Danmarks Nationalbank

Monetary Review 3rd Quarter Part 1

2012

DANMARKS NATIONAL BANK 2012

MONETARY REVIEW 3rd 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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Contents

Current Economic and Monetary Trends

SUMMARY

The recovery in the world economy has slowed down since the spring, reflecting weak domestic demand, particularly in the euro area, and subdued international trade. The financial markets remained unstable over the summer despite important political steps, such as expansion of the international financial firewalls and loans for recapitalisation of the Spanish banking sector, subject to the establishment of a single financial supervisory mechanism. The European Central Bank's commitment in early September to purchase government securities on certain conditions has increased confidence in the markets, and by mid-September the Spanish and Italian short-term government yields had declined from the elevated levels in July. The international growth outlook for 2012-13 has been adjusted downwards in view of the moderate growth in the 1st half of 2012 and uncertainty about developments in southern Europe.

Activity in Denmark fell by 0.5 per cent in the 2nd quarter, having risen by 0.3 per cent in the preceding quarter. Growth was mainly curbed by pronounced falls in private consumption and business investment, but public demand was also sluggish. The trend in private consumption should be viewed in the context of subdued growth in disposable income and continued weak confidence. For the full year, growth is predicted to be 0.3 per cent, rising to just over 1.5 per cent in 2013 and 2014.

The housing market continued to weaken throughout 2011, but prices stabilised in the 1st half of 2012, against the background of historically low short- and long-term interest rates. Domestic inflationary pressures are still dampened by the spare capacity in the economy, but price inflation is being buoyed up by higher food and energy prices.

There were plans to ease fiscal policy substantially in 2012, but it looks as if public demand will be somewhat lower than budgeted. While it is positive that the budgets are not overrun, this also illustrates the difficulties in using fiscal policy to fine-tune the economy. The agreements concluded on a tax reform and amendment of the social pension and flexible employment schemes represent a step on the way to fiscal sustainability. However, there is still a significant shortfall in funding for the planned growth in expenses in the Danish government's 2020 plan. Recent years' pronounced easing of fiscal policy has had a stabilising

effect by mitigating the negative effects of the crisis on the Danish economy. On the other hand, fiscal policy was too accommodative during the pre-crisis upswing. It is essential that this situation is not repeated. The societal costs of the business cycle seen in Denmark since the mid-2000s are large. Fiscal policy should be tight next time activity rises above its potential level. With the large savings surplus in the private sector, very low interest rates and moderate spare capacity in the economy, the situation may change rapidly.

THE INTERNATIONAL ECONOMY AND THE FINANCIAL MARKETS

Economic developments

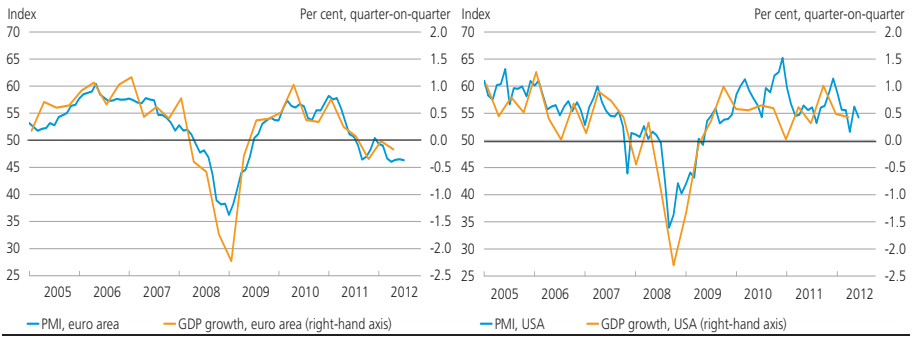
The international economic situation is weak. Following a period of stabilisation in global growth in early 2012, the recovery in the world economy slowed down in the spring and summer on the back of uncertainty in the financial markets, among other factors. The weaker economic growth was primarily seen in the advanced economies, but growth in major emerging economies was also less robust than previously.

Real economic developments among Denmark's most important trading partners varied somewhat in the 1st half of 2012. The gross domestic product, GDP, of the euro area shrank by 0.2 per cent in the 2nd quarter in response to further declines in domestic demand. GDP grew by 0.3 per cent in Germany, was flat in France and fell notably in several southern European countries. The Swedish economy grew soundly at a faster rate than its potential in the 1st half of 2012. There was thus some economic growth in Denmark's most important export markets grew. Conversely, activity in the UK has been declining since the 4th quarter of 2011. In the 2nd quarter, US growth was 0.4 per cent, mainly driven by rising private domestic demand. Hence, growth was lower than in the 1st quarter of the year and below the potential for the economy.

Leading economic indicators point to stronger US growth in the 3rd quarter, while both weak indicators and low confidence in the private sector point to continued weak growth in the euro area, cf. Chart 1.

Inflation declined in the USA and the euro area in the 1st half of 2012 and stood at 1.7 and 2.6 per cent, respectively, in August. In the euro area, the downward trend in inflation has been less pronounced on account of higher indirect taxes, which contributed approximately 0.4 percentage point to inflation in the 1st half of 2012. The rising oil prices over the summer were reflected in the August figure for euro area consumer price inflation, whereas the most recent food price increases had

PMI INDICES AND GDP GROWTH IN THE EURO AREA AND THE USA Chart 1



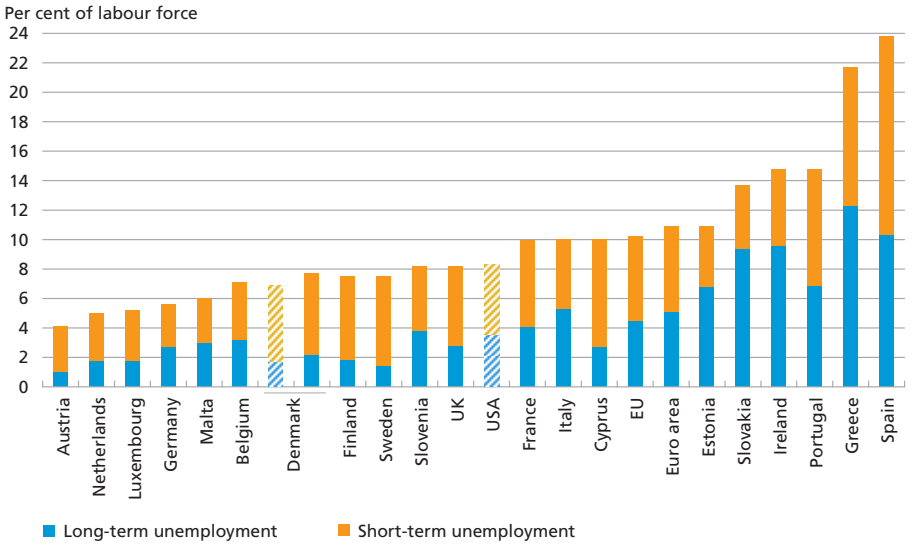
Note: The indices are the Purchasing Managers' Index, PMI, for manufacturing and services (composite output). The most recent data for GDP growth is from the 2nd quarter, while the most recent PMI index observations are from August.
Source: Markit and Reuters EcoWin.

not yet filtered through to consumer prices. Underlying inflationary pressures are moderate as a result of the weak economic activity and anchored inflation expectations.

Unemployment is high in many countries, especially in the euro area, where it has risen sharply since the summer of 2011. In July, overall euro area unemployment was 11.3 per cent of the labour force. Considerable differences in the economic situation and labour market structures of the euro area member states meant that unemployment rates in July ranged from some 5 per cent in e.g. Germany to 25 per cent, and rising, in Spain. In the USA, unemployment has stagnated at just over 8 per cent since May, and growth in employment was relatively weak in the 2nd quarter. This means that no notable recovery has been seen in the US labour market, although the most recent reports from July and August point to slightly stronger growth in employment.

In the last few years, long-term unemployment has risen to high levels in many European economies, particularly in Greece, Ireland and Spain, cf. Chart 2, where the economic crisis has been long and deep. Higher long-term unemployment increases the risk that structural unemployment will rise. An increasingly marginal attachment to the labour market and lack of current upgrading of skills make it more difficult for unemployed people to re-enter the labour market. The southern European countries have implemented a number of labour market reforms, e.g. to boost flexibility, but it is important also to make an effort to bring down long-term unemployment so as to reduce the risk of higher structural unemployment. The reforms in Denmark in the 1990s and Germany in the 2000s show that it is possible to achieve a sizeable reduction in long-term and structural employment, cf. the article "Labour-Market Reforms in Denmark and Germany" in this Monetary Review.

UNEMPLOYMENT IN SELECTED COUNTRIES Chart 2



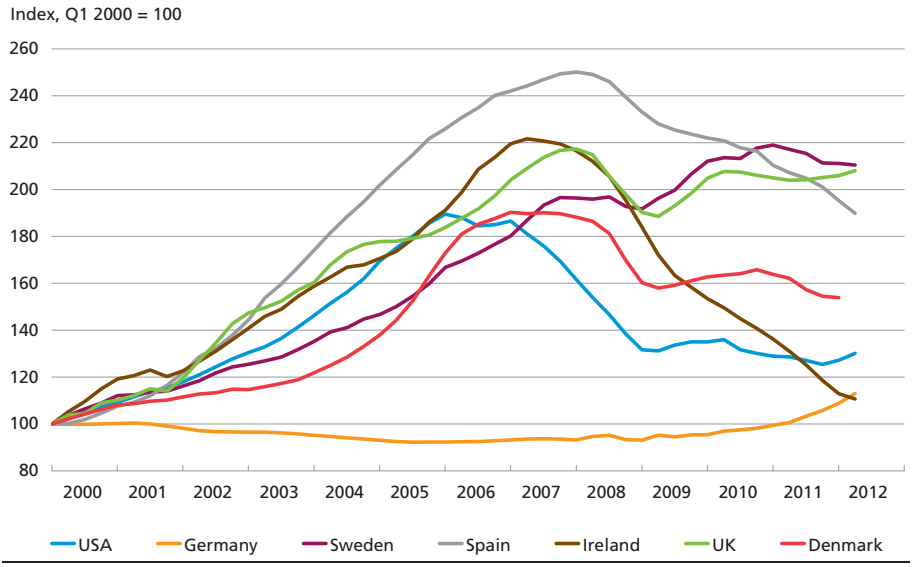
Note: The unemployment statistics behind the shaded bars are not fully comparable with the other bars. As a main rule, internationally comparable definitions of unemployment have been applied. However, these definitions diverge from Danish gross unemployment and long-term unemployment (shaded bar for Denmark) and the US unemployment definitions. Data for the 1st quarter of 2012. *Long-term unemployment* is defined as people who are unemployed for more than 1 year. In the USA, people are defined as long-term unemployed after six months, while the Danish definition (shaded bar) is the number of people in the gross unemployment figure who have been unemployed for at least 80 per cent of the time within the last year, converted into full-time equivalents.
Source: Eurostat, Bureau of Labor Statistics, Danish Labour Market Authority and Statistics Denmark.

The US housing market has stabilised and shows some signs of improvement. House prices rose in the 1st half of the year, from a low level, but with some differences across states. New housing starts and the number of mortgage loan applications have grown since the spring of 2011, and residential investment has contributed a little to GDP growth in each of the last three quarters. The number of mortgage loans in arrears, however, remained high in early 2012, at approximately 10 per cent.

In Germany, house prices have risen since 2010, following many years' stagnation, while the correction of substantial price rises until 2007/08 continued in Ireland and Spain, cf. Chart 3. Irish house prices have halved since 2007 and were by mid-2012 nearly back at the millennium level, while Spanish house prices were still almost twice as high as in 2000, despite the fall that has occurred. Countries such as Greece, Portugal, the Netherlands, France and Sweden also saw falling house prices in the 1st half of 2012. All the same, French and Swedish house prices remain high. Traditionally, house prices fluctuate with the economy, and a stabilisation of housing markets through wealth effects and increased confidence may have a positive impact on domestic demand and hence also on the soundness of the banking sector and government finances.

NOMINAL HOUSE PRICES IN THE USA AND SELECTED EUROPEAN COUNTRIES

Chart 3



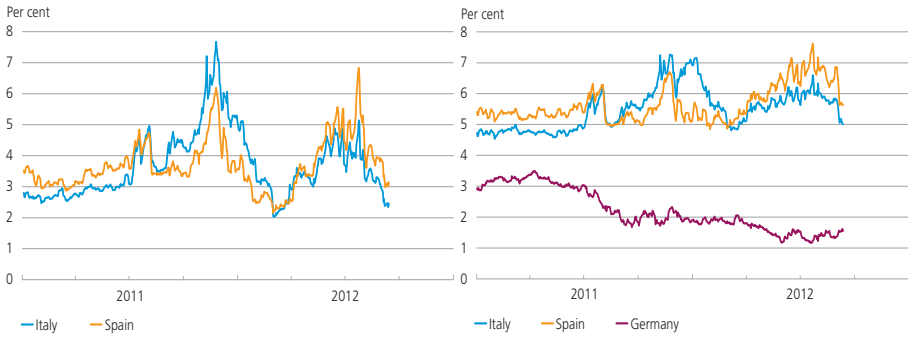
Source: OECD house price database and Reuters EcoWin.

Financial conditions

There was less turmoil in the financial markets following the announcement of the ECB's new monetary-policy initiatives on 6 September. The new ECB programme includes potential purchases of short-term government securities from crisis-ridden euro area member states with a view to restoring the transmission mechanism from monetary-policy interest rates to the real economy throughout the euro area, cf. below. After the ECB's announcement, yields on especially Spanish and Italian government securities dropped sharply, and by mid-September 2-year government yields were 4 and 3 percentage points, respectively, lower than in late July, cf. Chart 4 (left), while 10-year government yields had declined by 1.8 and 1.5 percentage points. This followed in the wake of a summer with turmoil in the financial markets. Uncertainty about the need for capital injections into the Spanish banking sector and the sustainability of Spain's public finances meant that 10-year government yields continued to rise throughout July in Spain and Italy, while they fell in countries such as the USA, Germany, France and Belgium, cf. Chart 4 (right).

For several euro area member states, the development in government yields has increasingly reflected lack of confidence in e.g. the sustainability of public finances and to a lesser extent monetary-policy interest rates. Over the last year, this has especially been the case in Italy and Spain. Although government yields in these two member states have fallen since end-July, the relatively high yields still constitute a problem

NOMINAL YIELDS ON 2-YEAR GOVERNMENT BONDS (LEFT) AND 10-YEAR GOVERNMENT BONDS (RIGHT) Chart 4



Note: The most recent observations are from 13 September.
Source: Bloomberg.

in the current economic situation, since they prevent the low monetary-policy interest rates from having the intended effect in the private sector. However, the levels over the summer were not abnormally high in a long-term perspective. Before the introduction of the euro, Spanish and Italian 10-year government yields was as high as 15 per cent, and even if they are adjusted for GDP and price developments, government yield levels in July were not exceptional compared with the pre-euro levels, cf. Box 1.

Lending by banks to the private sector is subdued in the euro area. Lending to households rose slightly in the 1st half of 2012, while the value of outstanding corporate loans declined. The ECB's lending survey for the 2nd quarter indicated further tightening of credit standards over the summer. Despite increased financial turmoil, tightening was in line with that seen in the 1st quarter. US borrowing conditions are generally more favourable, and in the 1st half of the year lending to households grew by around 5 per cent compared with one year earlier. At the same time, terms and conditions for consumer loans, which were tightened markedly during the financial crisis, have gradually been eased, while the terms and conditions for mortgage-backed loans have been relatively stable since early 2011.

The euro weakened against other major currencies until end-July, after which it strengthened by 8 and 3 per cent, respectively, against the dollar and the pound until mid-September. Since 2007, the dollar/euro rate has fluctuated within a fairly narrow interval, with the euro weakening considerably since the spring of 2011, corresponding to depreciation of 12 and 10 per cent against the dollar and pound sterling, respectively, cf. Chart 6.

ITALIAN AND SPANISH GOVERNMENT YIELDS IN A LONG-TERM PERSPECTIVE

Box 1

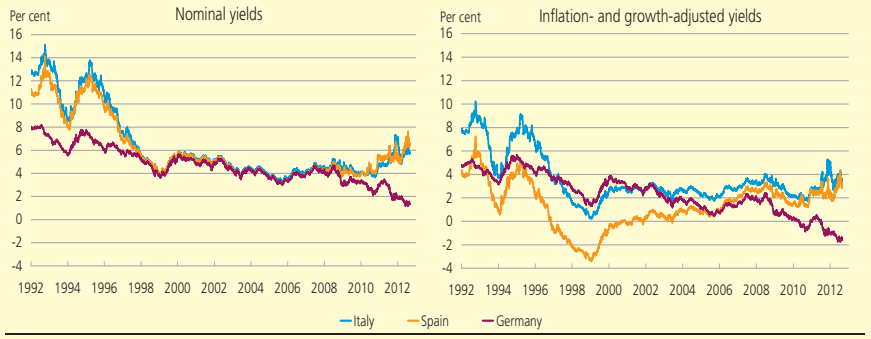
In recent years, government yields in several euro area member states have to a large extent been driven by national factors, including the sustainability of public finances, and to a lesser extent by the ECB's main refinancing rate. Hence, the monetary-policy transmission mechanism has not been fully effective in relation to government yields and lending rates in the private sectors of some member states. Since the end of 2011, the main refinancing rate has been lowered three times, by a total of 75 basis points, but Spain and Italy have still seen periodically surging government yields, at times reaching more than 7 per cent.

Nominal government yields at that level were not uncommon before the euro was introduced. In the 1990s, government yields in Spain and Italy fluctuated between 8 and 15 per cent until 1997, and yield spreads to Germany were wider than in 2012, cf. Chart 5. The high government yields and the spill-over to lending rates offered to the private sector are dampening an already weak economic activity and private-sector interest rates are thus high, given the cyclical position. It is the combination of a weak growth outlook and relatively high debt levels that has given rise to concerns about the sustainability of these member states' government debt.

To assess the burden to Italy and Spain of yields in the range of 7 per cent, it is necessary to adjust the nominal yields for inflation and economic growth, as higher inflation and growth reduce the debt relative to GDP. The relevant inflation and growth rates for calculating a 10-year growth-adjusted real yield are inflation and GDP growth rates for the coming 10 years. In July, this 10-year growth-adjusted yield corresponded to the levels in the mid-1990s for Spain, while it was lower for Italy, cf. Chart 5. So they were not abnormally high in a long-term perspective; and they more or less matched the level at which Germany obtained funding during the last couple of decades before the financial crisis. It is more likely to have been the low government yields in the 2000s that were unusually favourable.

NOMINAL AND INFLATION- AND GROWTH-ADJUSTED YIELDS

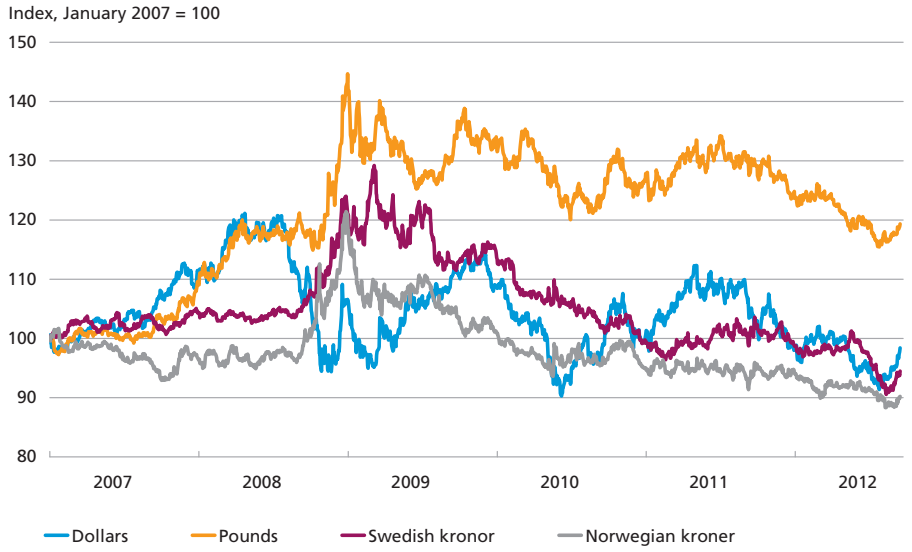
Chart 5



Note: Inflation- and growth-adjusted yields have been calculated as nominal 10-year government bond yields less the average nominal growth in GDP 10 years ahead. Nominal GDP growth for the period 2012-17 is based on IMF estimates and for 2018-22 on OECD estimates, assuming 2 per cent inflation. Hence, the growth-adjusted yields from 2002 onwards are based on estimates from international organisations; they are not "realised" yields.

Source: Reuters EcoWin, IMF *World Economic Outlook*, May 2012 and *OECD Economic Outlook*, May 2012.

EXCHANGE RATE OF THE EURO VIS-À-VIS SELECTED CURRENCIES Chart 6



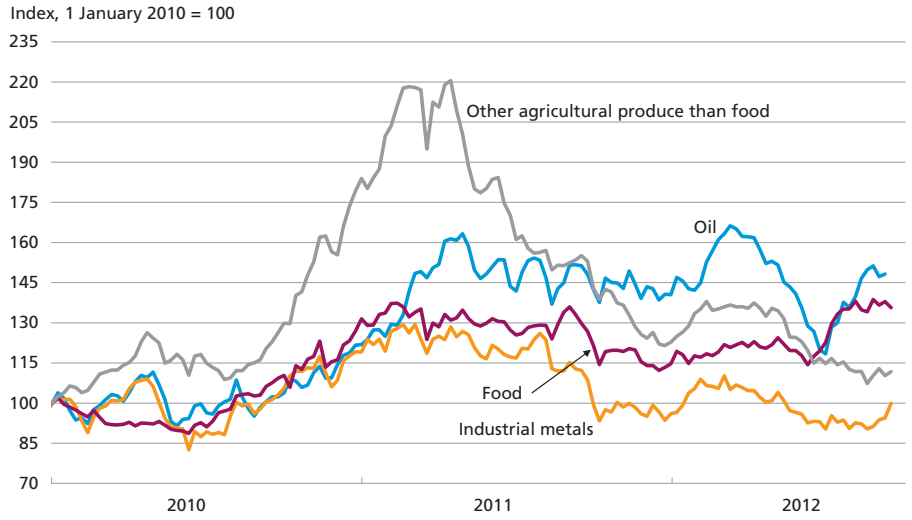
Note: An increase indicates that the euro has strengthened against the currency in question. The most recent observations are from 13 September.
Source: Reuters EcoWin.

Both Norway and Sweden have been regarded as "safe havens" and have seen substantial capital inflows. The Swedish krona and the Norwegian krone strengthened by 8 and 3 per cent, respectively, vis-à-vis the euro in June and July, and despite the strengthening of the euro from August, they remained at the strongest levels seen since the early 2000s in mid-September. Notwithstanding the uncertainty in the financial markets, equity markets performed well over the summer, and the benchmark US and euro area stock indices were 21 and 15 per cent, respectively, higher in mid-September than in early June.

The price of oil has risen significantly since July, partly reversing the large falls from mid-March to June, cf. Chart 7. In mid-September Brent oil traded at around 116 dollars per barrel, i.e. 11 per cent lower than in mid-March in dollar terms and 10 per cent lower in euro terms. The price increases have primarily been driven by renewed geopolitical tensions, including the commencement of the EU import ban against Syria in July and lower output of Brent oil due to a strike among Norwegian oil workers.

Food prices soared over the summer, cf. Chart 7. Droughts in major production areas, chiefly the USA, caused concerns about the supply of important crops such as wheat, maize and soya beans. Since mid-June, prices have risen by 44 per cent for wheat, 34 per cent for maize and 27 per cent for soya beans; the latter were already high following increases

PRICES OF SELECTED COMMODITY GROUPS Chart 7



Note: Index of commodity prices in dollars prepared by the Economist (weekly frequency) and spot price for Brent crude oil. Industrial metals include aluminium, copper, nickel, tin and lead. Food includes maize, wheat, coffee, soya beans, sugar, cocoa and soya bean oil, among others. Other agricultural produce than food includes cotton, wool, rubber, timber and coconut oil, among others.
Source: Reuters EcoWin.

in the first months of 2012. Prices of important metals showed a subdued trend over the summer, but rose again from mid-August.

Growth outlook

The international growth outlook has deteriorated and global growth expectations have been adjusted downwards since the spring. Likewise, the consensus estimates have been lowered, especially for 2013, cf. Table 1. This follows in the wake of continued tensions in the financial markets, heightened uncertainty about southern Europe in particular and less robust US growth than anticipated. At the same time, important emerging economies such as Brazil, China and India slowed down more than expected.

The predominant factor of uncertainty for the growth outlook is the lack of stability in southern Europe, which has continued despite important steps taken by European authorities and the International Monetary Fund, IMF. These measures include expanding the lending capacity and mandate of the international financial firewalls and direct capital injections into the Spanish banking sector, conditional on the establishment of a single financial supervisory mechanism. However, the initial market effect of the ECB's commitment on 6 September to purchase government securities on certain conditions indicates that the

ESTIMATES OF GDP GROWTH IN SELECTED ECONOMIES Table 1

Per cent	2011	2012	2013	Change relative to April 2012	
				2012	2013
USA	1.7	2.2	2.1	-0.1	-0.4
Euro area	1.5	-0.5	0.2	-0.1	-0.7
Germany	3.0	0.8	1.0	0.1	-0.6
France	1.7	0.1	0.4	-0.2	-0.6
Italy	0.4	-2.2	-0.6	-0.7	-0.8
Spain	0.4	-1.6	-1.4	0.0	-1.3
UK	0.8	-0.3	1.3	-1.0	-0.5
Sweden	3.9	1.3	1.8	0.8	-0.2
Japan	-0.7	2.4	1.3	0.4	-0.2
China	9.2	7.9	8.3	-0.5	-0.2
India	7.3	6.1	7.1	-1.1	-0.6

Note: The estimates for GDP growth in 2012 and 2013 are based on questionnaire surveys of more than 700 economists' expectations. Actual figures for 2011.
Source: Consensus Economics (September) and OECD statistics database.

announcement may have reduced the financial instability. US short- and medium-term fiscal policy also causes concern about the future level of activity, and the oil price, which by mid-September was relatively close to the high levels seen earlier in the year, also dampens growth.

Some tendencies may also prove to be stronger than expected. So far private consumption in Germany has grown at a moderate pace, but large private savings, higher real wages, falling unemployment, low interest rates and rising house prices may boost consumption. If investment by US firms is higher and the confidence effects of slightly stronger US housing and labour markets more pronounced than expected, this may also drive a more favourable development.

Economic policy

A number of central banks eased monetary policy further over the summer, and new, unconventional monetary-policy measures were introduced. In July, the ECB lowered its main refinancing rate by 25 basis points to 0.75 per cent. At its September meeting, the Governing Council decided that the ECB may purchase short-term government bonds issued by euro area member states subject to programmes of the European Financial Stability Facility, EFSF, or the European Stability Mechanism, ESM, one of the conditions being that the programme allows EFSF/ESM purchases in the primary market. The programme is referred to as Outright Monetary Transactions, OMT, and its aim is to restore the monetary-policy transmission mechanism in these member states through the ECB's purchases. The OMT programme is described in Box 2.

THE ECB'S DECISIONS AT ITS INTEREST-RATE MEETING ON 6 SEPTEMBER Box 2

At its meeting on 6 September, the ECB's Governing Council decided that the ECB may purchase euro area government securities in the secondary market, subject to certain conditions. The programme, Outright Monetary Transactions, is to ensure the transmission of monetary-policy interest rates to the real economy throughout the euro area. Furthermore, the Governing Council changed its collateral eligibility requirements for market operations. These decisions are elaborated on below.

Outright Monetary Transactions, OMT

- A necessary condition for ECB purchases is strict and effective conditionality attached to an appropriate European Financial Stability Facility/European Stability Mechanism (EFSF/ESM) programme. The involvement of the IMF shall be sought for the design of the country-specific conditionality and the monitoring of such a programme. The programme shall include the possibility of EFSF/ESM primary market purchases. ECB's purchases may also be considered for member states currently under a macroeconomic adjustment programme when they regain bond market access.
- Purchases are subject to full compliance with the EFSF/ESM programme conditionalities.
- Transactions will focus on securities in the 1-3 year maturity segments, and no upper limit has been set for programme purchases. The liquidity impact of the transactions will be fully sterilised, i.e. the liquidity generated by the purchases will be offset by liquidity-absorbing operations.
- The Governing Council will consider the purchases to the extent that they are warranted from a monetary-policy perspective and shall in full discretion decide on the start, continuation and suspension of any transactions.
- The ECB accepts the same (pari passu) treatment as private and other creditors in the event of losses on government securities purchased through the OMT programme.

Changes to the collateral eligibility requirements

- The ECB's application of a minimum credit rating threshold in the collateral eligibility requirements for its market operations was suspended in the case of marketable debt instruments and other claims issued or guaranteed by euro area member states eligible for the ECB's OMT programme or under an EU/IMF programme. The Governing Council's decision of 20 July 2012 not to accept debt instruments issued or guaranteed by the Greek government is still applicable.
- Marketable debt instruments denominated in US dollars, Japanese yen and pound sterling issued and held in the euro area are eligible to be used as collateral by the ECB's counterparties.

In June, the Federal Reserve prolonged its unconventional programme whereby it seeks to lower long-term interest rates by selling shorter-term securities and purchasing assets with longer maturities ("operation twist"). In September the Fed announced purchases of mortgage-backed securities for a further 40 billion dollars per month until employment and

economic activity show lasting improvement. With the previously announced "operation twist" and other current initiatives, the Fed will increase its portfolio of long-term securities by 85 billion dollars a month for the rest of 2012. At the same time, the Fed announced that in the current economic environment it expects to keep the fed funds rate at an exceptionally low level at least through mid-2015. In July, the Bank of England increased its asset purchase programme and announced a facility whereby banks are offered funding at a lower cost in return for increased private sector lending from the banks. In September, Sveriges Riksbank lowered its repo rate by 25 basis points to 1.25 per cent. Finally, the People's Bank of China cut its base interest rate in both June and July.

Over the spring and summer here has been much uncertainty about the capital needs of the Spanish banking sector and the sustainability of Spain's public finances. On 9 June, the euro area member states made a commitment to lend Spain up to 100 billion euro (9 per cent of GDP) via the EFSF for recapitalisation of Spanish banks. Further decisions by euro area heads of state or government over the summer mean that the recapitalisation loans may ultimately be given directly to Spanish banks, thereby circumventing the Spanish government and its debt, cf. Box 3. In the course of the summer, this loan lifted some of the concerns about Spain, but substantial deficits in several Spanish regions led to speculations about the need for further financial assistance from the euro area. Spain may apply for a full EFSF/ESM assistance programme with attached conditionalities, which is a prerequisite if the ECB is to support Spain via the OMT programme.

In July, Spain announced further fiscal tightening in the period 2012-14 totalling just over 56 billion euro, or 5.3 per cent of GDP, including higher direct and indirect taxes and VAT. These new measures were part of an agreement with the European Commission and other euro area member states on the loan for recapitalising the banking sector. In this connection the deadline for bringing the Spanish budget deficit below 3 per cent was also postponed from 2013 to 2014 due to a weak growth outlook. Consolidation of Spain's public finances is impeded by the decentralised regional structure with 17 autonomous regions and two autonomous cities. In July the Spanish government announced an 18 billion euro liquidity fund for the regions, under which financial assistance for a region entails increased oversight by the central government.[1]

[1] Regions may opt in until the end of the year. So far, three regions have expressed a wish to participate (Valencia, Catalonia and Murcia).

THE EUROPEAN STABILITY MECHANISM, ESM Box 3

On 29 June, the euro area heads of state or government decided to broaden the mandate of the European Stability Mechanism, ESM. The ESM will be empowered to provide direct recapitalisation for euro area banks once a single supervisory mechanism involving the ECB has been established. In this connection, the commitment by the Eurogroup to lend Spain up to 100 billion euro from the EFSF for recapitalisation of the Spanish financial sector may be channelled directly into a Spanish recapitalisation fund, i.e. without involving the Spanish government, when the loan is transferred to the ESM, the permanent replacement of the EFSF. Such loans will not gain seniority status, although this was originally a condition for loans from the ESM.

Assistance from the ESM requires unanimity among the euro area member states, or in special cases a qualified majority of 85 per cent. The total lending capacity is 500 billion euro. The ESM will obtain funding by borrowing in the capital markets to provide support for euro area member states threatened by financial instability. Member states receiving support from the ESM must observe certain conditions, including meeting the country-specific recommendations and other conditions related to the European semester, the Stability and Growth Pact and the Macroeconomic Imbalance Procedure. The ESM has a range of instruments at its disposal:

- A precautionary credit line on which a member state can draw if the need arises.
- Loans which a member state must use for the specific purpose of recapitalising its financial institutions and/or direct loans for recapitalisation of financial institutions once a single supervisory mechanism for banks has been established.
- Ordinary loans to member states.
- Purchases in a member state's primary or secondary sovereign debt market.

The ESM will enter into force when the ESM Treaty has been ratified by euro area member states representing at least 90 per cent of total capital subscriptions. This is expected to occur in the autumn of 2012.

The decision to expand the ESM's mandate to include direct recapitalisation of euro area banks, thereby circumventing the relevant member state and its government debt, is conditional on the establishment of a single supervisory mechanism involving the ECB. On 12 September the Commission proposed a structure for such a supervisory mechanism, cf. Box 4.

The expansion of the ESM's mandate is an important step in relation to containing the sovereign debt crisis. In recent years, several member states have incurred considerable costs when recapitalising their banking sectors, and in some cases this has been too heavy a burden on public finances. In future, the ESM's mandate to recapitalise euro area banks directly will decouple member states' public finances from their national banking sectors.

Fiscal policy is contractive in most advanced economies, especially in southern Europe. In many cases government debt is well above 60 per

CLOSER ECONOMIC COOPERATION IN THE EURO AREA AND THE COMMISSION'S PROPOSAL FOR A SINGLE SUPERVISORY MECHANISM Box 4

In June, the Presidents of the European Council, the European Commission and the Eurogroup presented an outline for the future European economic and monetary cooperation, including contemplations about a banking union and increased fiscal cooperation. The Council and its President, Herman Van Rompuy, are now preparing a report on the overall framework for a banking union. The outline was based on a vision to establish an integrated financial system comprising a single supervisory mechanism for banks, a deposit guarantee scheme and a resolution mechanism. A preliminary report will be presented in October, while the final report will be presented to the Council in December 2012.

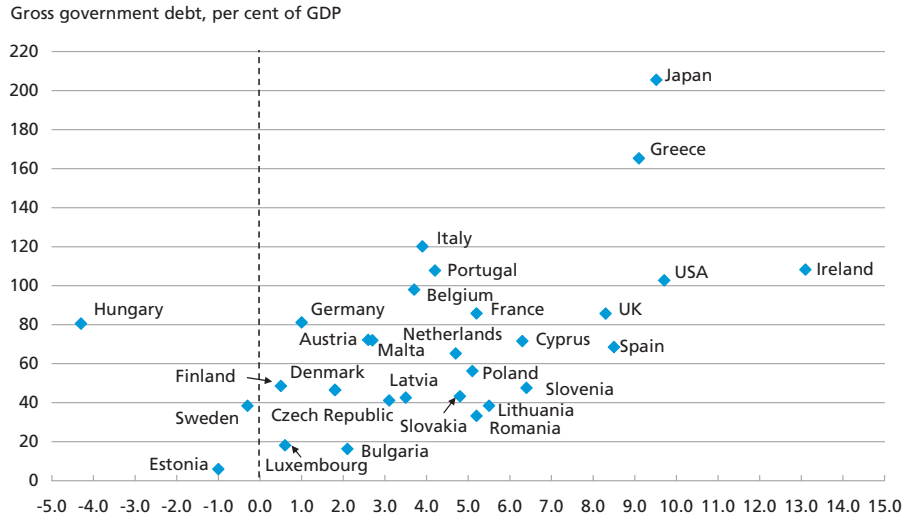
On 12 September, the European Commission also presented a roadmap towards a banking union and outlined the progress in relation to each of the four pillars of a banking union according to the Commission (single rulebook, banking supervision, deposit guarantee scheme and bank resolution framework). At the same time, the Commission published its proposal for a single supervisory mechanism for banks. The aim is to adopt the proposals by the end of the year. The Commission has previously put forward proposals for a deposit guarantee scheme and a resolution framework, respectively. Further negotiations about these two proposals will also have to take into account the banking supervision proposal.

In its proposal, the Commission envisages a single supervisory mechanism for all euro area credit institutions. Non-euro area member states will be able to opt in according to the proposal. Supervision is to be undertaken by the ECB via a newly established internal supervisory board, which – acting under direct instruction of the ECB's Governing Council – shall attend to the supervisory matters and other delegated tasks. It is proposed that the supervisory board should comprise four representatives of the ECB and one representative of each of the national supervisory authorities whose credit institutions are comprised by the single supervisory mechanism. In addition, there will be a Chair appointed by the ECB's Governing Council from among the members of the ECB's Executive Board (not the President) and a Vice-Chair elected by and from among the members of the ECB's Governing Council. The national supervisory authorities will assist the ECB in the supervisory tasks and will receive direct instructions from the ECB.

The legal framework is to enter into force on 1 January 2013. It is envisaged that a gradual transition to the ECB will take place during 2013, so that by 1 July 2013 the ECB will be responsible for supervision of half of the euro area's credit institutions in terms of size, cross-border activities and European systemic importance, and by 1 January 2014 at the latest, it will supervise all credit institutions in the participant member states. This is a very ambitious decision-making process and implementation schedule.

cent of GDP and most countries have government budget deficits, cf. Chart 8. This is not sustainable, and fiscal tightening and reduction of government debt are required. Many European economies are already consolidating and medium-term plans for fiscal sustainability are in place. In the USA and Japan, where both government debt and current

GROSS GOVERNMENT DEBT AND GOVERNMENT DEFICITS, 2011 Chart 8



Note: The chart shows the EU member states, the USA and Japan. For the EU member states, Maastricht debt and budget deficits are shown as defined under the EU's excessive deficit procedure. Data for the USA and Japan is based on national accounts. Hungary's budget surplus of 4.3 per cent of GDP is attributable to one-off revenues in 2011, including revenue from discontinuation of a previously compulsory private pension fund. Excluding one-off effects, Hungary had a budget deficit of 5.3 per cent of GDP.

Source: Eurostat and OECD statistics database.

budget deficits are extremely large, debt reduction plans are still outstanding.

In the USA, existing political agreements include tightening fiscal policy by more than 4 per cent of GDP in 2013 following the expiry of tax cuts and stimulus measures, as well as commencement of the automated savings mechanisms adopted when the debt ceiling was raised in August 2011, i.e. the "fiscal cliff". Hence, there is pressure for consolidation in the short term, but such severe tightening could, according to the IMF, halt economic growth. Markets and international organisations expect that a compromise on less severe tightening around 1.5 per cent will be reached after the November elections.

According to the IMF, consolidation in Italy, Portugal and Ireland is proceeding as planned. During the summer, Ireland held its first government bond auctions since September 2010. Ireland's determined approach to solving its fiscal and financial problems thereby seems to be paying off, although the euro area member states' decision to examine the Irish financial sector with a view to improving the sustainability of the programme also plays a role.

As regards Greece, the IMF, the ECB and the European Commission were in mid-September investigating whether Greece meets the require-

ments for disbursement of the first tranche from the new loan programme agreed in March 2012. It is a difficult situation. Provided that the programme conditions are met, liquidity from international lenders can be disbursed in late September or the beginning of October at the earliest. In June, Cyprus became the fourth euro area member state to apply for an EU/IMF loan programme. The programme has not been laid down yet.

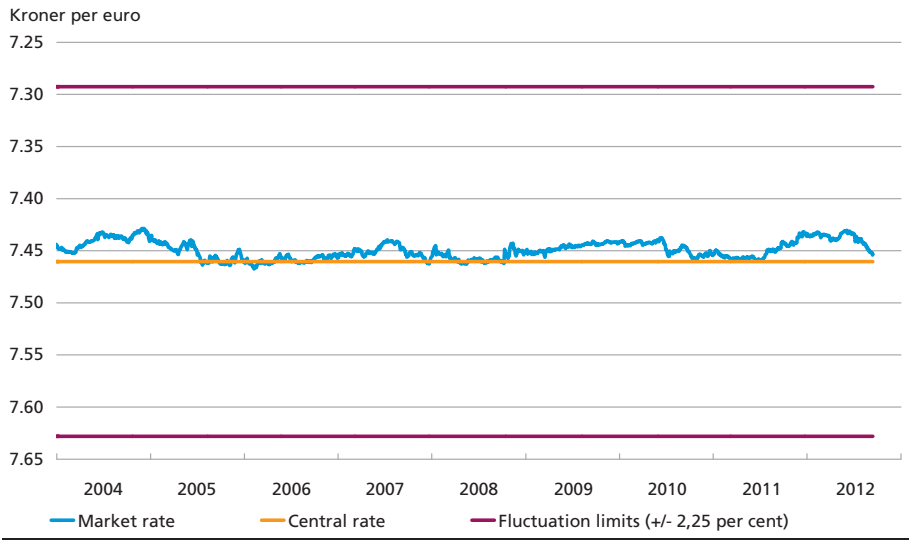
MONETARY AND EXCHANGE-RATE CONDITIONS

Since the turn of the year, the krone has been stable vis-à-vis the euro at a level slightly stronger than its central rate in ERM II, cf. Chart 9.

On 5 July 2012, Danmarks Nationalbank followed suit when the ECB lowered its interest rates, reducing the lending rate, rate of interest on certificates of deposit and discount rate by 0.25 percentage point with effect from 6 July. The current-account rate remained unchanged. This meant that the lending rate, rate of interest on certificates of deposit and current-account rate were 0.20, -0.20 and 0.00 per cent, respectively, while the discount rate was 0.00 per cent. This is the first time one of Danmarks Nationalbank's interest rates has been negative.

There was a clear pass-through from the negative interest rate on certificates of deposit to money-market interest rates, cf. Chart 10. In the preceding period, some money-market interest rates in Denmark had

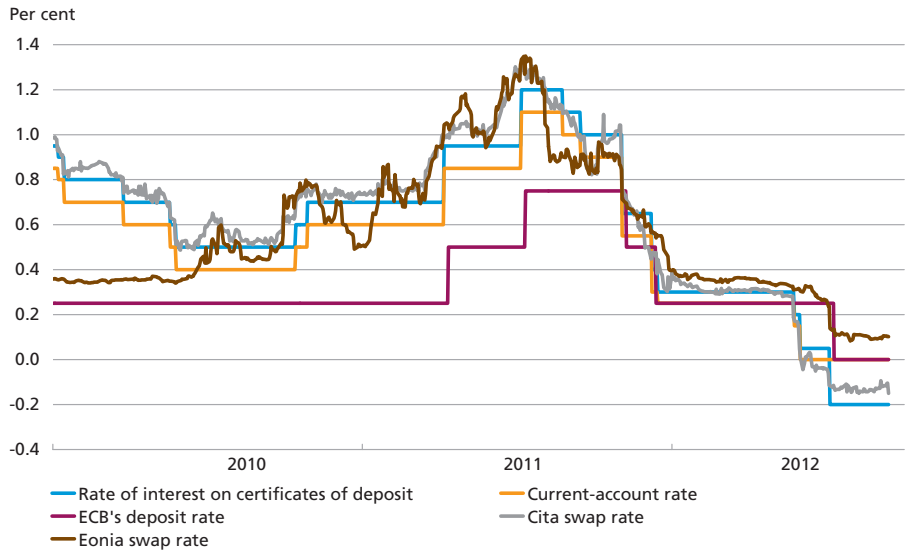
EXCHANGE RATE OF THE KRONE VIS-À-VIS THE EURO — Chart 9



Note: Reverse scale. The most recent observation is from 13 September 2012.
Source: Danmarks Nationalbank.

MONETARY-POLICY INTEREST RATES AND MONEY-MARKET INTEREST RATES IN DENMARK AND THE EURO AREA

Chart 10



Note: The most recent observations are from 13 September 2012. Money-market interest rates are the collateralised 3-month rates in Denmark and the euro area, respectively.
Source: Reuters EcoWin and Danmarks Nationalbank.

already been negative, reflecting market expectations that the ECB would lower its interest rates and Danmarks Nationalbank would do the same. Money-market rates in Denmark have now become even more negative, and the krone weakened a little in connection with Danmarks Nationalbank's interest-rate cut, cf. the article "Negative Interest Rates" in this Monetary Review. In mid-September, the krone was 0.1 per cent above its central rate against the euro, down from 0.3 per cent before the interest-rate cut. The krone weakened immediately after the interest-rate cut, which meant that any market doubts as to whether Danmarks Nationalbank would actually introduce a negative rate of interest on certificates of deposit were eliminated. The subsequent weakening of the krone should be viewed in the light of factors such as improved confidence in the management of the debt crisis in a number of EU member states in August, as well as the strengthening of the euro vis-à-vis a number of currencies. The fact that the rate of interest was negative may also have had a separate impact on investors' inclination to invest in kroner, although the monetary-policy spread was unchanged.

Limits have been set on the banks' and mortgage banks' total current-account deposits, i.e. deposits on a day-to-day basis. When the rate of interest on certificates of deposit turned negative, the current-account limits were increased from kr. 23 to 70 billion to reduce the impact of

the negative interest rate on banks and mortgage banks that are monetary-policy counterparties. The current-account limits are normally aimed at reducing the funds immediately available for speculation in a weakening of the krone. In the current situation with a strong krone, and with Danmarks Nationalbank intervening in the foreign-exchange market and reducing its monetary-policy interest rates to counter the strengthening of the krone, increasing the current-account limits does not constitute a problem in relation to the fixed-exchange-rate policy.

The pass-through from the rate of interest on certificates of deposit to money-market interest rates must be taken into account when fixing the current-account limits, i.e. it must be ensured that the credit institutions overall have invested in certificates of deposit at a negative rate of interest, entailing that their marginal liquidity deposits at Danmarks Nationalbank, e.g. in connection with capital inflows into Denmark, accrue negative interest. In mid-September they had invested in certificates of deposit totalling around kr. 160 billion.

Since the rate of interest on certificates of deposit is now lower than the current-account rate, the counterparties have an incentive to place funds in current accounts rather than certificates of deposit, and current-account deposits have increased. In general, the counterparties themselves have purchased certificates of deposit in order to observe the overall current-account limit, and hence Danmarks Nationalbank has converted excess deposits only three times since the interest-rate cut.

In June, Danmarks Nationalbank purchased foreign exchange for kr. 7.3 billion in connection with intervention. No intervention took place in July and August. The foreign-exchange reserve increased from end-May to August, to kr. 514.4 billion at end-August, reflecting net purchases by Danmarks Nationalbank of kr. 9.3 billion and net foreign borrowing by the government of kr. 2.7 billion.

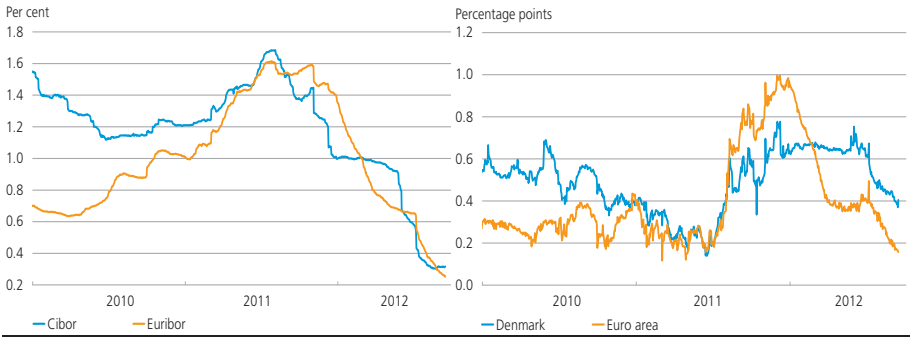
Developments in the money and capital markets

In mid-September, interest rates in the money and capital markets were still historically low.

On 30 August 2012, Danmarks Nationalbank sold T-bills with maturities of 3, 6 and 9 months at interest rates of -0.48, -0.40 and -0.35 per cent, respectively. The total sales volume was kr. 11.5 billion.

Danish money-market interest rates fell in connection with Danmarks Nationalbank's interest-rate cuts in May and July. The collateralised Danish money-market interest rate, given by the 3-month Cita swap rate, fell by approximately 0.3 percentage point in early June and has been negative from mid-June to mid-September, cf. Chart 10.

UNCOLLATERALISED MONEY-MARKET INTEREST RATES IN DENMARK AND THE EURO AREA (LEFT) AND SPREADS BETWEEN UNCOLLATERALISED AND COLLATERALISED INTEREST RATES IN DENMARK AND THE EURO AREA (RIGHT) Chart 11



Note: Uncollateralised interest rates in Denmark and the euro area measured by the 3-month Cibor and Euribor, respectively; collateralised interest rates measured by the 3-month Cita swap rate and 3-month Eonia rate, respectively. The most recent observations are from 13 September 2012.
Source: Reuters EcoWin and Danmarks Nationalbank.

From early June 2012 until mid-September, the uncollateralised Danish interest rate, measured by the 3-month Cibor, was close to the equivalent euro area interest rate, the 3-month Euribor. Both interest rates have fallen by around 0.4 percentage point in this period, cf. Chart 11 (left).

Since late February 2012, the spread between uncollateralised and collateralised Danish money-market interest rates has been wider than the corresponding euro area spread. The euro area spread widened more than the Danish spread when the sovereign debt crisis in a number of euro area member states flared up in the 2nd half of 2011. The euro area spread narrowed again following the ECB's announcement of a number of initiatives in December 2011, including 3-year loans, while the Danish spread remained more or less unchanged, cf. Chart 11 (right). Spreads in both Denmark and the euro area narrowed from late June 2012.

Over the summer, reference interest rates for uncollateralised lending came into focus, including Cibor for krone-denominated lending in the Danish market. This was a response to an announcement in late June by the UK Financial Services Authority, FSA, that it had fined Barclays Bank 59.5 million pounds for manipulation in connection with its reporting for the London Interbank Offered Rate, Libor, and the Euro Interbank Offered Rate, Euribor.[1]

[1] Cf. the press releases "Barclays fined £59.5 million for significant failing in relation to LIBOR and EURIBOR" and "Final notice to Barclays Bank Plc", both by the FSA, 27 June 2012.

The fixing of reference rates in the money market is being considered at the international level. In this context, the Bank for International Settlements, BIS, has set up a committee to consider the issue. The purpose is to provide input for the broader debate coordinated by the Financial Stability Board.[1] In addition, the Chancellor of the Exchequer after the Libor/Euribor manipulation case set up a committee, the Wheatley Review, to investigate the need for reform of the current framework for fixing and administering Libor, among other things. The Wheatley Review is due to present its recommendations for regulating Libor and other reference rates in late September.

In the autumn of 2010, Danmarks Nationalbank decided to withdraw from the Cibor cooperation. This was due to a combination of two circumstances: Firstly, the spread between the uncollateralised and collateralised interest rates in Denmark and the corresponding euro area spread showed diverging trends from mid-2009, and Danmarks Nationalbank did not find that the situation warranted this. Secondly, interbank trading volumes for uncollateralised loans were very low, and hence it was not possible for Danmarks Nationalbank to verify the reporting of interest rates for Cibor on the basis of actual trading.

On 4 September 2012, the Danish Bankers Association presented an account of the fixing of Cibor.[2] According to the account, the wider spread in Denmark reflects a number of specific factors indicated in terms of what market participants would have attached importance to in connection with lending to a bank with a very high credit rating. Danmarks Nationalbank cannot refute this explanation, but does not share the view of what the factors in question should entail. The Ministry of Business and Growth has announced that in September 2012 it will publish an account of Cibor that will include improvements to Cibor, including in terms of public supervision.

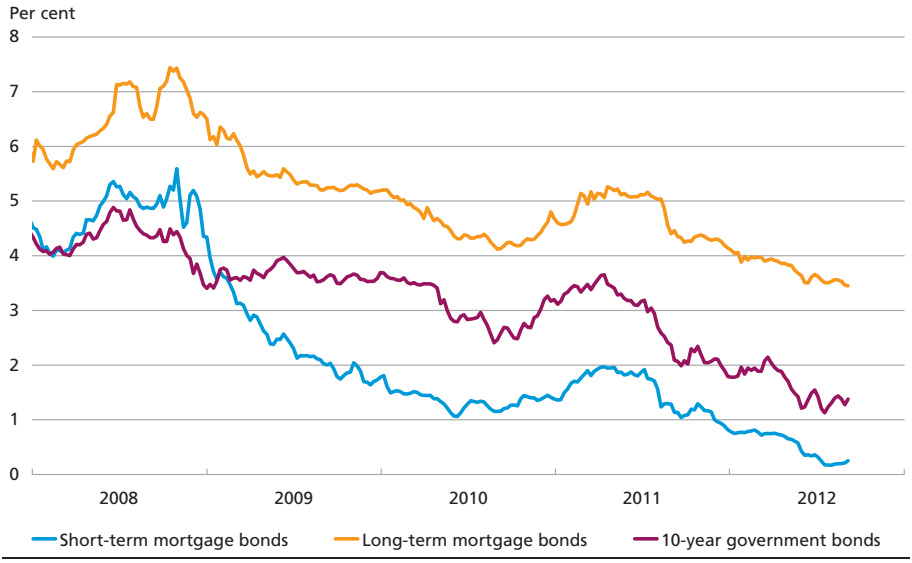
The modest trading volume for uncollateralised loans means that an alternative reference rate to Cibor should be established. In early 2011, Danmarks Nationalbank set up a working group to examine the opportunities for introducing a supplementary reference rate in the Danish money market. The working group concluded that Cita interest-rate swaps provide the best basis for a supplementary reference rate curve in the Danish money market, cf. the press release "Report on supplementary reference rate in the Danish money market", 8 July 2011.

The 10-year government bond yield mirrored the German government yield, standing at 1.5 per cent in mid-September, cf. Chart 12. In mid-

1 Cf. Economic Consultative Committee statement on LIBOR, 10 September 2012, http://www.bis.org/press/p120910.htm

2 Cf. the Danish Bankers Associations' account of Cibor (in Danish only), 4 September 2012.

YIELDS ON DANISH GOVERNMENT AND MORTGAGE BONDS Chart 12



Note: Weekly data. 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 36.
Source: Nordea, Association of Danish Mortgage Banks and Danmarks Nationalbank.

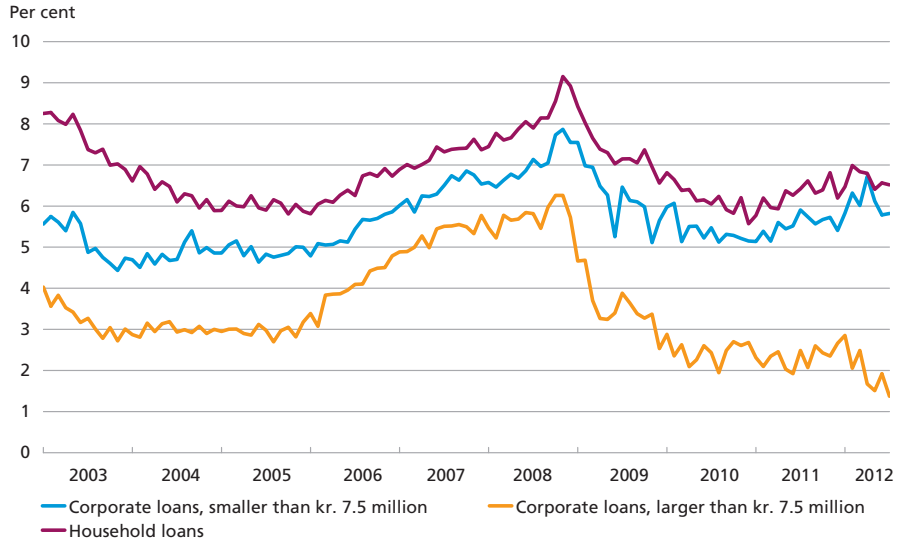
September the yield on Danish government securities was negative for maturities of up to 2.5 years.

The yields on short- and long-term mortgage bonds fell from early June to mid-September 2012, continuing the trend seen in the last year. In mid-September, the short-term mortgage yield was 0.3 per cent while the long-term yield was 3.5 per cent, cf. Chart 12. In early September bonds for financing adjustable-rate mortgage loans were auctioned at the lowest yields seen since these loans were introduced in 1996. Sales totalled kr. 160 billion and the 1-year yield averaged 0.38 per cent. In June 2012, the mortgage banks also introduced funding via 30-year bonds at 3.0 per cent.

During 2011 and 2012, mortgage banks have generally raised their administration margins, especially for adjustable-rate and deferred-amortisation loans. Most recently, Nordea announced a new mortgage credit pricing structure on 7 September 2012. The highest increases in administration margins are seen for adjustable-rate and deferred-amortisation loans and for high loan-to-value ratios.

The banks' interest rates on outstanding household and corporate loans fell from April to July. Over the last six months, the spread between the banks' interest rates for large and small new corporate loans has widened due to falling lending rates for large new loans, cf. Chart 13. The lending rates for large new loans may be ascribable to a smaller

BANK INTEREST RATES ON NEW LOANS TO HOUSEHOLDS AND TO THE CORPORATE SECTOR BROKEN DOWN BY LOAN SIZE — Chart 13



Note: The most recent observations are from July 2012.
Source: Danmarks Nationalbank.

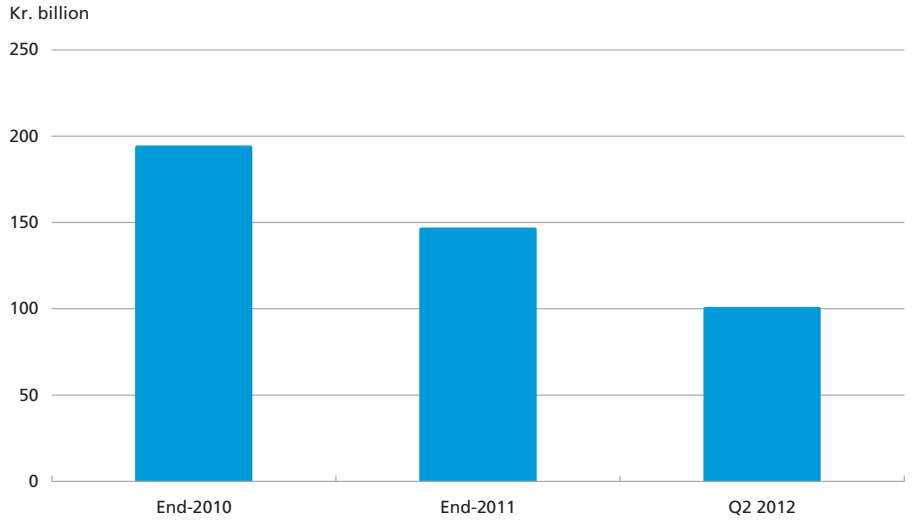
risk than for small new loans. Moreover, large corporations have easier access to the capital markets and therefore have more bargaining power vis-à-vis the banks when capital market rates decline.

Deposit rates did not match the decline in lending rates, so interest margins narrowed from May to July. The banks have neither introduced negative deposit rates for households nor for the vast majority of corporate customers.[1] However, they have generally raised their announced lending rates and further increases are on the way in the autumn of 2012.

Bank Rescue Package 2 from 2009 enabled Danish banks and mortgage banks to issue loans under individual government guarantees with maturities of up to 3 years. The arrangement comprises loans issued before end-2010. The outstanding government-guaranteed debt matures between 2011 and 2013. At end-2010, this debt totalled kr. 194 billion; by the 2nd quarter of 2012 it had shrunk to kr. 100 billion, cf. Chart 14. The loans have been redeemed as planned, and in some cases even prematurely. To facilitate the transition to a situation without government guarantees, Danmarks Nationalbank on 30 March 2012 offered 3-year loans, and the banks and mortgage banks raised loans for kr. 19 billion. Further 3-year loans will be offered on 28 September 2012.

[1] In a few cases, corporate deposit rates have been negative, primarily for very short-term deposits.

VOLUME OF OUTSTANDING DEBT WITH GOVERNMENT GUARANTEES Chart 14



Note: Includes debt issued by Danish banks and mortgage banks and by Faroese banks. Banks acquired by the Financial Stability Company have not been included. Commitments made under the new guarantee scheme of 22 March 2012 have not been included.
Source: Financial Stability Company and Danmarks Nationalbank.

Lending by banks and mortgage banks

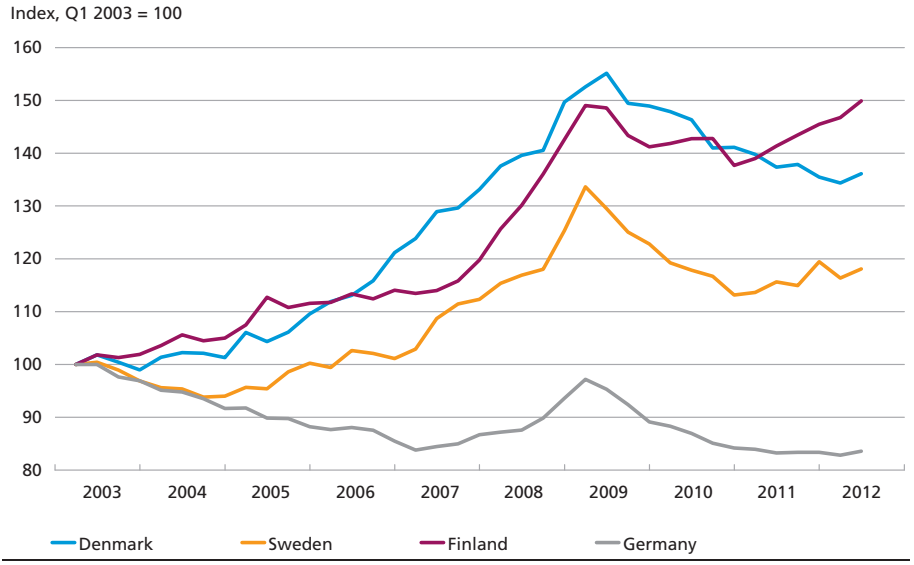
The banks' and mortgage banks' total seasonally adjusted lending to the corporate sector was more or less constant from May to July, while lending to households grew slightly. At end-July, corporate loans totalled kr. 996 billion and household loans kr. 2,342 billion. Recent years have seen a shift in lending from banks to mortgage banks. This trend continued from May to July, mortgage banks increasing their lending by kr. 16.3 billion, while the banks' lending decreased by kr. 13.2 billion. The rise in mortgage lending is primarily attributable to the households.

During the last three years, lending to the corporate sector has declined relative to economic activity. This has also been the case in other countries, cf. Chart 15.

According to Danmarks Nationalbank's lending survey, Danish banks and mortgage banks overall tightened their credit policies in the 2nd quarter of 2012, thereby continuing the mild tightening seen in the last four quarters. The reason given is higher funding costs, and the credit institutions expect that this will push up the prices of both household and corporate loans.

Demand from existing bank customers fell a little in the 2nd quarter of 2012, while the mortgage banks registered a slight increase. Demand from new household customers rose slightly, while a weak falling trend was observed for new corporate customers.

LENDING TO THE CORPORATE SECTOR RELATIVE TO GDP Chart 15



Note: Lending by MFIs to domestic non-financial corporations relative to annual seasonally adjusted GDP. For Finland, the counterparty area is the euro area, but other member states than Finland account for only a very small share of total lending. Quarterly data. The most recent observations are from the 2nd quarter of 2012.
Source: ECB's Statistical Data Warehouse, Deutsche Bundesbank and Reuters EcoWin.

THE DANISH ECONOMY

Economic activity has stagnated over the last 18 months. GDP fell by 0.5 per cent in the 2nd quarter of 2012, having risen by 0.3 per cent in the 1st quarter, cf. Table 2 and Chart 16. Growth in the 2nd quarter was mainly curbed by strong falls in private consumption and business investment. Public investment rose by 9 per cent in the 2nd quarter, reversing a similar fall in the 1st quarter, while public consumption rose a little in the 1st half of the year. Exports grew notably in the 2nd quarter, while imports of goods and services rose only marginally.

The sluggish trend in consumption seen in recent years continued in the 1st half of 2012. This should be viewed in the context of subdued growth in disposable income, which has developed at a slower pace than predicted in the June forecast.

At the same time, consumer confidence remains low, despite an increase in recent months. In addition to the weak propensity to consume, household investment, primarily comprising residential investment, is low. As a result, the households' savings surplus has reached a high level.

Household consolidation has also led to a slightly lower debt ratio, i.e. debt relative to disposable income, cf. Chart 17. Household debt is still high, but on the other hand household wealth is also high seen in a long-term perspective. The rising stock indices in recent years have

KEY ECONOMIC VARIABLES Table 2

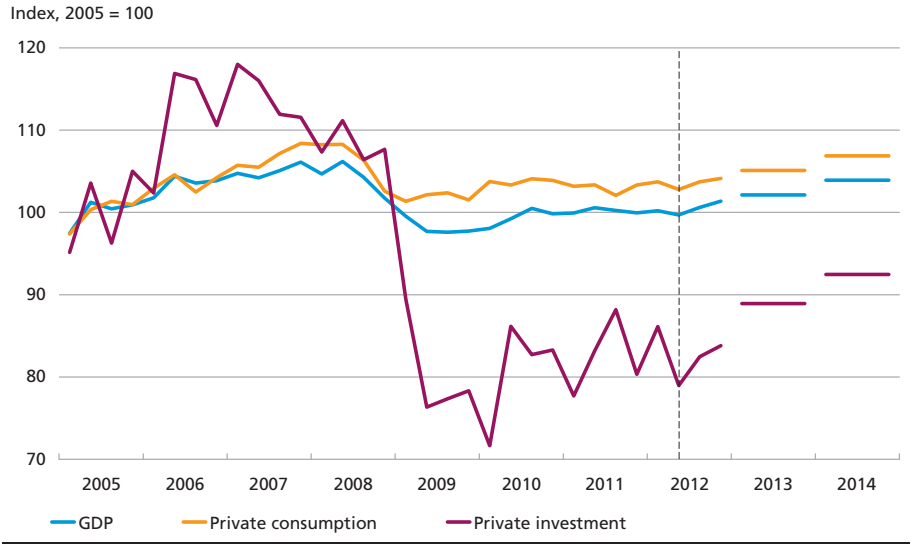
Real growth on preceding period, per cent	2011	2012	2013	2014	2011-12 Q4	2011-12 Q1	2011-12 Q2
GDP	0.8	0.3	1.6	1.7	-0.3	0.3	-0.5
Private consumption	-0.8	0.6	1.5	1.7	1.2	0.4	-0.9
Public consumption	-1.3	0.7	0.8	0.8	-0.5	0.2	0.3
Residential investment	8.8	-7.5	4.2	3.9	-3.0	-4.7	-4.3
Public investment	5.2	6.6	-10.2	0.9	1.3	-7.3	8.9
Business investment	-4.1	6.5	7.9	2.3	-0.7	9.5	-6.8
Inventory investment[1]	0.3	-0.3	0.1	0.2	-1.2	0.3	-0.4
Exports	7.0	1.9	3.2	3.7	0.1	-0.6	2.5
Industrial exports	7.0	2.0	4.9	6.1	-1.7	1.0	3.2
Imports	5.2	3.0	3.9	4.0	-1.2	1.2	0.7
Employment, 1,000 persons	2,767	2,760	2,760	2,771	2,764	2,761	2,759
Gross unemployment, 1,000 persons	162	164	161	156	162	161	163
Net unemployment, 1,000 persons	109	120	128	125	109	110	118
Balance of payments, per cent of GDP	6.5	6.1	5.5	5.3	5.9	4.6	7.7
Government balance, per cent of GDP	-1.9	-4.3	-2.5	-2.3	-1.9	-2.0	-3.0
House prices, per cent year-on-year	-2.8	-3.6	3.2	2.8	-6.8	-6.1	-6.1
Consumer prices, per cent year-on-year	2.7	2.4	2.0	1.8	2.6	2.7	2.2
Hourly wages, per cent year-on-year	2.3	1.9	2.1	2.4	2.5	2.1	2.0

[1] Contribution to GDP growth.

boosted the households' financial wealth considerably since the trough in the 1st quarter of 2009. However, house prices have been falling again, thereby reducing wealth and pushing up the already high loan-to-value ratio. The forecast operates with a small increase in the consumption ratio in 2013-14, bringing it to the average level for the last few decades. The high household savings hold a large consumption potential, which can be unleashed when confidence is restored.

Total business investment has fluctuated around an almost unchanged level since the dive in 2008-09. Investment in machinery, transport equipment, software, etc. has risen substantially since mid-2009 as capacity utilisation has increased. Looking ahead, the investment window included in the June tax agreement will result in more favourable deduction rules for firms in 2012-13. This is expected to buoy up the investment ratio for plant and equipment until 2014. Business investments in building and construction remained very low in the 1st half of 2012, indicating considerable spare capacity. Since interest rates are low, non-residential construction is, nevertheless, expected to pick up.

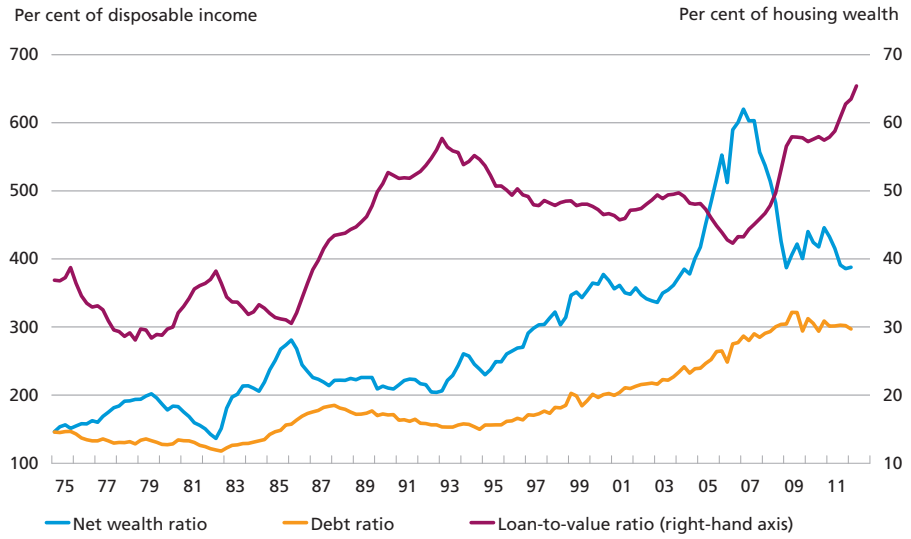
GDP, PRIVATE CONSUMPTION AND PRIVATE INVESTMENT — Chart 16



Note: GDP, private consumption and private investment in volumes. Private investment includes business and residential investment. The projection after 2012 is shown as annual averages.
Source: Statistics Denmark, own calculations and Danmarks Nationalbank's forecast.

Except for an increase in the 2nd quarter of 2012, exports have been flat since the beginning of 2011. With a continued weak growth outlook for the euro area and other markets for Danish goods and services, export

HOUSEHOLD WEALTH, DEBT AND LOAN-TO-VALUE RATIO — Chart 17



Note: The net wealth ratio is the household's net wealth after taxation of pension savings relative to disposable income, while the debt ratio is their financial liabilities relative to disposable income. The loan-to-value ratio is home loans relative to housing wealth.
Source: Statistics Denmark, Danmarks Nationalbank and own calculations.

growth will remain low this year, but gradually rise in the coming years in step with export market activity. Wage inflation is slightly lower than abroad, and given that Danish manufactured exports are less cyclical than those of other countries, market shares will be retained over the forecast period, following a long period of decline. The current-account surplus will decrease a little in the coming years as domestic demand is expected to grow faster in Denmark than abroad.

Overall, GDP is expected to grow by 0.3 per cent this year. This low growth rate should be seen against the background of the weak trend in private consumption and the subdued public demand. Growth is expected to increase to 1.6 and 1.7 per cent in 2013 and 2014, respectively. The higher GDP growth in 2013 reflects expectations of stronger growth in the 2nd half of 2012, with a spill-over effect in 2013. However, the forecast is sensitive to demand at home and abroad. Domestic demand will to a large extent hinge on when confidence is restored so that the private sector begins to spend some of its savings. Moreover, the export outlook is subject to much uncertainty, and deterioration of the euro area debt crisis would dampen Danish exports further. On the other hand, exports to Germany and Sweden – Denmark's largest export markets – have been rising. If this positive trend continues, it will benefit Danish exports. To illustrate the uncertainty surrounding the central forecast scenario, Box 5 considers two alternative scenarios in which demand grows at a weaker and stronger pace, respectively.

Housing market

The housing market weakened again in 2011, but there were signs of stabilisation in the 1st half of 2012. All the same, prices for single-family and terraced houses were receding and were 6 per cent lower in June than one year earlier. Prices for owner-occupied flats have stabilised over the last six months and were 4 per cent below the 2011 level in June. For both houses and flats there has been a tendency for the latest monthly figures, which are based on some 70 per cent of all trades, subsequently to be adjusted upwards. If this is taken into account, it is reasonable to say that prices stabilised in the 1st half of 2012, reflecting historically low short- and long-term interest rates. Nominal house prices are expected to begin to rise a little in the 2nd half of 2012. In the forecast, house prices are projected to increase moderately in 2013 and 2014.

The supply of homes for sale has decreased over the last year, which could help to ease price pressures. Nevertheless, the supply remains high, and with modest turnover, time on market is still long, at just over 9 months for single-family and terraced houses and slightly less for owner-occupied flats.

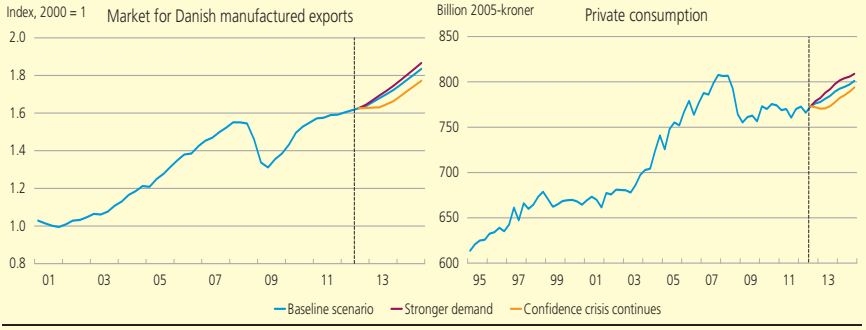
ALTERNATIVE SCENARIOS Box 5

The forecast assumes a gradual restoration of confidence and hence of private demand both in Denmark and abroad in the coming quarters. If the current solutions to the debt problems in southern Europe are not seen as credible, or if households and firms in Denmark choose to consolidate further in the coming quarters, there is a risk that the economic recovery will be delayed. This would mean sustained weak demand with low growth in the near term.

On the other hand, if the current initiatives to address the challenges in the global economy are seen as credible, or confidence in a new economic upswing in Denmark is restored sooner, there is a considerable potential for the economy to pick up faster. The households overall have financial scope to increase consumption much faster than assumed in the current forecast, and the low interest rates also mean that the housing market may improve rapidly.

So we have calculated the consequences of a potential weaker scenario, in which demand in Denmark's export markets slows down until mid-2013, while private consumption, the housing market and business investment also weaken until the 2nd half of 2013, cf. Chart 18. This would mean that growth in 2013 is reduced by 1 percentage point to 0.6 per cent, while it falls marginally (by 0.1 percentage point) this year and in 2014, cf. Table 3. Lower activity will increase net unemployment by just over 20,000 until 2014, when the curve flattens. In this scenario, public finances weaken substantially, and the deficit will exceed 3 per cent of GDP in 2013. The rate of inflation will change only marginally relative to the baseline scenario, while the balance of payments will strengthen a little in 2013, but fall back in 2014.

ALTERNATIVE SCENARIOS FOR MARKET FOR MANUFACTURED EXPORTS AND PRIVATE CONSUMPTION Chart 18



Source: Statistics Denmark, OECD and own estimates.

In the more positive scenario, private consumption increases more rapidly, and the housing market picks up faster than in the baseline scenario. The stronger recovery is reflected in slightly higher growth in demand for Danish exports, cf. Chart 18 above. In such a scenario, GDP growth increases by 0.5 percentage point in 2013 and slightly less in 2014, entailing that unemployment in 2014 will be 9,000 below the level in the baseline scenario. The higher level of activity strengthens public finances and leads to a marginally higher rate of inflation towards the end of the period.

CONTINUED Box 5

Since the faster economic recovery is assumed to be stronger in Denmark than abroad, the balance of payments weakens compared with the baseline scenario due to stronger domestic demand.

BASELINE SCENARIO AND ALTERNATIVE SCENARIOS Table 3

	Baseline scenario	Confidence crisis continues	Stronger demand
2012			
GDP, per cent year-on-year	0.3	0.2	0.3
Net unemployment, 1,000 persons	120	120	119
Balance of payments, per cent of GDP	6.1	6.1	6.1
Government balance, per cent of GDP	-4.3	-4.3	-4.3
Inflation, HICP, per cent year-on-year	2.4	2.4	2.4
2013			
GDP, per cent year-on-year	1.6	0.6	2.1
Net unemployment, 1,000 persons	128	137	125
Balance of payments, per cent of GDP	5.5	5.8	5.3
Government balance, per cent of GDP	-2.5	-3.1	-2.3
Inflation, HICP, per cent year-on-year	2.0	2.0	2.0
2014			
GDP, per cent year-on-year	1.7	1.6	2.0
Net unemployment, 1,000 persons	125	145	116
Balance of payments, per cent of GDP	5.3	5.2	5.0
Government balance, per cent of GDP	-2.3	-3.0	-1.9
Inflation, HICP, per cent year-on-year	1.8	1.7	1.8

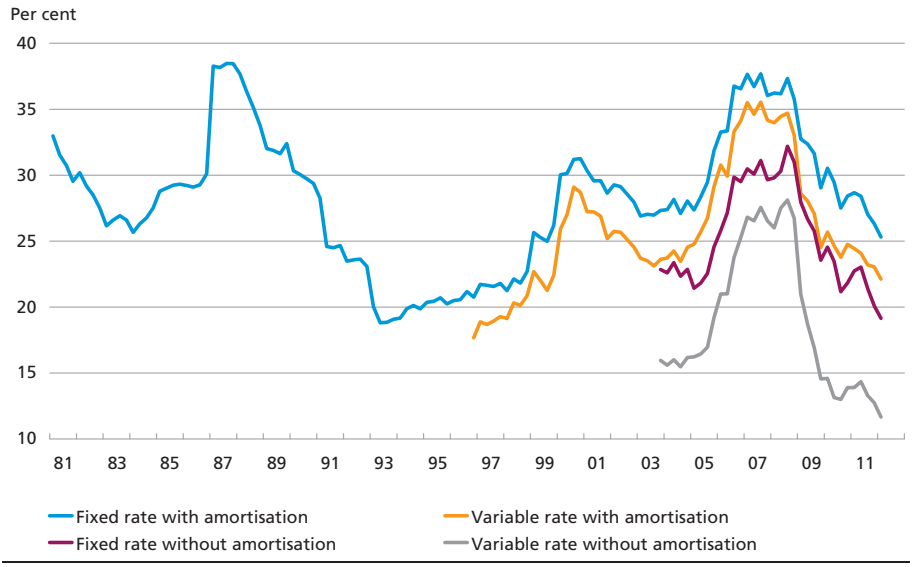
The low interest rates and falling house prices since 2008 have reduced the housing burden, which is a stylised calculation of financing costs, including property tax, when buying a home relative to average disposable income[1], cf. Chart 19. Fluctuations in the housing burden over the last decade are chiefly attributable to mortgage payments rather than to property and land taxes. With a fixed-rate loan with amortisation, the housing burden is now slightly below its long-term average. Without amortisation, or with a variable-rate loan, the housing burden is smaller.

Foreign trade and balance of payments

The international economic slowdown curbed growth in the value of exports of goods in 2011 and the 1st half of 2012, following a period of

[1] Danmarks Nationalbank's calculation of the housing burden 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.

HOUSING BURDEN Chart 19



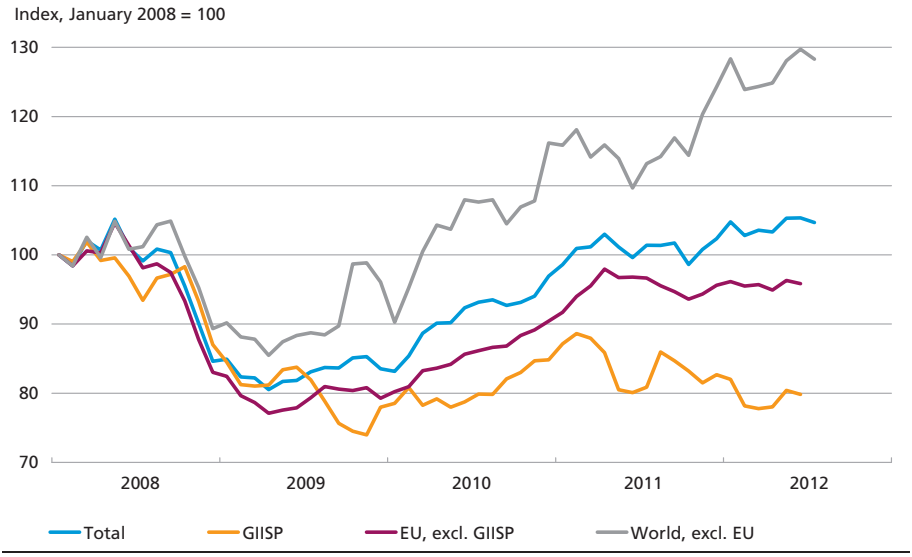
Note: The housing burden is a stylised calculation of the financing costs, including property taxes, when buying a single-family house as a share of average disposable household income. The financing costs are based on the loan type stated plus a bank loan for the share not financed by a mortgage loan or mortgage deed. Fixed-rate loans are based on a 20-year mortgage loan before the 2nd quarter of 1991 and a 30-year mortgage loan since then, while variable-rate loans are based on a 1-year adjustable-rate mortgage loan.

Source: Statistics Denmark, Association of Danish Mortgage Banks, Realkredit Danmark, Skat (Danish tax authorities) and Danmarks Nationalbank.

robust export growth. In the same period, imports of goods showed an even weaker trend, so that overall the seasonally adjusted trade surplus excluding ships, aircraft, etc. rose to just over kr. 8 billion in July. Export growth has mainly been dampened by weak exports to the EU member states, which account for more than half of total Danish exports of goods. Sales of goods to crisis-ridden peripheral EU member states, constituting some 6 per cent of Danish exports, have been declining over the past 18 months, while exports to other EU member states have been flat, cf. Chart 20. Exceptions are Germany and Sweden – Denmark's largest markets – where exports have risen substantially in recent months. On the other hand, exports to non-EU countries have grown over the last year, by 25 per cent year-on-year in July. This trend has primarily been driven by exports to the USA. Sales of goods to China have also contributed, but with strong fluctuations.

The current-account surplus was kr. 13.4 billion in July, down from kr. 15.6 billion in June, the all-time monthly high in the statistics. Accumulated over 12 months, the surplus was kr. 113 billion in July, almost kr. 2 billion lower than in the preceding 12 months. This masks a growing surplus from wage and investment income, while the surplus from goods and services has decreased.

VALUE OF EXPORTS OF GOODS BROKEN DOWN BY TRADING PARTNERS Chart 20



Note: 3-month moving averages.
Source: Statistics Denmark.

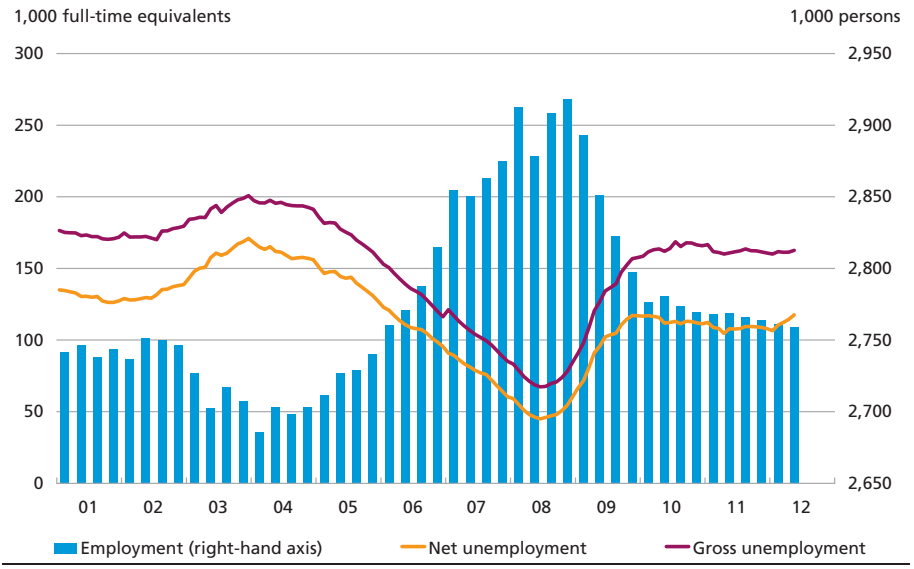
Labour market and capacity

Employment continued to fall slightly in the 1st half of 2012, cf. Chart 21. Public-sector employment has been declining since mid-2010, while private-sector employment fell for the second consecutive quarter. Looking ahead, employment is expected to remain virtually unchanged until mid-2013 and then to rise as growth picks up.

Unemployment has been more or less unchanged since early 2011. In July, seasonally adjusted gross unemployment was 165,700, corresponding to 6.3 per cent of the labour force. Gross unemployment comprises net unemployment and people in activation who are ready to take a job. In recent months the composition of gross unemployment has changed, with fewer people in activation and higher net unemployment. The development partly reflects a discontinuation of intensive activation after 2.5 years' unemployment and reduction of the duration requirements for activation schemes.

Capacity pressures in the economy can be assessed on the basis of the output gap, which shows how much actual output deviates from potential output, i.e. the output level that the economy can sustain without inflationary pressures arising in the long term. Danmarks Nationalbank estimates the current output gap at around -2 per cent. There is still spare capacity in the economy and there is a growth potential that exceeds the underlying structural growth. This is because it is possible to

EMPLOYMENT AND UNEMPLOYMENT — Chart 21



Note: Employment according to the national accounts. The most recent observations are from the 2nd quarter of 2012 for employment and July 2012 for unemployment.
Source: Statistics Denmark.

increase both productivity and employment. Going forward, the output gap is expected to narrow towards 2014 as growth resumes.

Wages

Private-sector wage inflation, which has been falling since 2008, declined further to 1.6 per cent year-on-year in the 2nd quarter of 2012. At the same time, zero-regulation became the most common rate of wage regulation among wage earners covered by agreements with the Confederation of Danish Employers in the 2nd quarter. The subdued wage inflation applies to all groups of wage earners. In the manufacturing sector, wage inflation was 2.0 per cent year-on-year in the 2nd quarter, while it was somewhat weaker, 1.3 per cent, in the service sectors. Annual wage increases in construction were 1.4 per cent in the 2nd quarter, i.e. a little higher than in 2011.

Since consumer price inflation exceeds nominal wage inflation, real wages have fallen slightly. A lengthy period of falling real wages has not been seen since the early 1980s. The current rates of price and wage inflation are considerably lower than they were then. Rising unemployment since mid-2008 has eased capacity pressures in the labour market, resulting in weaker wage developments. Combined with higher productivity, this has reduced unit labour costs. This is reflected in a declining wage share, i.e. the proportion of added value that is used to remu-

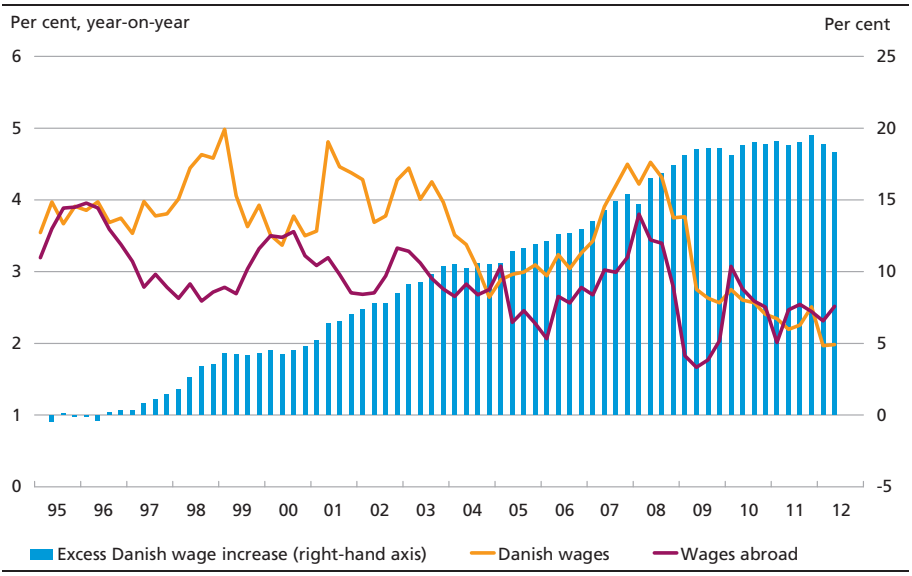
nerate employees. The wage share had reached a very high level during the most recent boom. Wage inflation is expected to remain subdued in view of the unchanged low labour market pressures and the spring collective bargaining. Annual wage inflation is projected at 1.9 per cent in 2012, rising slightly to 2.4 per cent by 2014. This means that the wage share is approaching its long-term level.

In recent quarters, Danish wages have risen more slowly than those of Denmark's trading partners. For a long period before that, Danish wage increases were much higher, cf. Chart 22. So despite the relatively weak wage inflation, it will take some time to make up for the accumulated loss of wage competitiveness in previous years.

Prices

Inflation, measured as the year-on-year increase in the Harmonised Index of Consumer Prices, HICP, rose from just over 2 per cent in May-July to 2.6 per cent in August, primarily due to higher annual price increases for petrol, cf. Table 4. Core inflation, which excludes food and energy, has been somewhat lower than overall inflation for a while and was 1.7 per cent year-on-year in August. In recent months, the difference is primarily ascribable to surging prices for food and beverages as well as tobacco, including the effect of higher taxes on such goods, cf.

EXCESS DANISH WAGE INCREASE — Chart 22



Note: Wages abroad are based on weighting of hourly industrial wages among 25 of Denmark's largest trading partners. The excess wage increase is the accumulated difference between wage inflation in Denmark and abroad since 1995.

Source: OECD and Confederation of Danish Employers.

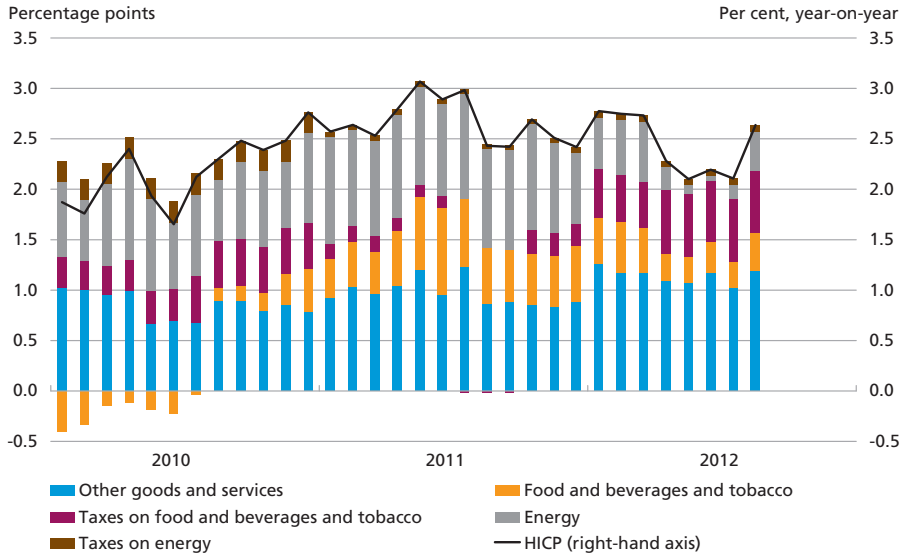
CONSUMER PRICES — Table 4

Per cent, year-on-year	Weight[1]	2011	2012	2013	2014	2012					
						Q2	Q3	Q4	Aug.	Sept.	Oct.
HICP		2.7	2.4	2.0	1.8	2.2	2.4	2.3	2.6	2.6	2.4
Index of net retail prices	100	2.6	1.9	1.7	1.7	1.6	1.8	1.9	2.0	2.0	2.0
Exogenous:											
Energy	8.5	12.5	3.9	2.9	-1.9	1.1	4.3	3.5	5.1	4.9	2.7
Food	13.6	3.8	2.5	2.1	2.3	1.9	2.2	2.5	2.6	2.7	2.8
Adm. prices ..	4.6	2.4	2.3	2.1	2.7	2.5	2.4	2.3	2.6	2.4	2.4
Rent	21.8	2.9	2.7	2.6	2.6	2.6	2.6	2.7	2.6	2.8	2.8
Excl. exogenous	51.6	0.5	1.1	0.9	1.5	1.1	1.0	1.2	1.0	1.0	1.3
Imports	14.7	3.9	0.9	0.9	1.3	0.7	0.6	1.0	0.5	0.7	0.9
IMI	36.9	-0.9	1.2	0.9	1.6	1.2	1.1	1.3	1.2	1.2	1.4

Note: The most recent actual figures are from August 2012.
[1] Weight in the index of net retail prices, per cent.

Chart 23. Domestic market-determined inflation, IMI, rose during the 1st half of 2012, mainly because of an energy price hike. Firms have not adjusted their sales prices to the lower growth in input prices, and since wages are kept at bay by the weak labour market, the trend in IMI reflects higher profit margins. IMI was 1.2 per cent year-on-year in August, which is slightly lower than in July, the underlying reason being that energy prices are rising again.

CONSUMER PRICE INFLATION — Chart 23



Note: The breakdown by taxes and other factors for food and beverages and tobacco and energy is based on HICP-CT.
Source: Statistics Denmark.

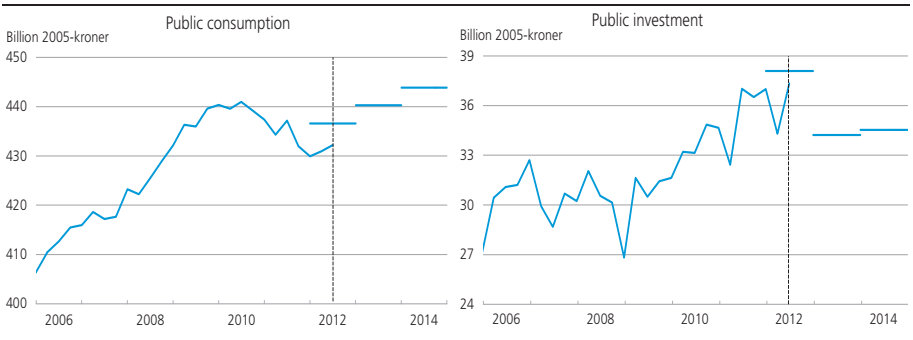
Domestic price pressures are expected to remain subdued as a result of the spare capacity. However, price inflation is buoyed up by higher food and energy prices, and although inflation expectations among consumers have declined over the last few months, they are still fairly high. World market prices for food have risen sharply over the summer of 2012, in part because droughts have reduced crops in several important production areas, while oil prices more or less are back at the level from the beginning of the year, having fluctuated fairly strongly over the spring and summer.

Public finances

There were plans to ease fiscal policy substantially in 2012, in particular by introducing the option of tax-free disbursement of early retirement contributions and by bringing forward public investments. Add to this the tax reform, which will increase activity by 0.1 per cent of GDP in 2012 and 0.4 per cent in 2013 according to the government's estimate.

In the 1st half of 2012, public investment rose far less than planned, cf. Chart 24 (right), but it is not improbable that this will be compensated for in the autumn. Experience shows that it can be difficult to increase public investment significantly at short notice. Real public consumption fell by 1.3 per cent in 2011, but preliminary data points to a slight increase in the 1st half of 2012, cf. Chart 24 (left). Against this background, consumption is assumed to grow moderately by 0.7 per cent for the full year. Hence, the level of consumption is expected to be somewhat lower than budgeted and the derived impact on economic activity is also set to be smaller than planned. Even if consumption rises strongly in the 2nd half of the year, it will be difficult to reach the agreed level. The subdued growth in public consumption should be viewed in the context of more rigid sanctions in the event of local government budget overruns. Looking

PUBLIC DEMAND — Chart 24



Note: Public consumption and investment in volumes.
Source: Statistics Denmark and Danmarks Nationalbank's forecast.

ahead, consumption growth is expected to be 0.8 per cent in both 2013 and 2014; this is well below the average for the last 20 years.

If growth in public demand increases in the 2nd half of 2012, it may be difficult to slow down again in 2013, implying that fiscal tightening may be less pronounced next year. Especially investments in building and construction and increases in public-sector employment can be difficult to adjust rapidly. Viewed in relation to the wish to stimulate the economy this year, the weak development in public demand underscores the difficulties in fine-tuning the economy via fiscal policy.

The total government deficit is expected to be kr. 79 billion this year, equivalent to 4.3 per cent of GDP. Compared with 2011, this is a deterioration of kr. 44 billion. The largest negative contribution comes from early retirement distributions, a one-off expense which had reached kr. 23 billion in mid-September according to the Danish Labour Market Authority. The deterioration of the government budget balance in 2012 coincides with the commencement of consolidation measures under the fiscal consolidation plan and a number of funding elements of the 2009 tax reform.

The government budget balances for 2013 and 2014 will be affected by the new tax reform. It is planned that the funding elements will be phased in more slowly than the tax cuts and the introduction of new expenses. To counter deterioration of the government budget balance in 2013 due to delayed funding, the deductibility of capital pension contributions is abolished. On the other hand, future disbursements will not be liable to income tax or other taxes. At the same time, people with capital pension schemes may bring forward taxes on existing savings. According to the government, this will bring extra revenue to the tune of kr. 5 billion in 2013. This estimate is subject to considerable uncertainty, however, and the revenue may turn out to be many times higher. Under the agreement, any excess revenue will be used solely to reduce government debt. This non-recurring revenue will affect the government budget balance for 2013, but will have virtually no impact on fiscal sustainability or economic activity.

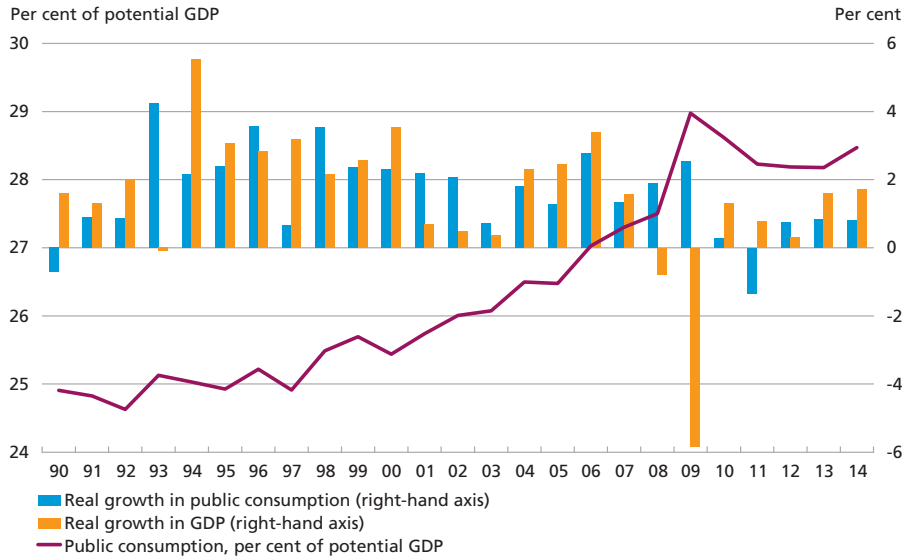
Overall, the government deficit is expected to fall to 2.5 per cent in 2013 so that Denmark observes the EU recommendation to reduce the government budget deficit to below 3 per cent of GDP by 2013. Furthermore, structural balance will be achieved next year according to the government. Hence, the requirement for average structural improvement of 1.5 per cent of GDP per year in 2010-13 will also be met. But higher public demand in 2013, reflecting a delay of the planned consumption in 2012, could mean that the target for structural improvement is not met in 2013.

Outlook for public consumption

At almost 28 per cent of potential GDP in the 2nd quarter of 2012, public consumption still accounts for a large share of the total economy, cf. Chart 25, despite weak public expenditure growth in recent years. This should be seen in the context of high public consumption up to and including 2008, with consumption growth generally exceeding the planned limits, cf. Box 6. Public consumption as a share of the total economy increased further in 2009 because GDP shrank and fiscal policy was eased.

According to the government's 2020 plan, the proposed reforms leave scope for average annual growth in public consumption of just over 0.8 per cent in 2014-20, which should bring public consumption below 27 per cent of GDP by 2020. Both the tax reform and the reform of the social pension and flexible employment schemes are part of the 2020 plan and should help to fund consumption growth. However, many of the planned reform initiatives that are to contribute to funding have not yet been adopted. In addition, the expected revenue from the tax reform was lower than initially assumed, and the tripartite bargaining with the social partners was cancelled before an agreement on increased working hours had been reached. Assuming that the planned consumption in the 2020 plan is fully funded, annual consumption growth of 0.8 per cent is still low in a long-term perspective. The modest growth outlook for GDP in the coming years will also make it difficult to reduce

PUBLIC CONSUMPTION — Chart 25



Source: Statistics Denmark and Danmarks Nationalbank's forecast.

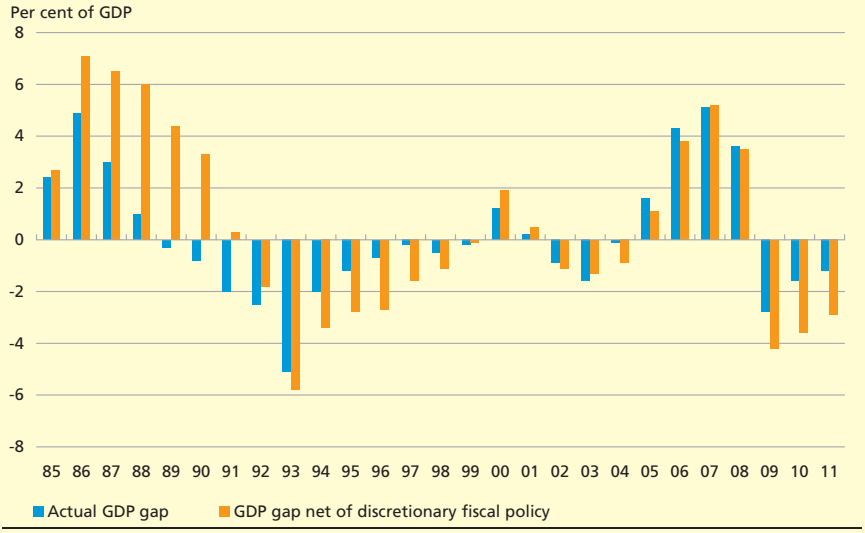
FISCAL POLICY AND ECONOMIC CYCLES Box 6

The fixed-exchange-rate policy entails a division of economic policy, whereby monetary policy is conducted solely with the aim of keeping the krone stable vis-à-vis the euro, while fiscal policy is used to stabilise the economy. This is achieved through e.g. the automatic stabilisers in public finances, including lower tax payments and larger disbursements of unemployment benefits during a recession. Denmark's automatic stabilisers are substantial by international standards. They help to smooth cyclical fluctuations without the need for political decisions to adjust economic policy. Other (discretionary) adjustments to fiscal policy include amending tax rules or adjusting public demand, which also affects the level of activity in the economy. Whether taxes should be cut or public consumption increased to stabilise the economy, depends on the actual situation.

The historical stabilising effect of discretionary fiscal policy can be illustrated by eliminating the effect of fiscal policy on activity from the actual GDP level and relating the resulting "policy-purged" GDP to potential GDP. The outcome is the GDP gap, had fiscal policy been neutral. Comparing the purged gap with the actual GDP gap, cf. Chart 26, provides an indication of whether fiscal policy has dampened or amplified cyclical fluctuations.

In the period until 2000, fiscal policy generally had a stabilising effect (the blue bars are closer to zero than the orange ones). But in the period 2005-08 this was not the case. In other words, fiscal policy did not address the boom, and the economy was overheated, resulting in extensive shortage of labour and a housing market bubble. The expansionary fiscal policy was to a large extent implemented by increasing public consumption. For example, public consumption as a share of structural GDP rose, even in good times.

IMPACT OF DISCRETIONARY FISCAL POLICY ON ACTIVITY Chart 26



Note: Own calculation of actual GDP gap. GDP gap net of discretionary fiscal policy is the actual GDP gap less the multiannual effects of fiscal policy on GDP. The assessment of fiscal policy is based on *Finansredegørelsen* (Financial Review – in Danish only) from 2000 for the years 1985-1999, and subsequently on various volumes of Economic Survey.

Source: Ministry of Finance, Ministry of Economic Affairs and the Interior and own calculations.

public consumption as a share of the total economy. It will require strong political will to observe the consumption ceiling for many years. Furthermore, it is a condition that local and regional councils meet their budgets, as they have done in recent years.

Economic policy

With the updated 2020 plan in the spring, the government set an ambitious agenda for new reforms. Such reforms include increasing the supply of labour so as to ensure significant consolidation of public finances, while also providing scope for various new expenses. The agreements concluded on a tax reform and amendment of the social pension and flexible employment schemes represent a step on the way. But much of the funding is still to be found if fiscal sustainability is to be achieved with the planned growth in expenses.

It looks as if public demand will be lower than planned in 2012. Especially local government consumption is lower than budgeted, and it may also be difficult to reach the planned investment level. While it is positive that the budgets are not overrun, this also illustrates the difficulties in using fiscal policy to fine-tune the economy. And getting the timing right is difficult. It is most appropriate to operate with fiscal stabilisation in a medium-term perspective.

Bringing forward taxation of capital pensions will affect future tax revenue, which will be reduced correspondingly. It is essential in terms of sustainability that this one-off revenue is used solely to reduce government debt as agreed, not to increase public consumption or transfers or for tax cuts, either now or in the future. The conditions are harsh and will require strong political discipline, not just today but also going forward.

Expansionary fiscal policy in the pre-crisis years contributed to overheating of the economy. The societal costs of the business cycle seen in Denmark since then are large. We are now experiencing the consequences of the inexpedient fiscal policy in the good years. The necessary restoration of competitiveness and consolidation of the private sector take time and will mean that actual activity in the economy is below the potential level for some time. Employment will also be lower. In this phase, it is crucial that fiscal consolidation continues, so that a sustainable balance is restored between private and public demand, following a prolonged period of high growth in the public sector. Recent years' pronounced easing of fiscal policy has had a stabilising effect by mitigating the negative effects of the crisis on the Danish economy. On the other hand, it is of paramount importance to tighten fiscal policy next time activity rises above its

potential level, so that fiscal policy also stabilises the economy in an upswing. With the large savings surplus in the private sector, very low interest rates and moderate spare capacity in the economy, the situation may change rapidly.

APPENDIX 1: ASSUMPTIONS IN THE FORECAST FOR THE DANISH ECONOMY

The forecast has been produced using the macroeconometric model MONA[1] and is based on available economic statistics, including Statistics Denmark's preliminary quarterly national accounts for the 2nd 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. Overall euro area growth is expected to be negative in 2012. Growth among Denmark's most important trading partners, including Germany, is expected to be marginally positive in 2012. Against that background, the market for Danish exports is assumed to grow by a modest 2.4 per cent in 2012, after which the rate of growth will increase to 4.3 per cent in 2013, cf. Table 5.

On account of the weak growth outlook, the increase in foreign prices is expected to be slight this year and in 2013, rising to around 1.5 per cent in 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- 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. In mid-September 2012, the 3-month money-market interest rate, measured by the Cita swap rate, was -0.1 per cent; it is expected to remain virtually unchanged until 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 1.6 per cent in mid-September, which is in line with the level at the time of preparation of the previous forecast. It is expected to rise during the projection period, to 2.3 per cent by 2014.

Except for a slight strengthening since mid-August, the effective exchange rate of the krone has weakened during 2012. The reason is that the euro, and hence also the Danish krone, has generally weak-

[1] The model is described in Danmarks Nationalbank, *MONA – a quarterly model of the Danish economy*, 2003.

ened. In the projection, the dollar rate and the effective krone rate are assumed to remain constant at the level from mid-September.

At the time of forecasting, the oil price was 114 dollars per barrel. In the projection, the oil price is assumed to develop in line with futures prices, falling to approximately 104 dollars per barrel by 2014.

Fiscal assumptions

The fiscal assumptions in the forecast are based on the planned fiscal policy, including the Finance Act for 2012, the Finance Bill for 2013, local and regional government budgets for 2012, the economic agreements for 2013 and the government's convergence programme. In addition, a tax reform has been adopted and agreement reached to reform the social pension and flexible employment schemes; these have also been incorporated into the forecast. Real public consumption is assumed to rise by 0.7 per cent this year, cf. Table 5. Consumption growth is expected to be 0.8 per cent in both 2013 and 2014. Public investment is expected to rise by 6.6 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 5

	2011	2012	2013	2014
International economy:				
Export market growth, per cent year-on-year ..	5.4	2.4	4.3	6.0
Export market price[1], per cent year-on-year	0.4	0.2	0.2	1.5
Foreign price[2], per cent year-on-year	0.5	0.4	0.3	1.6
Foreign hourly wages, per cent year-on-year ...	2.4	2.2	2.3	2.7
Financial conditions, etc.:				
3-month money-market interest rate, per cent p.a.	0.9	0.0	-0.2	0.0
Average bond yield, per cent p.a.	2.7	1.7	1.9	2.3
Effective krone rate, 1980 = 100	103.6	100.5	99.9	99.9
Dollar exchange rate, DKK per USD	5.4	5.8	5.8	5.8
Oil price, Brent, USD per barrel	110.8	113.1	110.2	104.5
Fiscal policy:				
Public consumption, per cent year-on-year	-1.3	0.7	0.8	0.8
Public investment, per cent year-on-year	5.2	6.6	-10.2	0.9
Public-sector employment, 1,000 persons	837	834	839	844

[1] Weighted import price for all countries to which Denmark exports.
[2] Weighted export price for all countries from which Denmark imports.

APPENDIX 2: REVISIONS IN RELATION TO THE PREVIOUS FORECAST

The estimated growth in GDP has been adjusted substantially downwards for this year (by 0.9 percentage point) compared with the June forecast, but remains unchanged for 2013 and 2014, cf. Table 6, which shows a breakdown of the revisions to GDP and consumer prices by key background factors.

The lower growth estimate for 2012 reflects deterioration of both international and domestic demand. Export market growth has been revised downwards against the background of a weakening of the international economy over the summer, and this reduces GDP growth throughout the forecast period. Preliminary national accounts data also points to substantial weakening of domestic private demand in the 2nd quarter. Furthermore, public consumption in the 1st half of the year was significantly below budget; even though we operate with a considerable increase in the 2nd half, the estimate for overall public consumption in 2012 has been adjusted substantially downwards. All in all, this means that domestic demand will be notably weaker in 2012 than estimated in June. This is reflected in the fact that "other factors" contribute to reducing GDP growth by 0.7 percentage point. Slightly lower interest rates and a weaker effective exchange rate of the krone than in the June forecast point to higher growth in 2013-14, while higher oil prices point in the opposite direction in 2013.

Consumer price inflation has been adjusted upwards for 2012 and 2013, reflecting higher oil prices.

REVISIONS IN RELATION TO THE PREVIOUS FORECAST — Table 6

	GDP			Consumer prices, HICP		
Per cent, year-on-year	2012	2013	2014	2012	2013	2014
Forecast, June 2012	1.2	1.6	1.7	2.3	1.8	1.8
Contribution to revised estimate from:						
Export market growth	-0.2	-0.1	-0.2	0.0	0.0	-0.1
Interest rates	0.0	0.1	0.1	0.0	0.0	0.0
Exchange rates	0.0	0.1	0.0	0.0	0.0	0.0
Oil prices	0.0	-0.1	0.0	0.1	0.3	0.0
Other factors	-0.7	0.1	0.1	0.0	-0.1	0.0
This forecast	0.3	1.6	1.7	2.4	2.0	1.8

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

Macroeconomic Effects of Fiscal Policy – Summary

Jesper Pedersen and Søren Hove Ravn, Economics

INTRODUCTION AND SUMMARY

Fiscal policy plays a key role in economic stabilisation policy, and during the financial crisis many countries have eased fiscal policy. Economists in the USA and Europe have disagreed about the impact of fiscal expansion on growth and employment. This debate has rekindled interest in studies of the macroeconomic effects of fiscal stimulus. These effects consist of direct effects, e.g. that an increase in government purchases of goods and services is reflected in higher employment in the firms supplying goods and services to the public sector, as well as more indirect effects. Indirect effects include e.g. that new employees receive higher incomes and are able to increase their consumption, and also changes in the consumption and savings behaviour of households and firms. Therefore, the aggregate real economic effects of fiscal policy can be determined only through an economic model, and all models are based on assumptions about economic relationships, which can be debated. Therefore, it is important to subject the macroeconomic effects of fiscal policy to analysis within various model frameworks.

Part 2 of this Monetary Review contains an empirical study, cf. Ravn (2012), and a model-based analysis, cf. Pedersen (2012), of the effects of fiscal policy. This article provides a non-technical summary of the most important findings and conclusions of these articles.

In the USA, the debate on the effects of fiscal policy was intensified by the adoption of the *American Recovery and Reinvestment Act*, ARRA, in February 2009, in the midst of the financial crisis. ARRA was a fiscal package designed to revive the US economy. The underlying calculations had been performed by Obama administration economists and were based on an assumption of a fiscal multiplier of 1.6. This means that a one-dollar increase in government spending leads to a rise in the output level of 1.6 dollars. This assumption has been challenged as being overly optimistic e.g. by academic economists, who have stated that there is no theoretical or empirical justification for a fiscal multiplier of this magnitude in the USA.

The debate has led to a number of new empirical and model-based analyses of the effects of fiscal policy. The host of new studies should also be seen in the context of an increased focus on the development of Dynamic Stochastic General Equilibrium models, DSGE models. In some respects, these models are based on very different model assumptions from those applied in the macroeconometric model framework, e.g. Statistics Denmark's model – ADAM, or Danmarks Nationalbank's model – MONA, traditionally used for analysing the effects of fiscal policy in Denmark.

Overall, the empirical analyses conducted in Ravn (2012) show that fiscal policy in Denmark may have a significant impact on real gross domestic product, GDP, but that the dynamic effects are limited. Thus the effect on GDP of fiscal expansion gradually dies out as the stimulus itself is removed. This would indicate that the dynamic effects of fiscal policy are moderate in Denmark. In other words, the impact on economic activity of a fiscal stimulus package is largely equivalent to the direct effect of that package.

Since the planning and implementation of fiscal stimulus is a time-consuming process, detailed fine-tuning of the Danish economy through activist fiscal policy is hardly feasible in practice. Instead, fiscal policy should be designed with a stability-oriented objective over the medium term, so as to avoid both periods of overheating and periods of high unemployment. This ensures that there is room for the automatic stabilisers to work and thus contribute to ironing out short-term cyclical fluctuations.[1] Moreover, expansionary fiscal policy during an economic crisis must be accompanied by willingness to tighten fiscal policy during good times, so as to conduct fiscal policy in a symmetric way. This ensures long-term fiscal sustainability, which is necessary to maintain the credibility of the Danish economy.

The analyses in Pedersen (2012) show that although the underlying mechanisms of the results differ in some respects, MONA and a DSGE model for Denmark produce relatively similar estimates of the effects on GDP of a temporary debt-financed fiscal expansion aimed at stabilising the business cycle. In the very short term, the effects on GDP of this stimulus in the two models are less pronounced than indicated by the empirical analysis, while the models concur in the longer term. At the same time, analyses in the DSGE model show that shifting demand from the future into the present through government purchases of goods and

[1] Automatic stabilisers reflect that fiscal policy is automatically eased during an economic downturn, since expenditure e.g. for unemployment benefits rises when unemployment increases. Moreover, taxes are reduced when the earnings of firms and households decline. On the other hand, fiscal policy is automatically tightened during an upswing through higher tax revenues and lower expenditure for transfer benefits.

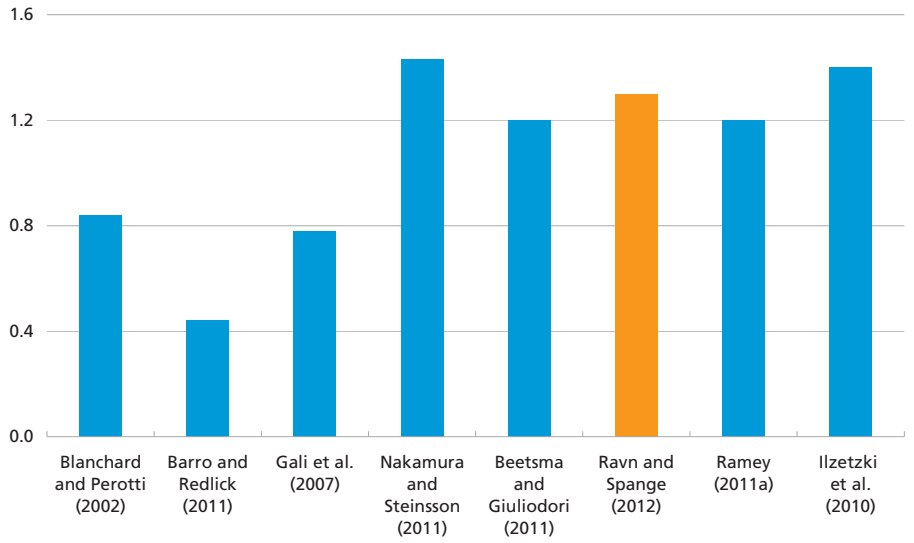
services comes at a price, even if higher government expenditure is fully financed in the future so that government debt is brought back to the initial level. The explanation is that fiscal expansion causes competitiveness to deteriorate, and due to stickiness in price and wage formation competitiveness is slow to be restored.

OVERVIEW OF EMPIRICAL EFFECTS OF FISCAL POLICY

One focus area of the empirical literature when it comes to the size of the fiscal multiplier has been to examine the effects of fiscal policy under various economic circumstances, e.g. under different exchange rate regimes, during booms and recessions, or during periods of very low interest rates. Others have sought to compare the findings from different econometric methods. Between them, these studies have helped to shed light on the background of the sometimes conflicting findings in the literature, which have been one of the reasons for the heated disagreement among economists about the effects of fiscal policy. It has become clear, in particular, that there is no unconditional fiscal multiplier. Rather, the multiplier varies over time and place, depending on a number of economic conditions. The design of the specific fiscal stimulus package and, not least, its financing also influence the effect. For instance, the effect of fiscal policy depends on whether changes are made to the revenue or expenditure side; moreover, changes to different types of government expenditure may have different effects. This underlines the importance of examining the effect of fiscal policy in Denmark in a country-specific study rather than simply applying the results from other countries to a Danish context. To promote comparability with a number of international studies, Ravn (2012) primarily considers the effects of changes in government purchases of goods and services.

A number of recent studies have drawn on the significant body of analysis in this area to define what could be referred to as a kind of confidence interval for the fiscal multiplier. For example, Hall (2009) sums up that, under normal economic conditions, the multiplier of government spending is typically estimated to range between 0.7 and 1 for the USA. Ramey (2011b) specifies an interval between 0.8 and 1.5, also for the USA. Chart 1 compares the multiplier from some of the more prominent recent studies of the effects of fiscal policy in different countries. The comparison illustrates the considerable range of multiplier values in the literature. This may be attributed both to disagreement as to the effect of fiscal policy and to differences in the countries' economic structures.

FISCAL MULTIPLIER IN SELECTED EMPIRICAL STUDIES Chart 1



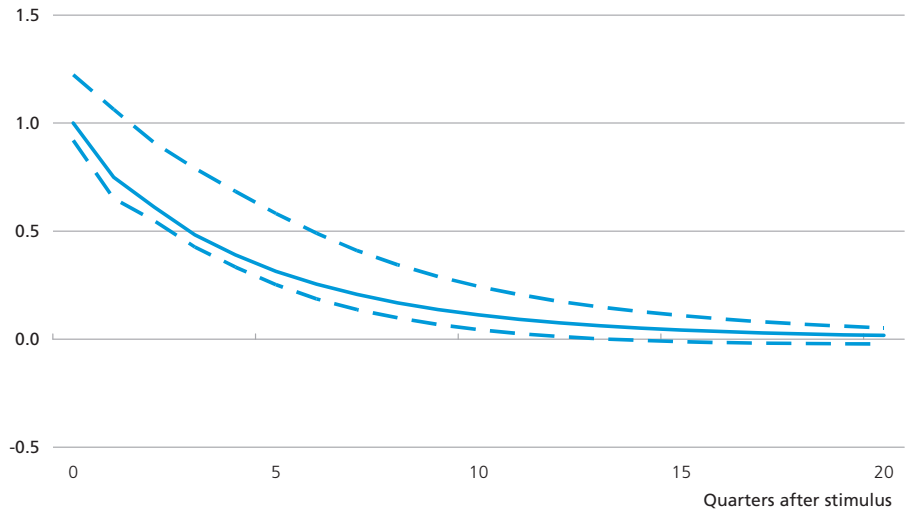
Note: The Chart summarises the main findings of the respective studies, which should be compared with caution. All of the multipliers shown relate to government spending. The multipliers in the two columns on the right (Ilzetzki et al. (2010) and Ramey (2011a)) show the *cumulative* multiplier, i.e. the cumulative increase in GDP relative to the cumulative increase in government spending over a number of years. The effects from the other studies show the multiplier during the period in which fiscal policy is changed. In the study by Ravn and Spange (2012), the impact multiplier and the cumulative multiplier are identical.

EMPIRICAL EFFECTS OF FISCAL POLICY IN DENMARK

Ravn (2012) presents new empirical results on the effect of fiscal policy in Denmark.[1] Applied to Danish data, the results of this study can be summarised in Charts 2 and 3, illustrating the effects of an unanticipated, temporary increase in government purchases of goods and services. The full lines show the estimated effect of the increase in government spending, while the dashed lines indicate 95 per cent confidence limits for the estimated effect. In the experiment, government spending is raised by kr. 1 billion for one quarter, falling back towards the initial level over a number of quarters as illustrated by Chart 2. It is assumed that the increase is unexpected and unannounced, e.g. in the form of an exogenous, discretionary increase in government spending. It could, however, also reflect an unplanned increase following a slide in a component of government spending that has not been actively decided, but shows up in the data. In other words, this is a stylised experiment designed with a view to promoting comparability with similar experiments in the other studies mentioned. However, it is not similar to the way in which fiscal stimulus is often designed in practice. For example, in

[1] The details of this study are described in a working paper by Ravn and Spange (2012).

COURSE OF GOVERNMENT SPENDING — Chart 2



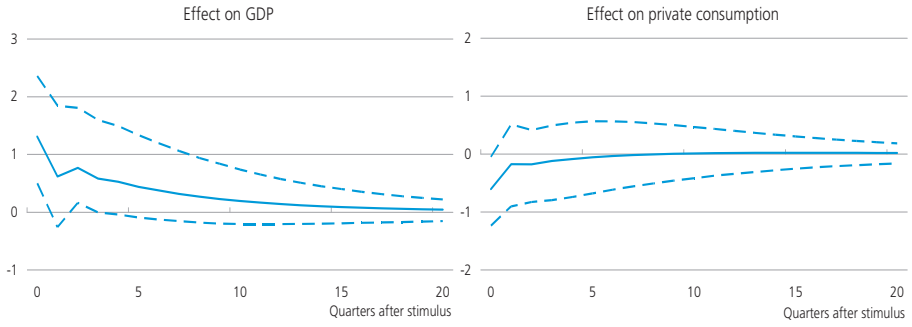
Note: The dashed lines reflect uncertainty about the estimated response of government spending in the model after the initial increase in the first quarter.

reality, fiscal stimulus often tends to be more persistent and possibly also stronger than the shock illustrated and often, to some extent, anticipated.

Chart 3 illustrates the effect on GDP and private consumption of the increase in government purchases of goods and services. The effect on GDP has been converted so that the vertical axis shows the increase in GDP in kr. billion following the increase of kr. 1 billion in government spending. The same applies to the effect on private consumption. This way, the fiscal multiplier can be observed directly from the vertical axis.

Chart 3 shows that an increase in government spending in the form of higher purchases of goods and services is reflected in a rise in GDP. During the first quarter, the fiscal multiplier is greater than 1; 1.3 to be

ESTIMATED EFFECT OF AN INCREASE IN GOVERNMENT SPENDING — Chart 3



exact. But the expansionary effect quickly dies out. Already in the next quarter, the multiplier is below 1. It appears from the confidence limits that the increase in government spending has no significant effect on GDP beyond the first year after the implementation of the stimulus. The effect on GDP seems to die out as government spending returns to its initial level. In other words, the expansionary effect of fiscal policy dies out more quickly in Denmark than in other countries. One explanation could be that the Danish economy is very small and very open, extensively driven by external impacts. Another contributing factor could be that automatic stabilisers are stronger in Denmark than in most other countries. Finally, the Chart shows that the effect on private consumption is limited.

The results thus indicate that fiscal stimulus mainly impacts economic activity through the direct effect of higher government spending. On the other hand, the relatively short-lived effect on GDP and the moderate impact on private consumption would indicate that the dynamic effects of changes in government spending are fairly small in Denmark.

Timing fiscal stimulus correctly may be difficult in practice. First, the need for fiscal stimulus is to be identified, then the stimulus is to be designed and passed through the legislative procedure, and finally the actual effect of the fiscal stimulus is to kick in. In other words, measuring out fiscal stimulus so as to have the effect kick in at the desired time may be difficult. Hence, in practice, short-term discretionary fiscal policy is not a very suitable instrument for detailed fine-tuning of business cycle fluctuations in Denmark. Instead, fiscal policy should be designed with a stability-oriented objective over the medium term, so as to avoid both periods of overheating and periods of high unemployment. This ensures that there is room for the automatic stabilisers to work and thus contribute to ironing out short-term cyclical fluctuations.

The analysis also demonstrates that the effects of fiscal policy have increased in Denmark during recent decades relative to the 1970s and the 1980s. More specifically, the fiscal multiplier was below 1 in the 1970s and 1980s, but has been greater than 1 since the early 1990s. Presumably, the reason is Denmark's adoption of a credible fixed exchange rate regime and the increased focus on sound public finances. In the 1970s and well into the 1980s, the Danish economy was characterised by high interest rates, high and fluctuating inflation, frequent devaluations and unsound public finances. Thus, there was a risk that fiscal stimulus would result in a lack of confidence in the sustainability of public finances with an ensuing risk of rising interest rates. Although the fixed exchange rate policy was introduced in 1982, it takes time to build up credibility for a fixed exchange rate regime and to reduce govern-

ment debt. But with a credible fixed exchange rate regime and sustainable public finances, fiscal policy may achieve the desired impact on the real economy. However, there is no reason to expect that the effects of fiscal policy will continue to rise in the future, since the Danish fixed exchange rate regime has achieved very high credibility and public finances are relatively sound.

EFFECTS OF FISCAL POLICY IN MONA AND IN A DSGE MODEL – A STYLISED TEMPORARY FISCAL PACKAGE

For a number of years, Danmarks Nationalbank has used its MONA model primarily for forecasting purposes.[1] The model is also used for calculating stress test scenarios in connection with assessments of financial stability, for simulation of policy changes and for calculation of the effects of structural changes in the Danish economy. For a more detailed description of MONA, see Danmarks Nationalbank (2003).

MONA can be classified as a macroeconometric model. This also applies to the other two major Danish models, SMEC[2], used by the Secretariat of the Economic Councils, and ADAM[3], which is maintained by Statistics Denmark and used by the Ministry of Finance, the Ministry of Economic Affairs and the Interior, the Economic Council of the Labour Movement and the Confederation of Danish Industry, among others. The short-term properties of the models are based on the principle that output is demand-determined, while their long-term properties reflect supply conditions in the economy.

Over the last 10-15 years, a new type of macroeconomic model has attracted attention from central banks in other countries, international organisations and the research community. These models are Dynamic Stochastic General Equilibrium models, or DSGE models. They are based on forward-looking behaviour and expectations to a higher degree than macroeconometric models.

Pedersen (2012) analyses the effects of fiscal policy in Denmark in a DSGE model compared with the effects in MONA. Thus, analyses of the Danish economy within a DSGE model framework can be a useful supplement to analyses using the Danish macroeconometric models. At the same time, such analyses provide experience with a model framework that has been used for a number of years for macroeconomic analyses, including analyses of the Danish economy, by international organ-

1 Model for Danmarks Nationalbank.
2 Simulation Model of the Economic Council.
3 Annual Danish Aggregate Model.

isations and the economic research community. However, the two model frameworks are not substitutes for each other in all respects.

Macroeconometric models are often developed as general tools to be used in practical and detailed economic-policy planning, and they typically contain a detailed description of e.g. the tax system, government expenditure, the business structure, etc. Conversely, DSGE models are normally less detailed and particularly suitable for addressing issues where behavioural incentives, forward-looking behaviour and formation of expectations play a decisive role. A case in point is changes of the tax system, causing shifts in economic incentives and affecting savings and investment decisions. Another example could be labour-market reforms with a direct impact on households' incentives regarding the work/life balance.

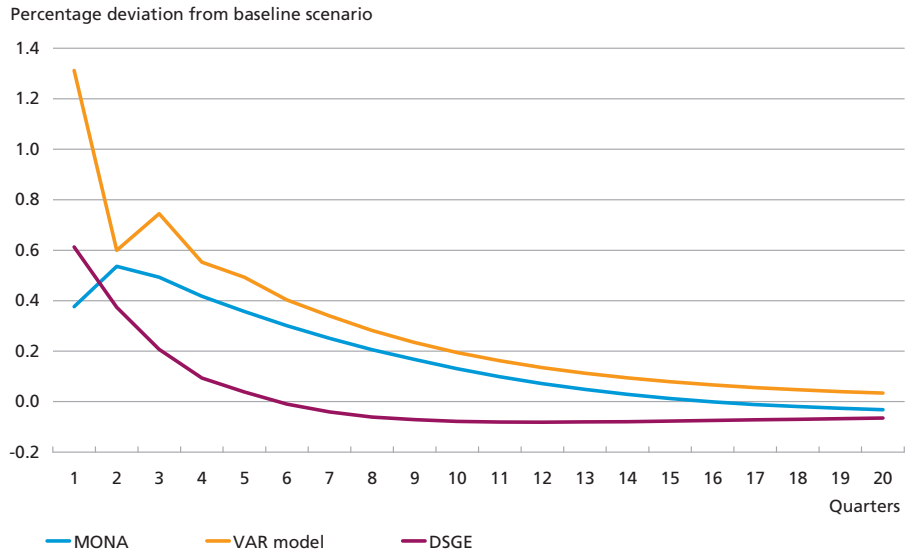
Initially, Pedersen (2012) looks at a debt-financed increase in government purchases of goods and services equivalent to 1 per cent of GDP, which is then reduced by around 20 per cent per quarter. The experiment entails a scenario for government purchases of goods and services as illustrated by Chart 2 above. The calculations assume that the stimulus is not announced in advance, but that households and firms are aware, when the stimulus is implemented, of how much government purchases of goods and services will rise in excess of the planned increase, and for how long.

The GDP multiplier for increased government purchases of goods and services is illustrated by Chart 4. As the Chart shows, MONA and the DSGE model produce fairly similar estimates of the effects on GDP of fiscal expansion. The higher government purchases of goods and services cause real GDP to rise by approximately 0.4 per cent in MONA and around 0.6 per cent in the DSGE model in the first quarter after the increase in government purchases of goods and services. In the subsequent quarters, the effect on GDP subsides relatively faster in the DSGE model than in MONA. The effect on GDP is zero already after 6 quarters in the DSGE model, while it takes around 15 quarters in MONA.

However, there are pronounced differences as regards the underlying structures and mechanisms producing the effects. These differences should particularly be viewed in conjunction with various assumptions regarding formation of expectations and forward-looking behaviour in the modelling of firms and households. In the DSGE model, private consumption declines a little, as forward-looking consumers realise that their future tax payments will be higher. This is the case, since fiscal policy in the DSGE model is assumed to be sustainable, entailing that the increase in government debt has to be repaid some time in the future. The driver of the multiplier in MONA after the first year is private con-

EFFECTS ON REAL GDP OF A TEMPORARY INCREASE IN GOVERNMENT PURCHASES OF GOODS AND SERVICES

Chart 4



Note: The VAR model refers to the calculated effects in the study by Ravn and Spange (2012) described in the previous sections.

sumption, rising slowly and peaking after approximately 1 year. This effect should be seen in the context that consumers in MONA make consumption decisions on the basis of current income without considering the future, including repayment of the additional government debt.

Most of the DSGE literature assumes that expectations are formed rationally, wholly or in part, and this assumption plays a significant part in the effect on consumption of higher government purchases of goods and services in the DSGE model. Rational expectations imply that households and firms do not systematically commit errors and are also known as model-consistent expectations. A substantial advantage of rational expectations is that they are relatively easy to work with in the model, constituting an assumption that contributes to enabling calculations in models with forward-looking behaviour.

However, it is important to point out that rational expectations are based on strict assumptions. Rational expectations imply that consumers are assumed to know the entire economy, i.e. the model relationships, model parameter values, etc., and that they use this information optimally in the formation of their expectations of future economic developments. In other words, rational expectations mean that the households in the models can and will calculate accurately how much their current and future tax payments must increase in the event of fiscal expansion

to ensure that fiscal policy remains sustainable in future. They also entail e.g. that consumers know and can observe that fiscal policy is generally sustainable for fiscal experiments.

The differences between the calculated effects in MONA and the DSGE model in the first quarter should also be seen in the context that the increased demand in MONA is partially met by higher imports and depletion of inventories. The import ratio is particularly high in the first quarter, since a portion of government purchases of goods and services is spent directly on imports. In MONA, inventories are depleted, since the model assumes that it takes time for domestic output to adjust sufficiently to the higher demand for domestic products. These effects are not included in the DSGE model.

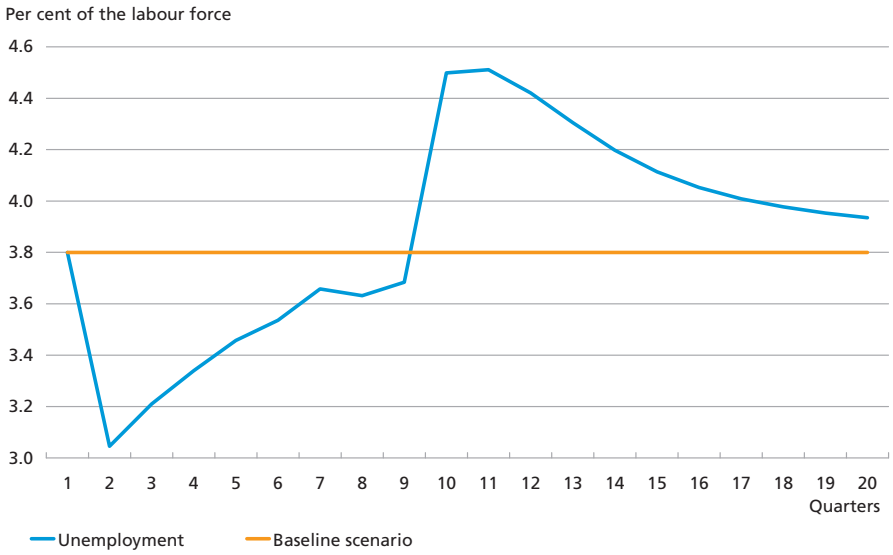
In the DSGE model, the labour market is modelled as a search and matching process, entailing that hiring new employees involves costs for firms and that it takes time to find employees. Consequently, there is no direct pass-through to employment – and thus output – from the additional demand generated in the economy by higher government purchases of goods and services. One result of the DSGE model is thus that the effect of fiscal policy depends on the degree of flexibility in the labour market, including firms' expectations regarding the value of hiring extra employees, how quickly employees can be hired and wage formation. In MONA, however, output mechanically determines employment, entailing that the employment effect is stronger in MONA than in the DSGE model.

On the other hand, the models both show the decline in exports as a mechanism that contributes to returning the multipliers to 0 in the longer term. A small open economy like Denmark is prone to significant leakage effects, and increased demand is reflected in higher demand for both Danish and foreign goods. Moreover, higher activity causes competitiveness to deteriorate and puts a squeeze on exports. This occurs in spite of the fact that forward-looking consumers reduce their consumption, since part of the additional public-sector demand is reflected in higher wages and prices. However, the fiscal effects subside more slowly in MONA than in the DSGE model.

EFFECTS OF FISCAL POLICY IN MONA AND IN A DSGE MODEL – A REALISTIC, BUT STYLISED FISCAL PACKAGE

Pedersen (2012) also analyses the effects of a more realistic, but stylised fiscal package aimed at stabilising the business cycle and consisting of temporary easing of fiscal policy over a 2-year period. The package is fully financed, since higher taxes will ensure that government debt re-

EFFECT ON UNEMPLOYMENT OF A 2-YEAR FISCAL EXPANSION WITH SUBSEQUENT STABILISATION OF GOVERNMENT DEBT Chart 5



turns to the initial level within 2 years from the expiry of the fiscal stimulus. The calculations assume that the package is not announced in advance, but that households and firms receive full information on the fiscal package when it is implemented. The purpose of the package is to shift demand and output from the future to the present without jeopardising fiscal sustainability.

The analysis using the DSGE model shows that such a fiscal package comes at a price, since unemployment will be higher and output lower after government debt has been brought back to the initial level, cf. Chart 5. This should be viewed in light of the slow recovery of competitiveness – and hence exports – due to stickiness of prices and wages.

EFFECTS OF FISCAL POLICY IN MONA AND A DSGE MODEL – THE 2004 SPRING PACKAGE

Finally, Pedersen (2012) analyses the effects of the 2004 Spring Package using the DSGE model. The analysis throws light only on the isolated effects of the actually adopted elements of the Spring Package. Consequently, fiscal stimuli in subsequent years, which are not related to the Spring Package, are not considered in the analysis. Thus overall fiscal policy was not tightened in subsequent years as had originally been planned.

The Spring Package contained elements to stabilise the business cycle, i.e. increased government investment, enhanced active labour market

programmes, suspension of the mandatory Special Pension Savings Scheme, SP, as well as a structural element in the form of permanently lower tax on earned income. All else equal, suspension of a mandatory pension savings scheme should increase the propensity to consume only if consumers are credit constrained either in the form of a cap on lending or in the form of a large gap between lending and deposit rates. The explanation is that the suspension does not increase consumers' lifetime income. The forward-looking behaviour and formation of expectations thus make the DSGE model particularly well suited for modelling the suspension of SP. In the model, the SP suspension causes a change in behaviour only in credit constrained consumers. The effect on consumption for the rest of the consumers is zero.

The calculations in the DSGE model show that, viewed in isolation, the permanently lower tax on earned income introduced with the Spring Package resulted in improved competitiveness in the long term. The tax cut provided the basis for higher export growth which, viewed in isolation, contributed to permanently lower unemployment and permanently higher output. This, in turn, offset the initial deterioration of competitiveness resulting from the elements designed to stabilise the business cycle. According to the DSGE model, permanently higher output also contributes to fiscal sustainability.

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Negative Interest Rates

Anders Jørgensen, Market Operations, and Lars Risbjerg, Economics

INTRODUCTION AND SUMMARY

In early July 2012, Danmarks Nationalbank lowered its monetary-policy interest rates to historically low levels in connection with the ECB reduction of interest rates. The rate of interest on certificates of deposit was reduced to -0.20 per cent. This means that the monetary-policy counterparties are paying for placing liquidity in certificates of deposit with Danmarks Nationalbank. For the first time in its nearly 200-year history, one of Danmarks Nationalbank's interest rates is negative. Negative monetary-policy interest rates are also unique in an international perspective. Negative interest rates on banks' deposits with Sveriges Riksbank were introduced for a period during 2009-10, but the amounts were small and did not result in negative market rates.

The negative rate of interest on certificates of deposit was set solely with consideration to maintaining Denmark's fixed-exchange-rate policy. The fixed-exchange-rate policy entails that monetary policy is laid down with a view to stabilising the krone against the euro.

To counter a sustained inflow of foreign exchange and a tendency for the krone to strengthen, Danmarks Nationalbank has conducted intervention purchase of foreign exchange for considerable amounts since August 2011, as well as lowered the monetary-policy interest rates several times due to ECB interest-rate reductions and unilaterally to reduce the interest-rate spread between Denmark and the euro area. In connection with the interest-rate reduction in July, the spreads between the monetary-policy interest rates in Denmark and the euro area remained unchanged.

Some market rates were already negative before the rate of interest on certificates of deposit became negative. In the 2nd half of 2011, Danish market rates fell after the flare-up of financial and political tensions in the euro area. As was the case in e.g. Germany, interest rates on short-term Danish Treasury bills were negative at the end of 2011 due to strong demand from foreign investors. At times during the weeks up to Danmarks Nationalbank's interest-rate reduction in July 2012, other Danish money-market interest rates and interest rates on Danish govern-

ment securities with maturities of up to around 3 years were also below 0 per cent.

Transmission to market rates and the krone rate has been clear since the introduction of the negative interest rate on certificates of deposit. The money-market interest rates have become even more negative than before the interest-rate reduction, and the krone has weakened slightly from around 0.3 per cent to approximately 0.1 per cent above the central rate against the euro.

This article describes the background to negative monetary-policy interest rates and other examples of negative interest rates. This is followed by an account of the introduction of negative monetary-policy interest rates in Denmark and a description of the transmission to market rates.

BACKGROUND

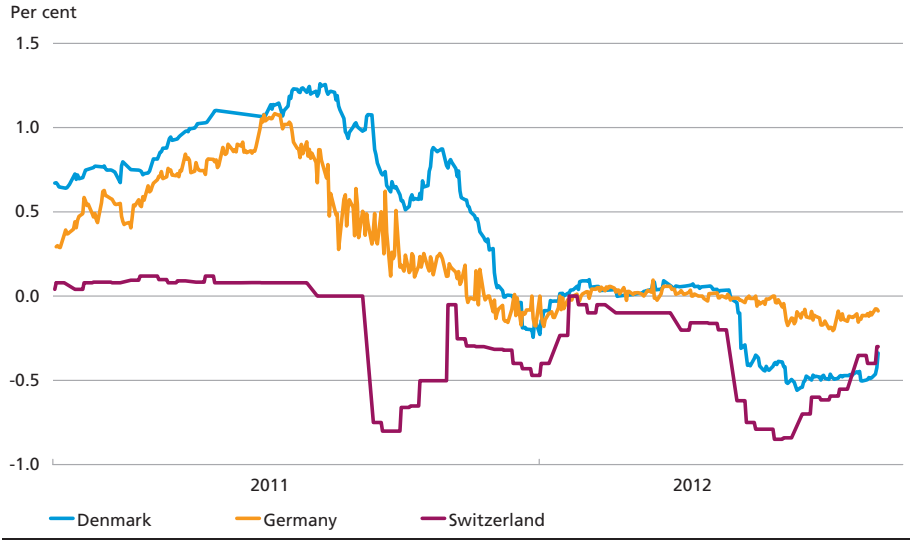
Since the onset of the financial crisis in 2007, central banks around the world have gradually lowered their interest rates to levels close to zero in response to the severe global economic downturn.[1] The subsequent sovereign debt crisis in a number of countries in the euro area further weakened global growth prospects. In addition to the interest-rate reductions, extraordinary monetary-policy measures have been taken to stimulate the economy, including securities purchases and communication about the central banks' expectations as regards the future monetary-policy interest rates.

The economic literature often assumes a zero lower bound on nominal monetary-policy interest rates, cf. Blomquist et al. (2011). Otherwise, a higher return could be achieved by holding cash. However, holding cash and settlement of large payments in cash that has to be moved, counted, stored and insured, are associated with costs. Banks settle large interbank payments via accounts in the central bank, so in practice they are willing to pay for placing funds with the central bank. Similarly, investors are willing to accept negative interest rates on e.g. bank deposits and investments in securities, cf. Thornton (1999).

The literature proposes a number of options for central banks to breach the zero lower bound on nominal monetary-policy interest rates. Goodfriend (2000) proposes taxation of the banks' deposits at the central bank, thus rendering the effective yield negative. This would have the same impact on market rates as introducing a negative monetary-policy interest rate on deposits at the central bank.

[1] In December 2008, the Federal Reserve lowered the fed funds target rate to 0.00-0.25 per cent at which level it has remained. Most recently, in July 2012, the ECB reduced the lending rate to 0.75 per cent in its weekly refinancing operations, at the same time lowering the deposit rate to zero.

3-MONTH T-BILL RATES IN DENMARK, GERMANY AND SWITZERLAND Chart 1



Note: Interest rates for Germany are stated according to a Bloomberg index for the 3-month interest rate (mid-prices). Interest rates for Switzerland are based on auction prices of 3-month T-bills. The Danish interest rate is calculated by linear interpolation between the interest rates for the two closest T-bills. Last observation: 12 September 2012.
Source: Bloomberg, MTS, Nordea Analytics and Schweizerische Nationalbank.

Experience with negative interest rates

Situations with nominal negative interest rates are rare, but there are examples from several countries. In Japan, the T-bill rate became negative at the end of 1998, and short-term money-market interest rates in e.g. Germany, Switzerland and Denmark have been negative at times since mid-2011, cf. Chart 1.

To our knowledge, the only earlier example of negative monetary-policy interest rates in recent times was when Sveriges Riksbank lowered the rate of interest on its deposit facility to -0.25 per cent in July 2009. The interest rate remained negative until September 2010. The deposit that was subject to negative interest was very small, however. In the period of negative deposit rates the money-market rates did not become negative, but remained relatively close to the repo rate.[1]

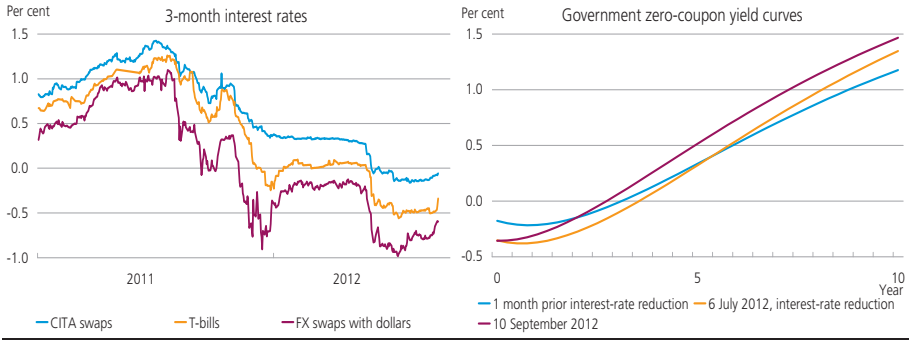
In the 1970s, Switzerland introduced a number of measures to counter appreciation pressures on the Swiss franc. The monetary-policy interest rates were not negative, but negative interest rates on non-residents' deposits at Swiss banks were introduced.[2]

[1] The reason is that Sveriges Riksbank conducted fine-tuning operations on a daily basis to keep the overnight interest rate close to its repo rate of +0.25 per cent. On 23 August 2009, the banks only had deposits on the deposit facility at a negative interest rate amounting to 34 million Swedish kronor. The banks had certificates of deposit amounting to 130 billion Swedish kronor and placed 167 billion Swedish kronor at Sveriges Riksbank via the fine-tuning operations.

[2] The introduction of negative interest rates on short-term deposits with Swiss banks has been referred to as commission.

SELECTED DANISH 3-MONTH INTEREST RATES AND GOVERNMENT ZERO-COUPON YIELD CURVES

Chart 2



Note: Left-hand chart: CITA swaps indicate the swap rate of 3-month interest-rate swaps at the overnight interest rate, the T/N rate. Such swaps are also referred to as CITA swaps. T-bills indicate the 3-month interest rate found by linear interpolation between the interest rates for the two closest T-bills. FX swaps with dollars indicate the implied interest-rate spread between kroner and dollars from 3-month FX swaps between dollars and kroner plus the 3-month swap rate in dollars. The vertical line is placed at 6 July 2012, the effective date of Danmarks Nationalbank's interest-rate reduction. Last observation: 12 September 2012. Right-hand chart: The government zero-coupon yield curve is estimated on the basis of central-government issuance.

Source: Reuters EcoWin, Nordea Analytics, MTS and Danmarks Nationalbank.

Negative market rates in Denmark

Danish money-market interest rates were negative in several instances even before the introduction of negative monetary-policy interest rates, cf. Chart 2 (left).

At the T-bill auction at the end of December 2011, T-bills with maturities of 2 and 5 months were issued at negative interest rates, but the T-bills had already been traded at negative interest rates in the secondary market. At the end of May 2012, T-bills were again issued at negative interest rates, while the other money-market interest rates were around zero. Part of the explanation for the low T-bill rates is a distortion of the FX swap market, particularly between kroner and dollars, but also between kroner and euro.[1] The FX swap market distortion is also partly attributable to considerable interest, including from the pension sector, in selling foreign exchange on forward terms in FX swaps in order to hedge foreign-exchange exposure from foreign investment. This drove down the forward rate of e.g. dollars compared to the spot rate, making it more expensive to hedge the dollar exposure. On the other hand, it made it cheaper to buy dollars forward and to convert the exposure in kroner into dollars. As a result, investors with good and direct access to dollars have been able to achieve a higher dollar return even when

[1] The swap market distortion implies deviations from the covered interest-rate parity between kroner and dollars. The parity indicates that the same dollar return can be obtained by placing funds directly in dollars as by placing them in kroner while at the same time concluding an FX swap from kroner to dollars where the krone exposure is converted into dollar exposure. Major imbalances also existed during the financial crisis in the autumn of 2008, cf. Jensen et al. (2008), Box 2.1, which also describes the causes of imbalances in the FX swap market in more detail.

placing funds at negative T-bill rates in Denmark while buying dollars on forward terms, thereby converting krone exposure into dollar exposure via FX swaps, rather than placing funds directly in the money market for dollars.[1]

Before the introduction of a negative monetary-policy interest rate, interest rates on CITA swaps were periodically negative in June 2012 for maturities up to 1 year. CITA swaps are interest-rate swaps based on the overnight interest rate, the T/N rate, and reflect market expectations about the future overnight money-market interest rates.[2] The T/N rate is closely linked to Danmarks Nationalbank's monetary-policy interest rates. Negative CITA swap rates can thus be seen as an expression of market expectations of negative monetary-policy interest rates. Interest rates on Danish government securities with maturities of up to around 3 years were also negative prior to the interest-rate reduction, cf. Chart 2 (right). In the period leading up to the interest-rate reduction, the market expected the ECB to reduce the interest rate and that Danmarks Nationalbank would follow suit.

Fixed-exchange-rate policy and monetary-policy instruments

Monetary policy and the monetary-policy instruments, cf. Box 1, are aimed at keeping the krone stable against the euro within the framework of ERM 2.[3] In the euro area, monetary policy aims to keep inflation below, but close to 2 per cent. Keeping the krone stable against the euro creates a framework for low inflation in Denmark in the slightly longer term. Considerations other than the exchange rate, e.g. economic development in Denmark, are not taken into account in relation to monetary policy.

In the short term, Danmarks Nationalbank can keep the krone stable against the euro by buying and selling foreign exchange in the market. In periods when the foreign-exchange market is stable, Danmarks Nationalbank usually changes its interest rates in step with the ECB. In situations with prolonged inflow or outflow of capital and pressure against the krone, Danmarks Nationalbank unilaterally changes its interest rates to stabilise the krone. Monetary-policy interest rates are determinative for the money-market interest rates that influence capital flows and the exchange rate.

Since August 2011, Danmarks Nationalbank has made intervention purchases of foreign exchange in the amount of kr. 91 billion and lowered

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1 T-bills have almost exclusively been purchased by foreign investors. T-bills have been seen as a convenient way to make short-term placements with high credit ratings.

2 The pricing of CITA swap rates takes into account the average expected T/N rates (the forward rates) during the lifetime of the swap.

3 Exchange Rate Mechanism 2, applying from the introduction of the euro in 1999.

DANMARKS NATIONALBANK'S MONETARY-POLICY INSTRUMENTS[1] Box 1

Danmarks Nationalbank's manages its accounts with the monetary-policy counterparties, the banks and mortgage banks, via its monetary-policy instruments, i.e. the terms for using the lending and deposit facilities made available by Danmarks Nationalbank to the monetary-policy counterparties. The monetary-policy counterparties have access to two facilities at Danmarks Nationalbank: open market operations and current-account deposits, the latter often referred to as current-account liquidity or just liquidity.

Current accounts

Current accounts are demand accounts where the counterparties can place liquidity overnight. Current accounts play a key role in the Danish payment system. Current-account deposits can be used at the initiative of the counterparties for immediate settlement of interbank payments and the banks' accounts with Danmarks Nationalbank. Via its open market operations, Danmarks Nationalbank ensures that there is adequate liquidity within the banking system for smooth and secure settlement of payments. Limits have been set for current-account deposits in order to reduce the funds available for speculation in a weakening of the krone, cf. below.

Open market operations

Through Danmarks Nationalbank's regular open market operations on the last banking day of each week, the counterparties can borrow against collateral and place the funds in certificates of deposit, which are deposits at Danmarks Nationalbank with an original maturity of 7 days. If necessary, Danmarks Nationalbank also conducts extraordinary open market operations, in which it buys or sells certificates of deposit in order to manage the banking sector's liquidity. This is typically done in connection with large-value government payments and intervention in the foreign-exchange market. In addition, Danmarks Nationalbank conducts monthly open market operations where the counterparties can borrow against collateral for 6 months. The rate of interest on 6-month loans is variable, reflecting Danmarks Nationalbank's 7-day lending rate.

Current-account limits

An overall limit has been determined for the monetary-policy counterparties' total current-account deposits with Danmarks Nationalbank at the close of the day. The purpose of the limit is to prevent the build-up of large current-account deposits immediately available for speculation in a weakening of the krone.

In its open market operations, Danmarks Nationalbank will normally ensure that the counterparties' total current-account deposits do not exceed the limit. If the counterparties' current-account deposits exceed the overall limit, they will be converted into certificates of deposit. Prior to the introduction of negative rates of interest on certificates of deposit, this only happened three times: on 2 March 2006 and on 6 January and 8 June 2012.[2] After the introduction of negative rates of interest on certificates of deposit, conversions have been conducted three times: on 9 July, 13 July and 31 August.

[1] For a description, see Danmarks Nationalbank (2009).

[2] The two latter conversions reflect the narrowing of the spread between the rate of interest on certificates of deposit and the current-account rate to 0.05 percentage point, the lowest level so far, reducing the interest-rate loss from depositing funds in current accounts.

CONTINUED Box 1

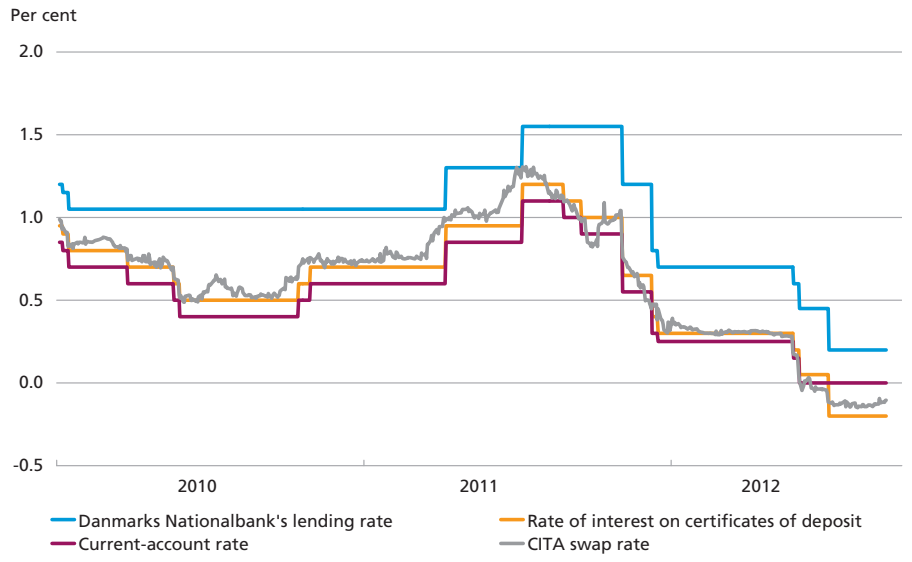
The overall current-account limit is made up of the sum of current-account limits for the individual counterparties. The individual current-account limits are determined in accordance with the counterparties' activity in the money market. Counterparties with extensive activity in the money market, which are key contributors to smooth exchange of liquidity, have the highest current-account limits.

its monetary-policy interest rates several times, cf. Chart 3, both as a result of the ECB interest-rate reductions and unilaterally to reduce the interest-rate spread between Denmark and the euro area. Since the autumn of 2011 when the sovereign debt crisis intensified in a number of euro area member states, the Danish krone has been stable and slightly stronger than the ERM 2 central rate against the euro.

Today, Danmarks Nationalbank's deposit rates are key to the money-market interest rates in Denmark. The reason is that the Danish banks and mortgage banks, i.e. the monetary-policy counterparties, currently have a substantial need to deposit funds at Danmarks Nationalbank (a positive net position), cf. Chart 4.

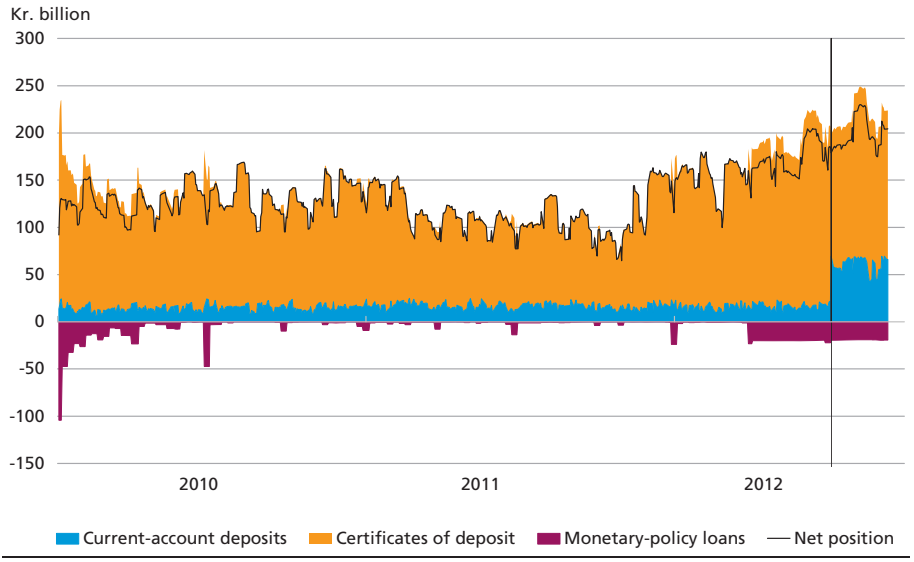
The monetary-policy counterparties' need to deposit funds at Danmarks Nationalbank reflects the autonomous factors on Danmarks

DANMARKS NATIONALBANK'S INTEREST RATES AND THE CITA SWAP RATE Chart 3



Note: The CITA swap rate is the 1-month interest rate of interest-rate swaps at the overnight interest rate, the T/N rate. Last observation: 12 September 2012.
Source: Reuters EcoWin and Danmarks Nationalbank.

THE BANKS' AND MORTGAGE BANKS' OUTSTANDING ACCOUNTS WITH DANMARKS NATIONALBANK — Chart 4



Note: The vertical line is placed at 6 July 2012, the date Danmarks Nationalbank's interest-rate reduction became effective. Last observation: 11 September 2012.
Source: Danmarks Nationalbank.

Nationalbank's balance sheet, e.g. the foreign-exchange reserve, the balance of the central government's account with Danmarks Nationalbank, and currency in circulation. When Danmarks Nationalbank makes e.g. intervention purchases of foreign exchange from banks, the banks' need to deposit kroner at Danmarks Nationalbank increases. Individual banks may change their outstanding account with Danmarks Nationalbank by e.g. depositing kroner at other banks, but the banks and mortgage banks taken as one cannot change the overall need to deposit funds at Danmarks Nationalbank.

INTRODUCTION OF NEGATIVE MONETARY-POLICY INTEREST RATES

Three factors in particular have been of importance in connection with the introduction of negative monetary-policy interest rates. Firstly, it is crucial to ensure a pass-through to the money market and thus the exchange rate of the krone. Secondly, it has been important to use existing monetary-policy instruments wherever possible, without adding new instruments or facilities. Finally, emphasis has been placed on communicating clearly to prepare the monetary-policy counterparties for the extraordinary situation involving negative monetary-policy interest rates.

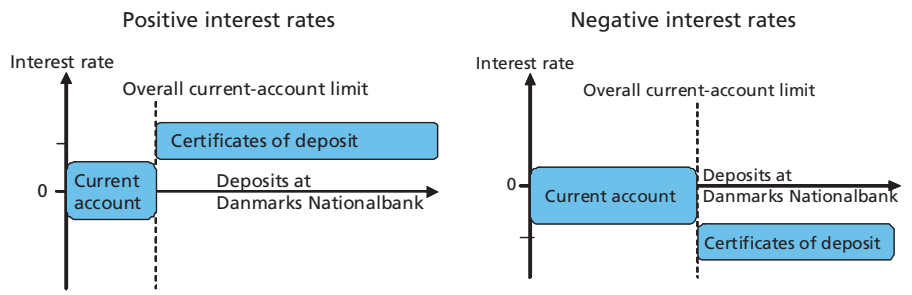
Adjustment of the monetary-policy instruments

The introduction of negative monetary-policy interest rates implied that Danmarks Nationalbank reduced the rate of interest on certificates of deposit, which is essential to the money-market interest rates, rendering it negative and, unlike before, lower than the current-account rate, cf. Chart 5. Current-account deposits that are used for settlement of payments accrue interest at a rate of 0 per cent.

At the current net position, the overall current-account limit ensures that the monetary-policy counterparties taken as one will have deposits placed in certificates of deposit at a negative interest rate, meaning that their marginal liquidity deposits with Danmarks Nationalbank, e.g. in connection with capital inflows to Denmark, will accrue negative interest rates. When the rate of interest on certificates of deposit is lower than the current-account rate, the counterparties will have an incentive to deposit funds in a current account rather than purchasing certificates of deposit. If the total current-account deposits exceed the overall current-account limit, Danmarks Nationalbank will, as previously, convert current-account deposits into certificates of deposit.

When the negative rate of interest on certificates of deposit was introduced, the current-account limits were adjusted upwards from kr. 23.15 billion to kr. 69.70 billion to reduce the strain of a negative rate of interest on certificates of deposit on the monetary-policy counterparties. The fact that there is an even larger current-account deposit at 0 per cent may counter any substitution to cash. In relation to the fixed-exchange-rate policy, the current-account limits are normally aimed at reducing the funds immediately available for speculation in a weakening of the krone. In the current situation with a strong krone where Danmarks Nationalbank is intervening in the foreign-exchange market and reducing its monetary-policy interest rate to counter a strength-

ILLUSTRATION OF THE ADJUSTMENT OF MONETARY-POLICY INSTRUMENTS WHEN NEGATIVE MONETARY-POLICY INTEREST RATES WERE INTRODUCED — Chart 5



Note: Note that Danmarks Nationalbank's lending is not included in the outline of the monetary-policy instruments.

ening of the krone, increasing the current-account limits does not constitute a problem in relation to the fixed-exchange-rate policy. In connection with the upward adjustment, banks with higher money-market activity saw the largest increase in their current-account limits in relation to the overall limit.

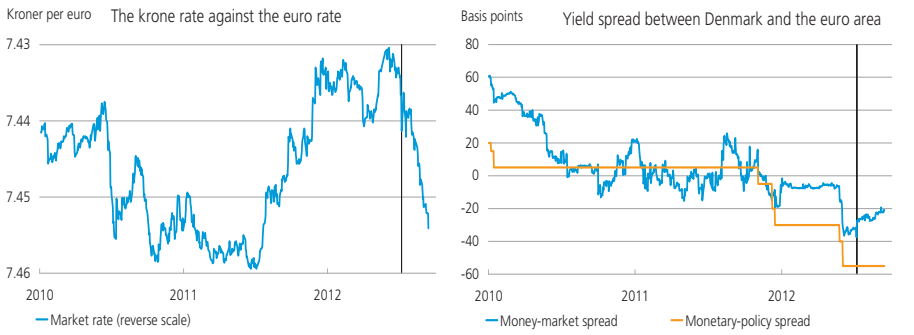
In February 2012, Danmarks Nationalbank posted a technical description on the handling of potentially negative monetary-policy interest rates on its website. The financial sector was then informed directly. The purpose was to give the counterparties the opportunity to ensure that their IT systems and business procedures were able to handle a situation with negative interest rates. The Monetary Review, 2nd Quarter 2012, which was issued in mid-June 2012, contained a description of Danmarks Nationalbank's instruments for handling a situation with negative interest rates.

Transmission to money-market interest rates

There has been a clear pass-through to the market rates following Danmarks Nationalbank's interest-rate reduction to a negative rate of interest on certificates of deposit. The immediate effect was a drop in the money-market interest rates with the CITA rates for maturities up to 1 year falling to further negative levels.

In the hour after Danmarks Nationalbank's announcement of its interest-rate reduction at 4.00 p.m. on 5 July 2012, following the ECB interest-rate reduction at 1.45 p.m., the krone weakened from approximately 7.4365 to 7.4405 against the euro. Danmarks Nationalbank's monetary-policy spread to the euro area remained unchanged, cf. Chart 6 (right), but the krone did weaken slightly when there was no longer

THE KRONE RATE AGAINST THE EURO RATE AND THE SPREAD BETWEEN DENMARK AND THE EURO AREA — Chart 6



Note: The vertical lines are placed at 6 July 2012, the date Danmarks Nationalbank's interest-rate reduction became effective. Last observation: 12 September 2012. Right-hand chart: The monetary-policy spread between Danmarks Nationalbank's lending rate and the ECB's lending rate in the weekly open market operations.

Source: Reuters and Danmarks Nationalbank.

any doubt left in the market as to whether Danmarks Nationalbank would in fact introduce a negative rate of interest on certificates of deposit.

Since then, the krone has weakened slightly further to around 0.1 per cent above the central rate against the euro against 0.3 per cent above the central rate prior to the interest-rate reduction, cf. Chart 6 (left). The ERM 2 fluctuation band for the krone is +/- 2.25 per cent in relation to the central rate. The subsequent weakening of the krone to some extent reflects that confidence in the handling of the sovereign debt crisis in a number of European countries improved in August and the euro was strengthened.

As was the case before the interest-rate reduction, the rate of interest on certificates of deposit is key to the overnight interest rate and the long-term money-market interest rates. Fluctuations of a technical nature in the overnight interest rate are seen, but on average the overnight interest rate will follow the rate of interest on certificates of deposit, cf. Box 2.

As a result of the rate of interest on certificates of deposit becoming negative and lower than the current-account rate of 0 per cent, the monetary-policy counterparties now have a financial incentive to place funds in current accounts rather than in certificates of deposit, and they increased their current-account deposits when the current-account limits were raised, cf. Chart 4. However, the counterparties have also purchased certificates of deposit to bring the total current-account deposit below the overall current-account limit, so Danmarks Nationalbank has only converted current-account deposits into certificates of deposit three times since the interest-rate reduction.

Today, the counterparties overall hold certificates of deposit amounting to approximately kr. 150 billion. If the holding and the rate of interest on certificates of deposit remain unchanged in the coming year, this will entail interest expenses in the range of kr. 300 million. It is still too early to determine the interest-rate pass-through to the banks' retail rates for the private and corporate sectors, but so far the banks have not introduced negative retail rates on deposits.[1]

The turnover for overnight money-market loans has been declining since the interest-rate reduction. According to a general seasonal trend, turnover falls over the summer, cf. Chart 8 (left). At the same time, due to the upward adjustment of their current-account limits, the banks' daily liquidity management scope has increased. This may reduce the need

[1] In a few instances, firms have had negative interest rates on deposits, primarily special short-term time deposits.

MONETARY-POLICY INTEREST RATES AND THE OVERNIGHT INTEREST RATE

Box 2

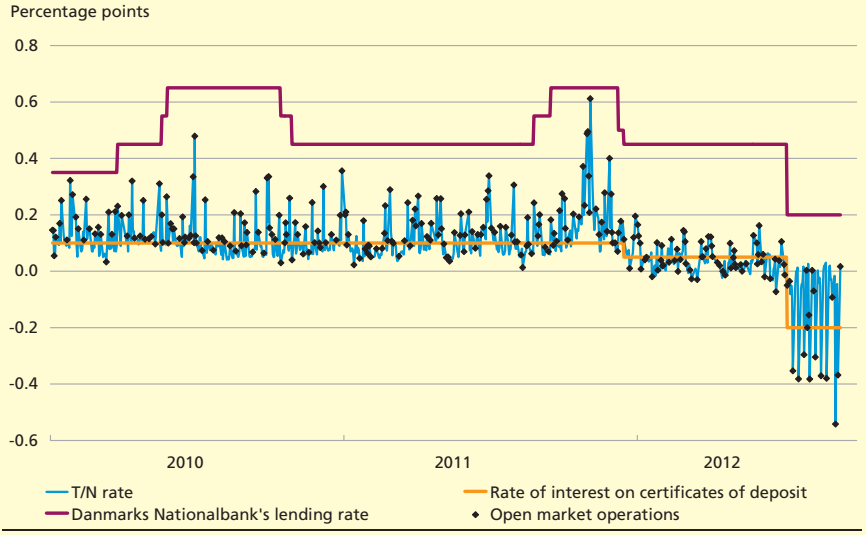
The monetary-policy counterparties mainly use the overnight money market in their daily liquidity management, and the overnight interest rate is closely linked to the monetary-policy interest rates. Since certificates of deposit have longer maturities than current-account deposits, fluctuations of a technical nature in the overnight interest rate occur, but on average the overnight interest rate will be close to the rate of interest on certificates of deposit when, as is currently the case, the counterparties overall have a substantial need to deposit funds at Danmarks Nationalbank (a positive net position).

On days without open market operations, the overnight money-market interest rate will tend to be close to the current-account rate, which constitutes the alternative to the interest rate on deposits in the money market, cf. Chart 7.

On days with open market operations, certificates of deposit constitute an alternative to money-market deposits. Counterparties with a liquidity surplus will weigh the returns from placing funds in certificates of deposit or placing funds in the overnight money market on an ongoing basis until the next open market operation. As previously stated, placing funds in the money market results in interest rates close to zero on days without open market operations. Therefore, on days with open market operations, it may be an advantage for a counterparty to grant loans in the overnight market at an interest rate that is lower (more negative) than the rate of interest on certificates of deposit, if this means that the bank can avoid placing funds in certificates of deposit.

THE SPREAD OF THE T/N RATE, THE RATE OF INTEREST ON CERTIFICATES OF DEPOSIT AND DANMARKS NATIONALBANK'S LENDING RATE TO THE CURRENT-ACCOUNT RATE

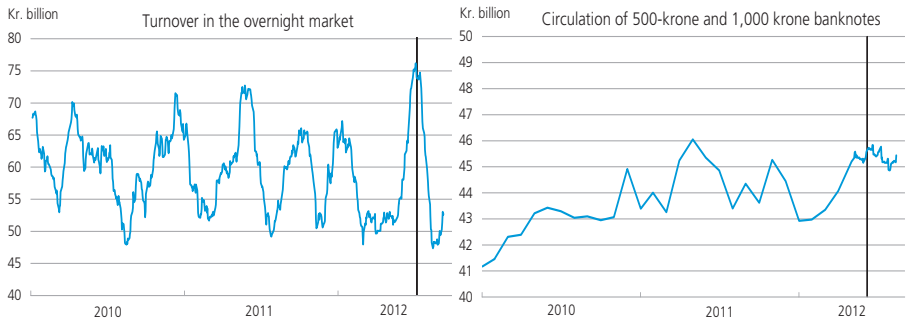
Chart 7



Note: Open market operations include both ordinary and extraordinary open market operations. Extraordinary open market operations include both announced and unannounced operations. The T/N interest rate is shown on the settlement date. Last observation: 10 September 2012.

Source: Danmarks Nationalbank.

TURNOVER IN THE MONEY MARKET AND CURRENCY IN CIRCULATION Chart 8



Note: Left-hand chart: Turnover is calculated as a 20-day moving average of uncollateralised money-market lending and lending in kroner in connection with repo transactions and FX swaps. Last observation: 7 September 2012. Right-hand chart: Banknote circulation is based on monthly observations up until the beginning of June 2012 and subsequently on daily observations. Last observation: 11 September 2012.
Source: Danmarks Nationalbank.

for the exchange of liquidity in the market, but the total turnover has not fallen to unprecedented levels.

The Danish banknotes most commonly used for deposits of cash are the 500-krone and 1,000-krone notes, and the circulation of large banknotes has remained stable, cf. Chart 8 (right), the decisive factor undoubtedly being that the banks have not introduced negative retail rates on deposits.

Danmarks Nationalbank carefully monitors developments in the money market and can make technical adjustments to the monetary-policy instruments to ensure the pass-through to the money market. This is done in accordance with the activity in the money market. Under the monetary-policy regulations applying from time to time, Danmarks Nationalbank reserves the right to make adjustments without prior notice if it is deemed necessary due to monetary- and foreign-exchange-policy considerations.

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Labour-Market Reforms in Denmark and Germany

Jacob Isaksen, Uffe Mikkelsen and Peter Beck Nellemann, Economics

INTRODUCTION AND SUMMARY

The German labour market has seen extraordinary development over the course of the past years. Unemployment has dropped significantly since 2005 and is currently below the pre-financial crisis level. Germany is Denmark's largest trading partner, and Danish exports and the Danish labour market are strongly affected by trends in the German economy, including the labour market.

Since 2005, the German labour market has developed in a way similar to that of the Danish labour market in the mid-1990s. In both Denmark and Germany, unemployment had hit record highs and a number of labour-market reforms helped turn the trend.

On the demand side, however, the reforms were introduced at different times in the two countries. In Denmark, the reforms were introduced at a time of rising labour demand. Basically, competitiveness was good, and demand was stimulated by fiscal relaxation, declining interest rates and an international upswing. In Germany, on the other hand, reforms were introduced at a time of more subdued demand. This resulted in a prolonged period of low wage increases that put a damper on domestic demand, but boosted competitiveness. Thus, demand for labour did not increase until after the reforms had been implemented, and was driven by rising exports.

The Danish and German labour market reforms have several characteristics in common, such as a more active labour-market policy and reduced unemployment benefit periods. The effects of the reforms are a significantly reduced level of unemployment, including long-term and youth unemployment, and a rise in the senior employment rate.

Despite reform similarities, the labour-market structure in the two countries remains different. Consequently, the labour markets have reacted differently to the recent economic backlash. In Germany, businesses to a wide extent chose shorter working hours over layoffs, as permanent employees enjoy a fairly high level of job security. The limited number of layoffs, however, must be seen in light of the fact that be-

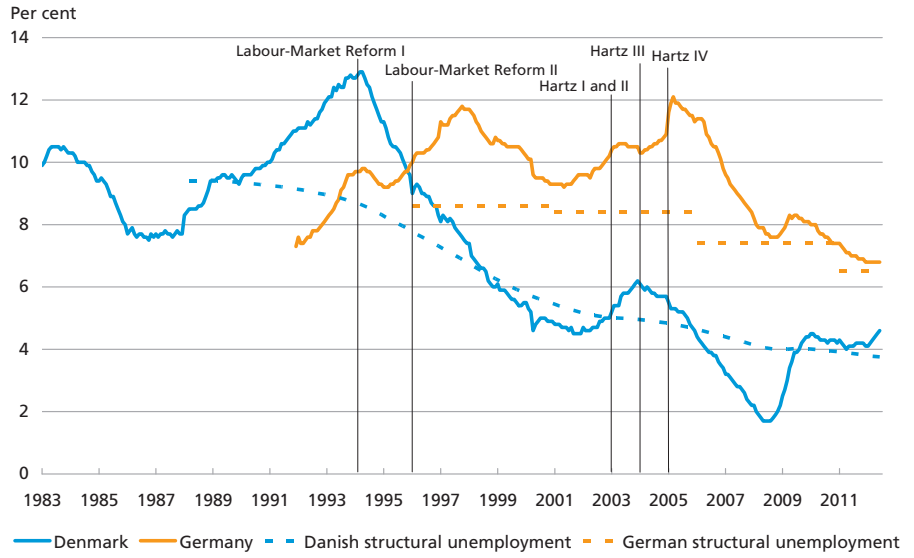
cause of the high level of job security, German businesses had been reluctant to hire during the economic upswing preceding the crisis. Temporarily shorter working hours as a response to the crisis proved appropriate in Germany, as the sectors hardest hit by the crisis experienced only a temporary setback. In Denmark, where the laying off of employees is less complicated, businesses had been less reluctant to hire before the crisis and reacted to the crisis by dismissing employees. Certain Danish industries, the construction industry in particular, overheated prior to the crisis, and the setback experienced during the crisis, therefore, proved more permanent. Consequently, labour-market flexibility was both necessary and appropriate in order to allow labour to be redistributed between industries.

THE YEARS LEADING UP TO THE REFORMS

The pre-reform labour markets

During the period preceding the Danish labour-market reforms, unemployment had reached almost 13 per cent of the labour force, cf. Chart 1. In Germany, unemployment increased from approximately 7 per cent at the time of the reunification in 1990 to approximately 12 per cent in 2005. The concepts of unemployment are described in Box 1.

UNEMPLOYMENT RATE IN DENMARK AND GERMANY — Chart 1



Note: Danish net unemployment rate and German registered unemployment rate. The levels of the two unemployment figures are not directly comparable. The two Danish labour-market reforms, Labour-Market Reform I and II (entered into force in 1994 and 1996, respectively) and the four German Hartz reforms (entered into force in 2003, 2003, 2004 and 2005, respectively) are illustrated.

Source: Reuters EcoWin, Danmarks Nationalbank and Deutsche Bundesbank.

UNEMPLOYMENT FIGURES Box 1

Danish unemployment figures

Net unemployment: Number of individuals receiving unemployment benefits or cash benefits, who are not in job activation and who are deemed ready to enter the labour market. As the rules on unemployment benefits, cash benefits and job activation differ widely between countries, net unemployment is not fully comparable on an international level. The figure is stated on a full-time basis. Net unemployment was previously referred to as registered unemployment.

Gross unemployment: Net unemployment plus number of individuals in job activation ready to enter the labour market. Gross unemployment figures are not internationally comparable.

German unemployment figures

Registered unemployment: Number of individuals between the ages of 15 and 65, who do not have a job or who work for less than 15 hours a week, and who are looking for a job of 15 or more hours a week. Only individuals who are registered as unemployed with a job centre, who are available for job activation and ready for the labour market, are included in the definition. Registered unemployment is calculated by Bundesagentur für Arbeit.

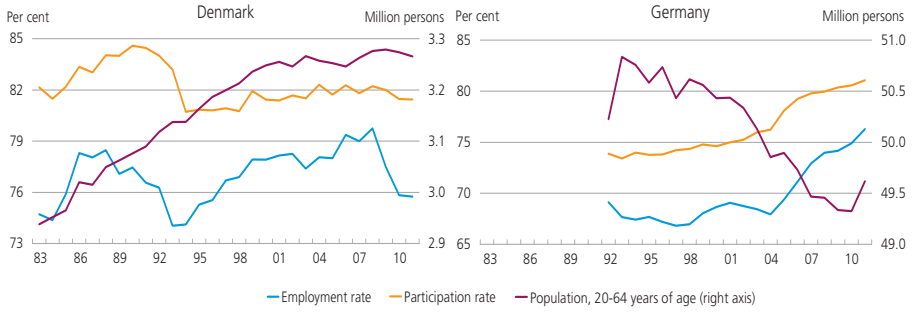
Internationally comparable unemployment figures (ILO)

ILO unemployment: Based on the concept of unemployment as defined by the International Labour Organization, ILO, and therefore officially internationally comparable. ILO unemployment states the number of individuals, who are out of a job, but who would like to get a job, regardless of the number of hours the individual wants to work. The figure is based on a sample-based compilation. In Denmark, ILO unemployment is based on the labour-force survey (AKU). Danish gross unemployment figures and ILO unemployment figures differ, as registered unemployment is stated on a full-time basis, whereas ILO unemployment states number of individuals. Gross and ILO unemployment cover only in part the same individuals. Danish groups that are typically included in ILO unemployment, but not in gross unemployment, are students and self-supporting individuals. Several of these individuals want to work only a few hours. Nor are all individuals included in gross unemployment included in ILO unemployment. The reason is that according to the labour-force survey some of the individuals who receive unemployment benefits or cash benefits and who are considered ready for the labour market and therefore included in the gross unemployment figure, are not available for work. Danish gross unemployment and German registered unemployment are deemed to best express the number of available resources – and thus the degree of pressure – in the labour market.

In Germany[1] as well as in Denmark, the pre-reform labour markets were characterised by a limited incentive to work. Unemployment benefit rules were favourable, and the labour-market policy was characterised

[1] See Beier and Sand (2005) for a detailed description of the pre-reform German labour market.

NUMBER OF 20-64-YEAR OLDS, EMPLOYMENT AND PARTICIPATION RATES Chart 2



Note: The employment rate states the ratio of 20-64-year olds in employment. The participation rate states the ratio of 20-64-year olds included in the labour force.
Source: Eurostat.

by lenient availability requirements and limited sanctions against jobless who did not observe the availability requirements. As a consequence, the employment rate was fairly low, cf. Chart 2, and long-term unemployment high.

Demand during the reform years

In Denmark, demand for labour was low for a number of years leading up to the labour-market reforms due to the aftermath of the overheating of the economy in the mid-1980s, including the required tightening of the fiscal policy, the tax reform and the October 1986 economic package as well as interest rate increases in the wake of the German reunification. As a result, the level of unemployment was significantly above its potential level in the years leading up to the reforms. In 1993-94, however, a prolonged upswing began in Denmark. Declining interest rates and the liberalisation of mortgage-credit legislation, which triggered a major refinancing surge, cf. Hansen and Pedersen (2003), boosted consumer spending, and from 1993 the sum of the impact of fiscal policy over several years had a positive influence on the level of activity, cf. Ministry of Finance (2000). Finally, an international upswing and improved competitiveness resulted in rising exports. The labour-market reforms helped ensure that rising demand for labour was met by increased supply and that the upswing resulted in rising employment rather than growing wage pressure, which would adversely affect competitiveness.

In Germany, the situation surrounding the reforms was different. Consumer spending was subdued, due in part to slow income growth – only 4 per cent over a 10-year period (2001-11), whereas the gross domestic product, GDP, increased by 11 per cent – and government finances did

not allow for an accommodative fiscal policy. Thus, unlike the Danish reforms, the German reforms were not met by rising domestic demand, and the level of unemployment remained high. This resulted in limited wage increases and ultimately to improved German competitiveness. Not until international growth accelerated did German demand increase as a result of rising exports, and unemployment started to fall.

THE DANISH AND GERMAN REFORMS

The Danish labour market reforms in the 1990s and the German reforms in the 2000s have several common characteristics. Both governments adopted a more active labour-market policy by, for instance, streamlining placement services, and the unemployment benefit period was reduced. This increased incentives to seek employment.

Focus on an active labour-market policy

The active labour-market policy is based on the concept of the unemployed having a right and duty to enrol in a job activation scheme. As part of the Danish as well as the German reforms, the requirement to register as a job seeker and sanctions against unemployed individuals, who did not accept an offer of job activation, were made more rigorous. Furthermore, requirements with respect to geographical and professional mobility were raised. As for the Danish reforms, in particular, the period within which job activation would start was reduced (in particular for young people without a qualifying education), and job activation schemes were extended to include cash benefit recipients, cf. Box 2. The active labour-market policy gave the jobless an increased incentive to look for work, which reduces structural unemployment, i.e. unemployment in a neutral cyclical situation, cf. Rosholm and Svarer (2008).

Moreover, subsidised employment played a significant role in both Denmark and Germany. In Denmark, the schemes were primarily directed at long-term unemployed and individuals with reduced working capacity. Flexible working arrangements and sheltered jobs were introduced for individuals with reduced working capacity as well as older worker jobs and service jobs[1] for long-term unemployed seniors. In Germany, subsidy schemes helping unemployed start their own business and subsidies to businesses hiring unemployed persons over the age of 55 were introduced. In addition, subsidies to so-called mini and midi jobs were increased. Individuals holding these low-income "mini" jobs are exempted, in part or in full, from tax and social security contributions.

[1] The service job scheme was discontinued in 2002, and service jobs are therefore no longer available.

DANISH AND GERMAN LABOUR-MARKET REFORMS[1] Box 2

Denmark	Germany
Active labour-market policy	
More rigorous availability requirements	**More rigorous availability requirements**
• More rigorous geographical mobility requirements (1998) • Obligation to accept job not within own profession after three months of unemployment (1999) • Increased obligation to register as job seeker at a job centre on first day of unemployment (1999)	• Increased duty to register as job seeker and availability requirement (Hartz I) • Unemployed required to accept any "reasonable job" offer, the definition of which was extended (including increased geographical mobility requirement) (Hartz I) • More rigorous and more flexible sanctions against unemployed not cooperating with job centre (Hartz I)
Job activation	**Job activation**
• Same right and duty to participate in job activation for cash benefit recipients as for unemployment benefit recipients (1993) • Introduction of individual action plans for unemployed (1994) • Right and duty to participate in training after six months for individuals under the age of 25 without vocational training (1996) • Increased sanctions on refusal to accept offer of job activation (1995 and 1996) • Right and duty to participate in job activation after two years of unemployment for unemployment benefit recipients over the age of 25 (1996)	• 1-2 euro jobs introduced for cash benefit recipients in job activation, who are paid 1-2 euro an hour in addition to their cash benefits (ALG II)
Subsidised employment	**Subsidised employment**
• Introduction of flexible working arrangements for individuals with reduced working capacity and sheltered jobs for recipients of disability pension • Introduction of older worker jobs for long-term unemployed seniors	• Subsidies for unemployed individuals who establish their own business (Ich-AG, Hartz-II) • Income limit on mini jobs – subsidised jobs exempted from tax and social security contributions – raised from 325 to 400 euro, and the maximum weekly number of working hours of 15 is discontinued (Hartz II) • Midi jobs are introduced – subsidised jobs paying 400-800 euro a month; the exemption from tax and social security contributions is gradually reduced (Hartz II)
Unemployment compensation	
• Discontinuation of the right to regain entitlement for unemployment benefits by participating in job activation (1994)	• Unemployment benefits for the long-term unemployed, in particular, are reduced, due in part to the discontinuation of the intermediary rate between the unemployment benefit rate and the cash benefit rate (Hartz IV)

CONTINUED Box 2

- Unemployment benefit period fixed at seven years (1994); since then reduced on several occasions, most recently to two years. The so-called passive period was reduced and finally discontinued
- Reduced rate of unemployment benefits for unskilled workers under the age of 25 after six months of unemployment
- Unemployment benefit period reduced to 12 months (from 26 months) for unemployed individuals under the age of 54 and to 18 months (from 32 months) for the 55-64-year olds (2006)
- ALG II for young people under the age of 25 living with their parents is reduced from the full rate (2006)

Flexibility and job security

- Relaxation of terms of temporary employment, in particular for temporary staff
- Increasingly decentralised wage formation
- Increasingly flexible rules on where to place hours worked throughout the year
- Deregulation of rules on temporary staff, including discontinuation of reemployment ban and the maximum duration of employment (Hartz I)
- Deregulation of terms of temporary positions by for instance discontinuing limits on the extension of temporary contracts and the duration of temporary employment. (Ongoing process since late 1990s)

Improvement of placement services

- Decentralisation of activation effort to regional labour market councils
- Mandatory individual action plan for all unemployed (1994)
- More in-depth availability assessment of cash benefit recipients (1998)
- Improved coordination of placement services through restructuring efforts (Hartz III)
- Updating of job centre organisational structure
- Definition of individual goals for each job centre, and centres are allowed greater freedom in meeting these goals
- Individual action plans specifying offer to and duties of the unemployed in terms of job search and training
- Strengthening of competition between job centres by allowing unemployed persons who are not able to find work through public job centres to use private centres. Private job centres are paid a bonus for every unemployed person they help find a job
- Introduction of subsidies allowing temping agencies to hire jobless

[1] Pedersen and Riishøj (2007), The Economic Council (2002, 2007), Jacobi and Kluve (2007), Wunch (2006) and OECD (2012).

Reduced unemployment benefit periods

Another essential element of the Danish and German labour market reforms was reduced unemployment benefit periods. In Denmark, the rules regulating the right to regain entitlement for unemployment benefits were tightened, including by discontinuing the right to regain such entitlement by participating in a job activation scheme. This gave the unemployed an increased incentive to go from job activation to employment. In Germany, the intermediary benefits between unemployment benefits and cash benefits were discontinued, and the unemployment benefit period was reduced.

In Denmark, the monthly cash benefits payable to individuals over 25 with no duty of support amount to approximately kr. 10,000, whereas in Germany the monthly basic rate, which applies to singles without children, is approximately kr. 2,800 (374 euro) plus the cost of a suitable home and heating. The low rate explains in part why the pay-rate variation is more pronounced in Germany than in Denmark.[1]

Relaxation of rules applying to temporary employees

For quite some time, the Danish labour market has been characterised by only limited job security (i.e. considerable flexibility in the right of employers to lay off employees), cf. Chart 3. The low level of job security, the high compensation rate (in particular in the case of low-paid jobs) in the event of short-term unemployment, and an active labour-market policy constitute the elements of the Danish "flexicurity" model, cf. Pedersen and Riishøj (2007).

To improve German labour-market flexibility, the rules on temporary employees were significantly relaxed by, for instance, making it easier to enter into fixed-term contracts. In addition, the limits on the extension of temporary contracts and the duration of temporary employment were discontinued. The above initiatives have resulted in significantly reduced job security for temporary employees in Germany since the late 1990s, cf. Chart 3 (right). However, the reforms did not make it easier for businesses to dismiss permanent employees. On the contrary, their job security increased, cf. Chart 3 (left). The trade unions accepted increasingly decentralised wage formation and lower wage increases[2] in return for increased job security through, for instance, higher severance pay.

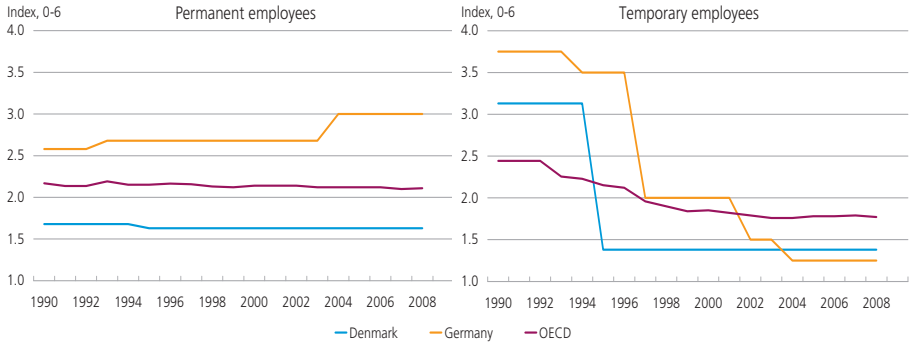
The widening gap between the degree of job security enjoyed by permanent and temporary employees creates a dual labour market in

[1] Measured, e.g., by the ratio of full-time employees earning less than two thirds of the median income.

[2] A breakthrough was the so-called "Pforzheim" agreement of 2004, when the metal workers union accepted that employers were allowed to depart from the collectively agreed wages to protect future jobs and investments.

DEGREE OF JOB SECURITY FOR PERMANENT EMPLOYEES AND REGULATION OF TEMPORARY EMPLOYMENT

Chart 3



Note: The index runs from 0 (lowest security) to 6 (highest security). The drop in the index for temporary employees in Denmark in 1995 is explained by relaxed rules on the use of temporary employees. Index levels for permanent and temporary employees, respectively, are not comparable.

Source: OECD and own calculations.

Germany. Employers are more reluctant to hire employees on permanent contracts as the cost of firing is high, and they therefore offer temporary contracts. A dual labour market increases the risk that the skills of temporary employees are not upgraded to the same extent as those of permanent employees.

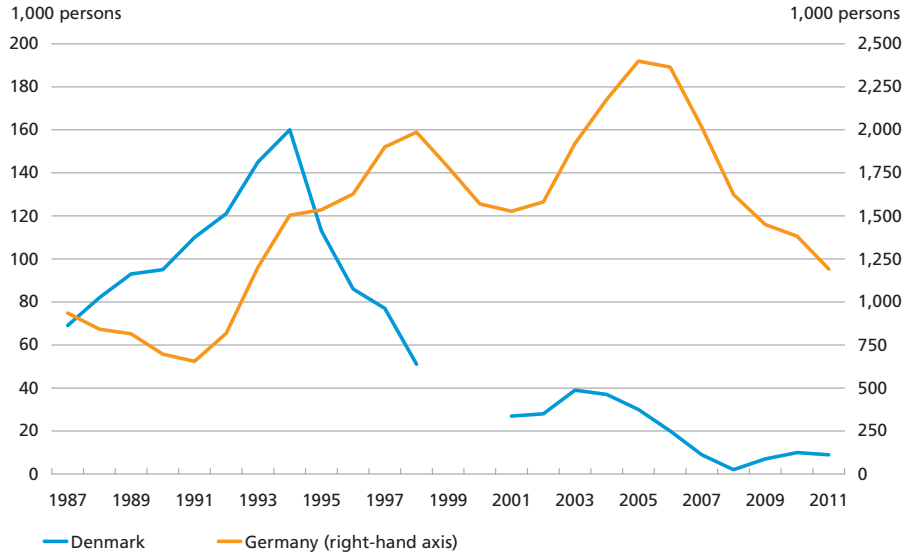
CONSEQUENCES OF THE LABOUR-MARKET REFORMS

In Denmark and Germany, the labour-market reforms of the 1990s and 2000s, respectively, reduced structural unemployment. In Denmark, it has dropped by more than 50 per cent since the reforms were introduced, cf. Chart 1. In Germany, structural unemployment for the period 2011-15 is estimated to be approximately two percentage points below the level of 2001-05, cf. Deutsche Bundesbank (2012).

As a result of the labour-market reforms, long-term unemployment declined drastically in both countries, cf. Chart 4. In Denmark, the trend should be seen in light of the fact that with the introduction of the transitional allowance in 1992 and labour-market leave schemes in 1994 employees were offered a better opportunity to retire from the labour market. This had a short-term positive effect on unemployment, without employment rising to a similar extent. In Germany, on the other hand, the long-term unemployed found it increasingly difficult to retire from the labour force through disability pension.

The reforms also resulted in a more than 50 per cent drop in youth unemployment in both countries, cf. Chart 5. In Denmark, several of the reforms were targeted specifically at young people – the so-called youth effort. The effort included increased focus on job activation and compul-

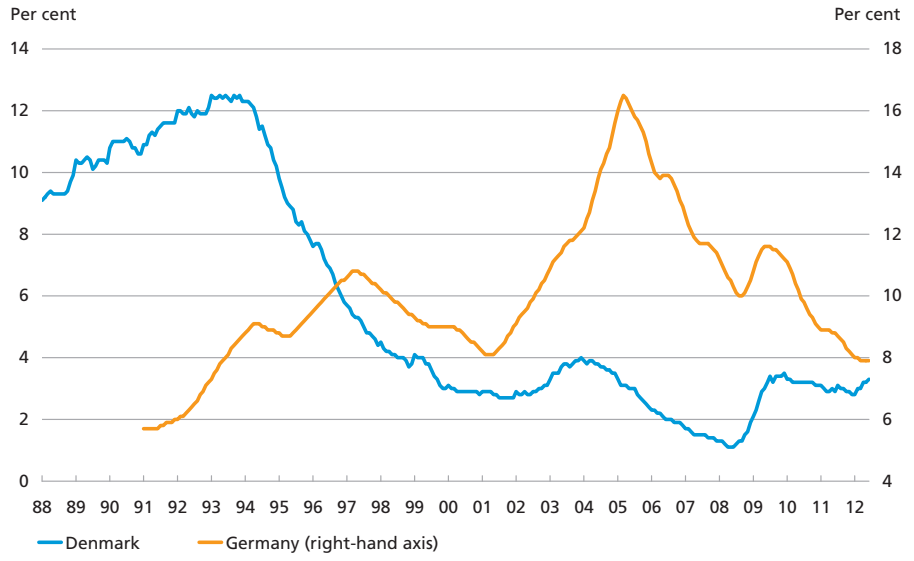
LONG-TERM UNEMPLOYMENT — Chart 4



Note: For Denmark, the number of long-term unemployed is stated as net unemployed with a degree of unemployment of more than 80 per cent in the year in question. No data are available for 1999-2000. Part of the decline in the number of individuals with a net degree of unemployment of more than 80 per cent is explained by increased use of job activation. Similar data are not available for Germany, and consequently long-term unemployment is stated as the number of individuals who have been unemployed for more than one year (according to random sample LFS unemployment). Unemployment figures are not comparable.

Source: OECD and Statistics Denmark, *Statistical Yearbook*, 1990-2011.

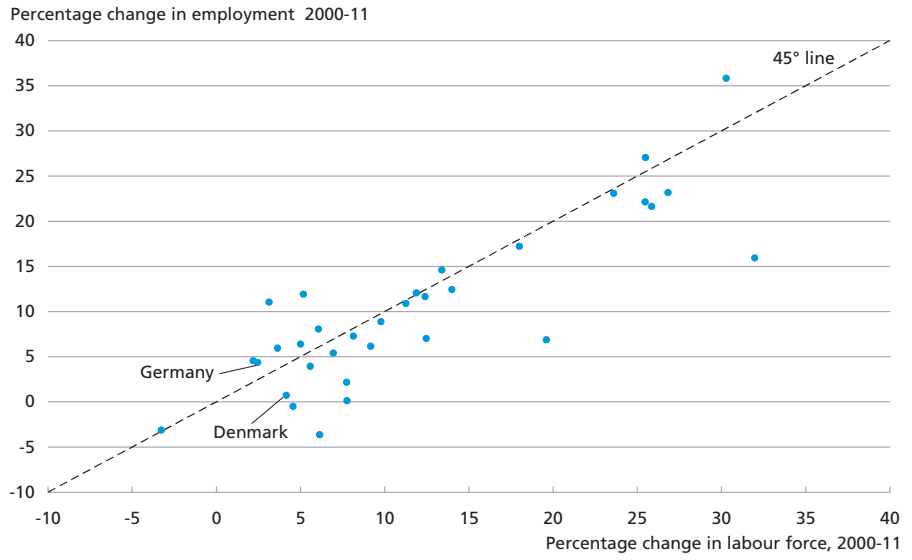
UNEMPLOYMENT RATE AMONG INDIVIDUALS UNDER 25 — Chart 5



Note: The illustrated Danish youth unemployment rate is net unemployment rate, whereas for Germany questionnaire-based ILO unemployment rate is shown. The levels of the two unemployment concepts are not directly comparable. The net unemployment ratio is the sum of non-activated unemployment and cash benefit recipients ready to enter the labour market as a ratio of the labour force. 1996, 2000 and 2007 are subject to data breaks. Figures from 2007 onwards are based on own seasonal adjustment.

Source: Eurostat, Statistics Denmark and own calculations.

CHANGES IN EMPLOYMENT AND LABOUR FORCE Chart 6



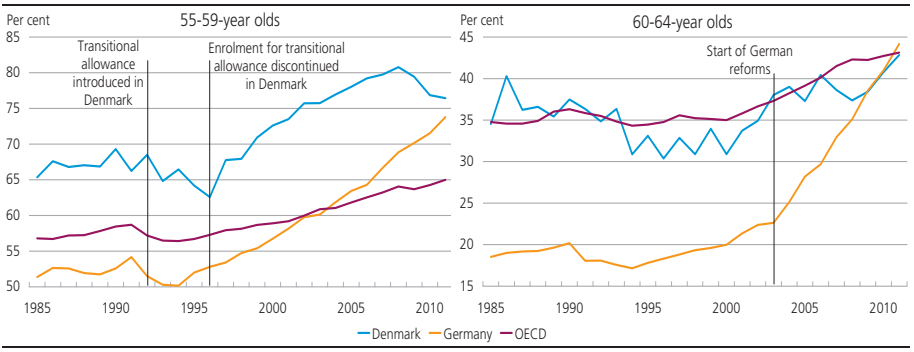
Note: The chart comprises the OECD countries.
Source: OECD, *Economic Outlook*, No. 91.

sory education as well as reduced transfer income for young people. Germany introduced reduced cash benefits for young unemployed people under 25 living with their parents.

Prior to the reforms being introduced, retirement schemes meant that labour-market attachment among seniors was low. The reforms increased efforts to prevent seniors from dropping out of the labour market by focusing on increased use of job activation and by reducing the incentive to retire. Consequently, more seniors were included in the labour force. OECD member countries experience a positive correlation between changes in the labour force and changes in employment, cf. Chart 6. In the short term, causality may run both ways, but over a prolonged period an increase in the labour force will be reflected in increased employment, cf. Danish Economic Councils (2011).

In Denmark, the incentive for seniors to remain in the labour force was not increased until in the mid-1990s, following the introduction of the initial labour-market reforms and the drop in unemployment. The introduction of the transitional allowance for long-term unemployed between 55 and 59 in 1992, however, meant that seniors retired from the labour force, and the employment rate among 55-59-year olds fell, cf. Chart 7 (left). In 1994, the scheme was extended to include the 50-54-year olds, and in 1996 new entries into the scheme were no longer accepted. This meant an increase in the labour supply and proved a decisive factor in the employment rate of 55-59-year olds starting to rise again in 1996.

EMPLOYMENT RATE — Chart 7

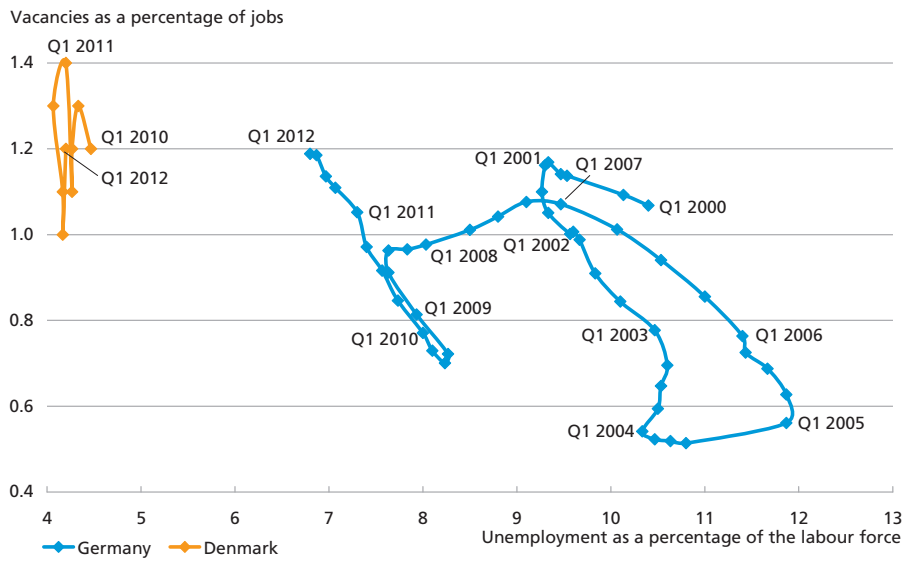


Note: Employment rates as defined by ILO.
Source: OECD.

In Germany, the cash benefit period was reduced overall, also for the 55-64-year olds, and the option for unemployed individuals to receive disability pension was drastically limited. At the same time, subsidies to businesses willing to hire unemployed over 55 were introduced. In Germany, the reforms caused a dramatic rise in the employment rate of the 55-59-year olds as well as the 60-64-year olds from a level well below the OECD average, cf. Chart 7.

As a result of the German reforms, placement services were updated, making it easier for job seekers and businesses to get into contact, as

BEVERIDGE CURVE FOR DENMARK AND GERMANY — Chart 8



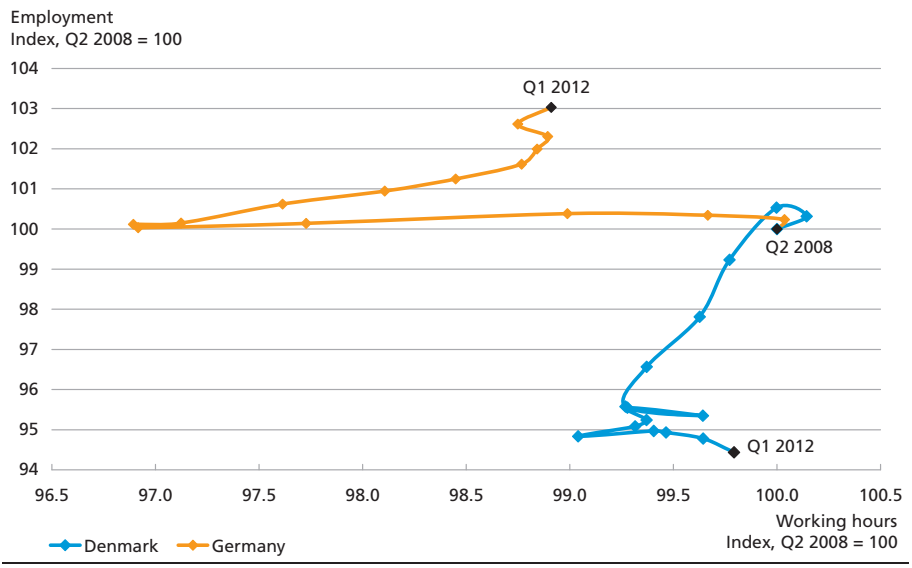
Note: Because of data limitations, Danish data prior to 2010 are not available. Unemployment figures indicate national, registered degrees of unemployment. With respect to Denmark, net unemployment is used. The figures for the two countries, therefore, are not directly comparable.
Source: Reuters EcoWin, Eurostat and Statistics Denmark.

confirmed by the fact that the German Beveridge curve, illustrating the correlation between unemployment and the number of vacancies, fell in 2007-08, cf. Chart 8. The curve typically describes a negative slope, as a high level of unemployment means that businesses can hire labour more easily, and therefore the number of vacancies is low. Factors such as improved placement services, increased job activation efforts and reduced unemployment benefits will also cause the curve to move inwards. The Danish labour-market reforms, too, include initiatives that are expected to have caused the Beveridge curve to move inwards. This, however, cannot be illustrated by available data.

LABOUR-MARKET FLEXIBILITY AND REACTION TO THE CRISIS

Despite many similarities in the labour market reforms, there are still important structural differences between the Danish and German labour-market. One of the more significant differences is the rights of employers to lay off employees. Because of this difference, the labour markets in the two countries have reacted differently to the economic crisis. In Germany, adjustments to reduced demand for labour were reflected in reduced working hours, whereas in Denmark the level of employment declined, cf. Chart 9.

LABOUR-MARKET ADJUSTMENT SINCE THE 2ND QUARTER 2008 Chart 9



Note: Working hours are stated as the current sum of working hours for the preceding four quarters. Employment is the number of individuals in employment.
Source: Statistics Denmark and Reuters EcoWin.

There are several reasons why adjustments in the German labour market focused on the number of working hours: It is costly to lay off employees, accumulated overtime could be taken as time in lieu, and the options for introducing reduced working hours were favourable. During the boom preceding the crisis, overtime had been accumulated because the combination of increased use of flexible working hours and a high level of job security for regular employees proved an incentive for employers to use overtime rather than take on new employees.

Furthermore, the rules applicable to the use of reduced working hours, known as "Kurzarbeit", were relaxed during the crisis (see Box 3), and compared with past economic downturns more businesses took advantage of the scheme. As close to 80 per cent of individuals engaged in "Kurzarbeit" worked in the manufacturing industry, which saw only a temporary setback, the number of working hours normalised fairly quickly after the crisis, and employment started to rise.

Generally, considerable flexibility in terms of the number of working hours is deemed positive in order to prevent unemployment in the event

OPTIONS FOR REDUCED WORKING HOURS Box 3

In Germany, the Kurzarbeit scheme offers employers the option to use reduced working hours in times of limited activity. Under the scheme, businesses experiencing limited activity can apply for permission from the job centres to reduce employee working hours. If the application is granted, the state compensates employees for the outstanding salary by covering 60-67 per cent of the lost income. The basic difference between flexitime and Kurzarbeit is that Kurzarbeit affects all the business' employees, and the decision to work reduced hours is a joint decision, usually made at the recommendation of the management. Flexitime is managed by employees on an individual basis, and working hours may vary considerably between employees.

Kurzarbeit has been known in the German labour market for decades, but it became considerably more popular during the economic downturn following the financial crisis than during the recessions in 1996-97 and 2001-04, due in part to the fact that the rules regulating Kurzarbeit were relaxed during the crisis. In the past, businesses could take advantage of Kurzarbeit for up to six months with the option of a six-month extension. During the crisis, the total period was extended to 24 months. The requirements for when businesses could take advantage of Kurzarbeit were relaxed as well, and industrial corporations, in particular, were given an incentive to use the scheme as the government subsidy was raised.

In Denmark, the option of reduced working hours is less flexible. The work distribution scheme offers businesses an opportunity to reduce working hours for up to 13 weeks with an option of extension. Employees receive supplementary unemployment benefits as compensation for loss of income. Use of the scheme peaked in 2009, when close to 32,000 individuals received supplementary unemployment benefits for up to 13 weeks and almost 9,000 for more than 13 weeks. Subsequently, use has dropped considerably.

of negative shocks to the economy. Flexibility in terms of the number of working hours, however, tends to keep employees in the same businesses, thus adversely affecting mobility between sectors and businesses. This puts a damper on labour-market adjustment when the change in demand is of a more permanent nature. In order for a temporary reduction of working hours to be a success, therefore, demand must drop only briefly and then pick up again. This was the case in Germany, where exports declined from mid-2008 until mid-2009 and then normalised. Whether shocks to the economy are temporary or permanent is difficult to predict.

During the years leading up to the crisis, the Danish construction industry experienced a long-term boom, and then demand dropped permanently. Consequently, it seemed appropriate not to retain labour within the industry by introducing reduced working hours. At present, employment in the construction industry is at the level of the early 2000s.

Flexibility in the employers' right to lay off employees not only increases mobility between sectors. It also makes employers less reluctant to hire, as they know that they can lay off employees later. This makes it easier to join the labour market, and has a positive effect on structural unemployment. On the other hand, there will be periods of high unemployment, cf. Nellemann and Pedersen (2012).

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Faster Payments in Denmark

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INTRODUCTION AND SUMMARY

The Danish banking sector has initiated a comprehensive modernisation of the domestic payment systems. The modernisation project will run for three years and lead to faster settlement of payments made by citizens and firms and eventually result in a Danish payments infrastructure that fully matches those of comparable countries.

The modernisation of the Danish payments infrastructure comprises four elements: The first element – acceleration of retailers' receipt of Dankort debit card payments made during weekends – has already been implemented, and at the end of the year it will be complemented by an improvement of firms' access to fast execution of large-value payments via Danmarks Nationalbank's payment system, Kronos.

In addition, two new payment systems will be introduced, one of which will enable intraday settlement of credit transfers made on banking days. Today, transfers between customers of different banks usually take at least one day. The other system will allow certain types of transfer to be credited immediately to the payee's account – 24 hours a day, seven days a week.

These measures will improve conditions for payees, who will have funds at their disposal sooner and lose fewer interest days than today. The new opportunity of immediate transfer is also expected to support new payment types, such as mobile payments, and be useful for sellers not wishing to deliver goods until they have certainty of payment.

BACKGROUND

In Denmark it usually takes at least one day to execute a payment transfer due to the design of the Danish settlement system for payments made by citizens and firms, known as the Sumclearing, which is owned by the Danish Bankers Association. In the Sumclearing, funds are ex-

changed among the banks once a day – at night – preventing faster settlement of customer payments.[1]

In several countries comparable to Denmark, intraday payment settlement has existed for some years now. In these countries, the payment systems typically allow banks to exchange funds several times a day. Since 2008, it has been possible in the UK to settle transfers below a certain size within seconds – 24 hours a day, seven days a week.

In 2009, a working group chaired by Danmarks Nationalbank was therefore set up to explore the opportunities for reducing settlement times for payments in Denmark. At the beginning of 2012, the working group published its final report, containing an overall plan for the Danish payments infrastructure.[2] Since then, the banks, under the auspices of the Danish Bankers Association, have been working to implement the plan.

FOUR MEASURES TO ACHIEVE FASTER PAYMENTS

The project to modernise the Danish payments infrastructure comprises four elements:

- *Faster receipt of Dankort payments made during weekends:* Since May 2012, Dankort payments made during weekends have been received by retailers on Mondays instead of Tuesdays.
- *Fast transfer of large-value payments:* From the end of 2012, there will be improved opportunities for firms to execute fast transfers of amounts exceeding kr. 1 million on banking days via Danmarks Nationalbank's payment system, Kronos.
- *Intraday transfers:* At the end of 2013, a new system – the Intradag-clearing – will be introduced for intraday transfers on banking days.
- *Immediate payment transfers:* At the end of 2014, a new system will make it possible to transfer amounts up to kr. 500,000 immediately – 24 hours a day, seven days a week.

Table 1 presents an overview of the project showing the beneficiaries of each project element.

The project process has been designed to ensure that the elements requiring the least adjustment of the banking systems are implemented first while new systems requiring major changes are implemented at a

[1] For a description of payment settlement in Denmark, see Jesper Bakkegaard, Tommy Meng Gladov and Anders Mølgaard Pedersen, Settlement Times for Payments in Denmark, Danmarks Nationalbank, 2nd Quarter 2011 – Part 1.

[2] An English summary of the report is available at Danmarks Nationalbank's website, www.nationalbanken.dk, under Publications.

OVERVIEW OF MODERNISATION PROJECT Table 1

Measure	When is the transfer executed?	Who is the beneficiary?	Time of implementation
Faster receipt of Dankort payments made during weekends	Monday morning	Retailers	14 May 2012
Improved access to transfer of funds via Kronos	Shortly after payment[1]	Mainly firms	8 November 2012
Execution of intraday transfers (the Intradagclearing)	Few hours after payment[2]	Citizens and firms	End-2013
Immediate payment transfers below a certain amount	Few seconds after payment	Citizens and firms	End-2014

Source: Danmarks Nationalbank.

[1] In Kronos, transfers are made immediately but in practice it may take longer because of the banks' liquidity management.

[2] It is assumed that the transfer is made on a banking day prior to the cut-off time for the last settlement of the day, which is expected to be in the early afternoon.

later stage. The banks estimate the total cost of the project at kr. 200-300 million.

Dankort payments made during weekends

The first element of the project has already been implemented. Previously, Dankort payments made during weekends were not credited to the retailer's account until the following Tuesday. Since 14 May 2012, retailers have received payments on Mondays due to the introduction of an extra settlement in the Sumclearing on Monday mornings.

This means that retailers have the liquidity from Dankort payments made during weekends at their disposal one day earlier. It also means that they lose one interest day less, while the banks no longer win an interest day in connection with these payments. The implications of the faster settlement of Dankort payments for the distribution of interest days are described in more detail in Box 1.

The faster receipt of Dankort payments made during weekends is expected to be of increasing significance to retailers due to the trend towards extending opening hours to Sundays and, hence, boosting weekend sales. Today, around one fourth of the retailers' Dankort sales are made during weekends.

Fast transfer of large amounts

The second element of the modernisation project will improve the opportunity for fast transfer of large amounts via Kronos – an opportunity that is typically used by firms. Today, this is possible only to a very limited extent as firms can only transfer amounts between own accounts

INTEREST DAYS IN CONNECTION WITH DANKORT PAYMENTS Box 1

The settlement time for Dankort payments has a bearing on the banks' addition of interest to customer deposits. In Denmark, the rules are governed by the Payment Services Act. Pursuant to the Act, the payer's bank must add interest up to the day when the customer's account is debited. Similarly, the retailer's bank must add interest from the day the money is received.

Therefore, based on these rules, the banks typically win an interest day in connection with Dankort payments. The reason is that on banking days the banks debit the customer's account on the same day as payment is made but do not credit the retailer's account until the next banking day. In consequence, the banks save one day's interest on a deposit corresponding to the amount of the payment.

In connection with Dankort payments made during weekends, the customer's account is not debited until Monday and, previously, the retailer's account was not credited until Tuesday. As a result, the banks won an interest day and the retailers lost interest income. Accelerating the settlement of Dankort payments made during weekends means that the banks no longer win an interest day on these payments.

in different banks. The modernisation will enable firms – and, in principle, all citizens – to execute this type of transfer to all accounts in the future.

Kronos is a real-time gross settlement system, RTGS, in which payments are made individually and immediately; the system is therefore used for large, time-critical payments. With Kronos it is possible to make transfers that are received by other customers immediately instead of the next day, as is the case for settlements made in the Sumclearing. Kronos is open on all Danish banking days from 7.00 a.m. to 3.30 p.m.

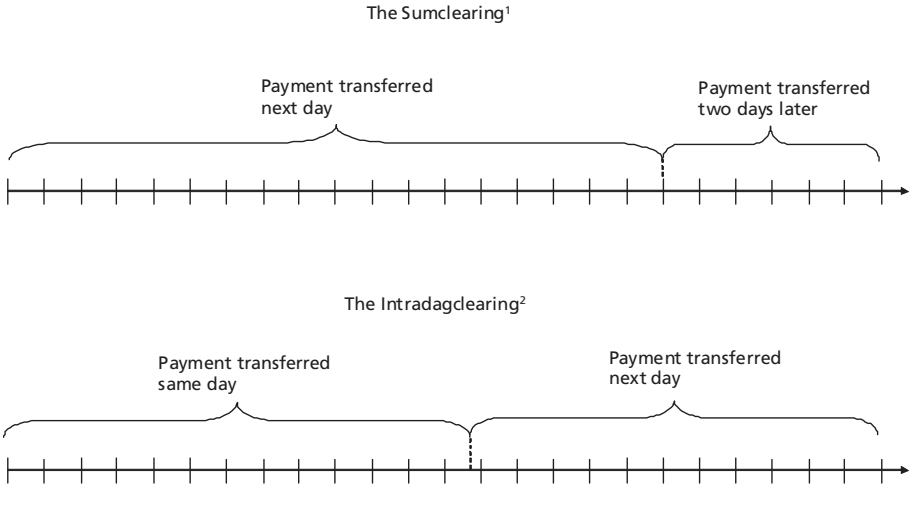
The banks have decided that the new function should be available for transfers exceeding kr. 1 million. Today, the banks usually only execute transfers for customers via Kronos if the amount exceeds kr. 5 million. The large amount means that this element of the modernisation project is aimed primarily at the banks' corporate customers.

Intraday transfers

The third element of the modernisation project is the launch of a new payment system, the Intradagclearing. This system will enable intraday transfers, which, in practice, will be executed by introducing daytime settlement as a supplement to the banks' current night-time exchange of amounts at 1.30 a.m. in the Sumclearing.

In the Intradagclearing, settlement will take place at 9.00 a.m., 12.00 noon and sometime during the afternoon, presumably at 2.00 p.m. For each settlement, a cut-off time will determine when a transfer must be executed in order to be included in the settlement. All transfers made prior to the cut-off time for the last settlement will be executed on the same day, cf. Chart 1.

COMPARISON OF SUMCLEARING AND INTRADAGCLEARING PROCEDURES Chart 1



Source: Danmarks Nationalbank.

[1] In the Sumclearing, settlement takes place only once a day at 1.30 a.m. The cut-off time for a transfer to be included in the settlement varies from bank to bank but is sometime between 6.00 p.m. and 9.00 p.m.

[2] The Intradagclearing system comprises one night-time settlement at 1.30 a.m. and three daytime settlements at 9.00 a.m., 12.00 noon and, presumably, 2.00 p.m. The exact time of the last settlement has not yet been determined. The cut-off time for each daytime settlement is 1 hour and 20 minutes prior to the settlement. So the last cut-off time for intraday settlements is expected to be at 12.40 p.m.

Moreover, the new system will facilitate faster settlement of the large number of transfers made by citizens in the evening, cf. Chart 2. Most of these are made after the cut-off time for the night-time settlement so at present they are not received until two days later. With the Intradagclearing, late transfers can be executed in the first settlement on the following day and be credited to the payee's account immediately afterwards.

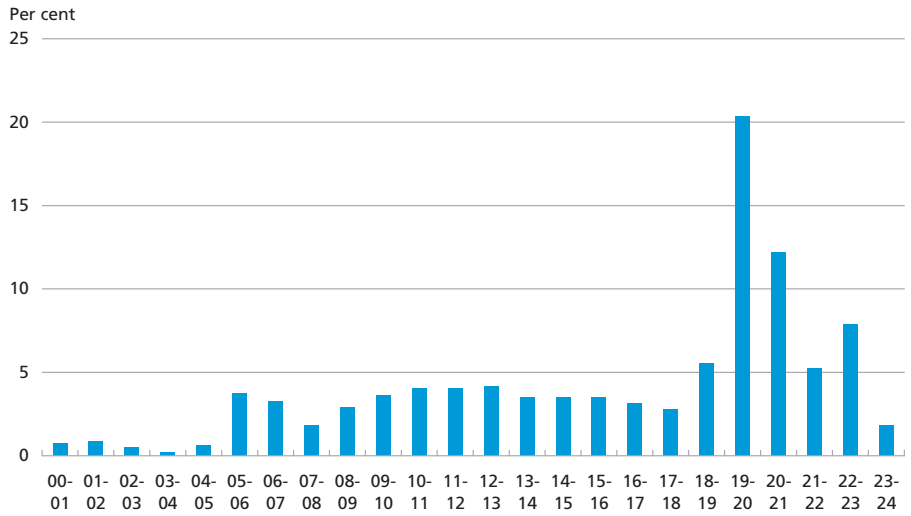
With the implementation of this element of the modernisation project, the Danish payments infrastructure will resemble those of, for instance, Norway and Sweden, which are also based on several daily settlements.

In addition to handling online transfers made by citizens, the Intradagclearing will also be handling public-sector transfers and business-sector payroll transfers, among others. Payment types such as card payments and direct debit, which will continue to be handled in the Sumclearing, could eventually be transferred to the Intradagclearing if this is considered appropriate.

Immediate payment transfers

The fourth and final element of the modernisation of the Danish payments infrastructure comprises the introduction of a new system for the settle-

BREAKDOWN OF ONLINE TRANSFERS BY TIME Chart 2



Note: The chart shows a breakdown of retail customers' online transfers by initiation time and has been calculated on the basis of data from October and November 2011.
Source: Danish Bankers Association and Danmarks Nationalbank.

ment of payments up to kr. 500,000. This system – in the following referred to as 24/7 – will enable immediate transfers 24 hours a day, seven days a week.

The execution time for transfers settled in this system will be around 10 seconds, but in practice it may be even shorter. Consequently, the act of making payments will highly resemble the experience users have when using other electronic information services such as sending text messages and e-mails.

The system will be serving various purposes. For example, it may support the use of mobile phones for making transfers among citizens. Typically, both the payer and the payee will appreciate being able immediately to see amounts being debited from or credited to their respective accounts.

Also, the system could be useful in connection with the purchase of fairly expensive consumer goods such as cars, furniture and consumer electronics. Depending on the payment instrument used, the seller is typically only guaranteed payment up to a certain amount and is therefore often interested in ensuring that the money is received before the goods are delivered. The 24/7 system will provide an opportunity for simultaneous exchange of goods and money.

With 24/7, this part of the Danish payments infrastructure will resemble the British system, Faster Payments, introduced in 2008.

CONCLUSION

After being modernised, the Danish payments infrastructure will fully match those of comparable countries. Notably, conditions will be improved for payees, who will receive their money sooner and lose fewer interest days in connection with payments. Also, the enhanced opportunities for making immediate transfers will be useful when sellers do not want to deliver goods unless there is certainty of payment.

The overall modernisation plan for the Danish payments infrastructure will also underpin the conditions for increased penetration and use of new payment solutions such as transfers among citizens and other payments via the mobile phone. The advantages of such solutions often hinge on the possibility of transferring funds from the payer to the payee fast, preferably immediately, making an electronic payment resemble the act of sending text messages or e-mails.

Other factors than the design of the payments infrastructure may impede new payment solutions, e.g. legal restrictions. At the beginning of the year, Danmarks Nationalbank set up a Payments Council, which, as one of its first tasks, decided to examine future payment solutions in Denmark and any obstacles to the use of these. To this end the Council has set up a working group, which is expected to publish a report in 2013.

Current Trends in the Faroese Economy

Morten Hedegaard Rasmussen, Economics

INTRODUCTION AND SUMMARY

The Faroese economy is slowly recovering from the downturn that hit the Faroe Islands in connection with the international financial crisis. Growth in the nominal gross domestic product, GDP, was slightly below the level of consumer price inflation in 2011[1].

Private consumption has been subdued in recent years, and even more so than warranted by the economic situation. Hence, households have reduced their debts, and uncertainty still seems to prevail. In this context it should be borne in mind that the Faroe Islands are a small, open economy with fisheries as the main business sector. As a result, incomes fluctuate and depend on the world market economy. Recently, the sovereign debt crisis in a number of euro area member states has added to the uncertainty.

2011 saw a notable increase in catch values for mackerel, which partly made up for the decline in more traditional fisheries. Combined with growth in aquaculture, this led to higher exports in 2011. Imports rose at a faster rate, but the balance of trade was still in surplus. This trend in foreign trade continued in the 1st half of 2012.

Public finances still show a deficit, although it has been reduced since 2008. The Løgting (parliament) aims for balanced government finances in 2016. The expected growth in economic activity will contribute, but further consolidation measures will be required. The sooner they are implemented, the more credible this target will be.

ECONOMIC ACTIVITY

According to the preliminary national accounts, the Faroese economy grew by 1.8 per cent nominally in 2011. By comparison, it grew by 7 per cent in 2010, when the development in fish prices was favourable. During the crisis, nominal GDP fell by 0.8 per cent in 2008 and 1.7 per

[1] A limited range of statistics makes it difficult to assess the cyclical position of the Faroese economy. For example, GDP is compiled on a nominal annual basis only and with a considerable lag. Instead, other indicators such as payroll and employment statistics are taken into account.

FACTS ABOUT THE FAROE ISLANDS

Population (beginning of 2012)	48,327
of which in Tórshavn	19,822
of which 18-66	29,351
Waged employment (annual average, 2011)	23,464
Unemployment (annual average, 2011)	1,846
Gross domestic product (kr. million, 2011)	13,173
Per capita (kr. '000)[1]	271

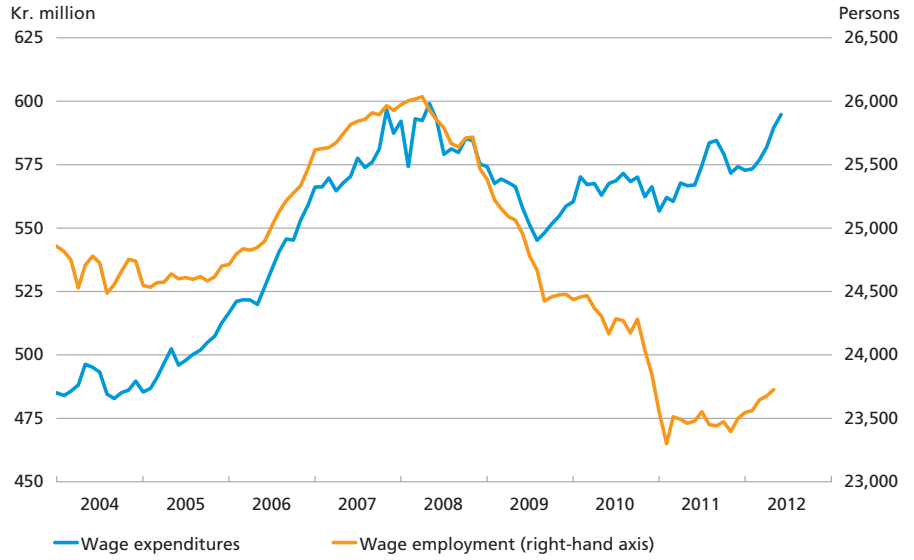
Source: Hagstova Føroya.
[1] By comparison, GDP per capita in Denmark was kr. 320,000 in 2011.

cent in 2009, implying that the Faroe Islands were less severely affected than most other western economies.

Employment in terms of number of wage earners rose in the 1st half of 2012, having stabilised in 2011 at a level some 10 per cent below the peak in mid-2008, cf. Chart 1. Compared with 2010, employment fell by 3.3 per cent in 2011. One of the underlying reasons was that the largest Faroese company, Faroe Seafood, went into liquidation in December 2010 and around 800 people lost their jobs. Since then, production has been resumed only to a minor extent.

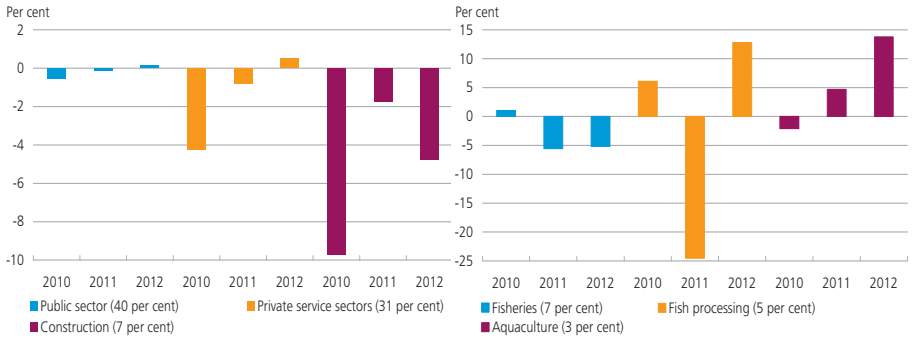
In the sector breakdown, this is reflected in the strong decline in employment in the fish-processing industry in 2011, cf. Chart 2 (right). Employment on fish farms increased in 2011 and in the first few months

WAGE EXPENDITURES AND EMPLOYMENT Chart 1



Note: Seasonally adjusted monthly data. 3-month moving averages for wage expenditures. The most recent observation is from May 2012 for waged employment and July 2012 for wage expenditures.
Source: Hagstova Føroya.

CHANGES IN WAGED EMPLOYMENT IN SELECTED SECTORS Chart 2



Note: Data for 2012 shows the change in the period January-May 2012 in relation to the same period of 2011. Figures in brackets in the legend indicate the sectors' shares of total waged employment in 2011.
Source: Hagstova Føroya.

of 2012, but since the number of wage earners on fish farms is small, this has only a limited effect on overall employment.

The number of public-sector employees has declined marginally over the last couple of years, but more slowly than total waged employment. Consequently, public-sector employment as a share of total waged employment has risen to more than 40 per cent in early 2012.

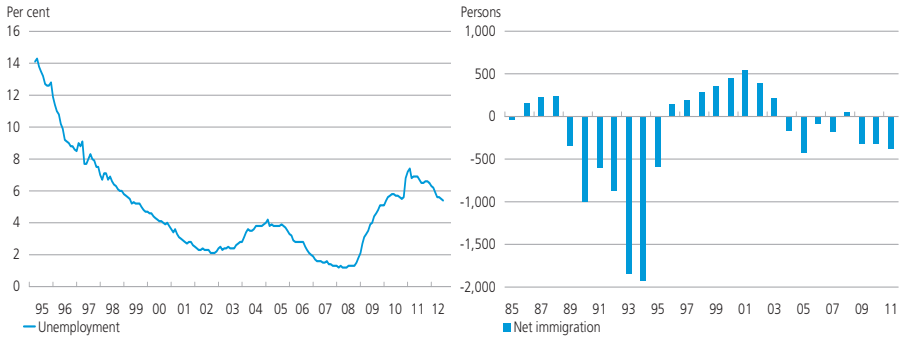
In the private service sectors, waged employment fell further in 2011, but not as strongly as in the preceding year. However, the first few months of 2012 saw a modest increase on the same period of 2011. The decline in 2011 was mainly attributable to the financial sector, trade and repairs as well as business services, whereas shipping grew and continued to do so in early 2012.

Waged employment in the building and construction sector continued to shrink in 2011. The downward trend was somewhat less steep than in previous years, but data for the first five months of 2012 do not suggest that a turning point has been reached yet. The number of wage earners is now at the same level as in 2003, i.e. before the boom with soaring housing prices began in the Faroe Islands.

The declining number of wage earners has only to a limited extent been reflected in the unemployment rate, which was 5.4 per cent in July 2012, cf. Chart 3 (left). This is attributable to net emigration in recent years, although the trend has been far more subdued than in the first half of the 1990s, cf. Chart 3 (right). Moreover, the number of people living in the Faroe Islands, but working elsewhere, has also risen.

Inflation, measured by the consumer price index, was 2.2 per cent in the 2nd quarter of 2012. This means that it has stabilised at a level of just over 2 per cent, after having risen since the trough in the 3rd quarter of 2009. Price inflation is mainly attributable to higher oil prices. This

UNEMPLOYMENT AND NET IMMIGRATION Chart 3



Note: Seasonally adjusted monthly data for the unemployment rate.
Source: Hagstova Føroya.

was reflected in the index for energy and heating, which rose by 10.1 per cent year-on-year in the 2nd quarter.

Fisheries and aquaculture

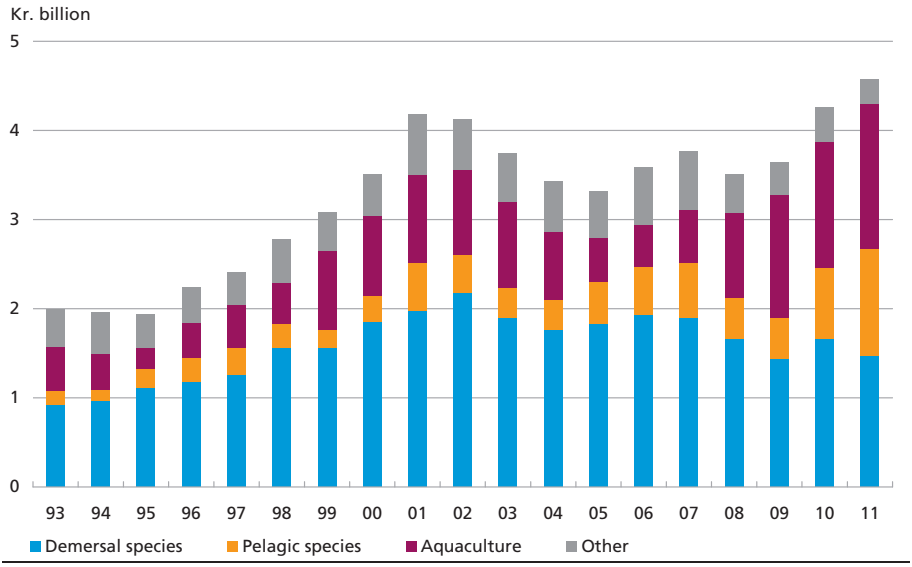
In 2011, fish accounted for around one sixth of total gross value added in the Faroe Islands and just over 95 per cent of exports of goods. This means that the Faroese economy is highly dependent on developments in the fisheries sectors and aquaculture.

Catch volumes and prices may fluctuate strongly over time. However, vulnerability has been reduced as earnings are now spread on a larger number of species. In recent years, traditional local demersal fishing for cod, haddock and saithe has declined, but growth in farming and local pelagic fishing[1], especially for mackerel, has more than made up for this, cf. Chart 4. Within the individual branches of the sector there is also a tendency for catch values to decline for one species while increasing for another. Moreover, the Faroe Islands have concluded agreements with a number of other countries to swap fishing rights. For example, Faroese vessels also operate in Greenlandic, Russian and Chilean waters, thereby making the economy less vulnerable to any decrease in stocks in Faroese waters.

Following fruitless negotiations between the Faroe Islands, the EU, Iceland and Norway on the distribution of quotas for the shared mackerel stocks, the Faroe Islands have fixed their own mackerel quota for 2012 at just under 150,000 tonnes. The Faroe Islands and Iceland have been dissatisfied with the existing distribution since changing migration patterns have boosted mackerel stocks in their catch areas. The other countries have also fixed their own quotas, and the total mackerel quota

[1] As opposed to demersal species, pelagic species live in open waters, not on or close to the sea bed.

VALUE OF FISH EXPORTS Chart 4



Note: Pelagic species are mackerel, herring, whiting and capelin, among others. Demersal species include cod, saithe and haddock. Aquaculture comprises salmon and trout. Other is shellfish, etc.
Source: Hagstova Føroya.

now exceeds the level assessed by the International Council for the Exploration of the Sea, ICES, to be sustainable.

The quota fixed by the Faroe Islands for 2012 is more or less in line with the level in 2011, when agreement was not reached either. In 2011, the Faroe Islands exported mackerel worth kr. 733 million, equivalent to 5.6 per cent of GDP. This was slightly more than kr. 410 million higher than in 2010.

The disagreement on the mackerel quota means that no new fishing agreements for other species have been concluded with Norway and the EU. The resultant negative impact on other branches of the Faroese fisheries sector has, however, been outweighed by increased earnings from the larger mackerel quota.

Due to the disagreement about mackerel quotas, Faroese vessels are not allowed to land mackerel in Norwegian ports. In response, Faroese fishermen have invested in increased freezing capacity for mackerel, among other species.

The period 2009-11 was exceptionally good for aquaculture. Prices were very favourable following a fall in the global supply of salmon. As global production has picked up, prices have fallen, but nonetheless remain well above the production costs.

Just under 50,000 tonnes of farmed fish were slaughtered in 2011. This is assessed to be close to the capacity limit that is compatible with the

prevention of epidemic diseases such as those that hit Faroese salmon production in the first half of the 2000s. However, experimental fish farming is currently taking place in open Faroese waters to supplement farming in the fiords. If this proves to be profitable, production capacity could be enhanced substantially.

Parts of the Faroese fisheries sector is suffering from a structural problem, i.e. excess capacity, resulting in low earnings for owners. This impedes investments which would otherwise be optimal in the longer term. Thus, parts of the fleet are old and inefficient and require more employees than would otherwise be necessary. On the other hand, subsidies have been phased out in recent years, so that jobs within the sector are not being sustained purely by government subsidies.

In 2018, all fishing licences in the Faroe Islands will in principle be revoked and may subsequently by reallocated by political decision. According to representatives for the fishermen, this creates uncertainty and makes it less attractive to invest, as the yields after 2018 are less certain. Likewise, it is more difficult to attract external funding. Hence, uncertainty delays an otherwise necessary adaptation process within the sector.

A financially squeezed fisheries sector may also add to the pressure for higher quotas. This will increase earnings, in the short term at any rate. But it may also reduce sustainability, thereby squeezing earnings further in the longer term.

Foreign trade

The trade surplus, excluding ships and aircraft, was kr. 222 million in 2011, corresponding to 1.7 per cent of GDP.

In value terms, exports, excluding ships and aircraft, grew by almost 7 per cent from 2010 to 2011, cf. Table 1. Significant growth in the export value of mackerel and salmon more than offsets the decline in traditional species such as haddock, cod and saithe.

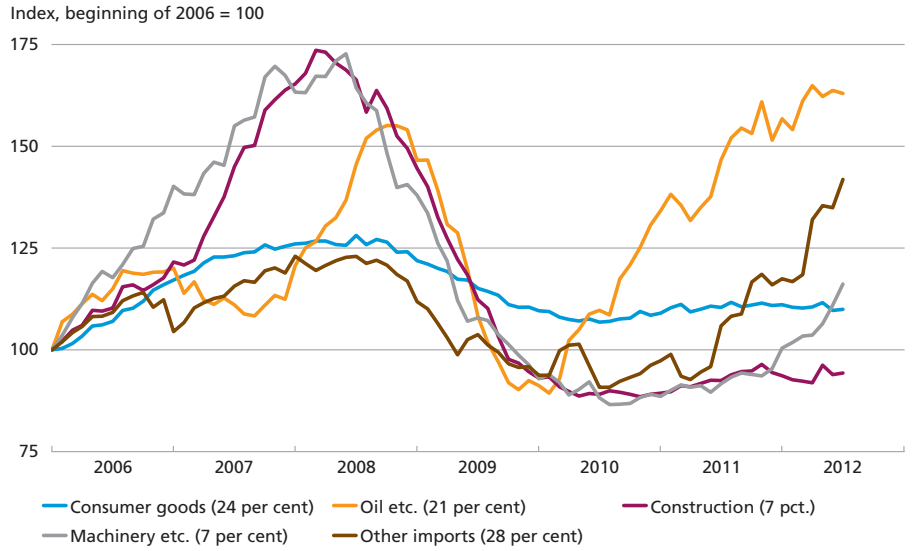
TRADE BALANCE AND BALANCE OF PAYMENTS — Table 1

Kr. million	2009	2010	2011
Exports	4,105	4,697	5,401
Exports, excluding ships and aircraft	3,879	4,480	4,772
Imports	4,211	4,370	5,273
Imports, excluding ships and aircraft	3,717	4,116	4,550
Trade balance	-106	327	128
Trade balance, excluding ships and aircraft	162	364	222
Balance of payments	-128	761	n.a.

Source: Hagstova Føroya.

VALUE OF IMPORTS, EXCLUDING SHIPS AND AIRCRAFT, BROKEN DOWN BY SUBCOMPONENTS

Chart 5



Note: Sum of last 12 months converted into indices. The most recent observations are June 2011-June 2012. "Other imports" are total imports excluding consumer goods, oil etc., construction materials, machinery etc., aircraft and ships. Figures in brackets indicate percentages of total imports in 2011.
Source: Hagstova Føroya.

The value of imports, excluding ships and aircraft, rose by just under 11 per cent from 2010 to 2011, mainly on account of higher oil prices, cf. Chart 5. Fuel constitutes a large share of Faroese imports as the fishing fleet is very energy-intensive and oil is a major source of heating. Imports of machinery have also increased since mid-2010, while imports of household consumer goods have been more or less flat since end-2009. The residual group, other imports, has also risen, reflecting higher imports for aquaculture and other industries, except building and construction.

Preliminary data shows that the rising trend in both exports and imports, excluding aircraft and ships, continued in the 1st half of 2012.

The financial sector

The stock of lending by Faroese banks to both retail and corporate customers continued to decline throughout 2011 and into 2012. At end-June 2012, seasonally adjusted retail and corporate lending was 19 and 35 per cent, respectively, lower than at the peak in 2008.

The development in bank lending should be seen in the context of easy credit conditions in the period leading up the crisis. Furthermore, demand for loans typically fluctuates with the business cycles. Another underlying factor is that retail loans have to some extent been converted into Danish mortgage loans arranged and guaranteed by Faroese banks.

Public finances

For the fourth year running, the public finances showed a deficit in 2011, cf. Table 2. The deficit was kr. 401 million, corresponding to just over 3 per cent of GDP. The central government and the unemployment fund posted deficits, while local government and the public-sector pension funds that are being built up posted surpluses.

The central government deficit of kr. 312 million in 2011 was an improvement of almost kr. 270 million on the previous year. This is mainly attributable to increased income, *inter alia* because some of the mackerel quota was sold at auctions, and because a resource tax was levied on part of the mackerel catch. This generated revenue of almost kr. 90 million. A majority in the Løgting has agreed to impose levies on mackerel catches in future.

From this year, the block grant, which has been frozen at kr. 615.5 million since 2002, will be adjusted to match price and wage inflation. Consequently, it will be increased by kr. 8.6 million this year, cf. Table 3.

In 2010 the Løgting decided that the government budget must be in balance from 2016. The expected economic recovery will contribute, but will not be sufficient, so further tightening will be required. This should be viewed in the context of a relatively poor point of departure for the public finances, as fiscal policy was lax in the years before the economic downturn. Taxes were cut and public consumption and investment increased. A number of consolidation plans have been announced, including tight management of public spending. However, so far only few of these plans have been adopted and implemented, which could weaken confidence in the government's ability to balance the budget by 2016.

With effect from 2012, central government taxes have been eased by a total of kr. 265 million, corresponding to approximately 2 per cent of GDP, according to calculations by the Faroese Ministry of Finance. This reform takes place against the background of a central government deficit of 2.4 per cent of GDP in 2011.

PUBLIC SECTOR FINANCIAL SURPLUS — Table 2

Kr. million	2008	2009	2010	2011	Estimate for 2012
Central government	-330[1]	-688	-581	-312	-365
Local government	-347	-141	30	35	-73
Unemployment fund	56	22	-112	-189	-75
Public-sector pension funds	98	120	94	65	71
Government budget balance	-523	-688	-569	-401	-442

Source: Landsbanki Føroya and ALS (the Faroese unemployment fund).

[1] Plus kr. 300 million in loans to Iceland.

CENTRAL GOVERNMENT FINANCES Table 3

Kr. million	2008	2009	2010	2011	Budget 2012
Taxes and duties, etc.	3,458	3,234	3,489	3,705	3,770
Other income	63	42	40	112	31
Block grant	616	616	616	616	624
Total income	4,137	3,892	4,145	4,433	4,425
Operating costs	4,251	4,366	4,500	4,541	4,436
Capital investments	232	184	169	150	266
Net interest expenses	-16	31	57	65	88
Total expenses	4,467	4,581	4,726	4,756	4,790
Budget balance	-330	-688	-581	-312	-365
Gross government debt, year-end	3,590	3,905	5,034	5,624	5,829

Source: Fíggjarmálaráðið (Faroese Ministry of Finance), Landsbanki Føroya and High Commissioner of the Faroe Islands.

The principal elements of the tax reform are as follows: the basic allowance for central government tax is more than doubled to kr. 65,000 and the marginal tax rate is reduced for the vast majority of tax payers. This is achieved by raising the thresholds for progressive taxation. A central government tax of 20 per cent is payable on incomes ranging from kr. 65,000 to kr. 500,000, rising to 25 per cent for incomes in the interval kr. 500,000 to kr. 800,000, and to 30 per cent for higher incomes. In addition local taxes are payable; this system has not changed. Hence the basic allowance for local tax remains kr. 30,000 and the average tax rate just over 21 per cent. The tax ceiling is still 50 per cent.

Only a small proportion of the tax cuts are expected to return through rising income from higher consumption and activity. All the same, the immediate impact of the tax reform on the government budget balance is limited since the taxation of pension savings is brought forward. This means that pension savings are taxed when contributions are paid, not when disbursed. This will reduce future tax revenue while also increasing pressure on the sustainability of public finances.

The mandatory Faroese unemployment fund has posted large deficits in recent years. As a result, equity had been reduced to kr. 412 million by end-2011. Since the fund should ultimately break even, the Board decided to strengthen the capital base by raising contributions and reducing disbursements with effect from 2012. The degree of compensation has been lowered from 80 to 75 per cent of the preceding year's wage income, and the maximum benefit per month has been reduced by kr. 2,500 to kr. 17,500. In addition, 10 waiting days have been introduced. The entitlement period for unemployment benefits remains three years.

Economic outlook

The Faroese economy is expected to grow at a moderate pace in the coming years. The fisheries sector is strongly dependent on the global economy, which to a large extent determines fish prices. Consequently, the international economic turmoil also affects the outlook for the Faroese economy. Furthermore, it remains to be seen which consolidation measures will be taken to address the central government deficit. This all adds to the uncertainty.

The uncertainty has a knock-on effect on the consumers, who have tightened their purse strings. But if confidence picks up, there is a potential for higher consumption and hence growth driven by domestic demand. The tax reform has increased household disposable income, some of which is expected to be channelled into higher consumption. Indeed, the most recent data for consumption taxes does indicate a boost in private consumption.

Catch volumes and fish prices, both of which may fluctuate substantially over time, have a major impact on incomes. This is a fundamental condition in an economy which relies so strongly on fisheries. At present the Faroese economy is benefiting from successful aquaculture and larger catches of mackerel. This more than compensates for the loss of earnings due to higher oil prices. To ensure sound earnings in the longer term, it is important also to take sustainability into account.

If the fisheries sector is to contribute higher value added over time, productivity must be stepped up. So in connection with a potential reallocation of fishing licences in 2018 it is important that the most productive fishermen hold the licences. The sector believes that the issue should be clarified as soon as possible so that those affected have time to adapt to the new rules.

Press Releases

5 JULY 2012: INTEREST RATE REDUCTION

Effective from 6 July 2012, Danmarks Nationalbank's lending rate, interest rate on certificates of deposit and discount rate are reduced by 0.25 percentage point. The current account rate is unchanged.

The interest rate reduction is a consequence of the reduction by the European Central Bank of its monetary policy rates by 0.25 percent-age point.

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

Lending rate: 0.20 per cent
Certificates of deposit: -0.20 per cent
Current account: 0.0 per cent
Discount rate: 0.0 per cent

In connection with the introduction of negative interest rate on certificates of deposit the current account limits will be revised upward. The new current account limits can be found at Danmarks National-bank's homepage: www.nationalbanken.dk under "Rules – Monetary and foreign-exchange policy".

4 SEPTEMBER 2012: STATEMENT BY GOVERNOR NILS BERNSTEIN, DANMARKS NATIONALBANK, IN CONNECTION WITH THE DANISH BANKERS ASSOCIATION'S ACCOUNT OF CIBOR:

"It is satisfactory that the Danish Bankers Association proposes initiatives which may help to address some of the imprudence of the current set-up.

Danmarks Nationalbank's decision to withdraw from the Cibor collaboration in the autumn of 2010 reflected two circumstances. Firstly, the spread between the uncollateralised and collateralised interest rates in Denmark and the corresponding euro area spread showed diverging trends from mid-2009, and Danmarks Nationalbank did not find that the situation warranted this. Secondly, interbank trading volumes for uncollateralised loans were very low, and hence it was not possible for Danmarks Nationalbank to verify the reporting of interest rates for Cibor on the basis of actual trading.

The gist of the Danish Bankers Association's account is that the wider interest-rate spread in Denmark reflects a number of specific factors

indicated in terms of what market participants would have attached importance to in connection with lending to a bank with a very high credit rating. Danmarks Nationalbank cannot refute this explanation, however, we do not share the view of what the factors in question should entail.

Obviously, this does not rule out that the quotes were made in the best conviction and thus present a true and fair view of what the reporting bank would have charged in interest on loans to a prime bank in the event that loans were actually provided.

The Danish Bankers Association believes that the fixing of Cibor is supported by an econometric analysis performed by Danmarks Nationalbank in its Monetary Review, 2nd Quarter 2011, Part 2. In this context it should be noted that the analysis in question, cf. Chart 4.5 on p. 108, in fact shows an unexplained element in the spread in the period 2009-10, cf. also p. 110: "If the period is shortened to the beginning of 2009, the estimated money-market spreads in 2009 and 2010 are generally lower than the observed spreads." "

12 SEPTEMBER 2012: STATEMENT BY GOVERNOR NILS BERNSTEIN, DANMARKS NATIONALBANK, IN CONNECTION WITH THE EUROPEAN COMMISSION'S PROPOSAL FOR A SINGLE SUPERVISORY MECHANISM

This is an important proposal which basically makes good sense in a world with cross-border banking.

In my assessment, the plans for direct capitalisation of Spanish banks by the European Stability Mechanism are the main reason why the proposal has been tabled now. These plans would require European supervision of the banks receiving capital injections.

The proposal has far more wide-ranging perspectives and would affect the entire European banking sector. It is uncertain whether there is currently support in Europe for this very extensive measure, whereby supervision of banks, including the authority to issue and withdraw banking licences, is transferred to the ECB.

This mechanism primarily concerns the euro area member states, but the non-euro area member states would also be able to opt in. If the mechanism is established, it may very well strengthen confidence in the euro area banking sector, which would make it difficult for Denmark to opt out. With this in mind, it is important that we in Denmark take a constructive approach to the negotiations on the proposal with a view to establishing a sound and efficient mechanism and ensuring equal treatment of the member states taking part.

Tables

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 13 September 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[1]

Effective end-of-year/ from	Danmarks Nationalbank's interest rates: Lending	Certificates of deposit	Current-account deposits	Discount rate	The ECB's interest rate: Main refinancing operations, fixed rate[1]	End of period	Inter-bank interest rate, 3-months uncollateralized	Bond yields: 10-year central-government bond	Bond yields: 30-year mortgage-credit bond	Share-price index OMXC20 (prev.KFX)
	Per cent per annum						Per cent per annum			3.7.89 =100
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
2011 8 Apr	1.30	0.95	0.85	1.00	1.25	Aug 11	1.36	2.35	4.88	359.41
8 Jul	1.55	1.20	1.10	1.25	1.50	Sep 11	0.97	2.06	4.15	350.34
26 Aug	1.55	1.10	1.00	1.25	1.50	Oct 11	1.15	2.33	4.26	362.77
16 Sep	1.55	1.00	0.90	1.25	1.50	Nov 11	1.10	2.04	4.21	385.19
4 Nov	1.20	0.65	0.55	1.00	1.25	Dec 11	0.62	1.58	3.94	389.95
9 Dec	0.80	0.40	0.30	0.75	1.00	Jan 12	0.60	1.75	4.01	408.53
16 Dec	0.70	0.30	0.25	0.75	1.00	Feb 12	0.75	1.78	3.98	453.77
2012 25 May	0.60	0.20	0.15	0.75	1.00	Mar 12	0.75	1.82	3.96	444.71
1 Jun	0.45	0.05	0.00	0.25	1.00	Apr 12	0.77	1.63	4.00	458.75
6 Jul	0.20	-0.20	0.00	0.00	0.75	May 12	0.40	1.08	3.96	432.26
	|	|	|	|	|	Jun 12	0.15	1.46	3.71	446.04
						Jul 12	-0.01	1.09	3.57	484.14
13 Sep	0.20	-0.20	0.00	0.00	0.75	Aug 12	-0.25	1.11	3.51	490.06

[1] 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
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
Jun 12	511.6	63.4	215.1	188.1	18.8	22.2	184.7
Jul 12	514.4	63.8	194.3	157.7	66.9	19.1	205.5
Aug 12	514.4	63.2	213.8	151.1	55.2	19.5	186.7

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
	Kr. billion									
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
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
Jun 12	11.5	5.5	6.0	7.3	-0.1	7.2	-0.6	-0.5	10.8	184.7
Jul 12	39.3	17.7	21.6	0.0	2.1	2.1	0.6	-3.6	20.8	205.5
Aug 12	-10.4	9.0	-19.5	0.0	0.0	0.0	0.3	0.4	-18.8	186.7

SELECTED ITEMS FROM THE CONSOLIDATED BALANCE SHEET OF THE MFI SECTOR

Table 4

End of period	Total balance	Assets				Liabilities		
		Domestic lending		Domestic securities				
		Public sector	Private sector	Bonds, etc.	Shares, etc.	Domestic deposits	Bonds, etc. issued	Foreign assets, net[1]
	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
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	3,667.9	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	6,374.7	148.5	3,704.5	55.5	86.3	1,449.7	1,818.9	-263.6
May 12	6,705.5	149.5	3,695.3	58.4	86.1	1,465.5	1,829.7	-268.1
Jun 12	6,585.2	151.7	3,713.6	40.2	94.4	1,465.9	1,815.4	-244.5
Jul 12	6,581.7	152.4	3,690.7	42.1	96.7	1,458.9	1,819.7	-337.8
	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	...
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	-0.9	8.1	...
May 12	...	4.1	1.6	-0.3	-2.3	0.0	6.9	...
Jun 12	...	2.9	1.8	-33.0	8.0	0.5	5.9	...
Jul 12	...	2.6	1.6	-27.1	10.9	-0.3	5.2	...

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

[1] The net foreign assets of the MFI sector has been compiled as the difference between all assets and liabilities vis-à-vis non-residents.

MONEY STOCK — Table 5

End of period	Bank-notes and coin in circula-tion[1]	Deposits on demand	M1	Time deposits with original maturity =<2 years	Deposits at notice with original maturity =< 3 months	M2	Repur-chase agree-ments	Bonds, etc. issued with original maturity =< 2 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
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	748.0	801.5	135.5	21.2	958.2	62.8	301.1	1,322.3
May 12	54.0	755.3	809.2	137.8	21.3	968.4	61.9	282.7	1,313.2
Jun 12	53.7	760.9	814.6	135.0	21.4	971.0	61.5	287.2	1,319.9
Jul 12	53.4	777.1	830.5	131.8	21.7	984.0	60.7	274.7	1,319.6
	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
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	...	...	-0.6	...	...	-0.3	...	...	19.4
May 12	...	...	0.1	...	...	0.1	...	...	17.1
Jun 12	...	...	3.5	...	...	2.7	...	...	18.3
Jul 12	...	...	3.6	...	...	1.9	...	...	14.0

[1] 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: Lending to MFIs	Assets: Domestic lending: Total	Assets: Domestic lending: of which: Households, etc.	Assets: Domestic lending: of which: Non-financial companies	Assets: Holdings of securities	Liabilities: Loans from MFIs	Liabilities: Deposits
	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
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
May 12	4,534.0	808.2	1,263.0	542.6	431.6	1,155.2	1,148.7	1,452.6
Jun 12	4,448.2	881.6	1,272.9	552.6	438.2	1,161.7	1,237.1	1,500.4
Jul 12	4,491.5	884.8	1,247.4	544.0	422.9	1,151.6	1,161.1	1,504.9
		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
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
May 12	...	9.2	0.4	-2.4	-6.6	3.8	38.1	-2.9
Jun 12	...	20.6	0.0	-2.1	-5.4	2.7	30.3	2.7
Jul 12	...	22.4	-0.5	-2.9	-5.9	0.4	23.8	0.8

Note: Excluding Danish banks' units abroad.

SELECTED ITEMS FROM THE BALANCE SHEET OF THE MORTGAGE BANKS

Table 7

End of period	Total balance	Assets					Liabilities	
		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
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
May 12	3,440.9	548.4	2,414.3	1,787.5	564.0	354.6	580.0	2,685.8
Jun 12	3,611.2	630.3	2,424.9	1,795.1	565.8	434.6	628.5	2,772.2
Jul 12	3,557.0	616.2	2,427.0	1,797.1	566.5	382.4	630.6	2,735.3
		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
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
May 12	...	20.9	2.2	1.9	3.9	16.0	12.6	7.3
Jun 12	...	24.0	2.5	2.3	4.0	47.0	18.9	10.5
Jul 12	...	27.9	2.5	2.3	3.9	27.1	18.8	8.7

ENDING TO RESIDENTS BY THE BANKS AND
THE MORTGAGE BANKS

Table 8

End of period	Total lending			The banks' lending			The mortgage banks' lending		
	Total	House-holds, etc.	Business, etc.	Total	House-holds, etc.	Business, etc.	Total	House-holds, 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
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	3,693.6	2,330.8	1,274.1	1,285.0	547.6	698.7	2,408.6	1,783.2	575.4
May 12	3,685.0	2,330.1	1,264.5	1,270.8	542.6	688.0	2,414.3	1,787.5	576.5
Jun 12	3,705.5	2,347.7	1,265.3	1,280.6	552.6	686.8	2,424.9	1,795.1	578.5
Jul 12	3,682.2	2,341.1	1,248.1	1,255.1	544.0	668.9	2,427.0	1,797.1	579.3
	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
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	0.9	0.8	1.5	-1.5	-2.2	-0.8	2.2	1.8	4.6
May 12	1.3	0.8	2.4	-0.4	-2.4	1.1	2.2	1.9	4.0
Jun 12	1.4	1.2	2.3	-0.8	-2.1	0.8	2.5	2.3	4.0
Jul 12	1.1	1.1	2.0	-1.4	-2.9	0.3	2.5	2.3	4.0

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		Lending in foreign currency	Instalment-free lending[1]
	Kr. billion						
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
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	604.4	1,735.0	1,253.8	2,399.5	212.6	781.6
Feb 12	60.3	602.0	1,742.1	1,252.1	2,404.4	211.9	784.6
Mar 12	60.5	588.1	1,760.6	1,259.0	2,409.2	210.5	786.8
Apr 12	60.7	583.7	1,765.6	1,275.0	2,410.1	208.9	789.5
May 12	60.6	585.7	1,770.3	1,275.8	2,416.5	208.2	792.8
Jun 12	58.9	587.0	1,781.1	1,276.4	2,427.0	208.1	798.3
Jul 12	58.8	589.0	1,781.3	1,273.7	2,429.1	206.8	800.1

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

[1] 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
Q2 12	4.0	6.1	4.7	1.0	0.9	1.1	0.5	0.5
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
May 12	4.0	6.1	4.7	1.0	0.9	1.2	0.5	0.6
Jun 12	3.8	5.9	4.5	0.9	0.8	1.1	0.5	0.5
Jul 12	3.7	5.8	4.4	0.7	0.8	1.1	0.4	0.3

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
Q2 12	-15.3	-0.3	-16.1	-14.7

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.	House-holds	Insurance compa-nies 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	865.4	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
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	896.3	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
May 12	1,539.8	947.0	359.3	315.1	712.1	344.4	27.7
Jun 12	1,548.5	916.3	393.2	318.8	713.6	346.4	29.2
Jul 12	1,609.2	945.0	409.0	329.5	748.1	359.0	30.6

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
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	2,975.3	629.4	530.8	244.4	2,264.7	371.9	697.4	548.6
May 12	3,049.5	658.4	557.1	273.9	2,314.7	371.5	651.9	528.1
Jun 12	3,092.9	698.5	516.9	289.7	2,399.2	395.8	655.9	541.2
Jul 12	3,056.9	707.2	527.5	312.8	2,357.1	383.3	697.3	589.1

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

HOUSEHOLDS' FINANCIAL ASSETS AND LIABILITIES — Table 14

	Assets					Liabilities		
End of period	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
	Kr. billion							
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	2,652	1,890	4,542
2011	938	139	1,104	2,379	4,561	2,725	1,835	4,560
Q1 11	936	150	1,270	2,117	4,474	2,632	1,841	4,473
Q2 11	933	147	1,266	2,150	4,497	2,666	1,831	4,497
Q3 11	927	142	1,101	2,330	4,500	2,695	1,805	4,500
Q4 11	938	139	1,104	2,379	4,561	2,725	1,835	4,560
Q1 12	940	130	1,196	2,409	4,675	2,732	1,944	4,676

COMPANIES' FINANCIAL ASSETS AND LIABILITIES Table 15

	Assets				Liabilities				
					Debt				
End of period	Currency, bank deposits and granted credits, etc.	Bonds, etc.	Shares and certificates issued by investment funds, etc.	Total	Loans, etc.	Bonds, etc. issued	Shares, etc. issued	Net financial assets	Total
	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	2,779	4,003	1,920	142	3,905	-1,965	4,002
2011	1,217	115	2,407	3,739	1,854	154	3,230	-1,500	3,739
Q1 11	1,074	135	2,711	3,920	1,824	158	3,844	-1,906	3,920
Q2 11	1,063	130	2,728	3,921	1,870	150	3,761	-1,860	3,920
Q3 11	1,120	121	2,413	3,654	1,850	154	3,238	-1,589	3,653
Q4 11	1,217	115	2,407	3,739	1,854	154	3,230	-1,500	3,739
Q1 12	1,193	126	2,647	3,966	1,851	175	3,550	-1,611	3,966

Note: Companies are defined as non-financial companies.

CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS (NET REVENUES) Table 16

	Goods (fob)	Services	Goods and services	Wages and property income	Current transfers	Total current 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	49.3	47.4	96.7	50.1	-31.4	115.4
Aug 10 - Jul 11	50.1	50.0	100.0	45.5	-30.5	115.0
Aug 11 - Jul 12	43.6	49.0	92.6	54.4	-33.9	113.1
Jul 11	3.8	3.0	6.8	5.5	-2.6	9.7
Aug 11	4.3	5.1	9.4	4.8	-2.5	11.7
Sep 11	3.9	5.2	9.1	5.0	-2.6	11.5
Oct 11	2.6	4.5	7.1	3.2	-2.5	7.7
Nov 11	4.8	4.6	9.4	3.5	-2.6	10.3
Dec 11	2.1	4.3	6.4	3.8	-2.2	8.0
Jan 12	1.6	2.9	4.5	4.7	-4.1	5.1
Feb 12	2.9	3.0	5.9	4.3	-3.9	6.2
Mar 12	3.1	2.0	5.0	0.1	-3.8	1.3
Apr 12	2.9	4.4	7.3	4.8	-2.4	9.6
May 12	4.0	3.5	7.5	7.4	-2.4	12.5
Jun 12	5.2	5.6	10.8	7.1	-2.3	15.6
Jul 12	6.2	4.0	10.2	5.8	-2.6	13.4

FINANCIAL ACCOUNT OF THE BALANCE OF PAYMENTS
(NET PAYMENTS FROM ABROAD) Table 17

	Current account and capital account, etc., total[1]	Capital import				Other[3]	Danmarks Nationalbank's transactions with abroad[4]
		Direct investments		Portfolio investments[2]	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	119.7	-126.8	79.3	12.1	-48.8	17.0	56.1
Aug 10 – Jul 11	119.3	-46.2	4.9	-14.7	14.0	-41.8	35.6
Aug 11 - Jul 12	113.8	-90.1	44.8	-113.4	35.0	48.9	39.1
Jul 11	13.4	-8.5	-3.4	-34.1	28.0	0.6	-0.4
Aug 11	11.7	2.3	4.2	37.3	-17.4	-18.4	19.8
Sep 11	11.5	-37.0	31.8	33.7	-41.7	14.4	12.8
Oct 11	7.8	-4.5	7.7	-19.6	28.3	-20.0	-0.3
Nov 11	10.4	-11.0	2.1	-59.9	2.5	32.6	-23.4
Dec 11	8.1	3.6	-7.2	-27.5	22.1	12.9	12.1
Jan 12	5.2	-7.3	-3.2	-40.7	41.3	4.7	0.0
Feb 12	6.3	-16.6	-2.2	7.4	-45.0	57.2	7.2
Mar 12	1.4	2.3	-5.3	-6.4	17.2	-22.8	-13.6
Apr 12	9.7	-0.7	-4.7	19.5	-54.2	28.9	-1.5
May 12	12.6	-21.2	4.4	-43.9	75.6	-7.3	20.2
Jun 12	15.7	10.8	7.3	-23.3	17.0	-20.0	7.4
Jul 12	13.5	-10.7	9.8	9.9	-10.8	-13.3	-1.6

[1] Including total current account and capital transfers, etc.
[2] 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.
[3] Including errors and omissions.
[4] 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		
	Krone-denominated bonds, etc.	Foreign currency denominated bonds, etc.	Shares	Bonds, etc.	Shares	Total[1]
	Kr. billion					
2007	26.2	73.4	15.0	-96.4	-50.1	-32.0
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
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	-6.3	-0.8	-6.4
Apr 12	2.1	8.5	-6.7	12.2	3.4	19.5
May 12	25.4	-46.4	3.5	-10.8	-15.5	-43.9
Jun 12	41.8	-48.9	0.1	-14.6	-1.7	-23.3
Jul 12	6.3	2.1	0.1	1.3	0.0	9.9

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

[1] 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	Intercompany debt, etc.	Shares, etc.	Bonds, etc.		Trade credits	Loans and deposits	Other		
	Kr. billion									
Assets										
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	461	699	1,005	92	47	932	35	492	4,694
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	461	699	1,005	92	47	932	35	492	4,694
Q1 12	964	454	755	1,032	92	48	992	34	487	4,857
Liabilities										
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	4,257
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	4,257
Q1 12	542	295	532	1,425	•	42	1,503	45	2	4,386
Net assets										
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	162	247	-440	92	5	-500	-9	487	437
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	162	247	-440	92	5	-500	-9	487	437
Q1 12	422	159	222	-393	92	6	-511	-11	485	471

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

GDP BY TYPE OF EXPENDITURE Table 20

	GDP	Final domestic demand					Exports of goods and services	Imports of goods and services
		Private consumption	General-government consumption	Gross fixed capital formation	Change in inventories	Total		
	Kr. billion							
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	1,782.5	865.3	509.5	308.4	2.8	1,686.0	959.0	862.5
Q2 11	449.5	216.6	128.5	78.9	3.1	427.1	237.8	215.4
Q3 11	442.8	211.1	126.3	78.1	2.2	417.7	243.8	218.7
Q4 11	456.1	225.9	129.1	81.7	-4.7	432.0	244.4	220.3
Q1 12	440.3	218.6	126.4	77.5	2.4	424.8	238.2	222.7
Q2 12	454.2	220.0	129.5	79.4	0.3	429.2	252.7	227.7
	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	0.8	-0.8	-1.3	0.2	…	-0.4	7.0	5.2
Q2 11	1.5	0.0	-0.7	-0.3	…	-0.3	7.8	4.4
Q3 11	-0.1	-1.3	-1.6	0.5	…	-0.3	5.6	6.2
Q4 11	0.1	-0.8	-1.7	0.2	…	-1.3	4.7	2.3
Q1 12	0.3	0.6	-0.9	9.7	…	1.8	-0.3	2.6
Q2 12	-0.9	-0.8	-1.1	-0.9	…	-1.3	2.5	1.9
	Real growth compared with previous quarter (seasonally adjusted), per cent							
Q2 11	0.7	0.2	0.7	5.6	…	1.4	-0.4	1.5
Q3 11	-0.3	-1.2	-1.2	1.0	…	-0.7	0.5	1.1
Q4 11	-0.3	1.2	-0.5	-1.0	…	-0.3	0.1	-1.2
Q1 12	0.3	0.4	0.2	3.5	…	1.3	-0.6	1.2
Q2 12	-0.5	-0.9	0.3	-4.2	…	-1.2	2.5	0.8

EU-HARMONIZED INDEX OF CONSUMER PRICES (HICP) AND UNDERLYING INFLATION (IMI) Table 21

	HICP							Index of net retail prices[1]		
		Subcomponents:								
					Administered prices				Split into[4]:	
	Total	Energy	Food	Core inflation[2]	Rent	Public services	HICP excl. energy, food and administered prices[3]	Index of net retail prices excl. energy, food and administered prices[3]	Import content[5]	IMI[6]
	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
Q2 12	2.2	1.6	5.1	1.6	2.7	2.5	1.4	1.0	0.5	1.2

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

[1] Prices in the index of net retail prices are compiled excluding indirect taxes and subsidies.

[2] Core inflation is defined as the increase in HICP excluding energy and food.

[3] 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.

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

[5] The indirect energy content is included in the import content.

[6] 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 Per cent of labour force		Quantity index		Forced sales of real property	New passenger car registrations	Consumer confidence indicator	Composite cyclical Indicator for		
			Manufacturing industry[2]	Retail trade				Manufacturing industry	Building and construction	Service
	Gross[1]	Net	2005=100	2005=100	Number		Balance per cent			
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	153,614	1.8	3	-35	4
2011	6.2	4.2	94.9	95.6	5,025	169,794	-1.9	4	-20	4
					Seasonally adjusted					
Aug 11	6.2	4.2	94.3	94.9	423	12,492	-3.4	5	-21	0
Sep 11	6.2	4.2	94.4	94.8	449	13,794	-4.1	0	-17	-3
Oct 11	6.2	4.2	94.1	94.9	420	12,377	-5.6	0	-17	-9
Nov 11	6.2	4.2	95.2	94.8	462	15,026	-8.1	3	-19	-5
Dec 11	6.1	4.1	95.6	94.9	462	15,341	-6.4	6	-23	0
Jan 12	6.1	4.1	94.8	94.2	401	12,873	-7.7	4	-21	-1
Feb 12	6.2	4.2	95.3	93.7	466	14,176	-4.0	8	-21	-3
Mar 12	6.2	4.3	94.6	94.2	479	13,685	1.7	2	-13	-8
Apr 12	6.2	4.4	94.9	93.3	411	12,073	-2.1	3	-16	-7
May 12	6.2	4.5	94.4	93.5	416	16,634	-2.5	-1	-21	-6
Jun 12	6.3	4.6	93.3	93.3	440	13,955	-2.2	1	-22	-9
Jul 12	6.3	4.7	97.3	93.1	446	16,354	-1.6	5	-24	-6
Aug 12	...	...	...	...	447	13,489	-1.4	0	-20	-7

[1] Including persons in activation programmes.
[2] Excluding shipbuilding.

SELECTED QUARTERLY ECONOMIC INDICATORS — Table 23

	Employment		Hourly earnings			Property prices (purchase sum, one-family dwellings)
	Total	Private	All sectors in Denmark, total	Manufacturing industry in Denmark	Manufacturing industry abroad	As a percentage of property value 2006
	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	2,882	2,024	162.9	163.1	145.2	88.1
2010	2,817	1,948	166.6	167.4	149.1	90.5
2011	2,806	1,949	169.6	171.3	152.7	88.0
			Seasonally adjusted			
Q2 11	2,808	1,949	169.3	170.8	152.2	90.2
Q3 11	2,808	1,954	169.8	171.9	153.2	87.5
Q4 11	2,801	1,950	170.9	173.1	153.9	84.7
Q1 12	2,799	1,950	171.6	173.5	154.9	84.0
Q2 12	2,797	1,949	171.9	174.2	156.1	...
			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	-2.4	-4.3	3.0	2.9	1.8	-12.0
2010	-2.3	-3.7	2.3	2.6	2.7	2.8
2011	-0.4	0.1	1.8	2.3	2.4	-2.8
Q2 11	-0.5	-0.2	1.9	2.2	2.5	-0.9
Q3 11	-0.3	0.4	1.6	2.3	2.5	-4.2
Q4 11	-0.3	0.2	1.9	2.5	2.4	-6.8
Q1 12	-0.3	0.3	1.8	2.0	2.3	-6.0
Q2 12	-0.4	0.0	1.6	2.0	2.5	...

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
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
Jun 12	743.26	593.16	922.65	83.81	98.61	618.83	7.4813
Jul 12	743.84	605.39	943.74	87.06	99.74	619.32	7.6655
Aug 12	744.54	600.49	943.87	89.92	101.66	619.88	7.6309

EFFECTIVE KRONE RATE — Table 25

Average	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			
	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
Aug 11	104.2	276.0	259.1	111.3	...	112.6
Sep 11	103.4	276.9	259.8	111.0	116.2	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	114.3	115.5
Apr 12	101.7	282.8	264.2	109.9	...	116.0
May 12	101.1	282.8	263.9	109.7	...	115.9
Jun 12	100.5	282.4	263.5	109.1	113.4	115.8
Jul 12	99.3	282.4	...	...	...	115.1
Aug 12	98.9	...	...	...	...	...
	Change compared with previous year, per cent					
2007	1.6	1.7	2.3	0.9	2.4	2.2
2008	2.5	3.4	3.4	2.6	3.5	3.3
2009	1.9	1.3	0.2	3.4	3.4	0.3
2010	-3.6	2.3	1.7	-2.8	-3.5	1.6
2011	-0.3	2.8	2.7	-0.5	-0.5	2.7
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	-1.1	2.7
Apr 12	-2.9	2.3	2.2	-2.0	...	2.6
May 12	-3.0	2.1	2.0	-1.9	...	2.4
Jun 12	-3.8	2.2	1.9	-2.4	-2.8	2.4
Jul 12	-4.6	2.3	...	...	...	2.4
Aug 12	-5.1	...	...	...	...	...

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

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

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 (see Statistics > Release calendar).