and 3, i.e. those who are not ready to enter the labour market, points in the same

JOB INTERVIEWS AND ACTIVATION OF UNEMPLOYMENT-BENEFIT RECIPIENTS

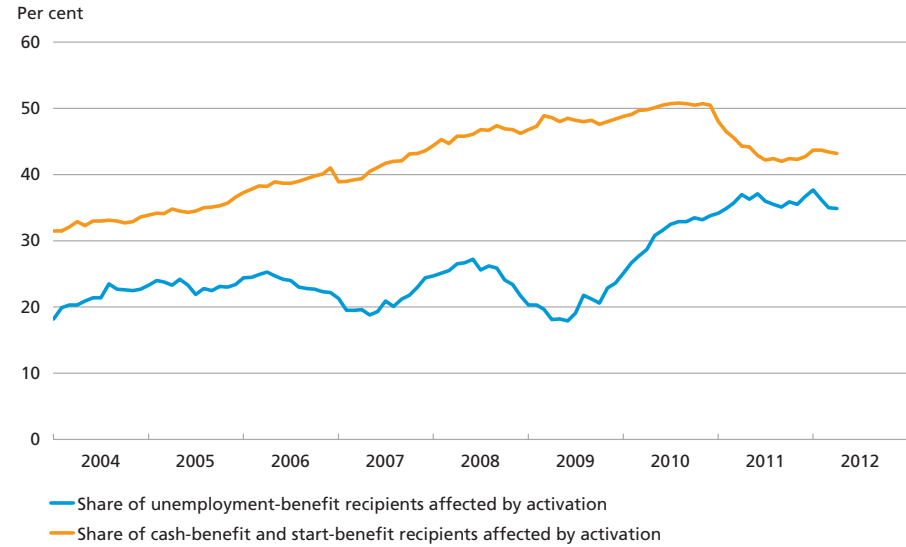
Chart 13





PERSONS IN JOB ACTIVATION

Chart 14



Note: The Chart illustrates the ratio of all recipients of the relevant benefits in job activation in a given month.  
Source: Jobindsats.dk, own seasonal adjustment.

direction. This may reflect a weakening of the labour-market policy that will reduce the structural labour force in the longer term.

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# Costs of Card and Cash Payments in Denmark

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## INTRODUCTION AND SUMMARY

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When consumers buy goods in shops, the payments and related activities in e.g. banks entail costs to society as a whole. According to a recent study, these costs amounted to approximately kr. 9 billion in Denmark in 2009, cf. Danmarks Nationalbank (2012). Of this amount, nearly two thirds related to cash payments, while the rest was due to payments with the Dankort, the national debit card, or international cards such as Visa and MasterCard.

This article presents the results of a breakdown of these costs into fixed and variable costs.<sup>1</sup> Among other things, the analysis shows that for small payments, cash involves lower costs than other payment methods, but for amounts exceeding kr. 29 it is cheapest for society if consumers use the Dankort. In all cases, credit card payments involve higher costs than Dankort payments.

These findings are in line with the results of studies in other countries. For example, a recent Swedish study showed that cash is the cheapest payment method for amounts up to 20 Swedish kronor, while debit card payments involved lower costs for payments exceeding this amount, cf. Segendorf and Jansson (2012). A similar Dutch study concluded a few years ago that cash payments are most cost-effective for amounts up to 5 euro, cf. Bolt et al. (2008).

The analysis also makes it possible to assess the consequences of shifts between different payment methods. For example, it can be used to calculate how replacing a given number of cash payments by Dankort payments affects the social costs. The impact generally depends on the size of the payments, but for large payments, the potential savings are considerable.

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<sup>1</sup> For a more detailed description of the analysis and the results presented in this article, see Jacobsen (2012) (in Danish only).

Likewise, it can be calculated that the amended rules for card fees which came into force last year may lead to a small decline in the total costs of payments in Denmark. The new rules permit retailers to charge fees to customers for all types of credit card payments, including for cards issued in Denmark. This could reduce the use of such cards, mainly in favour of Dankort payments.

## BACKGROUND AND METHODOLOGY

In the above-mentioned report, Danmarks Nationalbank published an estimate of the social costs of paying in cash and with different types of payment cards at point of sale in Denmark. These costs include the total resources used by all parties involved – consumers, retailers, banks, etc. – but not fees between these parties. The results are summarised in Table 1, which shows the costs per payment and per krone paid for each payment method.

When interpreting these results, it should be borne in mind that payment services involve substantial fixed costs. Consequently, costs per payment depend heavily on the number of transactions. Other things being equal, payment methods that are characterised by a large number of transactions, such as cash and Dankort payments, will therefore entail lower costs per payment, as Table 1 also shows.

An alternative measure is the social costs of one additional payment, i.e. the marginal costs. However, calculating these costs requires a breakdown by fixed and variable costs, which is often a difficult distinction. Hence, some costs may be stepwise variable, which means that they are fixed until the number of payments reaches a certain level, such as a capacity limit, and then they increase.

SOCIAL COSTS OF PAYMENTS IN DENMARK, 2009

Table 1

|                             | Payments          |                     |                     | Costs               |                   |                      |
|-----------------------------|-------------------|---------------------|---------------------|---------------------|-------------------|----------------------|
|                             | Number (millions) | Value (kr. billion) | Average value (kr.) | Total (kr. billion) | Per payment (kr.) | Per krone paid (øre) |
| Cash .....                  | 786.3             | 150.5               | 191                 | 5.78                | 7.36              | 3.8                  |
| Dankort .....               | 790.5             | 253.1               | 320                 | 2.51                | 3.15              | 1.0                  |
| International debit cards . | 39.9              | 6.8                 | 173                 | 0.46                | 11.89             | 6.9                  |
| International credit cards  | 17.4              | 9.3                 | 534                 | 0.36                | 21.17             | 4.0                  |
| Total .....                 | 1,633.5           | 419.7               | 257                 | 9.11                | -                 | -                    |

Note: Costs include consumer costs. International debit cards are e.g. Visa Electron and MasterCard Debit. In connection with payments of this type, the money is debited to the consumer's account as soon as the payment has been made. International credit cards are e.g. MasterCard, American Express and Diners Club. Payments with these cards are not debited to the consumer's account until some time later, typically once a month.

Source: Danmarks Nationalbank (2012).

Inspired by Brits and Winder (2005), payment costs have been broken down into three types:

- *Fixed costs*, i.e. those which are not affected by the execution of an additional payment. Examples include the banks' costs for system development, production and distribution of payment cards, collection and transport of cash, and depreciation of ATMs. For retailers, fixed costs include costs for point-of-sale equipment and time spent collecting change and depositing the day's turnover in a night safe.
- *Variable transaction-linked costs*, i.e. those that vary with the number of payments. These include the banks' costs for approving and executing payments and handling customer enquiries. For retailers, a major cost of this type is wages to cashiers for the payment time, i.e. the time elapsing from the customer is informed of the amount until the transaction has been completed.
- *Variable sales-linked costs*, i.e. those that depend on the amounts paid. For banks, this could be payroll costs for employees counting, packing and sorting cash and filling up ATMs. For retailers, costs of this type include the percentage fee payable to banks for receiving international card payments, as well as time consumption for cash reconciliation.

The Appendix to this article elaborates on this breakdown for each of the parties involved in a payment transaction.

## FINDINGS AND INTERPRETATION

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Table 2 shows the aggregate result of a breakdown of the costs in Danmarks Nationalbank (2012) as described above. For each payment method, the variable transaction-linked costs per payment and the variable sales-linked costs per krone paid are also shown. The results in the Table can be used for various types of analysis.

### Size of amount

A breakdown such as that performed in Table 2 can be used to illustrate how the social costs of one additional payment using a given method depend on the amount paid. This has been done in Chart 1 for the payment methods comprised by the analysis, i.e. cash, Dankort and international cards. The Chart does not include fixed costs, which do not affect the costs for one additional payment.

For each payment method, costs on the Chart's vertical axis start at the calculated transaction-linked costs per payment. These indicate the total costs of executing one additional payment of a hypothetical amount of

BREAKDOWN OF COSTS FOR PAYMENTS IN DENMARK, 2009

Table 2

| Kr. million                             | Cash    | Dankort | Int. debit cards | Int. credit cards |
|---|---------|---------|------------------|-------------------|
| Total costs .....                       | 4,817.5 | 2,223.5 | 528.5            | 464.2             |
| Of which fees and other transfers ..... | 382.0   | 375.6   | 93.0             | 110.2             |
| Social costs .....                      | 4,435.5 | 1,847.8 | 435.5            | 354.0             |
| Fixed costs .....                       | 2,720.4 | 905.3   | 368.6            | 310.6             |
| Variable transaction-linked costs ..... | 769.3   | 916.5   | 66.0             | 42.8              |
| Per payment (kr.) .....                 | 0.98    | 1.16    | 1.68             | 2.46              |
| Variable sales-linked costs .....       | 945.8   | 26.1    | 0.9              | 0.6               |
| Per krone paid (øre) .....              | 0.63    | 0.01    | 0.01             | 0.01              |

Note: Total costs are the sum of the costs for all parties except consumers, while social costs are the total costs less fees and other transfers.

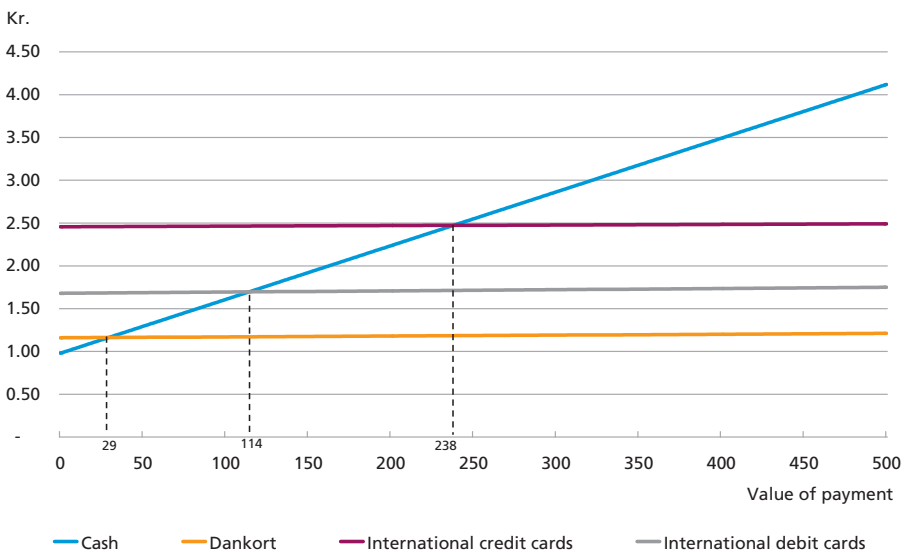
Source: Jacobsen (2012).

kr. 0. The costs then rise with the slope of the straight line, which – for each payment method – corresponds to the calculated sales-linked costs per krone paid.

In practice, the social costs rise with the value of the payment in connection with cash payments only, cf. Chart 1. The reason is that larger cash payments entail increased time consumption for cash handling by banks and retailers. For card payments, on the other hand, the parties' time consumption is independent of the amount as such payments are electronic and do not usually involve any use of labour time.

SOCIAL COSTS OF ONE ADDITIONAL PAYMENT USING DIFFERENT PAYMENT METHODS, 2009

Chart 1

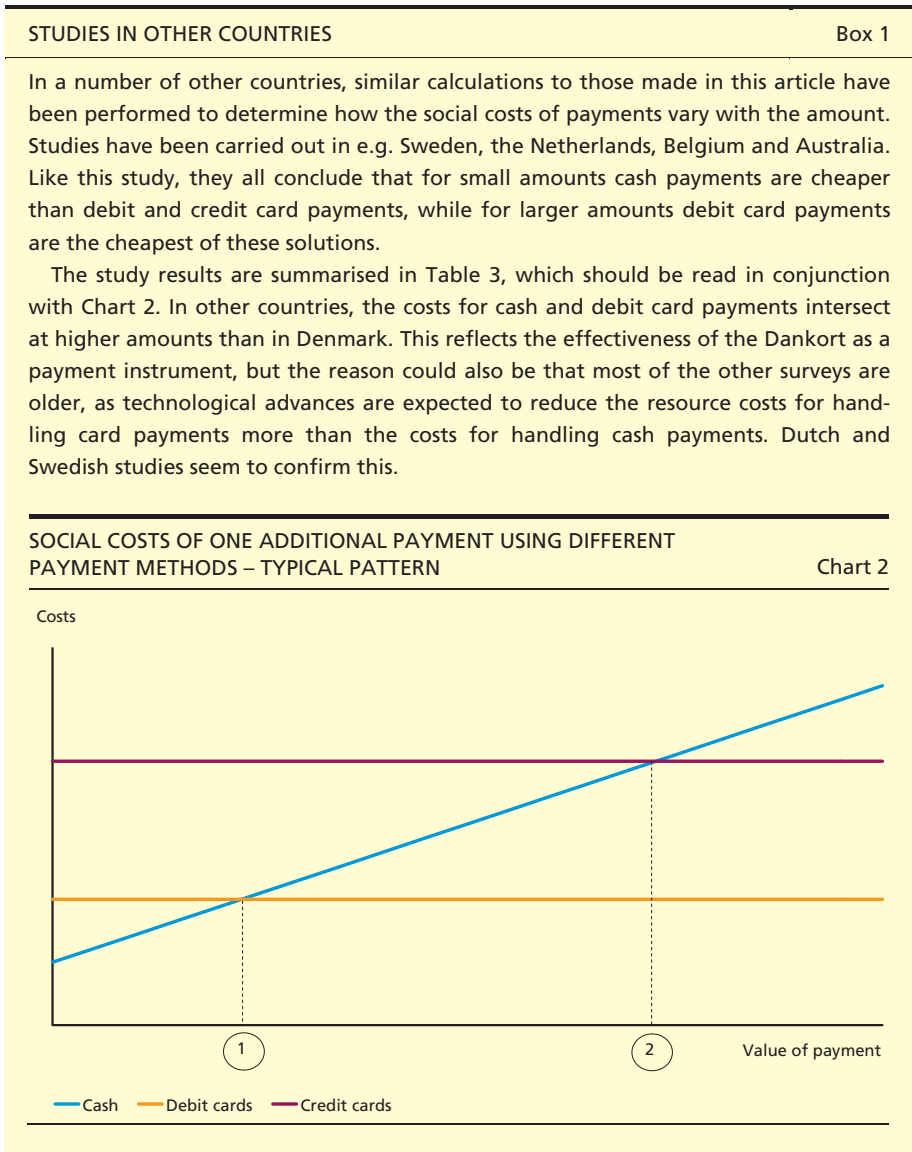


Note: The social costs have been calculated exclusive of consumer costs. For each payment method, the intersection on the vertical axis corresponds to the transaction-linked costs per payment, while the slope is equal to the sales-linked costs per krone paid, cf. Table 2.

Source: Jacobsen (2012).

Chart 1 shows that for small payments – up to kr. 29 according to the calculations – cash is the cheapest solution for society as a whole. For all larger amounts, the costs are lower for Dankort payments than for other payment methods. Compared with international debit and credit card payments, cash payments are cheaper for amounts up to kr. 114 and 238, respectively.

There are several reasons why payments with international cards are always more expensive for society than Dankort payments. First of all, the large number of Dankort payments entails economies of scale so that for some activities the transaction-linked costs per payment are



| CONTINUED   |     | Box 1   |
|---|-----|---------|
| INTERSECTIONS OF SOCIAL COSTS ACCORDING TO VARIOUS STUDIES  |     | Table 3 |
| Danish kroner   | 1   | 2       |
| Denmark (2009) .....  | 29  | 238     |
| Sweden (2002) .....   | 58  | 127     |
| Sweden (2009) .....   | 14  | 316     |
| Netherlands (2002) .....  | 86  | 1,159   |
| Netherlands (2006) .....  | 37  | -       |
| Belgium (2003) .....  | 76  | 452     |
| Australia (2006) .....  | 224 | > 2,000 |
| <p>Note: The Table shows where the social costs of cash payments intersect the corresponding costs for payments by (1) debit card and (2) credit card, respectively. On translation into Danish kroner, the average exchange rates for the years in question have been applied.</p> <p>Source: Jacobsen (2012), Bergman et al. (2007), Brits and Winder (2005), Bolt et al. (2008), National Bank of Belgium (2005), Schwartz et al. (2007) and Segendorf and Jansson (2012).</p> |     |         |

lower. In addition, credit card payments are basically more resource-intensive to handle than Dankort payments.

These findings are in line with the results of studies in other countries, cf. Box 1. They also conclude that for small amounts, the social costs are lower for cash payments than for debit and credit card payments, while debit cards are the cheapest of these solutions for payments exceeding a certain amount. Furthermore, the surveys indicate that this amount is likely to decline as technological advances reduce the costs of card payments.

### Consumer costs

Consumers often have a choice of several payment methods. In addition to cash, virtually all retailers in Denmark accept the Dankort and many also accept international cards. Consumer choices depend on various factors, including the costs of making the payment. Hence, it is interesting to investigate whether these costs are in line with the social costs.

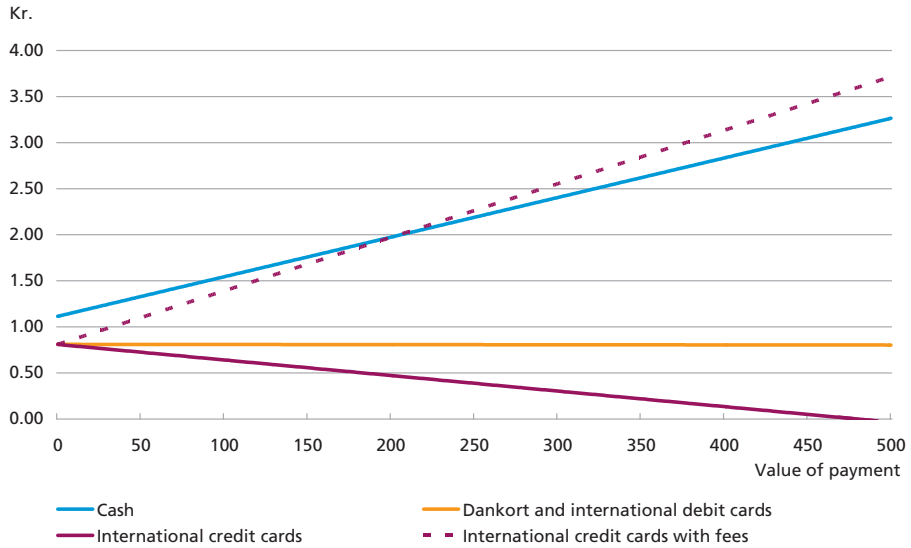
Chart 3 shows how consumer costs for the individual payment methods depend on the transaction amount. If card fees are disregarded, consumers incur the lowest costs by using credit cards, irrespective of the amount. This is because they obtain interest-free credit, the value of which increases with the amount. The latter also explains why consumer costs for credit card payments decline as the amount increases.

So, exclusive of card fees, consumer costs are not consistent with social costs. However, this changes if retailers choose to charge card fees to consumers, as the "split model" introduced in 2011 allows them to do, cf. Box 2. With the card fees, which are calculated as a percentage of the



CONSUMER COSTS OF ONE ADDITIONAL PAYMENT USING DIFFERENT PAYMENT METHODS, 2009

Chart 3



Source: Jacobsen (2012).

amount paid, credit card payments become more expensive for consumers than Dankort payments, irrespective of the amount.

It should be emphasised that the consumers' choice of payment method also reflects other factors than costs, including payment habits. That is why credit cards were used little in Denmark, even before the split model was introduced, although there were financial benefits for the individual consumer. Over many years, Danish consumers have become accustomed to using the Dankort for day-to-day purchases, and the widespread ownership of credit cards is a relatively new phenomenon.

NEW DANISH RULES FOR CARD FEES – THE SPLIT MODEL

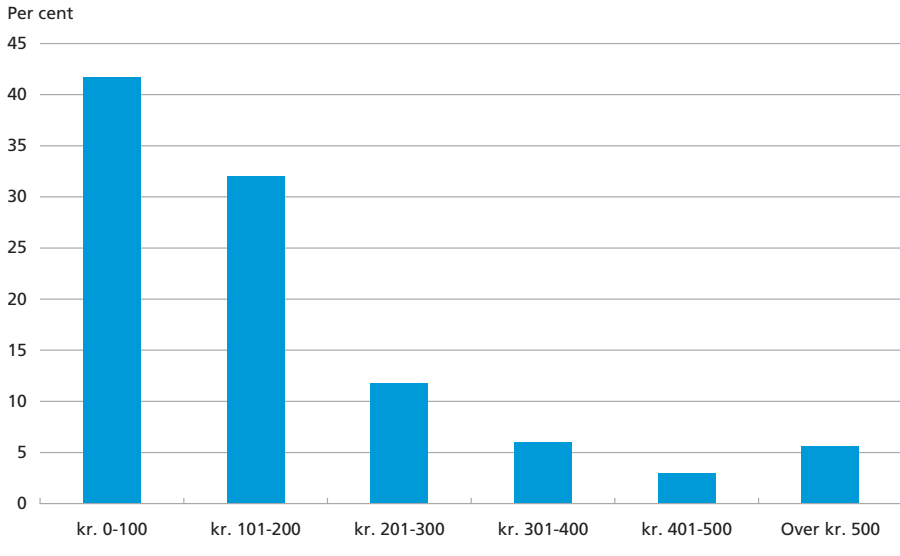
Box 2

The Danish rules for card fees were amended effective 1 October 2011. Previously, retailers were not allowed to pass on the bank fees for cards issued in Denmark to consumers in connection with payments at point of sale. Furthermore, there was a cap on bank fees of 0.75 per cent of the amount on international credit card payments and 0.40 per cent or kr. 4, whichever was lower, on international debit card payments.

The amendment of the rules abolished the ceiling on fees to banks. In addition, the fees that retailers may charge to consumers were linked to the card type. For debit card payments, e.g. by Dankort, Visa Electron or MasterCard Debit, retailers may not charge fees to consumers, while this is now permitted in connection with credit cards such as MasterCard, American Express and Diners Club – hence the name "split model".

DISTRIBUTION OF CASH PAYMENTS BY AMOUNT, 2009

Chart 4



Source: Danmarks Nationalbank.

### Shift between payment methods

A breakdown of costs as performed in this article can also be used to estimate the impact on costs of a given shift from e.g. cash to Dankort payments. According to the above calculations, such substitution would reduce social costs for amounts exceeding kr. 29. The effect will increase both with the number and size of the payments substituted.

Cash is primarily used for small payments, but about one fourth of all cash payments are estimated to exceed kr. 200, cf. Chart 4. Assuming that 25 per cent of these payments were made by Dankort instead, the savings would amount to kr. 145 million in terms of social costs. The calculation assumes that neither the fixed costs for cash payments nor for Dankort payments are affected by such a shift.

A breakdown of costs as shown above can also be used to assess the effects of the split model, which can be assumed to lead to a decline in the use of credit cards in favour of other payment methods. Studies show that consumers who stop using credit cards will opt for the Dankort instead, rather than e.g. cash.<sup>1</sup> The reason is that most consumers who have a credit card also have a Dankort and that credit cards are mainly used for larger payments.

Table 4 shows the calculated consequences for society of a given substitution from credit card payment to Dankort or cash payment. According to the Table, the split model is most likely to result in modest

<sup>1</sup> See e.g. Jacobsen and Nielsen (2011).

CHANGE IN ANNUAL SOCIAL COSTS ON SUBSTITUTION OF CREDIT CARD PAYMENTS, 2011, KR. MILLION

Table 4

| Dankort,<br>per cent | Cash<br>per cent |       |       |      |      |      |      |      |      |      |      |
|----------------------|------------------|-------|-------|------|------|------|------|------|------|------|------|
|                      | 0                | 10    | 20    | 30   | 40   | 50   | 60   | 70   | 80   | 90   | 100  |
| 0 .....              | -                | 4.7   | 9.4   | 14.0 | 18.7 | 23.4 | 28.1 | 32.8 | 37.5 | 42.1 | 46.8 |
| 10 .....             | -3.0             | 1.7   | 6.4   | 11.1 | 15.8 | 20.4 | 25.1 | 29.8 | 34.5 | 39.2 | -    |
| 20 .....             | -5.9             | -1.3  | 3.4   | 8.1  | 12.8 | 17.5 | 22.1 | 26.8 | 31.5 | -    | -    |
| 30 .....             | -8.9             | -4.2  | 0.4   | 5.1  | 9.8  | 14.5 | 19.2 | 23.9 | -    | -    | -    |
| 40 .....             | -11.9            | -7.2  | -2.5  | 2.2  | 6.8  | 11.5 | 16.2 | -    | -    | -    | -    |
| 50 .....             | -14.9            | -10.2 | -5.5  | -0.8 | 3.9  | 8.5  | -    | -    | -    | -    | -    |
| 60 .....             | -17.8            | -13.1 | -8.5  | -3.8 | 0.9  | -    | -    | -    | -    | -    | -    |
| 70 .....             | -20.8            | -16.1 | -11.4 | -6.8 | -    | -    | -    | -    | -    | -    | -    |
| 80 .....             | -23.8            | -19.1 | -14.4 | -    | -    | -    | -    | -    | -    | -    | -    |
| 90 .....             | -26.7            | -22.1 | -     | -    | -    | -    | -    | -    | -    | -    | -    |
| 100 .....            | -29.7            | -     | -     | -    | -    | -    | -    | -    | -    | -    | -    |

Note: The Table shows the change in the social costs if x per cent of credit card payments are made by Dankort instead (rows in the Table) and y per cent are made in cash instead (columns in the Table). Negative values indicate a fall in total costs. Consumer costs are not included in the calculations.

Source: Jacobsen (2012).

savings. For example, if 40 and 10 per cent, respectively, of credit card payments are replaced by Dankort and cash payments, respectively, this will reduce the social costs by kr. 7 million on an annual basis.

## APPENDIX – BREAKDOWN INTO FIXED AND VARIABLE COSTS

The results presented in this article are based on a breakdown of the costs in Danmarks Nationalbank (2012) into fixed costs and costs linked to either the number or the size of the payments. The costs for banks, retailers, card companies and consumers are elaborated on in this Appendix.

### Banks' costs

The banks' aggregate costs for performing services in connection with point-of-sale payments amounted to kr. 3.2 billion in 2009. Almost two thirds of these costs related to cash payments, while Dankort payments accounted for 20 per cent and payments with international cards for 14 per cent, cf. Table 5.

Many of the banks' costs are fixed costs, such as depreciation of IT equipment, system development costs, rent, and payroll costs for administrative staff. The costs for collection and transport of cash and issuance of payment cards are also regarded as fixed costs.

Other bank costs vary with the volume of payments. These include payroll costs for staff handling cash withdrawals and deposits or handling card payments and enquiries about such payments. Many banks also

| BANKS' COSTS, 2009             |         |         |                  | Table 5           |
|--------------------------------|---------|---------|------------------|-------------------|
| Kr. million                    | Cash    | Dankort | Int. debit cards | Int. credit cards |
| Total costs .....              | 2,144.4 | 595.0   | 240.2            | 196.3             |
| Fixed costs .....              | 1,250.2 | 306.0   | 205.6            | 153.3             |
| Variable costs .....           | 894.2   | 289.0   | 34.6             | 43.0              |
| Transaction-linked costs ..... | 220.7   | 289.0   | 34.6             | 32.2              |
| Sales-linked costs .....       | 673.5   | -       | -                | 10.8              |

Source: Jacobsen (2012).

pay a transaction fee per card payment to Nets for providing card issuance services.

The banks' variable costs in connection with cash withdrawals are equally split on transaction-linked and sales-linked costs. This is because withdrawal of a given amount can be used to cover both a random number of payments of a fixed amount and as a fixed number of payments of random amounts.

In contrast, the banks' variable costs for cash deposits are solely defined as sales-linked costs. The reason is that such deposits are primarily made by retailers and that the derived time consumption for the banks is not linked to the number of payments retailers receive, but only to the total amount paid.

Finally, the banks incur an interest-rate loss on their cash holdings, and as card issuers they incur interest expenses on credit card payments. Both these cost types have been included in the sales-linked costs.

### Retailers' costs

Retailers costs of receiving payments totalled kr. 4 billion in 2009, of which almost 60 per cent related to cash payments, while Dankort payments accounted for just over one third of the costs, cf. Table 6.

Half of the retailers' costs for receiving cash payments relate to the time spent on internal routines. Some of these activities are not linked to the volume of payments, e.g. opening the cash register and de-

| RETAILERS' COSTS, 2009         |         |         |                  | Table 6           |
|--------------------------------|---------|---------|------------------|-------------------|
| Kr. million                    | Cash    | Dankort | Int. debit cards | Int. credit cards |
| Total costs .....              | 2,383.9 | 1,415.1 | 94.3             | 112.5             |
| Fixed costs .....              | 1,426.4 | 756.9   | 32.4             | 15.8              |
| Variable costs .....           | 957.6   | 658.1   | 61.8             | 96.8              |
| Transaction-linked costs ..... | 548.6   | 600.2   | 29.3             | 13.5              |
| Sales-linked costs .....       | 408.9   | 58.0    | 32.5             | 83.3              |

Source: Jacobsen (2012).

positing the day's turnover in a night safe. Payroll costs for such activities are regarded as fixed costs.

Most of the retailers' time consumption in connection with cash payments relates to activities that vary with the volume of payments, such as cash reconciliation and sorting and packing banknotes and coins. Payroll costs for these activities have been included as sales-linked costs.

In addition, retailers have a number of other costs in connection with cash payments that are also seen as sales-linked. These include loss of interest on cash held overnight, value loss from not receiving interest on cash deposits until one or two days after payment and losses resulting from cash discrepancies.

Retailers' costs for the payment time, i.e. payroll costs for the time cashiers spend on the actual payments, are transaction-linked costs. These costs are based on a time study which shows that the average transaction time for both cash and card payments is approximately 15 seconds.

A significant cost for retailers is the fee payable to banks for receiving card payments. For the Dankort, this is an annual subscription fee, i.e. a fixed cost. For payments with international cards, the fee is calculated as a percentage of the value of the payment; hence it is a sales-linked cost.

Like cash payments, card payments entail a value loss for retailers since the money is typically not credited to the retailer's account until one or more days after the sale, and in the intermittent period the retailer does not receive interest. Again, this is a sales-linked cost.

In addition, retailers have costs for e.g. depreciation of point-of-sale and security equipment, for external cash handling, primarily services performed by cash-in-transit companies, and for payment terminals and data connections. These costs are all regarded as fixed costs.

### **Card companies' costs**

Card companies can issue cards, perform card issuance services and acquire card payments. In 2009, their costs amounted to almost kr. 650 million, of which about one third related to the Dankort and the rest to international cards, cf. Table 7.

A card acquirer is a company that receives retailers' card payments, forwards them to the issuer and guarantees the payments. The largest acquirer in Denmark is Nets, which is the sole acquirer of Dankort payments and via the subsidiary Teller acquires most of the international card payments.

A large share of the acquirers' costs are the fees payable to the issuers for each transaction. For Dankort payments, this is a fixed fee per transaction, i.e. a transaction-linked cost; for international card payments, it is a percentage of the value of the payment, i.e. a sales-linked cost.

CARD COMPANIES' COSTS, 2009 Table 7

| Kr. million                    | Card issuance |            | Card acquisition |            |
|--------------------------------|---------------|------------|------------------|------------|
|                                | Dankort       | Int. cards | Dankort          | Int. cards |
| Total costs .....              | 102.1         | 262.2      | 111.3            | 169.9      |
| Fixed costs .....              | 58.6          | 230.1      | 34.2             | 85.5       |
| Variable costs .....           | 43.5          | 32.1       | 77.1             | 84.4       |
| Transaction-linked costs ..... | 43.5          | 32.1       | 77.1             | 4.0        |
| Sales-linked costs .....       | -             | -          | -                | 80.3       |

Note: Card issuance also includes costs for companies providing issuance services.

Source: Jacobsen (2012).

Nets also provides card issuance services to Danish banks. Such services include sending cards and PINs to customers, handling card transactions and monitoring fraudulent use. The costs for these services are regarded as transaction-linked if assessed to vary with the number of payments, and otherwise as fixed.

### Consumer costs

Consumer costs for payments are mainly the time spent on related activities, such as withdrawing cash, paying at point of sale and checking account statements. In 2009, these costs totalled approximately kr. 2.4 billion, of which more than 60 per cent related to cash payments, cf. Table 8.

The primary cost to consumers in connection with cash payments is the time spent withdrawing cash from an ATM or at the counter in a bank branch. These costs are equally split on transaction-linked and sales-linked costs, the argument being the same as that used for the breakdown of the banks' costs.

Other time spent by consumers on payments, mainly the actual payment time and the time spent checking account statements, is regarded as transaction-linked costs. Finally, consumers pay an annual fee for some payment cards; in the analysis such fees are included as fixed costs.

CONSUMER COSTS, 2009 Table 8

| Kr. million                    | Cash    | Dankort | Int. debit cards | Int. credit cards |
|--------------------------------|---------|---------|------------------|-------------------|
| Total costs .....              | 1,523.4 | 721.5   | 76.8             | 88.0              |
| Fixed costs .....              | -       | 81.7    | 45.0             | 73.9              |
| Variable costs .....           | 1,523.4 | 639.9   | 31.8             | 14.1              |
| Transaction-linked costs ..... | 876.3   | 639.9   | 31.8             | 14.1              |
| Sales-linked costs .....       | 647.2   | -       | -                | -                 |

Source: Jacobsen (2012).

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## Speech by Governor Nils Bernstein at the Annual Meeting of the Danish Mortgage Banks' Federation, 29 March 2012

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The global economy weakened in the 2nd half of 2011, chiefly as a result of the debt crisis in several European countries. Euro area GDP fell in the 4th quarter, but data releases point to stabilisation.

In the USA there is moderate growth and recovery in the labour market. Euro area unemployment continues to rise, masking considerable differences across member states. In Germany unemployment is falling.

Inflation has declined as previous increases in energy prices have dropped out of the year-on-year statistics, but recent oil price rises pose a risk in this connection.

Yield spreads to Germany have narrowed following the most recent measures taken by the European Central Bank, as well as further steps to tighten fiscal policy and introduce structural reforms in the countries with the highest debts.

The growth outlook is subdued. The latest consensus estimates and forecasts from the international organisations operate with a slight decline in euro area GDP in the first part of 2012, while other advanced economies are expected to post moderate growth rates. Strong fiscal consolidation is underway in Europe in order to restore confidence in public finances and create a basis for sustainable growth. In contrast, monetary policy is highly accommodative and supports economic activity in all advanced economies.

The autumn was weak. The Danish economy virtually moved sideways, reflecting factors such as falling public consumption, and expectations were formed in the shadow of the European debt crisis. However, the situation now seems to be improving somewhat.

Our most recent forecast operates with output growth of just over 1 per cent this year. That is not impressive, but it is higher than the growth expectations for the euro area.

The recovery is primarily expected to be domestically driven.

For some time, households and firms have been consolidating strongly. In the case of the households, this reflects value losses on e.g. houses and equities, as well as the employment situation. Firms, on the other hand, have been hesitant to invest, so that business investment has reached a very low level.

Given the high savings ratio, wealth will, at some point, reach a level that the households find suitable in view of the losses they have had. Normalisation of the low consumption ratio could potentially lead to considerable growth since private consumption accounts for around half of total demand.

Another reason why I believe we can say that the Danish economy is now slowly picking up is that the fundamental balances are sound. We have a large current-account surplus and a relatively strong labour market. Structural unemployment is low – and only slightly below the current rate of unemployment. Interest rates are historically low and underlying prices are stable.

On the other hand, house prices have, on average, dropped by 20 per cent since the peak in 2007 and fell by 8 per cent in 2011. Turnover is low despite the historically low interest rates, and the market seems to be in a deadlock. Given the current interest-rate and income levels, house prices should, in Danmarks Nationalbank's view, not be as low as they are at the moment. Price falls may be self-reinforcing if buyers hesitate, expecting prices to come down even further. So it is difficult to say exactly when the market will turn, but experience from both Denmark and abroad shows that once the market begins to recover, it could move fast.

An important factor behind the large fluctuations in house prices seen since the mid-2000s is the structure of housing taxes. If the property value tax in nominal terms is frozen, as it is now, the effective taxation rate declines when prices go up, and vice versa. Combined with deferred-amortisation loans, this has contributed to stronger fluctuations in house prices. The same applies to the cap on the increase in land tax. As a result, tax on the large increases in value seen during the boom is being phased in now, when prices are falling, making the decline even stronger.

As regards property value tax, the solution is, in principle, simple. Freeze the rate of taxation, not the amount in kroner. With the current outlook for the housing market, this will not lead to higher taxes right now. But more appropriate housing taxes will help to dampen fluctuations in the market – fluctuations that are detrimental to society and impede the implementation of economic policy. The large balance sheets of Danish households, with high gross debt and correspondingly large assets, also speak in favour of curbing house price fluctuations.

It is now around four years since the international financial crisis really hit Denmark. In the meantime, it has led to the introduction of five bank rescue packages, each one aimed at solving specific problems. In addition, Danmarks Nationalbank has made a number of adjustments to its

range of instruments to match market conditions, and credit institutions have been offered extended credit facilities at Danmarks Nationalbank. The latest addition – the option to raise 3-year loans – has given credit institutions an extra source of long-term funding. In many ways, these options match those provided by the ECB for European banks. The ECB's 3-year loans have been in high demand. 800 European banks participated in the most recent operation.

The first 3-year operation in Denmark will take place tomorrow. The second operation will be in September, and I think it would be wise to consider the two operations overall. Needless to say, interest will depend on the individual credit institution's situation, as well as developments in the private-sector capital markets. It is up to each credit institution to decide whether or not it wants to participate. Seen from Danmarks Nationalbank's point of view, there is no reason to turn down this opportunity if it makes business sense.

A financial crisis has direct costs in the form of e.g. credit losses, but also indirect costs in terms of e.g. growth. So far, a characteristic of the Danish bank rescue packages has been that the sector itself has borne the direct costs related to these packages. This is a good principle, which has helped to reduce the negative impact on government finances. Events in Europe over the last year have highlighted the significance of sound public finances. It is of fundamental importance to us all that the Kingdom of Denmark has a high credit standing internationally.

I think we can say that Denmark has addressed the problems as they arose. By this I mean that distressed banks have been brought to our attention, and we have found solutions – either winding-up via the Financial Stability Company, mergers with other banks or tailored solutions. The result is a banking sector with a number of large banks and many small banks.

Some Danish banks are still struggling, and the near future will also bring mergers and perhaps resolution of banks. But I believe that the problems have now been reduced to a size that is manageable within the existing framework – although a few adjustments may be necessary. As I see it, the model with the Financial Stability Company has worked well and provided a robust and constructive approach to solving the problems.

The largest credit institutions are those that we call systemically important financial institutions, or – in financial lingo – SIFIs. These institutions are important to society as a whole and to financial stability. For everyone's sake it is essential that these private-sector enterprises do not suddenly find themselves in dire straits so that the government must take over. In future these large institutions must therefore be

required to have extra strong defences. For example, they must have extra capital, the option to convert loan capital into subordinate capital as well as recovery plans, and they may be subject to additional supervision. The aim is to ensure that they do not end up in a situation where they become distressed. The Danish government has set up a committee to make recommendations in this area. Its work should have high priority.

The group of large credit institutions also includes the mortgage banks. You are already comprised by special legislation to ensure that confidence in the mortgage-credit system is always intact. As you often point out yourselves, this system has stood the test of a couple of centuries. Particularly during this financial crisis and the turbulent market conditions seen in the last four years, Danish mortgage bonds have proved their high quality and liquidity.

In my opinion, the SIFI committee provides a welcome opportunity to investigate whether, ultimately, mortgage-credit legislation provides a sufficient and appropriate contribution to the defences protecting Danish mortgage bonds.

When you argue the case for the strength of the Danish mortgage-credit system in a historical context, it is also necessary to consider the major changes that have taken place over the last 10 years. Firstly, the volume of adjustable-rate loans has increased substantially. This has created a refinancing risk, as 30-year mortgage loans are financed by short-term bonds, often with maturities of only 1 year. Secondly, the option to defer amortisation has made it possible for borrowers to borrow more with an unchanged monthly payment. This has pushed up house prices and increased the vulnerability of borrowers and mortgage banks. Thirdly, the requirement to pledge top-up collateral for covered bonds if house prices fall has given mortgage banks an extra obligation. The rating agencies also contribute to this requirement.

We have previously drawn attention to these factors and encouraged you to find solutions. I appreciate that you have put on your thinking caps.

A number of good suggestions and ideas have been put forward, and I take this opportunity to comment on them. Several aspects must be taken into account when determining the most appropriate measures. Measures which respect that there is a certain degree of standardisation of bonds, as this increases liquidity in the series and makes the market more transparent for investors. Two of the primary success criteria are the handing of refinancing risk and the need for top-up collateral, but stable framework conditions for the housing market also play a significant role in the current situation. I also think that it would be wise for

you already to start considering the future international liquidity requirements.

In the long term, two-tier mortgaging and a conservative loan policy will reduce the need for top-up collateral in periods when house prices are falling. Two-tier mortgaging will have the faster impact of the two. I realise that you are facing different challenges in this area, and it may therefore be natural to choose different solutions.

Danmarks Nationalbank has previously suggested another, more indirect way of reducing the potential need for top-up collateral – by gradually phasing out deferred amortisation for mortgage loans with a view to dampening fluctuations in house prices. A cautious approach to deferred amortisation would also support the robustness of both borrowers and mortgage banks.

Turning to refinancing risk, you have sought to spread the auctions for refinancing adjustable-rate loans over the year as we agreed. This means that a smaller bond volume is refinanced at any given time. So if an auction is a failure and the number of investors is insufficient, this situation will be easier to manage. One mortgage bank has already spread its auctions almost evenly on three dates. The rest have initiated the process and have from 2011 to 2012 increased the share of underlying bonds that do not mature at the turn of the year from 14 to 23 per cent.

But more can and should be done to reduce the refinancing risk. For example:

- If refinancing is spread over the whole year and refinancing auctions are conducted well in advance, this will reduce the impact of short-term shocks in the financial markets considerably.
- Use of longer-term financing will reduce the total volume of loans to be refinanced within a given period. That will increase robustness.

In addition, the ability of the individual borrower to bear the refinancing risk can be increased. If individual loans are financed using several bonds with different terms to maturity, short-term market turmoil will affect only a small share of each loan. This will strengthen investor confidence, even in a situation with a brief, but strong increase in interest rates.

I see no urgent need for further specific legislation in these areas as you are seriously addressing the challenges yourselves.

Let me recapitulate:

Solutions may differ, but should serve the following purposes – in random order:

- refinancing risk must be reduced,
- the need for any top-up collateral must be met before it becomes relevant,
- the procyclical impact of home financing should be dampened,
- and the vulnerability of home-

owners to extraordinary changes in financing conditions must be reduced.

It will require a huge effort, but you have already come a long way. Keep up the good work!

Thank you for your attention.

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## Press Releases

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### **24 MAY 2012: INTEREST RATE REDUCTION**

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Effective from 25 May 2012, Danmarks Nationalbank's lending rate, interest rate on certificates of deposit and current account rate is reduced by 0.10 percentage point. The discount rate is unchanged.

The interest rate reduction follows Danmarks Nationalbank's purchase of foreign exchange in the market.

Effective from the above date, Danmarks Nationalbank's interest rates are:

Lending rate: 0.60 per cent.

Certificates of deposit: 0.20 per cent.

Current account: 0.15 per cent.

Discount rate: 0.75 per cent.

### **25 MAY 2012: THE FERRY KONG FREDERIK IX ON A NEW SHIP COIN**

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On Tuesday 29 May 2012 Danmarks Nationalbank issues a new 20-krone coin featuring the ferry Kong Frederik IX. This coin is the 11th coin in the series which has ships as the common motif. The motif on the coin is made by sculptor Elisabeth Toubro.

The ferry Kong Frederik IX was built at Elsinore Shipyard. When it was put into service on 16 December 1954 it was the world's largest ferry. It served several routes e.g. between Denmark and Germany and across the Great Belt. In 1997 it was taken out of service and for a few years it served as a museum ferry at Nyborg. In 2005 the ferry was scrapped.

The coin is of the same size and alloy as the ordinary circulating 20-krone coin. The obverse side of the coin carries the portrait of Danish Queen Margrethe II.

The new ship coin is put in circulation on 29 May. It can be purchased in most banks, at Danmarks Nationalbank and via the website of the Royal Danish Mint, [www.royalmint.dk](http://www.royalmint.dk).

The twelfth and final coin in the series with ships as the common motif will feature a fishing cutter. It will be issued in the autumn of 2012.

### **31 MAY 2012 INTEREST RATE REDUCTION**

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Effective from 1 June 2012, Danmarks Nationalbank's lending rate, interest rate on certificates of deposit and current account rate is reduced by 0.15 percentage point. The discount rate is reduced by 0.50 percentage point.

The interest rate reduction follows Danmarks Nationalbank's purchase of foreign exchange in the market.

Effective from the above date, Danmarks Nationalbank's interest rates are:

Lending rate: 0.45 per cent

Certificates of deposit: 0.05 per cent

Current account: 0.0 per cent

Discount rate: 0.25 per cent

Danmarks Nationalbank has the instruments to handle potential negative interest rates. For a more precise description of the monetary policy instruments please see [www.nationalbanken.dk/monetary-policy/monetary-policy-instruments](http://www.nationalbanken.dk/monetary-policy/monetary-policy-instruments).



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## Tables

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|   |    |
|---|----|
| Interest rates and share-price index .....  | 1  |
| Selected items from Danmarks Nationalbank's balance sheet .....                                       | 2  |
| Factors affecting the banks' and the mortgage banks' net position<br>with Danmarks Nationalbank ..... | 3  |
| Selected items from the consolidated balance sheet of the MFI sector                                  | 4  |
| Money stock .....   | 5  |
| Selected items from the balance sheet of the banks .....  | 6  |
| Selected items from the balance sheet of the mortgage banks .....                                     | 7  |
| Lending to residents by the banks and the mortgage banks .....  | 8  |
| The mortgage banks' lending broken down by type .....   | 9  |
| The banks' effective interest rates .....   | 10 |
| Danmarks Nationalbank's lending survey .....  | 11 |
| Selected items from the balance sheet of investment funds .....                                       | 12 |
| Securities issued by residents by owner's home country .....  | 13 |
| Households' financial assets and liabilities .....  | 14 |
| Companies' financial assets and liabilities .....   | 15 |
| Current account of the balance of payments .....  | 16 |
| Financial account of the balance of payments .....  | 17 |
| Portfolio investments of the balance of payments .....  | 18 |
| Denmark's external assets and liabilities .....   | 19 |
| GDP by type of expenditure .....  | 20 |
| EU-harmonized index of consumer prices (HICP) and<br>underlying inflation (IMI) .....                 | 21 |
| Selected monthly economic indicators .....  | 22 |
| Selected quarterly economic indicators .....  | 23 |
| Exchange rates .....  | 24 |
| Effective krone rate .....  | 25 |

Danmarks Nationalbank's Statistical Publications

## **Symbols and Sources**

- 0 Magnitude nil or less than one half of unit employed.
- ... Data not available or of negligible interest.

Some of the most recent statistics may be provisional. Due to rounding-off there may be small differences between the sum of the individual figures and the totals stated.

The Tables section of this publication is closed on 7 June 2012.

Danmarks Nationalbank is the source for Tables 1-15, 17-19 and 24-25, while the Nasdaq OMX Copenhagen is the source for series of bond yields and the share-price index in Table 1. Statistics Denmark is the source for Tables 16 and 20-23. The calculations in Tables 21 and 25 have been made by Danmarks Nationalbank on the basis of data from Statistics Denmark and OECD.

INTEREST RATES AND SHARE-PRICE INDEX

 Table 1<sup>1</sup>

| Effective end-of-year/<br>from | Danmarks Nationalbank's interest rates |                         |                          |               | The ECB's interest rate                              | End of period | Inter-bank interest rate, 3-months uncollateralized | Bond yields                     |                              | Share-price index OMXC20 (prev.KFX)<br>3.7.89 =100 |
|--------------------------------|--|-------------------------|--------------------------|---------------|--|---------------|---|---------------------------------|------------------------------|--|
|                                | Lending                                | Certificates of deposit | Current-account deposits | Discount rate | Main refinancing operations, fixed rate <sup>1</sup> |               |   | 10-year central-government bond | 30-year mortgage-credit bond |  |
|                                |  |                         |                          |               |  |               |   |                                 |                              |  |
| 2007 .....                     | 4.25                                   | 4.25                    | 4.00                     | 4.00          | 4.00   | 2007 .....    | 4.65  | 4.48                            | 5.61                         | 464.14   |
| 2008 .....                     | 3.75                                   | 3.75                    | 3.50                     | 3.50          | 2.50   | 2008 .....    | 4.20  | 3.31                            | 6.21                         | 247.72   |
| 2009 .....                     | 1.20                                   | 0.95                    | 0.85                     | 1.00          | 1.00   | 2009 .....    | 0.85  | 3.62                            | 5.19                         | 336.69   |
| 2010 .....                     | 1.05                                   | 0.70                    | 0.60                     | 0.75          | 1.00   | 2010 .....    | 0.87  | 2.98                            | 4.53                         | 457.58   |
| 2011 .....                     | 0.70                                   | 0.30                    | 0.25                     | 0.75          | 1.00   | 2011 .....    | 0.62  | 1.58                            | 3.94                         | 389.95   |
| 2010 29 Oct                    | 1.05                                   | 0.70                    | 0.60                     | 0.75          | 1.00   | May 11 .....  | 1.04  | 3.03                            | 5.11                         | 456.25   |
| 2011 8 Apr                     | 1.30                                   | 0.95                    | 0.85                     | 1.00          | 1.25   | Jun 11 .....  | 1.15  | 2.98                            | 5.16                         | 431.06   |
| 8 Jul                          | 1.55                                   | 1.20                    | 1.10                     | 1.25          | 1.50   | Jul 11 .....  | 1.22  | 2.80                            | 5.04                         | 420.54   |
| 26 Aug                         | 1.55                                   | 1.10                    | 1.00                     | 1.25          | 1.50   | Aug 11 .....  | 1.36  | 2.35                            | 4.88                         | 359.41   |
| 16 Sep                         | 1.55                                   | 1.00                    | 0.90                     | 1.25          | 1.50   | Sep 11 .....  | 0.97  | 2.06                            | 4.15                         | 350.34   |
| 4 Nov                          | 1.20                                   | 0.65                    | 0.55                     | 1.00          | 1.25   | Oct 11 .....  | 1.15  | 2.33                            | 4.26                         | 362.77   |
| 9 Dec                          | 0.80                                   | 0.40                    | 0.30                     | 0.75          | 1.00   | Nov 11 .....  | 1.10  | 2.04                            | 4.21                         | 385.19   |
| 16 Dec                         | 0.70                                   | 0.30                    | 0.25                     | 0.75          | 1.00   | Dec 11 .....  | 0.62  | 1.58                            | 3.94                         | 389.95   |
| 2012 25 May                    | 0.60                                   | 0.20                    | 0.15                     | 0.75          | 1.00   | Jan 12 .....  | 0.60  | 1.75                            | 4.01                         | 408.53   |
| 1 Jun                          | 0.45                                   | 0.05                    | 0.00                     | 0.25          | 1.00   | Feb 12 .....  | 0.75  | 1.78                            | 3.98                         | 453.77   |
|                                |  |                         |                          |               |  | Mar 12 .....  | 0.75  | 1.82                            | 3.96                         | 444.71   |
|                                |  |                         |                          |               |  | Apr 12 .....  | 0.77  | 1.63                            | 4.00                         | 458.75   |
| 7 Jun                          | 0.45                                   | 0.05                    | 0.00                     | 0.25          | 1.00   | May 12 .....  | 0.40  | 1.08                            | 3.96                         | 432.26   |

<sup>1</sup> Until 7 October 2008 minimum bid rate.

SELECTED ITEMS FROM DANMARKS NATIONALBANK'S BALANCE SHEET

Table 2

| End of period | The foreign-exchange reserve (net) | Notes and coin in circulation | The central government's account with Danmarks Nationalbank | The banks' and the mortgage banks' net position with Danmarks Nationalbank |                            |       |                    |
|---------------|------------------------------------|-------------------------------|---|--|----------------------------|-------|--------------------|
|               |                                    |                               |   | Certificates of deposit  | Deposits (current account) | Loans | Total net position |
|               | Kr. billion                        |                               |   |  |                            |       |                    |
| 2007 .....    | 168.8                              | 61.6                          | 89.9  | 200.5  | 9.4                        | 216.8 | -6.9               |
| 2008 .....    | 211.7                              | 61.3                          | 262.8   | 118.5  | 9.7                        | 240.9 | -112.7             |
| 2009 .....    | 394.5                              | 60.8                          | 212.4   | 166.2  | 22.1                       | 104.2 | 84.1               |
| 2010 .....    | 428.7                              | 62.5                          | 179.4   | 132.5  | 14.5                       | 9.3   | 137.8              |
| 2011 .....    | 491.9                              | 62.4                          | 225.8   | 150.0  | 23.2                       | 24.0  | 149.1              |
| May 11 .....  | 453.4                              | 62.0                          | 245.4   | 79.4   | 17.2                       | 0.3   | 96.4               |
| Jun 11 .....  | 456.8                              | 62.4                          | 252.2   | 93.7   | 13.4                       | 13.9  | 93.3               |
| Jul 11 .....  | 456.9                              | 61.8                          | 229.5   | 101.8  | 15.3                       | 0.6   | 116.5              |
| Aug 11 .....  | 475.7                              | 60.5                          | 265.9   | 82.9   | 17.2                       | 0.8   | 99.3               |
| Sep 11 .....  | 490.3                              | 60.5                          | 287.0   | 80.8   | 12.1                       | 3.9   | 89.0               |
| Oct 11 .....  | 489.9                              | 60.5                          | 294.5   | 66.1   | 17.0                       | 3.6   | 79.4               |
| Nov 11 .....  | 467.7                              | 61.0                          | 256.4   | 89.3   | 14.3                       | 0.2   | 103.4              |
| Dec 11 .....  | 481.7                              | 62.4                          | 223.5   | 150.0  | 23.2                       | 24.0  | 149.1              |
| Jan 12 .....  | 492.6                              | 60.2                          | 219.7   | 137.7  | 19.5                       | 0.4   | 156.8              |
| Feb 12 .....  | 498.7                              | 60.1                          | 274.4   | 100.6  | 10.4                       | 0.4   | 110.7              |
| Mar 12 .....  | 483.0                              | 60.7                          | 214.3   | 165.9  | 17.2                       | 23.2  | 159.9              |
| Apr 12 .....  | 482.0                              | 61.7                          | 208.5   | 166.2  | 16.2                       | 20.0  | 162.4              |
| May 12 .....  | 502.4                              | 63.3                          | 217.7   | 180.1  | 13.8                       | 20.0  | 173.9              |

FACTORS AFFECTING THE BANKS' AND THE MORTGAGE BANKS' NET POSITION  
 WITH DANMARKS NATIONALBANK

Table 3

|              | Central-government finance           |   |                  | Net purchase of foreign exchange by Danmarks Nationalbank |       |       | Net purchase of bonds by Danmarks Nationalbank | Other factors | The banks' and the mortgage banks' net position with Danmarks Nationalbank |               |
|--------------|--------------------------------------|---|------------------|---|-------|-------|--|---------------|--|---------------|
|              | Domestic gross financing requirement | Sales of domestic central-government securities, etc. | Liquidity effect | Interventions to purchase foreign exchange, net           | Other | Total |  |               | Change in net position   | End of period |
|              |                                      |   |                  |   |       |       |  |               |  |               |
| 2007 .....   | -26.1                                | 2.9   | -29.1            | -1.7  | 7.2   | 5.5   | -0.4   | -1.4          | -25.3  | -6.9          |
| 2008 .....   | -11.9                                | 99.6  | -111.5           | -19.9   | 0.1   | -19.8 | 0.6  | 24.9          | -105.8   | -112.7        |
| 2009 .....   | 178.6                                | 123.8   | 54.8             | 153.6   | 17.1  | 170.7 | 6.5  | -35.3         | 196.8  | 84.1          |
| 2010 .....   | 169.6                                | 160.7   | 8.8              | 45.7  | 4.3   | 50.0  | -0.4   | -4.7          | 53.7   | 137.8         |
| 2011 .....   | 93.9                                 | 143.8   | -49.9            | 53.3  | 2.5   | 55.8  | 0.9  | 2.7           | 11.4   | 149.1         |
| May 11 ..... | 9.1                                  | 9.5   | -0.3             | 0.0   | -0.7  | -0.7  | 0.5  | 0.3           | -0.3   | 96.4          |
| Jun 11 ..... | 10.1                                 | 14.2  | -4.0             | 0.0   | 0.6   | 0.6   | 0.9  | -0.5          | -3.0   | 93.3          |
| Jul 11 ..... | 38.2                                 | 15.8  | 22.4             | 0.0   | 0.5   | 0.5   | -0.1   | 0.3           | 23.2   | 116.5         |
| Aug 11 ..... | -14.8                                | 14.4  | -29.2            | 11.2  | 0.5   | 11.7  | -1.3   | 1.7           | -17.2  | 99.3          |
| Sep 11 ..... | 0.5                                  | 21.4  | -20.8            | 14.0  | 0.5   | 14.5  | 0.8  | -4.8          | -10.3  | 89.0          |
| Oct 11 ..... | 19.2                                 | 26.5  | -7.4             | 0.0   | -0.4  | -0.4  | 0.1  | -1.8          | -9.6   | 79.4          |
| Nov 11 ..... | 13.0                                 | 6.9   | 6.1              | 10.7  | -0.8  | 9.9   | -0.3   | 8.3           | 24.0   | 103.4         |
| Dec 11 ..... | 24.0                                 | -4.2  | 28.2             | 17.8  | -0.9  | 16.9  | -0.1   | -1.1          | 45.7   | 149.1         |
| Jan 12 ..... | 14.3                                 | 10.8  | 3.6              | 0.0   | 1.2   | 1.2   | -0.2   | 3.2           | 7.6  | 156.8         |
| Feb 12 ..... | -32.6                                | 19.3  | -51.9            | 0.0   | 3.3   | 3.3   | 0.2  | 2.3           | -46.1  | 110.7         |
| Mar 12 ..... | 34.1                                 | -11.6   | 45.8             | 0.0   | -1.2  | -1.2  | 0.1  | 4.5           | 49.2   | 159.9         |
| Apr 12 ..... | 24.4                                 | 19.2  | 5.3              | 0.0   | -0.4  | -0.4  | -0.1   | -2.1          | 2.6  | 162.4         |
| May 12 ..... | 4.4                                  | 22.1  | -17.7            | 29.6  | -0.5  | 29.1  | 0.5  | -0.4          | 11.5   | 173.9         |

SELECTED ITEMS FROM THE CONSOLIDATED  
 BALANCE SHEET OF THE MFI SECTOR

Table 4

| End of period                                | Total balance | Assets           |                |                     |              | Liabilities       |                    | Foreign assets, net <sup>1</sup> |
|--|---------------|------------------|----------------|---------------------|--------------|-------------------|--------------------|----------------------------------|
|  |               | Domestic lending |                | Domestic securities |              | Domestic deposits | Bonds, etc. issued |                                  |
|  |               | Public sector    | Private sector | Bonds, etc.         | Shares, etc. |                   |                    |                                  |
|  |               | Kr. billion      |                |                     |              |                   |                    |                                  |
| 2007 .....                                   | 5,446.3       | 117.5            | 3,356.1        | 43.3                | 63.5         | 1,224.8           | 1,505.2            | -304.5                           |
| 2008 .....                                   | 6,286.4       | 129.1            | 3,724.3        | 40.6                | 56.7         | 1,487.5           | 1,508.4            | -407.9                           |
| 2009 .....                                   | 5,968.5       | 135.9            | 3,647.9        | 78.2                | 65.5         | 1,442.8           | 1,650.9            | -417.6                           |
| 2010 .....                                   | 6,159.1       | 146.6            | 3,696.6        | 41.8                | 87.9         | 1,410.1           | 1,660.4            | -397.7                           |
| 2011 .....                                   | 6,310.3       | 148.8            | 3,640.2        | 45.1                | 82.4         | 1,430.5           | 1,740.0            | -330.9                           |
| Apr 11 .....                                 | 6,062.1       | 145.5            | 3,660.0        | 49.5                | 92.1         | 1,463.0           | 1,683.1            | -264.7                           |
| May 11 .....                                 | 6,063.8       | 143.6            | 3,638.1        | 58.6                | 88.2         | 1,465.2           | 1,712.0            | -250.5                           |
| Jun 11 .....                                 | 5,985.7       | 147.4            | 3,649.3        | 60.0                | 87.4         | 1,458.7           | 1,714.3            | -254.7                           |
| Jul 11 .....                                 | 6,062.7       | 148.5            | 3,631.9        | 57.8                | 87.1         | 1,462.8           | 1,729.9            | -260.0                           |
| Aug 11 .....                                 | 6,190.1       | 142.6            | 3,630.0        | 67.2                | 83.6         | 1,486.9           | 1,735.5            | -247.3                           |
| Sep 11 .....                                 | 6,360.4       | 143.3            | 3,657.2        | 69.2                | 79.9         | 1,511.6           | 1,736.0            | -261.3                           |
| Oct 11 .....                                 | 6,255.6       | 144.6            | 3,647.3        | 72.8                | 81.4         | 1,509.5           | 1,726.8            | -246.0                           |
| Nov 11 .....                                 | 6,225.2       | 145.1            | 3,630.6        | 51.5                | 82.7         | 1,460.1           | 1,757.0            | -245.8                           |
| Dec 11 .....                                 | 6,310.3       | 148.8            | 3,640.2        | 45.1                | 82.4         | 1,430.5           | 1,740.0            | -330.9                           |
| Jan 12 .....                                 | 6,353.8       | 148.4            | 3,672.5        | 41.9                | 85.8         | 1,449.1           | 1,798.2            | -281.8                           |
| Feb 12 .....                                 | 6,434.9       | 146.0            | 3,668.0        | 74.7                | 87.0         | 1,488.7           | 1,812.4            | -242.8                           |
| Mar 12 .....                                 | 6,380.7       | 147.5            | 3,688.0        | 57.8                | 85.9         | 1,414.4           | 1,818.7            | -282.2                           |
| Apr 12 .....                                 | 6,374.8       | 148.5            | 3,704.5        | 55.5                | 86.3         | 1,448.7           | 1,818.9            | -264.6                           |
| Change compared with previous year, per cent |               |                  |                |                     |              |                   |                    |                                  |
| 2007 .....                                   | ...           | 0.6              | 13.5           | -16.4               | 5.2          | 13.5              | 5.0                | ...                              |
| 2008 .....                                   | ...           | 9.8              | 11.0           | -6.2                | -10.7        | 21.4              | 0.2                | ...                              |
| 2009 .....                                   | ...           | 5.3              | -2.1           | 92.4                | 15.5         | -3.0              | 9.4                | ...                              |
| 2010 .....                                   | ...           | 7.9              | 1.3            | -46.6               | 34.3         | -2.3              | 0.6                | ...                              |
| 2011 .....                                   | ...           | 1.5              | -1.5           | 7.9                 | -6.3         | 1.4               | 4.8                | ...                              |
| Apr 11 .....                                 | ...           | 6.7              | 0.3            | -34.0               | 32.6         | 2.4               | 0.6                | ...                              |
| May 11 .....                                 | ...           | 5.0              | -1.1           | -11.6               | 12.0         | 2.2               | 0.2                | ...                              |
| Jun 11 .....                                 | ...           | 4.7              | -1.8           | 11.0                | 9.9          | 1.5               | 0.3                | ...                              |
| Jul 11 .....                                 | ...           | 3.4              | -1.6           | 24.4                | 7.7          | 1.2               | 1.0                | ...                              |
| Aug 11 .....                                 | ...           | 2.7              | -2.3           | 4.3                 | 2.9          | 0.8               | -1.1               | ...                              |
| Sep 11 .....                                 | ...           | 0.1              | -1.5           | 6.7                 | -3.5         | 5.6               | -0.5               | ...                              |
| Oct 11 .....                                 | ...           | 2.2              | -1.5           | 33.1                | -5.2         | 4.4               | -1.6               | ...                              |
| Nov 11 .....                                 | ...           | 1.9              | -1.9           | 75.7                | -4.1         | 3.2               | 4.8                | ...                              |
| Dec 11 .....                                 | ...           | 1.5              | -1.5           | 7.9                 | -6.3         | 1.4               | 4.8                | ...                              |
| Jan 12 .....                                 | ...           | 2.9              | 0.2            | -2.2                | -4.6         | 3.5               | 6.0                | ...                              |
| Feb 12 .....                                 | ...           | 2.1              | 0.5            | 63.0                | -8.5         | 2.5               | 8.2                | ...                              |
| Mar 12 .....                                 | ...           | 1.1              | 0.4            | 25.2                | -8.3         | -2.3              | 8.4                | ...                              |
| Apr 12 .....                                 | ...           | 2.1              | 1.2            | 12.2                | -6.3         | -1.0              | 8.1                | ...                              |

Note: The MFI sector includes Danish monetary financial institutions, i.e. banks and mortgage banks, other credit institutions, money-market funds and Danmarks Nationalbank.

<sup>1</sup> The net foreign assets of the MFI sector has been compiled as the difference between all assets and liabilities vis-a-vis non-residents.

## MONEY STOCK

Table 5

| End of period                                | Bank-<br>notes<br>and<br>coin in<br>circulation <sup>1</sup> | Deposits<br>on<br>demand | M1    | Time<br>deposits<br>with<br>original<br>maturity<br>=<2<br>years | Deposits<br>at notice<br>with<br>original<br>maturity<br>=< 3<br>months | M2      | Repur-<br>chase<br>agree-<br>ments | Bonds,<br>etc.<br>issued<br>with<br>original<br>maturity<br>=< 2<br>years | M3      |
|--|--|--------------------------|-------|--|---|---------|------------------------------------|---|---------|
|  | Kr. billion  |                          |       |  |   |         |                                    |   |         |
| 2007 .....                                   | 51.9   | 703.2                    | 755.1 | 204.8  | 18.0  | 977.9   | 6.2                                | 61.5  | 1,045.7 |
| 2008 .....                                   | 50.4   | 702.8                    | 753.2 | 286.4  | 18.4  | 1,058.0 | 4.0                                | 57.0  | 1,119.1 |
| 2009 .....                                   | 48.5   | 744.6                    | 793.1 | 203.0  | 19.6  | 1,015.7 | 10.9                               | 143.0   | 1,169.7 |
| 2010 .....                                   | 52.6   | 747.8                    | 800.4 | 143.9  | 18.0  | 962.3   | 58.2                               | 241.0   | 1,261.8 |
| 2011 .....                                   | 52.5   | 722.7                    | 775.2 | 135.6  | 17.3  | 928.2   | 59.3                               | 194.8   | 1,182.5 |
| Apr 11 .....                                 | 52.7   | 753.4                    | 806.1 | 138.1  | 17.1  | 961.3   | 43.7                               | 102.6   | 1,107.9 |
| May 11 .....                                 | 52.3   | 756.0                    | 808.3 | 141.7  | 17.2  | 967.2   | 41.4                               | 112.7   | 1,121.5 |
| Jun 11 .....                                 | 52.4   | 735.0                    | 787.4 | 141.5  | 16.9  | 945.8   | 50.7                               | 119.1   | 1,115.8 |
| Jul 11 .....                                 | 52.0   | 749.7                    | 801.7 | 146.7  | 16.9  | 965.3   | 57.1                               | 135.3   | 1,158.0 |
| Aug 11 .....                                 | 51.4   | 735.2                    | 786.6 | 140.4  | 17.0  | 943.9   | 66.8                               | 131.4   | 1,142.3 |
| Sep 11 .....                                 | 51.4   | 730.8                    | 782.3 | 140.4  | 17.9  | 940.6   | 73.0                               | 168.1   | 1,181.9 |
| Oct 11 .....                                 | 51.8   | 732.7                    | 784.5 | 139.7  | 17.2  | 941.4   | 59.6                               | 141.5   | 1,142.7 |
| Nov 11 .....                                 | 52.1   | 726.1                    | 778.2 | 140.3  | 17.2  | 935.6   | 53.1                               | 178.9   | 1,167.9 |
| Dec 11 .....                                 | 52.5   | 722.7                    | 775.2 | 135.6  | 17.3  | 928.2   | 59.3                               | 194.8   | 1,182.5 |
| Jan 12 .....                                 | 51.4   | 726.7                    | 778.1 | 147.0  | 19.5  | 944.5   | 63.2                               | 286.4   | 1,294.4 |
| Feb 12 .....                                 | 51.5   | 722.1                    | 773.6 | 146.0  | 20.7  | 940.2   | 52.9                               | 295.9   | 1,289.3 |
| Mar 12 .....                                 | 52.2   | 717.6                    | 769.9 | 135.1  | 20.6  | 925.6   | 56.1                               | 344.2   | 1,326.1 |
| Apr 12 .....                                 | 53.5   | 747.0                    | 800.5 | 135.5  | 21.2  | 957.2   | 62.8                               | 301.1   | 1,321.4 |
| Change compared with previous year, per cent |  |                          |       |  |   |         |                                    |   |         |
| 2007 .....                                   | ...  | ...                      | 8.0   | ...  | ...   | 13.3    | ...                                | ...   | 17.2    |
| 2008 .....                                   | ...  | ...                      | -0.3  | ...  | ...   | 8.2     | ...                                | ...   | 7.0     |
| 2009 .....                                   | ...  | ...                      | 5.3   | ...  | ...   | -4.0    | ...                                | ...   | 4.5     |
| 2010 .....                                   | ...  | ...                      | 0.9   | ...  | ...   | -5.3    | ...                                | ...   | 7.9     |
| 2011 .....                                   | ...  | ...                      | -3.2  | ...  | ...   | -3.5    | ...                                | ...   | -6.3    |
| Apr 11 .....                                 | ...  | ...                      | -2.8  | ...  | ...   | -5.3    | ...                                | ...   | -8.4    |
| May 11 .....                                 | ...  | ...                      | -3.7  | ...  | ...   | -5.8    | ...                                | ...   | -9.0    |
| Jun 11 .....                                 | ...  | ...                      | -4.7  | ...  | ...   | -5.1    | ...                                | ...   | -8.7    |
| Jul 11 .....                                 | ...  | ...                      | -4.9  | ...  | ...   | -5.4    | ...                                | ...   | -10.9   |
| Aug 11 .....                                 | ...  | ...                      | -6.2  | ...  | ...   | -6.9    | ...                                | ...   | -12.7   |
| Sep 11 .....                                 | ...  | ...                      | -4.2  | ...  | ...   | -2.7    | ...                                | ...   | -5.2    |
| Oct 11 .....                                 | ...  | ...                      | -4.8  | ...  | ...   | -6.1    | ...                                | ...   | -9.9    |
| Nov 11 .....                                 | ...  | ...                      | -4.7  | ...  | ...   | -4.9    | ...                                | ...   | -6.8    |
| Dec 11 .....                                 | ...  | ...                      | -3.2  | ...  | ...   | -3.5    | ...                                | ...   | -6.3    |
| Jan 12 .....                                 | ...  | ...                      | -2.1  | ...  | ...   | -0.9    | ...                                | ...   | 14.6    |
| Feb 12 .....                                 | ...  | ...                      | -2.7  | ...  | ...   | -1.5    | ...                                | ...   | 14.0    |
| Mar 12 .....                                 | ...  | ...                      | -1.3  | ...  | ...   | -1.6    | ...                                | ...   | 15.5    |
| Apr 12 .....                                 | ...  | ...                      | -0.7  | ...  | ...   | -0.4    | ...                                | ...   | 19.3    |

<sup>1</sup> Notes and coin in circulation, excluding the banks' holdings.

SELECTED ITEMS FROM THE BALANCE SHEET OF THE BANKS

Table 6

| End of period                                | Total balance | Assets          |                  |                  |                         |                        | Liabilities     |          |  |
|--|---------------|-----------------|------------------|------------------|-------------------------|------------------------|-----------------|----------|--|
|  |               | Lending to MFIs | Domestic lending |                  |                         | Holdings of securities | Loans from MFIs | Deposits |  |
|  |               |                 | Total            | of which:        |                         |                        |                 |          |  |
|  |               |                 |                  | Households, etc. | Non-financial companies |                        |                 |          |  |
| Kr. billion                                  |               |                 |                  |                  |                         |                        |                 |          |  |
| 2007 .....                                   | 3,940.0       | 924.3           | 1,333.6          | 557.4            | 551.8                   | 1,065.8                | 1,433.5         | 1,353.9  |  |
| 2008 .....                                   | 4,568.5       | 974.6           | 1,546.3          | 586.8            | 603.3                   | 1,092.1                | 1,444.2         | 1,424.2  |  |
| 2009 .....                                   | 4,147.6       | 876.1           | 1,359.1          | 575.7            | 529.7                   | 1,203.5                | 1,168.8         | 1,427.4  |  |
| 2010 .....                                   | 4,197.4       | 902.7           | 1,334.6          | 570.2            | 494.7                   | 1,157.1                | 1,118.3         | 1,489.7  |  |
| 2011 .....                                   | 4,234.7       | 841.3           | 1,230.0          | 562.0            | 430.4                   | 1,151.6                | 1,052.5         | 1,483.6  |  |
| Apr 11 .....                                 | 3,930.7       | 728.2           | 1,286.8          | 559.9            | 478.5                   | 1,127.2                | 903.1           | 1,443.6  |  |
| May 11 .....                                 | 3,909.1       | 740.1           | 1,258.5          | 556.0            | 462.0                   | 1,112.7                | 831.5           | 1,496.1  |  |
| Jun 11 .....                                 | 3,870.4       | 731.0           | 1,273.4          | 564.4            | 463.4                   | 1,131.6                | 949.6           | 1,461.1  |  |
| Jul 11 .....                                 | 3,923.9       | 723.1           | 1,253.8          | 560.4            | 449.4                   | 1,146.8                | 937.7           | 1,493.2  |  |
| Aug 11 .....                                 | 4,011.0       | 733.3           | 1,238.1          | 559.8            | 446.4                   | 1,139.0                | 953.4           | 1,476.8  |  |
| Sep 11 .....                                 | 4,159.8       | 758.7           | 1,264.2          | 566.9            | 453.0                   | 1,120.1                | 989.2           | 1,486.5  |  |
| Oct 11 .....                                 | 4,045.9       | 734.2           | 1,252.7          | 561.9            | 446.2                   | 1,122.1                | 978.8           | 1,453.2  |  |
| Nov 11 .....                                 | 4,022.8       | 747.5           | 1,229.4          | 556.6            | 445.6                   | 1,119.1                | 977.6           | 1,462.2  |  |
| Dec 11 .....                                 | 4,234.7       | 841.3           | 1,230.0          | 562.0            | 430.4                   | 1,151.6                | 1,052.5         | 1,483.6  |  |
| Jan 12 .....                                 | 4,237.3       | 762.8           | 1,258.4          | 553.8            | 427.1                   | 1,169.4                | 1,051.2         | 1,491.8  |  |
| Feb 12 .....                                 | 4,241.5       | 801.9           | 1,244.0          | 550.7            | 427.7                   | 1,144.2                | 1,091.2         | 1,437.5  |  |
| Mar 12 .....                                 | 4,288.8       | 843.4           | 1,262.6          | 558.4            | 433.6                   | 1,192.9                | 1,192.8         | 1,436.5  |  |
| Apr 12 .....                                 | 4,246.7       | 800.8           | 1,277.3          | 547.6            | 441.3                   | 1,138.9                | 1,096.9         | 1,451.3  |  |
| Change compared with previous year, per cent |               |                 |                  |                  |                         |                        |                 |          |  |
| 2007 .....                                   | ...           | 29.3            | 18.6             | 17.4             | 20.5                    | 19.8                   | 27.1            | 17.3     |  |
| 2008 .....                                   | ...           | 5.4             | 15.9             | 5.3              | 9.3                     | 2.5                    | 0.7             | 5.2      |  |
| 2009 .....                                   | ...           | -10.1           | -12.1            | -1.9             | -12.2                   | 10.2                   | -19.1           | 0.2      |  |
| 2010 .....                                   | ...           | 3.0             | -1.8             | -1.0             | -6.6                    | -3.9                   | -4.3            | 4.4      |  |
| 2011 .....                                   | ...           | -6.8            | -7.8             | -1.4             | -13.0                   | -0.5                   | -5.9            | -0.4     |  |
| Apr 11 .....                                 | ...           | -20.5           | -3.5             | 0.0              | -9.4                    | -5.3                   | -20.8           | -0.4     |  |
| May 11 .....                                 | ...           | -22.8           | -7.0             | -0.5             | -12.3                   | -8.5                   | -29.1           | 2.2      |  |
| Jun 11 .....                                 | ...           | -20.4           | -8.3             | -0.9             | -12.9                   | -11.3                  | -20.8           | 2.4      |  |
| Jul 11 .....                                 | ...           | -22.7           | -7.9             | -0.5             | -12.0                   | -7.8                   | -18.4           | 0.0      |  |
| Aug 11 .....                                 | ...           | -24.0           | -9.7             | -0.6             | -13.9                   | -6.8                   | -17.9           | -4.4     |  |
| Sep 11 .....                                 | ...           | -16.6           | -7.3             | -0.7             | -10.3                   | -8.5                   | -23.7           | 1.5      |  |
| Oct 11 .....                                 | ...           | -20.3           | -7.1             | -0.3             | -10.1                   | -2.8                   | -16.6           | -4.0     |  |
| Nov 11 .....                                 | ...           | -23.5           | -8.2             | -0.7             | -10.6                   | -5.1                   | -20.9           | -3.1     |  |
| Dec 11 .....                                 | ...           | -6.8            | -7.8             | -1.4             | -13.0                   | -0.5                   | -5.9            | -0.4     |  |
| Jan 12 .....                                 | ...           | -8.5            | -3.2             | -1.3             | -12.6                   | 0.8                    | 0.1             | 1.1      |  |
| Feb 12 .....                                 | ...           | -3.6            | -2.8             | -1.4             | -11.9                   | 0.8                    | 8.8             | -1.9     |  |
| Mar 12 .....                                 | ...           | 5.9             | -2.9             | -1.2             | -10.1                   | 5.3                    | 19.7            | -0.4     |  |
| Apr 12 .....                                 | ...           | 10.0            | -0.7             | -2.2             | -7.8                    | 1.0                    | 21.5            | 0.5      |  |

Note: Excluding Danish banks' units abroad.



SELECTED ITEMS FROM THE BALANCE SHEET OF  
 THE MORTGAGE BANKS

Table 7

| End of period                                | Assets        |                 |                  |                  |                         |                        | Liabilities     |                    |
|--|---------------|-----------------|------------------|------------------|-------------------------|------------------------|-----------------|--------------------|
|  | Total balance | Lending to MFIs | Domestic lending |                  |                         | Holdings of securities | Loans from MFIs | Bonds, etc. issued |
|  |               |                 | Total            | of which:        |                         |                        |                 |                    |
|  |               |                 |                  | Households, etc. | Non-financial companies |                        |                 |                    |
| Kr. billion                                  |               |                 |                  |                  |                         |                        |                 |                    |
| 2007 .....                                   | 3,088.2       | 362.8           | 2,015.5          | 1,549.2          | 404.0                   | 649.2                  | 344.2           | 2,495.2            |
| 2008 .....                                   | 3,322.7       | 428.5           | 2,164.6          | 1,629.6          | 466.7                   | 633.5                  | 474.4           | 2,582.3            |
| 2009 .....                                   | 3,827.1       | 512.2           | 2,278.8          | 1,712.2          | 501.0                   | 927.6                  | 539.3           | 3,048.3            |
| 2010 .....                                   | 4,009.6       | 572.6           | 2,347.1          | 1,749.2          | 532.0                   | 976.9                  | 632.1           | 3,139.3            |
| 2011 .....                                   | 3,996.4       | 602.9           | 2,396.2          | 1,775.5          | 558.1                   | 869.9                  | 660.9           | 3,135.3            |
| Apr 11 .....                                 | 3,202.2       | 451.5           | 2,356.3          | 1,751.7          | 539.0                   | 297.5                  | 506.8           | 2,482.4            |
| May 11 .....                                 | 3,227.5       | 453.5           | 2,363.0          | 1,754.5          | 542.7                   | 305.7                  | 515.0           | 2,503.8            |
| Jun 11 .....                                 | 3,266.8       | 508.2           | 2,365.1          | 1,754.5          | 544.3                   | 295.6                  | 528.5           | 2,509.4            |
| Jul 11 .....                                 | 3,256.6       | 481.8           | 2,368.2          | 1,756.3          | 545.4                   | 300.7                  | 530.9           | 2,516.0            |
| Aug 11 .....                                 | 3,310.8       | 493.3           | 2,375.9          | 1,762.0          | 548.0                   | 325.5                  | 546.5           | 2,560.9            |
| Sep 11 .....                                 | 3,494.0       | 574.1           | 2,375.7          | 1,760.1          | 549.0                   | 433.9                  | 597.5           | 2,693.1            |
| Oct 11 .....                                 | 3,339.0       | 510.7           | 2,379.3          | 1,763.7          | 551.8                   | 336.8                  | 553.7           | 2,588.5            |
| Nov 11 .....                                 | 3,439.7       | 517.8           | 2,385.3          | 1,768.0          | 554.2                   | 417.8                  | 554.7           | 2,690.6            |
| Dec 11 .....                                 | 3,996.4       | 602.9           | 2,396.2          | 1,775.5          | 558.1                   | 869.9                  | 660.9           | 3,135.3            |
| Jan 12 .....                                 | 3,377.5       | 543.8           | 2,398.1          | 1,777.8          | 558.4                   | 321.6                  | 569.3           | 2,635.9            |
| Feb 12 .....                                 | 3,471.1       | 573.0           | 2,402.8          | 1,781.5          | 559.5                   | 374.2                  | 591.6           | 2,697.5            |
| Mar 12 .....                                 | 3,733.1       | 674.0           | 2,407.9          | 1,782.3          | 561.8                   | 535.0                  | 644.9           | 2,890.4            |
| Apr 12 .....                                 | 3,397.1       | 553.6           | 2,408.6          | 1,783.2          | 562.3                   | 321.7                  | 578.2           | 2,641.0            |
| Change compared with previous year, per cent |               |                 |                  |                  |                         |                        |                 |                    |
| 2007 .....                                   | ...           | 48.0            | 9.9              | 9.1              | 12.8                    | 13.1                   | 52.0            | 8.6                |
| 2008 .....                                   | ...           | 18.1            | 7.4              | 5.2              | 15.5                    | -2.4                   | 37.8            | 3.5                |
| 2009 .....                                   | ...           | 19.5            | 5.3              | 5.1              | 7.4                     | 46.4                   | 13.7            | 18.0               |
| 2010 .....                                   | ...           | 11.8            | 3.0              | 2.2              | 6.2                     | 5.3                    | 17.2            | 3.0                |
| 2011 .....                                   | ...           | 5.3             | 2.1              | 1.5              | 4.9                     | -11.0                  | 4.6             | -0.1               |
| Apr 11 .....                                 | ...           | 6.3             | 2.6              | 2.0              | 4.8                     | -0.1                   | 2.9             | 1.2                |
| May 11 .....                                 | ...           | -1.4            | 2.6              | 1.9              | 4.9                     | 1.9                    | 0.4             | 0.5                |
| Jun 11 .....                                 | ...           | -2.9            | 2.3              | 1.6              | 5.0                     | -9.2                   | -3.0            | -1.2               |
| Jul 11 .....                                 | ...           | 0.8             | 2.2              | 1.4              | 5.0                     | -7.7                   | 0.1             | 0.0                |
| Aug 11 .....                                 | ...           | -1.9            | 2.1              | 1.3              | 5.4                     | -4.8                   | -0.6            | -0.1               |
| Sep 11 .....                                 | ...           | -1.6            | 1.8              | 1.1              | 4.6                     | 5.8                    | 2.9             | 1.6                |
| Oct 11 .....                                 | ...           | 2.4             | 1.8              | 1.1              | 5.0                     | -3.1                   | 3.2             | 0.9                |
| Nov 11 .....                                 | ...           | -1.3            | 1.7              | 1.1              | 4.8                     | -1.6                   | -2.5            | 2.2                |
| Dec 11 .....                                 | ...           | 5.3             | 2.1              | 1.5              | 4.9                     | -11.0                  | 4.6             | -0.1               |
| Jan 12 .....                                 | ...           | 19.7            | 2.2              | 1.8              | 4.7                     | 4.6                    | 7.5             | 6.3                |
| Feb 12 .....                                 | ...           | 25.9            | 2.3              | 1.9              | 4.6                     | 19.7                   | 12.6            | 8.5                |
| Mar 12 .....                                 | ...           | 32.2            | 2.3              | 1.9              | 4.2                     | 15.0                   | 14.6            | 9.7                |
| Apr 12 .....                                 | ...           | 22.6            | 2.2              | 1.8              | 4.3                     | 8.2                    | 14.1            | 6.4                |

LENDING TO RESIDENTS BY THE BANKS AND  
 THE MORTGAGE BANKS

Table 8

| End of period | Total lending                                |                  |                | The banks' lending |                  |                | The mortgage banks' lending |                  |                |
|---------------|--|------------------|----------------|--------------------|------------------|----------------|-----------------------------|------------------|----------------|
|               | Total  | Households, etc. | Business, etc. | Total              | Households, etc. | Business, etc. | Total                       | Households, etc. | Business, etc. |
|               | Kr. billion                                  |                  |                |                    |                  |                |                             |                  |                |
| 2007 .....    | 3,387.8                                      | 2,106.7          | 1,173.0        | 1,372.3            | 557.4            | 760.5          | 2,015.5                     | 1,549.2          | 412.4          |
| 2008 .....    | 3,787.5                                      | 2,216.4          | 1,456.4        | 1,622.9            | 586.8            | 978.3          | 2,164.6                     | 1,629.6          | 478.1          |
| 2009 .....    | 3,682.4                                      | 2,287.9          | 1,283.8        | 1,403.6            | 575.7            | 770.0          | 2,278.8                     | 1,712.2          | 513.8          |
| 2010 .....    | 3,704.3                                      | 2,319.4          | 1,281.8        | 1,357.2            | 570.2            | 738.6          | 2,347.1                     | 1,749.2          | 543.1          |
| 2011 .....    | 3,644.8                                      | 2,337.6          | 1,216.5        | 1,248.6            | 562.0            | 646.3          | 2,396.2                     | 1,775.5          | 570.1          |
| Apr 11 .....  | 3,660.7                                      | 2,311.6          | 1,254.7        | 1,304.4            | 559.9            | 704.3          | 2,356.3                     | 1,751.7          | 550.3          |
| May 11 .....  | 3,639.2                                      | 2,310.6          | 1,234.8        | 1,276.1            | 556.0            | 680.6          | 2,363.0                     | 1,754.5          | 554.3          |
| Jun 11 .....  | 3,656.1                                      | 2,318.9          | 1,237.2        | 1,291.0            | 564.4            | 681.2          | 2,365.1                     | 1,754.5          | 556.0          |
| Jul 11 .....  | 3,640.8                                      | 2,316.7          | 1,224.1        | 1,272.7            | 560.4            | 666.9          | 2,368.2                     | 1,756.3          | 557.2          |
| Aug 11 .....  | 3,632.9                                      | 2,321.8          | 1,220.0        | 1,257.0            | 559.8            | 660.0          | 2,375.9                     | 1,762.0          | 560.0          |
| Sep 11 .....  | 3,658.7                                      | 2,327.0          | 1,239.8        | 1,283.0            | 566.9            | 678.8          | 2,375.7                     | 1,760.1          | 560.9          |
| Oct 11 .....  | 3,650.5                                      | 2,325.6          | 1,234.3        | 1,271.3            | 561.9            | 670.5          | 2,379.3                     | 1,763.7          | 563.8          |
| Nov 11 .....  | 3,633.3                                      | 2,324.6          | 1,218.6        | 1,248.0            | 556.6            | 652.4          | 2,385.3                     | 1,768.0          | 566.2          |
| Dec 11 .....  | 3,644.8                                      | 2,337.6          | 1,216.5        | 1,248.6            | 562.0            | 646.3          | 2,396.2                     | 1,775.5          | 570.1          |
| Jan 12 .....  | 3,674.1                                      | 2,331.5          | 1,253.3        | 1,276.0            | 553.8            | 682.9          | 2,398.1                     | 1,777.8          | 570.4          |
| Feb 12 .....  | 3,664.4                                      | 2,332.2          | 1,246.1        | 1,261.6            | 550.7            | 674.2          | 2,402.8                     | 1,781.5          | 571.9          |
| Mar 12 .....  | 3,688.1                                      | 2,340.7          | 1,258.6        | 1,280.2            | 558.4            | 683.9          | 2,407.9                     | 1,782.3          | 574.7          |
| Apr 12 .....  | 3,703.5                                      | 2,330.8          | 1,283.9        | 1,294.9            | 547.6            | 708.5          | 2,408.6                     | 1,783.2          | 575.4          |
|               | Change compared with previous year, per cent |                  |                |                    |                  |                |                             |                  |                |
| 2007 .....    | 12.9   | 11.2             | 17.0           | 17.7               | 17.4             | 19.4           | 9.9                         | 9.1              | 12.8           |
| 2008 .....    | 11.8   | 5.2              | 24.2           | 18.3               | 5.3              | 28.6           | 7.4                         | 5.2              | 15.9           |
| 2009 .....    | -2.8   | 3.2              | -11.9          | -13.5              | -1.9             | -21.3          | 5.3                         | 5.1              | 7.5            |
| 2010 .....    | 0.6  | 1.4              | -0.2           | -3.3               | -1.0             | -4.1           | 3.0                         | 2.2              | 5.7            |
| 2011 .....    | -1.6   | 0.8              | -5.1           | -8.0               | -1.4             | -12.5          | 2.1                         | 1.5              | 5.0            |
| Apr 11 .....  | 0.0  | 1.5              | -1.8           | -4.3               | 0.0              | -6.3           | 2.6                         | 2.0              | 4.6            |
| May 11 .....  | -1.3   | 1.3              | -5.0           | -7.7               | -0.5             | -11.7          | 2.6                         | 1.9              | 4.8            |
| Jun 11 .....  | -2.0   | 1.0              | -6.6           | -8.9               | -0.9             | -14.3          | 2.3                         | 1.6              | 5.0            |
| Jul 11 .....  | -1.6   | 0.9              | -5.3           | -7.8               | -0.5             | -12.5          | 2.2                         | 1.4              | 4.9            |
| Aug 11 .....  | -2.2   | 0.8              | -6.7           | -9.6               | -0.6             | -15.0          | 2.1                         | 1.3              | 5.4            |
| Sep 11 .....  | -1.5   | 0.7              | -4.3           | -7.2               | -0.7             | -10.6          | 1.8                         | 1.1              | 4.7            |
| Oct 11 .....  | -1.6   | 0.8              | -4.7           | -7.3               | -0.3             | -11.7          | 1.8                         | 1.1              | 5.1            |
| Nov 11 .....  | -2.0   | 0.6              | -5.8           | -8.3               | -0.7             | -13.4          | 1.7                         | 1.1              | 4.9            |
| Dec 11 .....  | -1.6   | 0.8              | -5.1           | -8.0               | -1.4             | -12.5          | 2.1                         | 1.5              | 5.0            |
| Jan 12 .....  | 0.2  | 1.0              | -0.5           | -3.3               | -1.3             | -4.5           | 2.2                         | 1.8              | 4.8            |
| Feb 12 .....  | 0.4  | 1.1              | 0.0            | -2.9               | -1.4             | -3.7           | 2.3                         | 1.9              | 4.7            |
| Mar 12 .....  | 0.4  | 1.2              | -0.4           | -3.0               | -1.2             | -4.0           | 2.3                         | 1.9              | 4.4            |
| Apr 12 .....  | 1.2  | 0.8              | 2.3            | -0.7               | -2.2             | 0.6            | 2.2                         | 1.8              | 4.6            |

Note: Including lending in Danish banks' units abroad. The category "Business etc." includes non-financial companies, pension and insurance companies, other financial intermediaries (except banks and mortgage banks) and unknown sector.

THE MORTGAGE BANKS' LENDING BROKEN DOWN BY TYPE

Table 9

| End of period | Index-linked lending | Fixed-rate lending | Adjustable-rate lending |                   | Total   | of which: |                             |                                      |
|---------------|----------------------|--------------------|-------------------------|-------------------|---------|-----------|-----------------------------|--------------------------------------|
|               |                      |                    | Total                   | of which =<1 year |         | Total     | Lending in foreign currency | Instalment-free lending <sup>1</sup> |
|               |                      |                    |                         |                   |         |           |                             |                                      |
| 2007 .....    | 77.9                 | 889.2              | 1,045.6                 | 796.6             | 2,012.7 | 123.8     | 547.3                       |                                      |
| 2008 .....    | 72.4                 | 903.9              | 1,189.1                 | 900.3             | 2,165.4 | 155.3     | 626.4                       |                                      |
| 2009 .....    | 68.3                 | 740.2              | 1,472.7                 | 1,106.6           | 2,281.2 | 211.4     | 695.1                       |                                      |
| 2010 .....    | 63.9                 | 644.1              | 1,641.0                 | 1,190.5           | 2,349.0 | 232.3     | 740.6                       |                                      |
| 2011 .....    | 59.8                 | 606.4              | 1,728.1                 | 1,229.5           | 2,394.4 | 219.0     | 780.2                       |                                      |
| Apr 11 .....  | 64.4                 | 633.4              | 1,660.4                 | 1,197.0           | 2,358.1 | 230.8     | 751.2                       |                                      |
| May 11 .....  | 64.1                 | 634.9              | 1,666.1                 | 1,200.2           | 2,365.1 | 230.7     | 754.0                       |                                      |
| Jun 11 .....  | 62.2                 | 634.0              | 1,670.4                 | 1,202.8           | 2,366.7 | 231.3     | 757.1                       |                                      |
| Jul 11 .....  | 62.2                 | 632.3              | 1,675.5                 | 1,205.1           | 2,370.0 | 230.4     | 759.3                       |                                      |
| Aug 11 .....  | 62.2                 | 636.1              | 1,679.5                 | 1,206.3           | 2,377.8 | 230.4     | 762.9                       |                                      |
| Sep 11 .....  | 62.2                 | 631.1              | 1,684.1                 | 1,215.4           | 2,377.4 | 230.0     | 765.8                       |                                      |
| Oct 11 .....  | 62.3                 | 627.1              | 1,691.7                 | 1,207.6           | 2,381.1 | 227.8     | 769.5                       |                                      |
| Nov 11 .....  | 61.9                 | 623.6              | 1,701.6                 | 1,210.9           | 2,387.1 | 226.3     | 774.6                       |                                      |
| Dec 11 .....  | 59.8                 | 606.4              | 1,728.1                 | 1,229.5           | 2,394.4 | 219.0     | 780.2                       |                                      |
| Jan 12 .....  | 60.1                 | 607.8              | 1,731.5                 | 1,232.1           | 2,399.5 | 212.6     | 781.6                       |                                      |
| Feb 12 .....  | 60.3                 | 606.3              | 1,737.8                 | 1,229.5           | 2,404.4 | 211.9     | 784.6                       |                                      |
| Mar 12 .....  | 60.5                 | 593.5              | 1,755.2                 | 1,235.6           | 2,409.2 | 210.5     | 786.8                       |                                      |
| Apr 12 .....  | 60.7                 | 583.7              | 1,765.6                 | 1,254.5           | 2,410.1 | 208.9     | 789.5                       |                                      |

Note: The Table includes the mortgage-credit lending to residents only, whereas Tables 7 and 8 include the institutes' total lending to residents.

<sup>1</sup> The mortgage banks' instalment-free lending to owner-occupied dwellings.

## THE BANKS' EFFECTIVE INTEREST RATES

Table 10

|              | Lending             |                  |                         |                     | Deposits    |                  |                         |                     |
|--------------|---------------------|------------------|-------------------------|---------------------|-------------|------------------|-------------------------|---------------------|
|              | All sectors         | Households, etc. | Non-financial companies | Financial companies | All sectors | Households, etc. | Non-financial companies | Financial companies |
|              | Per cent, per annum |                  |                         |                     |             |                  |                         |                     |
| Q1 07 .....  | 5.7                 | 7.1              | 5.5                     | 3.6                 | 3.1         | 2.8              | 3.2                     | 3.4                 |
| Q2 07 .....  | 5.9                 | 7.2              | 5.7                     | 4.0                 | 3.4         | 3.1              | 3.4                     | 3.8                 |
| Q3 07 .....  | 6.1                 | 7.4              | 6.0                     | 4.1                 | 3.6         | 3.3              | 3.6                     | 4.0                 |
| Q4 07 .....  | 6.2                 | 7.4              | 6.1                     | 4.3                 | 3.7         | 3.4              | 3.7                     | 4.1                 |
| Q1 08 .....  | 6.2                 | 7.5              | 6.1                     | 4.5                 | 3.7         | 3.5              | 3.8                     | 4.2                 |
| Q2 08 .....  | 6.5                 | 7.7              | 6.3                     | 4.6                 | 3.8         | 3.6              | 3.9                     | 4.2                 |
| Q3 08 .....  | 6.6                 | 7.8              | 6.5                     | 4.9                 | 4.0         | 3.6              | 4.1                     | 4.5                 |
| Q4 08 .....  | 7.0                 | 8.4              | 7.1                     | 5.2                 | 4.4         | 3.9              | 4.5                     | 5.0                 |
| Q1 09 .....  | 6.0                 | 7.4              | 6.3                     | 4.0                 | 3.3         | 2.8              | 3.2                     | 4.1                 |
| Q2 09 .....  | 5.1                 | 6.4              | 5.4                     | 2.7                 | 2.2         | 2.0              | 2.0                     | 2.6                 |
| Q3 09 .....  | 4.5                 | 6.0              | 5.0                     | 2.1                 | 1.7         | 1.7              | 1.5                     | 1.9                 |
| Q4 09 .....  | 4.1                 | 5.6              | 4.6                     | 1.7                 | 1.4         | 1.5              | 1.1                     | 1.5                 |
| Q1 10 .....  | 3.9                 | 5.5              | 4.4                     | 1.5                 | 1.2         | 1.4              | 0.9                     | 1.3                 |
| Q2 10 .....  | 3.6                 | 5.3              | 4.2                     | 1.3                 | 1.0         | 1.2              | 0.7                     | 1.0                 |
| Q3 10 .....  | 3.5                 | 5.1              | 4.1                     | 1.2                 | 0.9         | 1.1              | 0.6                     | 0.8                 |
| Q4 10 .....  | 3.6                 | 5.1              | 4.2                     | 1.2                 | 0.9         | 1.1              | 0.6                     | 0.9                 |
| Q1 11 .....  | 3.8                 | 5.2              | 4.2                     | 1.3                 | 1.0         | 1.1              | 0.7                     | 0.9                 |
| Q2 11 .....  | 4.0                 | 5.3              | 4.3                     | 1.6                 | 1.1         | 1.2              | 0.8                     | 1.1                 |
| Q3 11 .....  | 4.2                 | 5.6              | 4.6                     | 1.7                 | 1.2         | 1.3              | 0.9                     | 1.3                 |
| Q4 11 .....  | 4.2                 | 5.8              | 4.7                     | 1.5                 | 1.1         | 1.3              | 0.8                     | 1.0                 |
| Q1 12 .....  | 4.0                 | 6.0              | 4.7                     | 1.0                 | 0.9         | 1.2              | 0.6                     | 0.6                 |
| Apr 11 ..... | 4.0                 | 5.2              | 4.4                     | 1.5                 | 1.0         | 1.1              | 0.8                     | 1.1                 |
| May 11 ..... | 4.1                 | 5.3              | 4.4                     | 1.6                 | 1.1         | 1.2              | 0.8                     | 1.2                 |
| Jun 11 ..... | 4.0                 | 5.3              | 4.4                     | 1.6                 | 1.1         | 1.2              | 0.9                     | 1.1                 |
| Jul 11 ..... | 4.1                 | 5.5              | 4.5                     | 1.7                 | 1.2         | 1.3              | 0.9                     | 1.3                 |
| Aug 11 ..... | 4.3                 | 5.6              | 4.7                     | 1.8                 | 1.2         | 1.3              | 1.0                     | 1.3                 |
| Sep 11 ..... | 4.2                 | 5.7              | 4.6                     | 1.6                 | 1.2         | 1.3              | 0.9                     | 1.3                 |
| Oct 11 ..... | 4.2                 | 5.7              | 4.7                     | 1.6                 | 1.2         | 1.3              | 0.9                     | 1.2                 |
| Nov 11 ..... | 4.3                 | 5.8              | 4.8                     | 1.5                 | 1.1         | 1.3              | 0.8                     | 1.0                 |
| Dec 11 ..... | 4.1                 | 5.7              | 4.6                     | 1.3                 | 1.0         | 1.2              | 0.7                     | 0.9                 |
| Jan 12 ..... | 3.9                 | 5.8              | 4.6                     | 1.1                 | 0.9         | 1.2              | 0.6                     | 0.7                 |
| Feb 12 ..... | 4.0                 | 6.1              | 4.8                     | 1.0                 | 0.9         | 1.2              | 0.6                     | 0.7                 |
| Mar 12 ..... | 4.1                 | 6.1              | 4.8                     | 1.0                 | 0.9         | 1.2              | 0.6                     | 0.6                 |
| Apr 12 ..... | 4.1                 | 6.3              | 4.9                     | 1.1                 | 0.9         | 1.2              | 0.5                     | 0.5                 |

DANMARKS NATIONALBANK'S LENDING SURVEY

Table 11

|             | Changes in banks and mortgage banks' credit policies |                                     |                                |                                     |
|-------------|--|-------------------------------------|--------------------------------|-------------------------------------|
|             | Corporate lending                                    |                                     | Lending to households          |                                     |
|             | Development in current quarter                       | Expectations for the coming quarter | Development in current quarter | Expectations for the coming quarter |
|             | Net balance  |                                     |                                |                                     |
| Q1 09 ..... | -59.8  | -27.6                               | -23.1                          | -5.2                                |
| Q2 09 ..... | -10.4  | -6.7                                | -1.0                           | -5.0                                |
| Q3 09 ..... | -3.7   | -0.9                                | -0.1                           | -4.7                                |
| Q4 09 ..... | 2.4  | -4.1                                | -4.5                           | 0.0                                 |
| Q1 10 ..... | -7.3   | -0.2                                | -4.5                           | -4.8                                |
| Q2 10 ..... | 0.6  | 0.9                                 | 0.0                            | 4.7                                 |
| Q3 10 ..... | 1.1  | -0.1                                | -0.3                           | 4.6                                 |
| Q4 10 ..... | 8.4  | 10.1                                | 0.0                            | 0.1                                 |
| Q1 11 ..... | -2.7   | 3.0                                 | 4.4                            | -5.7                                |
| Q2 11 ..... | -8.5   | 0.9                                 | 0.0                            | -4.4                                |
| Q3 11 ..... | -20.7  | -1.9                                | -23.3                          | 0.3                                 |
| Q4 11 ..... | -4.2   | -10.3                               | -6.0                           | -22.3                               |
| Q1 12 ..... | -5.6   | -2.1                                | -25.0                          | -0.2                                |

Note: A negative net balance indicates that, overall, the institutions have tightened their credit policies, thus making it more difficult to obtain loans, while a positive net balance indicates an overall easing of credit policies. The net balance indicates the institutions' assessment of quarter-on-quarter changes and not absolute changes. For a detailed presentation of the lending survey, see Carina Moselund Jensen and Tania Al-Zagheer Sass, Danmarks Nationalbank's Lending Survey – New Statistics for Changes in Banks' and Mortgage-Credit Institutes' Credit Policies, Danmarks Nationalbank, *Monetary Review*, 1st Quarter 2009.

## SELECTED ITEMS FROM THE BALANCE SHEET OF INVESTMENT FUNDS

Table 12

| End of period | Total balance | Assets                 |              | Liabilities  |                                       |       |        |
|---------------|---------------|------------------------|--------------|--|---------------------------------------|-------|--------|
|               |               | Holdings of securities |              | Investment fund shares/units broken down by sector |                                       |       |        |
|               |               | Bonds, etc.            | Shares, etc. | Households   | Insurance companies and pension funds | Other | Abroad |
|               |               |                        |              |  |                                       |       |        |
|               |               | Kr. billion.           |              |  |                                       |       |        |
| 2007 .....    | 1,020.7       | 477.9                  | 411.6        | 295.2  | 336.8                                 | 322.1 | 29.2   |
| 2008 .....    | 773.2         | 425.3                  | 222.5        | 211.4  | 266.9                                 | 238.1 | 14.6   |
| 2009 .....    | 865.5         | 487.5                  | 301.4        | 252.7  | 357.8                                 | 185.1 | 22.7   |
| 2010 .....    | 1,287.6       | 768.8                  | 385.9        | 299.1  | 653.1                                 | 235.5 | 25.2   |
| 2011 .....    | 1,424.5       | 872.5                  | 356.1        | 300.0  | 682.5                                 | 316.4 | 25.6   |
| Apr 11 .....  | 1,295.4       | 775.2                  | 386.7        | 298.4  | 662.6                                 | 240.4 | 25.9   |
| May 11 .....  | 1,363.0       | 798.7                  | 391.0        | 303.1  | 668.0                                 | 295.1 | 26.2   |
| Jun 11 .....  | 1,348.3       | 784.4                  | 380.9        | 301.0  | 655.2                                 | 295.1 | 26.3   |
| Jul 11 .....  | 1,365.5       | 809.4                  | 375.7        | 303.2  | 660.3                                 | 300.4 | 26.5   |
| Aug 11 .....  | 1,340.2       | 822.3                  | 333.5        | 292.4  | 646.8                                 | 295.8 | 23.8   |
| Sep 11 .....  | 1,335.6       | 830.8                  | 326.0        | 286.0  | 643.2                                 | 291.7 | 23.3   |
| Oct 11 .....  | 1,383.4       | 836.8                  | 364.3        | 292.9  | 660.5                                 | 300.5 | 24.7   |
| Nov 11 .....  | 1,400.8       | 849.4                  | 375.8        | 293.7  | 661.1                                 | 318.3 | 24.8   |
| Dec 11 .....  | 1,424.5       | 872.5                  | 356.1        | 300.0  | 682.5                                 | 316.4 | 25.6   |
| Jan 12 .....  | 1,486.5       | 893.5                  | 395.4        | 309.4  | 704.3                                 | 329.9 | 26.7   |
| Feb 12 .....  | 1,511.8       | 902.8                  | 409.9        | 314.5  | 714.8                                 | 333.7 | 27.3   |
| Mar 12 .....  | 1,512.6       | 896.4                  | 396.8        | 313.1  | 717.2                                 | 331.5 | 27.2   |
| Apr 12 .....  | 1,531.1       | 910.8                  | 392.3        | 317.3  | 711.2                                 | 346.7 | 27.7   |

SECURITIES ISSUED BY RESIDENTS BY OWNER'S HOME COUNTRY

Table 13

| End of period             | Bonds, etc. |        |                               |        |                       |        |         |        | Shares |
|---------------------------|-------------|--------|-------------------------------|--------|-----------------------|--------|---------|--------|--------|
|                           | Total       |        | of which:                     |        |                       |        |         |        |        |
|                           |             |        | Central-government securities |        | Mortgage-credit bonds |        |         |        |        |
|                           | Denmark     | Abroad | Denmark                       | Abroad | Denmark               | Abroad | Denmark | Abroad |        |
| Market value, kr. billion |             |        |                               |        |                       |        |         |        |        |
| 2007 .....                | 2,701.2     | 475.8  | 301.9                         | 176.2  | 2,247.1               | 287.7  | 996.1   | 445.4  |        |
| 2008 .....                | 2,981.3     | 405.0  | 363.1                         | 158.5  | 2,419.4               | 227.4  | 529.9   | 244.4  |        |
| 2009 .....                | 3,414.8     | 431.8  | 394.1                         | 159.8  | 2,802.7               | 252.0  | 641.0   | 347.5  |        |
| 2010 .....                | 3,540.3     | 549.9  | 473.9                         | 173.1  | 2,834.9               | 352.5  | 784.5   | 545.5  |        |
| 2011 .....                | 3,547.8     | 639.0  | 515.5                         | 261.4  | 2,835.6               | 361.7  | 646.4   | 471.9  |        |
| Apr 11 .....              | 2,795.1     | 575.1  | 463.3                         | 199.4  | 2,117.2               | 352.4  | 783.1   | 554.1  |        |
| May 11 .....              | 2,815.7     | 582.0  | 477.6                         | 197.6  | 2,125.2               | 364.3  | 767.7   | 538.7  |        |
| Jun 11 .....              | 2,815.1     | 602.4  | 475.3                         | 201.7  | 2,130.5               | 382.6  | 717.6   | 513.0  |        |
| Jul 11 .....              | 2,828.4     | 598.8  | 493.0                         | 209.9  | 2,132.3               | 371.4  | 699.5   | 503.5  |        |
| Aug 11 .....              | 2,876.6     | 627.8  | 500.7                         | 232.6  | 2,173.9               | 377.1  | 612.0   | 431.2  |        |
| Sep 11 .....              | 3,035.9     | 642.6  | 511.3                         | 256.9  | 2,324.3               | 366.1  | 593.8   | 425.1  |        |
| Oct 11 .....              | 2,925.8     | 643.5  | 513.3                         | 264.9  | 2,214.2               | 360.0  | 588.2   | 438.7  |        |
| Nov 11 .....              | 3,109.9     | 657.8  | 497.5                         | 262.3  | 2,416.8               | 378.7  | 640.8   | 454.7  |        |
| Dec 11 .....              | 3,547.8     | 639.0  | 515.5                         | 261.4  | 2,835.6               | 361.7  | 646.4   | 471.9  |        |
| Jan 12 .....              | 2,952.4     | 650.6  | 517.6                         | 255.8  | 2,243.8               | 379.4  | 658.3   | 489.6  |        |
| Feb 12 .....              | 3,053.1     | 621.7  | 529.8                         | 257.0  | 2,332.0               | 351.6  | 709.6   | 544.4  |        |
| Mar 12 .....              | 3,243.6     | 600.7  | 519.7                         | 236.2  | 2,543.5               | 351.0  | 695.3   | 535.4  |        |
| Apr 12 .....              | 3,010.7     | 594.1  | 532.8                         | 242.4  | 2,298.1               | 338.5  | 697.5   | 548.6  |        |

Note: Comprise quoted and unquoted securities registered with the VP Securities Services (VP).

## HOUSEHOLDS' FINANCIAL ASSETS AND LIABILITIES

Table 14

| End of period | Assets                           |             |  |   |       | Liabilities |                      |       |
|---------------|----------------------------------|-------------|--|---|-------|-------------|----------------------|-------|
|               | Currency and bank deposits, etc. | Bonds, etc. | Shares and certificates issued by investment funds, etc. | Life-insurance and pension-scheme savings, etc. | Total | Loans, etc. | Net financial assets | Total |
|               |                                  |             |  |   |       |             |                      |       |
| 2007 .....    | 902                              | 188         | 1,453  | 1,722   | 4,264 | 2,273       | 1,991                | 4,264 |
| 2008 .....    | 905                              | 173         | 794  | 1,786   | 3,659 | 2,418       | 1,241                | 3,659 |
| 2009 .....    | 936                              | 165         | 1,032  | 1,924   | 4,057 | 2,541       | 1,515                | 4,056 |
| 2010 .....    | 967                              | 148         | 1,300  | 2,127   | 4,542 | 2,655       | 1,888                | 4,543 |
| 2011 .....    | 921                              | 146         | 1,111  | 2,336   | 4,515 | 2,718       | 1,797                | 4,515 |
| Q4 10 .....   | 967                              | 148         | 1,300  | 2,127   | 4,542 | 2,655       | 1,888                | 4,543 |
| Q1 11 .....   | 936                              | 151         | 1,272  | 2,112   | 4,471 | 2,627       | 1,845                | 4,472 |
| Q2 11 .....   | 934                              | 147         | 1,266  | 2,148   | 4,495 | 2,661       | 1,834                | 4,495 |
| Q3 11 .....   | 911                              | 145         | 1,095  | 2,313   | 4,463 | 2,661       | 1,802                | 4,463 |
| Q4 11 .....   | 921                              | 146         | 1,111  | 2,336   | 4,515 | 2,718       | 1,797                | 4,515 |



## COMPANIES' FINANCIAL ASSETS AND LIABILITIES

Table 15

|               | Assets  |                |  |       | Liabilities    |                          |                           |                            |       |
|---------------|---|----------------|--|-------|----------------|--------------------------|---------------------------|----------------------------|-------|
|               | Curren-<br>cy, bank<br>deposits<br>and<br>granted<br>credits,<br>etc. | Bonds,<br>etc. | Shares<br>and<br>certific-<br>ates<br>issued by<br>invest-<br>ment<br>funds,<br>etc. | Total | Debt           |                          |                           | Net<br>financial<br>assets | Total |
|               |   |                |  |       | Loans,<br>etc. | Bonds,<br>etc.<br>issued | Shares,<br>etc.<br>issued |                            |       |
| End of period | Kr. billion   |                |  |       |                |                          |                           |                            |       |
| 2007 .....    | 911   | 134            | 2,923  | 3,968 | 1,732          | 118                      | 4,284                     | -2,166                     | 3,968 |
| 2008 .....    | 1,048   | 106            | 1,788  | 2,943 | 1,936          | 108                      | 2,518                     | -1,619                     | 2,943 |
| 2009 .....    | 1,047   | 107            | 2,225  | 3,380 | 1,896          | 136                      | 3,062                     | -1,714                     | 3,380 |
| 2010 .....    | 1,100   | 124            | 2,777  | 3,999 | 1,919          | 142                      | 3,904                     | -1,966                     | 4,000 |
| 2011 .....    | 1,160   | 124            | 2,389  | 3,674 | 1,853          | 154                      | 3,228                     | -1,561                     | 3,674 |
| Q4 10 .....   | 1,100   | 124            | 2,777  | 3,999 | 1,919          | 142                      | 3,904                     | -1,966                     | 4,000 |
| Q1 11 .....   | 1,070   | 136            | 2,709  | 3,914 | 1,820          | 158                      | 3,841                     | -1,905                     | 3,914 |
| Q2 11 .....   | 1,051   | 130            | 2,727  | 3,909 | 1,866          | 150                      | 3,755                     | -1,863                     | 3,909 |
| Q3 11 .....   | 1,054   | 125            | 2,383  | 3,562 | 1,847          | 154                      | 3,225                     | -1,664                     | 3,562 |
| Q4 11 .....   | 1,160   | 124            | 2,389  | 3,674 | 1,853          | 154                      | 3,228                     | -1,561                     | 3,674 |

Note: Companies are defined as non-financial companies.

## CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS (NET REVENUES)

Table 16

|                       | Goods<br>(fob) | Services | Goods and<br>services | Wages and<br>property<br>income | Current<br>transfers | Total<br>current<br>account |
|-----------------------|----------------|----------|-----------------------|---------------------------------|----------------------|-----------------------------|
|                       | Kr. billion    |          |                       |                                 |                      |                             |
| 2007 .....            | 2.1            | 40.3     | 42.5                  | 9.7                             | -29.2                | 23.0                        |
| 2008 .....            | 4.2            | 52.1     | 56.3                  | 23.0                            | -28.7                | 50.5                        |
| 2009 .....            | 41.8           | 24.0     | 65.8                  | 17.8                            | -28.9                | 54.6                        |
| 2010 .....            | 48.5           | 48.1     | 96.6                  | 32.6                            | -32.4                | 96.9                        |
| 2011 .....            | 51.8           | 45.8     | 97.6                  | 50.3                            | -32.0                | 115.8                       |
| Apr 10 - Mar 11 ..... | 50.2           | 52.0     | 102.2                 | 37.4                            | -31.7                | 107.9                       |
| Apr 11 - Mar 12 ..... | 45.6           | 43.3     | 88.9                  | 49.8                            | -33.1                | 105.5                       |
| Mar 11 .....          | 7.1            | 2.8      | 9.9                   | 1.0                             | -3.1                 | 7.8                         |
| Apr 11 .....          | 4.7            | 4.4      | 9.1                   | 2.7                             | -2.0                 | 9.8                         |
| May 11 .....          | 3.4            | 2.4      | 5.8                   | 6.4                             | -2.0                 | 10.1                        |
| Jun 11 .....          | 4.1            | 3.7      | 7.8                   | 5.4                             | -2.1                 | 11.2                        |
| Jul 11 .....          | 4.0            | 2.8      | 6.8                   | 5.4                             | -2.6                 | 9.7                         |
| Aug 11 .....          | 4.9            | 4.8      | 9.7                   | 4.8                             | -2.5                 | 12.0                        |
| Sep 11 .....          | 4.0            | 5.2      | 9.2                   | 5.0                             | -2.6                 | 11.5                        |
| Oct 11 .....          | 3.5            | 4.2      | 7.7                   | 3.2                             | -2.6                 | 8.3                         |
| Nov 11 .....          | 5.5            | 4.5      | 9.9                   | 3.5                             | -2.6                 | 10.8                        |
| Dec 11 .....          | 1.7            | 4.6      | 6.3                   | 4.1                             | -2.3                 | 8.1                         |
| Jan 12 .....          | 2.3            | 2.6      | 4.9                   | 4.6                             | -4.1                 | 5.5                         |
| Feb 12 .....          | 3.6            | 2.4      | 6.0                   | 4.3                             | -3.9                 | 6.4                         |
| Mar 12 .....          | 3.9            | 1.8      | 5.7                   | 0.2                             | -3.8                 | 2.2                         |

**FINANCIAL ACCOUNT OF THE BALANCE OF PAYMENTS  
(NET PAYMENTS FROM ABROAD)**

Table 17

|                       | Current account and capital account, etc., total <sup>1</sup> | Capital import     |                    |                                    |                      | Other <sup>3</sup> | Danmarks Nationalbank's transactions with abroad <sup>4</sup> |
|-----------------------|---|--------------------|--------------------|------------------------------------|----------------------|--------------------|---|
|                       |   | Direct investments |                    | Portfolio investments <sup>2</sup> | Other capital import |                    |   |
|                       |   | Danish abroad      | Foreign in Denmark |                                    |                      |                    |   |
| Kr. billion           |   |                    |                    |                                    |                      |                    |   |
| 2007 .....            | 23.3  | -112.3             | 64.3               | -32.0                              | 56.5                 | -1.0               | -1.2  |
| 2008 .....            | 50.9  | -67.6              | 9.3                | 52.7                               | -49.5                | -67.1              | -71.4   |
| 2009 .....            | 54.4  | -33.9              | 21.1               | 69.7                               | 193.3                | -16.6              | 288.0   |
| 2010 .....            | 97.4  | -19.5              | -41.6              | -16.0                              | 93.8                 | -87.6              | 26.5  |
| 2011 .....            | 120.1   | -126.8             | 79.3               | 12.1                               | -48.8                | 20.2               | 56.1  |
| Apr 10 - Mar 11 ..... | 108.5   | -20.7              | -36.6              | 49.2                               | -36.8                | -30.9              | 32.8  |
| Apr 11 - Mar 12 ..... | 109.9   | -122.8             | 71.9               | -51.1                              | 0.2                  | 14.6               | 22.7  |
| Mar 11 .....          | 7.9   | -3.9               | 4.5                | 3.4                                | 0.3                  | -3.6               | 8.5   |
| Apr 11 .....          | 9.8   | -13.9              | 3.2                | 31.3                               | -2.8                 | -25.7              | 2.0   |
| May 11 .....          | 10.2  | -11.3              | 42.3               | 8.3                                | -48.6                | 1.6                | 2.5   |
| Jun 11 .....          | 11.2  | -21.1              | 2.5                | 13.7                               | 15.8                 | -18.1              | 4.1   |
| Jul 11 .....          | 13.3  | -8.5               | -3.4               | -34.1                              | 28.0                 | 4.3                | -0.4  |
| Aug 11 .....          | 12.1  | 2.3                | 4.2                | 37.3                               | -17.4                | -18.8              | 19.8  |
| Sep 11 .....          | 11.6  | -37.0              | 31.8               | 33.7                               | -41.7                | 14.3               | 12.8  |
| Oct 11 .....          | 8.3   | -4.5               | 7.7                | -19.6                              | 28.3                 | -20.5              | -0.3  |
| Nov 11 .....          | 10.9  | -11.0              | 2.1                | -59.9                              | 2.5                  | 32.1               | -23.4   |
| Dec 11 .....          | 8.1   | 3.6                | -7.2               | -27.5                              | 22.1                 | 12.9               | 12.1  |
| Jan 12 .....          | 5.6   | -7.3               | -3.2               | -40.7                              | 41.3                 | 4.3                | 0.0   |
| Feb 12 .....          | 6.4   | -16.4              | -2.3               | 7.4                                | -45.0                | 57.0               | 7.2   |
| Mar 12 .....          | 2.2   | 2.5                | -6.0               | -1.0                               | 17.7                 | -29.0              | -13.6   |

<sup>1</sup> Including total current account and capital transfers, etc.

<sup>2</sup> This item may differ from the total of Table 18, as portfolio investments are published 1-2 weeks earlier than the rest of the balance of payments.

<sup>3</sup> Including errors and omissions.

<sup>4</sup> Including transactions on *all* Danmarks Nationalbank's accounts with abroad and not only transactions on accounts included by compilation of the foreign-exchange reserve. The latter is published by press release on the 2nd banking day of each month and included in Table 2 of this section.

**PORTFOLIO INVESTMENTS OF THE BALANCE OF PAYMENTS  
(NET PAYMENTS FROM ABROAD)**

Table 18

|              | Danish securities             |  |        | Foreign securities |        | Total <sup>1</sup> |
|--------------|-------------------------------|--|--------|--------------------|--------|--------------------|
|              | Krone-denominated bonds, etc. | Foreign currency denominated bonds, etc. | Shares | Bonds, etc.        | Shares |                    |
|              |                               |  |        | Kr. billion        |        |                    |
| 2007 .....   | 26.2                          | 73.1                                     | 15.0   | -96.0              | -49.8  | -31.5              |
| 2008 .....   | -59.8                         | 142.1                                    | 11.3   | -91.0              | 50.1   | 52.7               |
| 2009 .....   | -4.3                          | 162.3                                    | 38.0   | -82.5              | -43.8  | 69.7               |
| 2010 .....   | 68.0                          | -39.5                                    | 40.1   | -60.4              | -24.1  | -16.0              |
| 2011 .....   | 65.8                          | -72.9                                    | -12.4  | 36.7               | -5.0   | 12.1               |
| Apr 11 ..... | 2.1                           | 14.2                                     | 8.6    | 10.7               | -4.3   | 31.3               |
| May 11 ..... | 5.0                           | 11.5                                     | -15.4  | 7.9                | -0.8   | 8.3                |
| Jun 11 ..... | 14.0                          | -39.3                                    | 0.5    | 31.5               | 7.0    | 13.7               |
| Jul 11 ..... | -1.7                          | -24.6                                    | 0.4    | -2.5               | -5.7   | -34.1              |
| Aug 11 ..... | 24.0                          | -10.2                                    | -5.4   | 21.1               | 7.9    | 37.3               |
| Sep 11 ..... | 4.4                           | -11.7                                    | 0.1    | 36.9               | 4.0    | 33.7               |
| Oct 11 ..... | 8.4                           | -12.7                                    | -1.2   | -6.8               | -7.2   | -19.6              |
| Nov 11 ..... | 1.3                           | -31.0                                    | 1.8    | -37.9              | 5.8    | -59.9              |
| Dec 11 ..... | -19.5                         | -14.6                                    | 3.5    | -4.6               | 7.7    | -27.5              |
| Jan 12 ..... | 3.9                           | 2.5                                      | 0.5    | -34.9              | -12.8  | -40.7              |
| Feb 12 ..... | -6.4                          | -18.1                                    | 7.8    | 22.0               | 2.2    | 7.4                |
| Mar 12 ..... | -15.8                         | 10.7                                     | 5.8    | -6.5               | 0.5    | -5.2               |
| Apr 12 ..... | 2.1                           | 2.6                                      | -6.7   | 9.8                | 2.9    | 10.7               |

Note: A negative sign (-) indicates residents' net purchase of foreign securities, or non-residents' net sale of Danish securities.

<sup>1</sup> This item may differ from "Portfolio investments" in Table 17, as the rest of the balance of payments is published 1-2 weeks later.

DENMARK'S EXTERNAL ASSETS AND LIABILITIES

Table 19

| End of period      | Direct investments |                          | Portfolio investments |             | Financial derivatives, net | Other investments |                    |       | Danmarks Nationalbank | Total |
|--------------------|--------------------|--------------------------|-----------------------|-------------|----------------------------|-------------------|--------------------|-------|-----------------------|-------|
|                    | Equity             | Inter-company debt, etc. | Shares, etc.          | Bonds, etc. |                            | Trade credits     | Loans and deposits | Other |                       |       |
|                    | Kr. billion        |                          |                       |             |                            |                   |                    |       |                       |       |
| <b>Assets</b>      |                    |                          |                       |             |                            |                   |                    |       |                       |       |
| 2007 .....         | 650                | 288                      | 794                   | 733         | 0                          | 47                | 1,035              | 32    | 176                   | 3,755 |
| 2008 .....         | 650                | 380                      | 449                   | 784         | 83                         | 45                | 1,101              | 37    | 226                   | 3,754 |
| 2009 .....         | 730                | 376                      | 612                   | 926         | 21                         | 38                | 927                | 32    | 400                   | 4,061 |
| 2010 .....         | 834                | 401                      | 735                   | 1,032       | 39                         | 45                | 990                | 33    | 432                   | 4,542 |
| 2011 .....         | 931                | 465                      | 699                   | 1,005       | 92                         | 47                | 928                | 34    | 492                   | 4,693 |
| Q4 10 .....        | 834                | 401                      | 735                   | 1,032       | 39                         | 45                | 990                | 33    | 432                   | 4,542 |
| Q1 11 .....        | 835                | 402                      | 740                   | 1,021       | 11                         | 47                | 961                | 33    | 454                   | 4,505 |
| Q2 11 .....        | 858                | 438                      | 730                   | 979         | 23                         | 50                | 913                | 32    | 459                   | 4,482 |
| Q3 11 .....        | 896                | 456                      | 661                   | 952         | 109                        | 47                | 955                | 32    | 497                   | 4,605 |
| Q4 11 .....        | 931                | 465                      | 699                   | 1,005       | 92                         | 47                | 928                | 34    | 492                   | 4,693 |
| <b>Liabilities</b> |                    |                          |                       |             |                            |                   |                    |       |                       |       |
| 2007 .....         | 543                | 277                      | 422                   | 1,123       | •                          | 36                | 1,409              | 38    | 5                     | 3,853 |
| 2008 .....         | 511                | 292                      | 241                   | 1,198       | •                          | 41                | 1,398              | 40    | 121                   | 3,843 |
| 2009 .....         | 497                | 303                      | 348                   | 1,362       | •                          | 34                | 1,402              | 38    | 5                     | 3,988 |
| 2010 .....         | 489                | 289                      | 519                   | 1,445       | •                          | 40                | 1,538              | 41    | 5                     | 4,365 |
| 2011 .....         | 538                | 299                      | 452                   | 1,445       | •                          | 43                | 1,432              | 44    | 5                     | 4,256 |
| Q4 10 .....        | 489                | 289                      | 519                   | 1,445       | •                          | 40                | 1,538              | 41    | 5                     | 4,365 |
| Q1 11 .....        | 483                | 278                      | 532                   | 1,477       | •                          | 39                | 1,465              | 41    | 3                     | 4,319 |
| Q2 11 .....        | 494                | 299                      | 487                   | 1,491       | •                          | 41                | 1,366              | 42    | 2                     | 4,223 |
| Q3 11 .....        | 529                | 296                      | 403                   | 1,506       | •                          | 39                | 1,383              | 43    | 3                     | 4,203 |
| Q4 11 .....        | 538                | 299                      | 452                   | 1,445       | •                          | 43                | 1,432              | 44    | 5                     | 4,256 |
| <b>Net assets</b>  |                    |                          |                       |             |                            |                   |                    |       |                       |       |
| 2007 .....         | 108                | 11                       | 372                   | -390        | 0                          | 11                | -375               | -6    | 171                   | -98   |
| 2008 .....         | 139                | 87                       | 208                   | -415        | 83                         | 4                 | -297               | -3    | 105                   | -89   |
| 2009 .....         | 233                | 73                       | 264                   | -436        | 21                         | 3                 | -475               | -6    | 395                   | 73    |
| 2010 .....         | 345                | 112                      | 216                   | -413        | 39                         | 5                 | -547               | -8    | 428                   | 177   |
| 2011 .....         | 393                | 167                      | 247                   | -440        | 92                         | 5                 | -504               | -10   | 487                   | 437   |
| Q4 10 .....        | 345                | 112                      | 216                   | -413        | 39                         | 5                 | -547               | -8    | 428                   | 177   |
| Q1 11 .....        | 351                | 124                      | 208                   | -456        | 11                         | 9                 | -504               | -9    | 452                   | 186   |
| Q2 11 .....        | 363                | 139                      | 242                   | -512        | 23                         | 9                 | -453               | -10   | 457                   | 259   |
| Q3 11 .....        | 366                | 160                      | 258                   | -554        | 109                        | 8                 | -428               | -11   | 494                   | 403   |
| Q4 11 .....        | 393                | 167                      | 247                   | -440        | 92                         | 5                 | -504               | -10   | 487                   | 437   |

Note: As a key principle, the market value has been used for the compilation.

## GDP BY TYPE OF EXPENDITURE

Table 20

|             | Final domestic demand |                     |                                |                               |                       |         | Exports of goods and services | Imports of goods and services |
|-------------|-----------------------|---------------------|--------------------------------|-------------------------------|-----------------------|---------|-------------------------------|-------------------------------|
|             | GDP                   | Private consumption | General-government consumption | Gross fixed capital formation | Change in inventories | Total   |                               |                               |
|             |                       |                     |                                |                               |                       |         |                               |                               |
| 2007 .....  | 1,695.3               | 820.4               | 440.0                          | 371.4                         | 24.8                  | 1,656.5 | 885.2                         | 846.5                         |
| 2008 .....  | 1,753.2               | 840.0               | 465.4                          | 371.7                         | 20.4                  | 1,697.5 | 959.6                         | 904.0                         |
| 2009 .....  | 1,667.8               | 814.9               | 497.0                          | 313.5                         | -20.1                 | 1,605.2 | 793.7                         | 731.1                         |
| 2010 .....  | 1,754.6               | 850.9               | 510.2                          | 305.1                         | -4.0                  | 1,662.3 | 883.0                         | 790.7                         |
| 2011 .....  | 1,786.5               | 867.9               | 511.3                          | 309.8                         | 2.8                   | 1,691.8 | 957.2                         | 862.5                         |
| Q1 11 ..... | 435.0                 | 212.0               | 126.0                          | 69.7                          | 2.5                   | 410.1   | 232.9                         | 208.1                         |
| Q2 11 ..... | 450.4                 | 216.6               | 129.2                          | 78.8                          | 3.8                   | 428.3   | 237.8                         | 215.7                         |
| Q3 11 ..... | 443.1                 | 212.4               | 126.6                          | 78.4                          | 0.9                   | 418.4   | 243.4                         | 218.7                         |
| Q4 11 ..... | 458.0                 | 226.9               | 129.5                          | 82.9                          | -4.4                  | 435.0   | 243.1                         | 220.0                         |
| Q1 12 ..... | 441.0                 | 219.0               | 126.4                          | 77.2                          | 2.3                   | 424.9   | 239.8                         | 223.6                         |

## Real growth compared with previous year, per cent

|             |      |      |      |       |     |      |      |       |
|-------------|------|------|------|-------|-----|------|------|-------|
| 2007 .....  | 1.6  | 3.0  | 1.3  | 0.4   | ... | 2.3  | 2.8  | 4.3   |
| 2008 .....  | -0.8 | -0.3 | 1.9  | -4.1  | ... | -0.9 | 3.3  | 3.3   |
| 2009 .....  | -5.8 | -4.2 | 2.5  | -13.4 | ... | -6.7 | -9.8 | -11.6 |
| 2010 .....  | 1.3  | 1.9  | 0.3  | -3.7  | ... | 1.3  | 3.2  | 3.5   |
| 2011 .....  | 1.0  | -0.5 | -1.0 | 0.4   | ... | -0.1 | 6.8  | 5.2   |
| Q1 11 ..... | 1.9  | -0.8 | -1.0 | 0.4   | ... | 0.7  | 10.1 | 8.3   |
| Q2 11 ..... | 1.6  | 0.0  | -0.2 | -0.9  | ... | -0.2 | 7.8  | 4.6   |
| Q3 11 ..... | 0.1  | -0.7 | -1.4 | 0.6   | ... | 0.0  | 5.4  | 6.1   |
| Q4 11 ..... | 0.4  | -0.5 | -1.4 | 1.3   | ... | -0.7 | 4.1  | 2.2   |
| Q1 12 ..... | 0.2  | 0.8  | -0.6 | 8.4   | ... | 1.6  | 0.6  | 3.3   |

## Real growth compared with previous quarter (seasonally adjusted), per cent

|             |      |      |      |      |     |      |      |      |
|-------------|------|------|------|------|-----|------|------|------|
| Q1 11 ..... | 0.4  | -0.8 | -0.6 | -4.5 | ... | -1.2 | 3.8  | 0.9  |
| Q2 11 ..... | 0.3  | 0.0  | 1.1  | 4.4  | ... | 1.2  | -0.3 | 1.7  |
| Q3 11 ..... | -0.1 | -0.5 | -1.5 | 1.5  | ... | -0.3 | 0.4  | 0.9  |
| Q4 11 ..... | -0.2 | 1.3  | -0.4 | -0.2 | ... | -0.1 | 0.1  | -1.2 |
| Q1 12 ..... | 0.3  | 0.3  | 0.2  | 2.3  | ... | 1.1  | 0.3  | 2.0  |

EU-HARMONIZED INDEX OF CONSUMER PRICES (HICP) AND  
 UNDERLYING INFLATION (IMI)

Table 21

|                               | HICP              |        |      |                             |                     |                 |  | Index of net retail prices <sup>1</sup>  |                             |                  |
|-------------------------------|-------------------|--------|------|-----------------------------|---------------------|-----------------|--|--|-----------------------------|------------------|
|                               | Subcomponents:    |        |      |                             |                     |                 |  |  |                             |                  |
|                               | Total             | Energy | Food | Core inflation <sup>2</sup> | Administered prices |                 | HICP excl. energy, food and administered prices <sup>3</sup> | Index of net retail prices excl. energy, food and administered prices <sup>2</sup> | Split into <sup>4</sup> :   |                  |
|                               |                   |        |      |                             | Rent                | Public services |  |  | Import content <sup>5</sup> | IMI <sup>6</sup> |
|                               | Weights, per cent |        |      |                             |                     |                 |  |  |                             |                  |
|                               | 100               | 11.4   | 18.1 | 70.5                        | 8.2                 | 4.1             | 58.2   | 53.1   | 14.7                        | 38.4             |
| Year-on-year growth, per cent |                   |        |      |                             |                     |                 |  |  |                             |                  |
| 2007 .....                    | 1.7               | 0.3    | 3.7  | 1.3                         | 2.1                 | 0.6             | 1.2  | 1.4  | 1.4                         | 1.4              |
| 2008 .....                    | 3.6               | 7.7    | 6.7  | 2.1                         | 2.8                 | 3.5             | 1.9  | 2.1  | 4.0                         | 1.1              |
| 2009 .....                    | 1.1               | -4.0   | 0.5  | 2.0                         | 3.1                 | 4.8             | 1.7  | 1.9  | -4.3                        | 5.1              |
| 2010 .....                    | 2.2               | 9.2    | 2.1  | 1.2                         | 2.8                 | 3.9             | 0.8  | 0.9  | 1.7                         | 0.5              |
| 2011 .....                    | 2.7               | 8.9    | 4.0  | 1.4                         | 3.0                 | 2.4             | 1.1  | 0.9  | 4.8                         | -0.9             |
| Q1 09 .....                   | 1.7               | -4.6   | 3.2  | 2.2                         | 2.7                 | 4.2             | 2.0  | 2.3  | -1.9                        | 4.4              |
| Q2 09 .....                   | 1.1               | -5.5   | 0.7  | 2.2                         | 3.1                 | 5.0             | 1.9  | 2.1  | -4.2                        | 5.2              |
| Q3 09 .....                   | 0.6               | -5.9   | -0.5 | 2.0                         | 3.5                 | 5.1             | 1.6  | 1.9  | -6.0                        | 6.0              |
| Q4 09 .....                   | 0.9               | 0.3    | -1.5 | 1.6                         | 2.9                 | 4.9             | 1.2  | 1.6  | -5.0                        | 4.9              |
| Q1 10 .....                   | 1.9               | 8.9    | 0.0  | 1.4                         | 2.9                 | 3.7             | 1.0  | 1.2  | -1.3                        | 2.3              |
| Q2 10 .....                   | 2.0               | 10.1   | 0.8  | 1.1                         | 2.8                 | 3.9             | 0.7  | 0.7  | 1.0                         | 0.6              |
| Q3 10 .....                   | 2.3               | 8.8    | 3.2  | 1.1                         | 2.5                 | 4.0             | 0.8  | 0.9  | 3.2                         | -0.2             |
| Q4 10 .....                   | 2.5               | 9.1    | 4.5  | 1.1                         | 2.9                 | 4.0             | 0.7  | 0.8  | 3.8                         | -0.6             |
| Q1 11 .....                   | 2.6               | 9.3    | 3.4  | 1.4                         | 2.9                 | 3.7             | 1.0  | 0.8  | 5.4                         | -1.3             |
| Q2 11 .....                   | 2.9               | 9.0    | 4.9  | 1.5                         | 2.8                 | 2.0             | 1.3  | 1.3  | 6.0                         | -0.9             |
| Q3 11 .....                   | 2.6               | 9.3    | 3.3  | 1.4                         | 3.2                 | 1.9             | 1.1  | 0.9  | 4.2                         | -0.7             |
| Q4 11 .....                   | 2.5               | 8.2    | 4.4  | 1.2                         | 3.0                 | 2.1             | 0.9  | 0.6  | 3.5                         | -0.7             |
| Q1 12 .....                   | 2.8               | 5.3    | 5.5  | 1.7                         | 2.8                 | 1.9             | 1.5  | 1.4  | 1.9                         | 1.2              |

Note: The weights reflect the weighting basis as of January 2012.

<sup>1</sup> Prices in the index of net retail prices are compiled excluding indirect taxes and subsidies.

<sup>2</sup> Core inflation is defined as the increase in HICP excluding energy and food.

<sup>3</sup> Goods and services excluding energy, food and administered prices constitute 60.9 per cent of HICP's weight basis and 53.2 per cent of the index of net retail prices. The difference reflects that the same goods and services do not count equally in the two indices, and does not express the indirect taxation content of the consumer prices.

<sup>4</sup> The division of the index of net retail prices into import and IMI is based on Statistics Denmark's input-output table.

<sup>5</sup> The indirect energy content is included in the import content.

<sup>6</sup> IMI expresses the domestic market-determined inflation. For a detailed presentation of IMI, see Bo William Hansen and Dan Knudsen, Domestic Market-Determined Inflation, Danmarks Nationalbank, *Monetary Review*, 4th Quarter 2005.

SELECTED MONTHLY ECONOMIC INDICATORS

Table 22

|                     | Unemployment             |     | Quantity index                      |              | Forced sales of real property | New passenger car registrations | Consumer confidence indicator | Composite cyclical Indicator for |                           |         |
|---------------------|--------------------------|-----|-------------------------------------|--------------|-------------------------------|---------------------------------|-------------------------------|----------------------------------|---------------------------|---------|
|                     | Per cent of labour force |     | Manufacturing industry <sup>2</sup> | Retail trade |                               |                                 |                               | Manufacturing industry           | Building and construction | Service |
|                     | Gross <sup>1</sup>       | Net |                                     |              |                               |                                 |                               |                                  |                           |         |
| 2007 .....          | 3.7                      | 2.8 | 107.0                               | 105.7        | 1,392                         | 162,481                         | 7.5                           | 5                                | 9                         | 20      |
| 2008 .....          | 2.7                      | 1.9 | 106.7                               | 103.3        | 2,840                         | 150,663                         | -7.7                          | -7                               | -16                       | 3       |
| 2009 .....          | 4.9                      | 3.6 | 88.2                                | 99.4         | 4,140                         | 112,249                         | -5.0                          | -14                              | -44                       | -13     |
| 2010 .....          | 6.3                      | 4.4 | 90.6                                | 97.9         | 5,222                         | 153,612                         | 1.8                           | 3                                | -35                       | 4       |
| 2011 .....          | 6.2                      | 4.2 | 94.9                                | 95.6         | 5,025                         | 169,795                         | -1.9                          | 4                                | -20                       | ...     |
| Seasonally adjusted |                          |     |                                     |              |                               |                                 |                               |                                  |                           |         |
| May 11 .....        | 6.1                      | 4.1 | 98.4                                | 95.6         | 403                           | 14,985                          | 0.7                           | 12                               | -16                       | 6       |
| Jun 11 .....        | 6.2                      | 4.1 | 94.5                                | 95.2         | 356                           | 14,128                          | 2.5                           | 4                                | -20                       | 9       |
| Jul 11 .....        | 6.2                      | 4.1 | 97.9                                | 94.8         | 393                           | 14,103                          | -1.7                          | 5                                | -18                       | 9       |
| Aug 11 .....        | 6.2                      | 4.2 | 94.2                                | 95.1         | 415                           | 13,743                          | -2.9                          | 4                                | -20                       | 0       |
| Sep 11 .....        | 6.2                      | 4.2 | 94.8                                | 94.9         | 446                           | 13,630                          | -4.0                          | 0                                | -16                       | -2      |
| Oct 11 .....        | 6.2                      | 4.2 | 94.3                                | 94.9         | 424                           | 13,368                          | -5.6                          | -1                               | -17                       | -9      |
| Nov 11 .....        | 6.2                      | 4.2 | 95.2                                | 94.8         | 464                           | 14,203                          | -8.2                          | 2                                | -18                       | -4      |
| Dec 11 .....        | 6.1                      | 4.1 | 96.0                                | 94.9         | 464                           | 14,553                          | -6.6                          | 6                                | -22                       | 0       |
| Jan 12 .....        | 6.1                      | 4.1 | 94.9                                | 94.2         | 405                           | 13,848                          | -7.7                          | 5                                | -21                       | -1      |
| Feb 12 .....        | 6.2                      | 4.2 | 95.1                                | 93.8         | 469                           | 17,617                          | -4.2                          | 8                                | -21                       | -3      |
| Mar 12 .....        | 6.2                      | 4.3 | 93.6                                | 94.3         | 487                           | 12,222                          | 1.7                           | 2                                | -14                       | -8      |
| Apr 12 .....        | 6.2                      | 4.4 | 93.6                                | 93.3         | 398                           | 11,886                          | -2.0                          | 4                                | -16                       | -6      |
| May 12 .....        | ...                      | ... | ...                                 | ...          | 414                           | ...                             | -2.2                          | -1                               | -21                       | -6      |

<sup>1</sup> Including persons in activation programmes.

<sup>2</sup> Excluding shipbuilding.



## SELECTED QUARTERLY ECONOMIC INDICATORS

Table 23

|  | Employment    |         | Hourly earnings               |                                   |                               | Property prices<br>(purchase sum, one-family dwellings)<br><br>As a percentage of property value 2006 |
|--|---------------|---------|-------------------------------|-----------------------------------|-------------------------------|---|
|  | Total         | Private | All sectors in Denmark, total | Manufacturing industry in Denmark | Manufacturing industry abroad |   |
|  | 1,000 persons |         | 1996=100                      |                                   |                               |   |
| 2007 .....                                   | 2,903         | 2,061   | 151.4                         | 152.1                             | 137.9                         | 104.8   |
| 2008 .....                                   | 2,952         | 2,114   | 158.1                         | 158.5                             | 142.6                         | 100.1   |
| 2009 .....                                   | 2,856         | 2,006   | 162.9                         | 163.2                             | 145.2                         | 88.1  |
| 2010 .....                                   | 2,793         | 1,932   | 166.6                         | 167.4                             | 149.1                         | 90.5  |
| 2011 .....                                   | 2,781         | 1,932   | 169.6                         | 171.3                             | 152.7                         | 87.8  |
| Seasonally adjusted                          |               |         |                               |                                   |                               |   |
| Q1 11 .....                                  | 2,781         | 1,928   | 168.6                         | 170.1                             | 151.3                         | 89.4  |
| Q2 11 .....                                  | 2,783         | 1,933   | 169.1                         | 170.8                             | 152.3                         | 90.2  |
| Q3 11 .....                                  | 2,783         | 1,937   | 169.8                         | 171.9                             | 153.2                         | 87.4  |
| Q4 11 .....                                  | 2,775         | 1,932   | 170.9                         | 173.1                             | 153.9                         | 84.1  |
| Q1 12 .....                                  | 2,766         | 1,926   | ...                           | 173.1                             | 154.8                         | ...   |
| Change compared with previous year, per cent |               |         |                               |                                   |                               |   |
| 2007 .....                                   | 2.8           | 4.1     | 3.8                           | 4.0                               | 3.0                           | 4.6   |
| 2008 .....                                   | 1.7           | 2.6     | 4.4                           | 4.2                               | 3.4                           | -4.5  |
| 2009 .....                                   | -3.3          | -5.1    | 3.0                           | 2.9                               | 1.8                           | -12.0   |
| 2010 .....                                   | -2.2          | -3.7    | 2.3                           | 2.6                               | 2.7                           | 2.8   |
| 2011 .....                                   | -0.4          | 0.0     | 1.8                           | 2.3                               | 2.4                           | -3.0  |
| Q1 11 .....                                  | -0.4          | -0.3    | 1.8                           | 2.3                               | 2.0                           | 0.7   |
| Q2 11 .....                                  | -0.6          | -0.2    | 1.9                           | 2.2                               | 2.5                           | -0.9  |
| Q3 11 .....                                  | -0.3          | 0.4     | 1.7                           | 2.3                               | 2.5                           | -4.3  |
| Q4 11 .....                                  | -0.4          | 0.1     | 1.9                           | 2.5                               | 2.4                           | -7.5  |
| Q1 12 .....                                  | -0.5          | -0.1    | ...                           | 1.8                               | 2.3                           | ...   |

| EXCHANGE RATES |                      |        |          |       |       |        |        | Table 24 |
|----------------|----------------------|--------|----------|-------|-------|--------|--------|----------|
|                | EUR                  | USD    | GBP      | SEK   | NOK   | CHF    | JPY    |          |
|                | Kroner per 100 units |        |          |       |       |        |        |          |
|                | Average              |        |          |       |       |        |        |          |
| 2007 .....     | 745.06               | 544.56 | 1,089.81 | 80.57 | 92.99 | 453.66 | 4.6247 |          |
| 2008 .....     | 745.60               | 509.86 | 939.73   | 77.73 | 91.02 | 469.90 | 4.9494 |          |
| 2009 .....     | 744.63               | 535.51 | 836.26   | 70.18 | 85.39 | 493.17 | 5.7296 |          |
| 2010 .....     | 744.74               | 562.57 | 869.02   | 78.15 | 93.02 | 540.60 | 6.4299 |          |
| 2011 .....     | 745.05               | 536.22 | 859.05   | 82.52 | 95.61 | 605.74 | 6.7378 |          |
| May 11 .....   | 745.66               | 519.65 | 849.47   | 83.24 | 95.13 | 594.77 | 6.4033 |          |
| Jun 11 .....   | 745.81               | 518.67 | 839.89   | 81.73 | 95.21 | 617.16 | 6.4487 |          |
| Jul 11 .....   | 745.60               | 522.76 | 842.79   | 81.63 | 95.80 | 634.03 | 6.5852 |          |
| Aug 11 .....   | 744.98               | 519.42 | 849.80   | 81.29 | 95.66 | 665.74 | 6.7465 |          |
| Sep 11 .....   | 744.62               | 540.93 | 854.23   | 81.53 | 96.42 | 620.73 | 7.0446 |          |
| Oct 11 .....   | 744.42               | 543.31 | 855.34   | 81.68 | 96.09 | 605.47 | 7.0880 |          |
| Nov 11 .....   | 744.12               | 549.01 | 867.90   | 81.43 | 95.56 | 604.63 | 7.0872 |          |
| Dec 11 .....   | 743.41               | 564.20 | 880.88   | 82.44 | 95.99 | 605.63 | 7.2509 |          |
| Jan 12 .....   | 743.53               | 576.24 | 893.58   | 84.02 | 96.88 | 614.10 | 7.4870 |          |
| Feb 12 .....   | 743.41               | 562.22 | 888.28   | 84.29 | 98.44 | 615.89 | 7.1696 |          |
| Mar 12 .....   | 743.54               | 563.27 | 891.03   | 83.66 | 98.74 | 616.49 | 6.8302 |          |
| Apr 12 .....   | 743.93               | 565.01 | 905.33   | 83.89 | 98.28 | 618.75 | 6.9535 |          |
| May 12 .....   | 743.37               | 580.21 | 924.26   | 82.79 | 98.26 | 618.86 | 7.2792 |          |

## EFFECTIVE KRONE RATE

Table 25

|              | Nominal effective krone rate | Consumer-price indices |        | Real effective krone rate based on consumer prices | Real effective krone rate based on hourly earnings | Consumer-price index in the euro area |
|--------------|------------------------------|------------------------|--------|--|--|---------------------------------------|
|              |                              | Denmark                | Abroad |  |  |                                       |
| Average      | 1980=100                     |                        |        |  |  | 2005=100                              |
| 2007 .....   | 103.2                        | 250.5                  | 238.7  | 108.3  | 113.1  | 104.4                                 |
| 2008 .....   | 105.8                        | 259.0                  | 246.9  | 111.1  | 117.1  | 107.8                                 |
| 2009 .....   | 107.8                        | 262.4                  | 247.3  | 114.9  | 121.0  | 108.1                                 |
| 2010 .....   | 104.0                        | 268.4                  | 251.6  | 111.6  | 116.8  | 109.8                                 |
| 2011 .....   | 103.6                        | 275.8                  | 258.5  | 111.1  | 116.1  | 112.8                                 |
| May 11 ..... | 104.3                        | 276.9                  | 258.8  | 111.8  | ...  | 113.1                                 |
| Jun 11 ..... | 104.5                        | 276.3                  | 258.6  | 111.8  | 116.6  | 113.1                                 |
| Jul 11 ..... | 104.1                        | 276.0                  | 258.7  | 111.3  | ...  | 112.4                                 |
| Aug 11 ..... | 104.2                        | 276.0                  | 259.1  | 111.3  | ...  | 112.6                                 |
| Sep 11 ..... | 103.4                        | 276.9                  | 259.8  | 111.0  | 116.3  | 113.5                                 |
| Oct 11 ..... | 103.5                        | 277.4                  | 260.1  | 111.1  | ...  | 113.9                                 |
| Nov 11 ..... | 103.3                        | 277.1                  | 260.2  | 110.9  | ...  | 114.0                                 |
| Dec 11 ..... | 102.4                        | 277.1                  | 260.9  | 109.9  | 116.1  | 114.4                                 |
| Jan 12 ..... | 101.4                        | 278.0                  | 260.6  | 109.4  | ...  | 113.4                                 |
| Feb 12 ..... | 101.7                        | 281.5                  | 262.1  | 110.3  | ...  | 114.1                                 |
| Mar 12 ..... | 101.9                        | 282.8                  | 263.4  | 110.5  | 114.1  | 115.5                                 |
| Apr 12 ..... | 101.7                        | 282.8                  | ...    | ...  | ...  | 116.0                                 |
| May 12 ..... | 101.1                        | ...                    | ...    | ...  | ...  | ...                                   |

## Change compared with previous year, per cent

|              |      |     |     |      |      |     |
|--------------|------|-----|-----|------|------|-----|
| 2007 .....   | 1.6  | 1.7 | 2.3 | 0.9  | 2.5  | 2.2 |
| 2008 .....   | 2.5  | 3.4 | 3.4 | 2.6  | 3.5  | 3.3 |
| 2009 .....   | 1.9  | 1.3 | 0.2 | 3.4  | 3.3  | 0.3 |
| 2010 .....   | -3.6 | 2.3 | 1.7 | -2.8 | -3.5 | 1.6 |
| 2011 .....   | -0.3 | 2.8 | 2.7 | -0.5 | -0.6 | 2.7 |
| May 11 ..... | 1.0  | 3.1 | 2.8 | 0.5  | ...  | 2.7 |
| Jun 11 ..... | 2.2  | 3.0 | 2.8 | 1.5  | 0.0  | 2.7 |
| Jul 11 ..... | 1.1  | 2.9 | 2.9 | 0.6  | ...  | 2.5 |
| Aug 11 ..... | 1.4  | 2.6 | 2.9 | 0.6  | ...  | 2.5 |
| Sep 11 ..... | 0.6  | 2.5 | 3.0 | 0.1  | 0.4  | 3.0 |
| Oct 11 ..... | -0.9 | 2.8 | 2.9 | -0.6 | ...  | 3.0 |
| Nov 11 ..... | -0.5 | 2.6 | 2.8 | -0.4 | ...  | 3.0 |
| Dec 11 ..... | -0.3 | 2.5 | 2.5 | 0.1  | -0.1 | 2.7 |
| Jan 12 ..... | -1.1 | 2.8 | 2.5 | -0.3 | ...  | 2.7 |
| Feb 12 ..... | -1.1 | 2.8 | 2.5 | -0.3 | ...  | 2.7 |
| Mar 12 ..... | -1.8 | 2.7 | 2.4 | -0.8 | -1.3 | 2.7 |
| Apr 12 ..... | -2.9 | 2.3 | ... | ...  | ...  | 2.6 |
| May 12 ..... | -3.0 | ... | ... | ...  | ...  | ... |

Note: The nominal effective krone rate index is a geometric weighting of the development in the Danish krone rate against currencies of Denmark's 27 most important trading partners. However, only 25 countries are included in the calculation of consumer prices abroad and the real effective krone rate based on consumer prices and hourly earnings, respectively.

As from April 2010 the weights are based on trade in manufactured goods in 2009 and earlier on trade in manufactured goods in 2002.

An increase in the index reflects a nominal or a real appreciation of the krone.

# Danmarks Nationalbank's Statistical Publications

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## **Periodical electronic publications**

Danmarks Nationalbank releases new financial statistics to the public in electronic publications composed of 2 elements:

- **"Nyt" (News)** describing the key development trends.
- **Tabeltillæg (Tables Supplement)** containing tables with as detailed specifications as possible.

"Nyt" is available in Danish only, whereas the tables supplement and the corresponding sources and methodologies also are available in English.

## **Statistics databank**

The above publications are supplemented by a statistics database comprising all time series which are updated concurrent with a release. The time series include data as far back in time as possible. The statistical data from Danmarks Nationalbank are published through Statistics Denmark's "StatBank Denmark". Danmarks Nationalbank's part of the "StatBank Denmark" is available directly via:  
[nationalbanken.statbank.dk](http://nationalbanken.statbank.dk)

## **Special Reports**

Special Reports deal with statistics of a thematic character and are not prepared on a regular basis.

## **Release calendar**

A release calendar for the statistical publications, covering the current month and the following quarter, is available on:  
[www.nationalbanken.dk](http://www.nationalbanken.dk) (see Statistics > Release calendar).