Danmarks Nationalbank

Monetary Review 1st Quarter

2009

DANMARKS NATIONALBANK 2009

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MONETARY REVIEW 1st QUARTER 2009

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

Recent Economic and Monetary Trends

This review covers the period from mid-December 2008 to early March 2009

SUMMARY

The global economic recession has intensified over the last six months, and the world economy is now experiencing its worst post-war setback.

Considerable loss of wealth as a result of falling stock indices and housing prices has reduced consumer and business confidence, leading to a general slowdown in demand. Unemployment is rising rapidly around the globe, which further undermines confidence and reinforces the downturn. What began as a pure financial crisis has thus turned into an extensive real economic crisis.

Monetary policy has been eased considerably in most parts of the world, and many countries have implemented fiscal stimulus packages. The impact of these measures on economic growth is still uncertain. What is certain, however, is that a number of countries are increasing their government debt considerably, which will have a long-term impact when the debt is to be serviced and repaid. A case in point is the USA.

The financial markets, especially the banks, are still troubled in spite of extensive government rescue packages. Households and the corporate sector are finding it more difficult to obtain credit, thereby exacerbating the setback.

The Danish economy has been slowing down for some time, but even more so in the latter part of 2008. Last year growth was negative, and a decline of the same magnitude is expected in 2009. For some years, the Danish economy has been operating at close to its capacity limit, but the output gap is closing. Unemployment has risen at a rate of 5,000 per month in recent months.

Both domestic and external demand for Danish goods has decreased. Private consumption showed a downward trend throughout 2008 although real disposable incomes rose considerably. Exports fell as a result of lower demand in the export markets combined with sustained undermining of competitiveness for a number of years due to relatively strong wage increases in Denmark.

In Denmark, too, economic policy is being eased considerably, and the initiatives already taken should be given time to work before any fur-

ther measures are considered. Unlike other countries, Denmark is in a situation where unemployment remains well below its structural level. The short-term expansionary effect of the fiscal-policy relaxation is uncertain, particularly if consumer and business confidence in the future course of the economy does not improve.

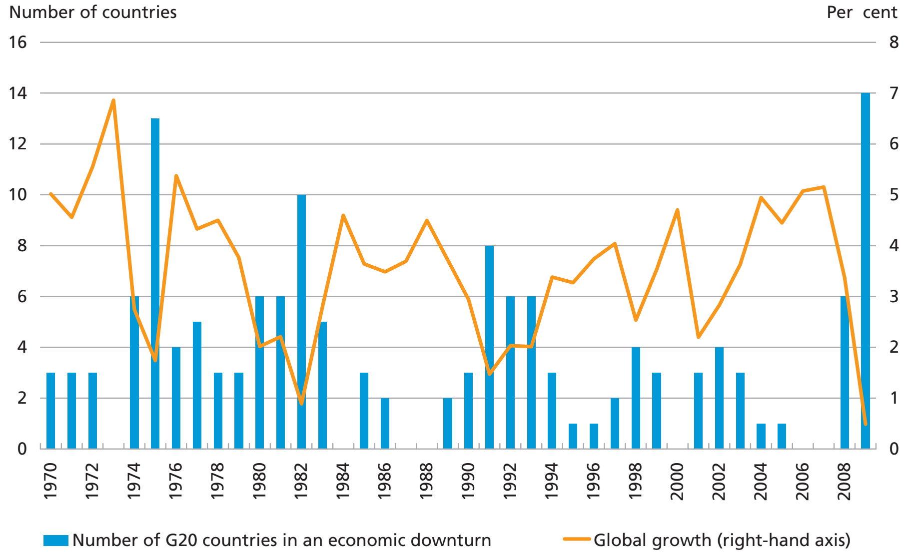
The easing of economic policy and the weak cyclical position will lead to a sizeable government deficit this year and in the coming years, and the last few years' falling trend in government debt will reverse.

THE INTERNATIONAL ECONOMY

The global economy is in its worst post-war recession. The financial crisis has had a severe impact, and business and consumer confidence is low. The slowdown in recent months has been pronounced and has affected practically all countries, cf. Chart 1. Global industrial production fell by 3-4 per cent in the last three months of 2008 and international trade contracted by 5-7 per cent.

In most industrialised countries, households have reduced spending against the backdrop of low consumer confidence, rising unemployment and declining wealth, while business enterprises have cut jobs and given

GLOBAL ECONOMIC DOWNTURNS Chart 1



Note: An economic downturn is defined as growth below the average for the preceding 10 years less a standard deviation. Data for 2009 is based on the most recent IMF estimates and comprises G20 less the euro area (i.e. 19 countries in total). Global growth is calculated using PPP-adjusted weights. G20 countries which are not in a downturn: India, Indonesia, Argentina, Brazil and Saudi Arabia.
Source: The Conference Board and Groningen Growth and Development Centre, Total Economy Database, January 2009, IMF, *World Economic Outlook*, update 2009 and own calculations.

up investment plans. The banks have tightened credit conditions for both households and the corporate sector as a result of mounting losses. This has further reduced consumption and investments, and the financial sector and real economy are locked in a vicious circle.

The emerging and developing economies, which are cyclically lagging a little behind the industrialised world, are severely hit by shrinking global trade, cf. Chart 2, combined with lower capital imports, high and rising financing costs and falling commodity prices.

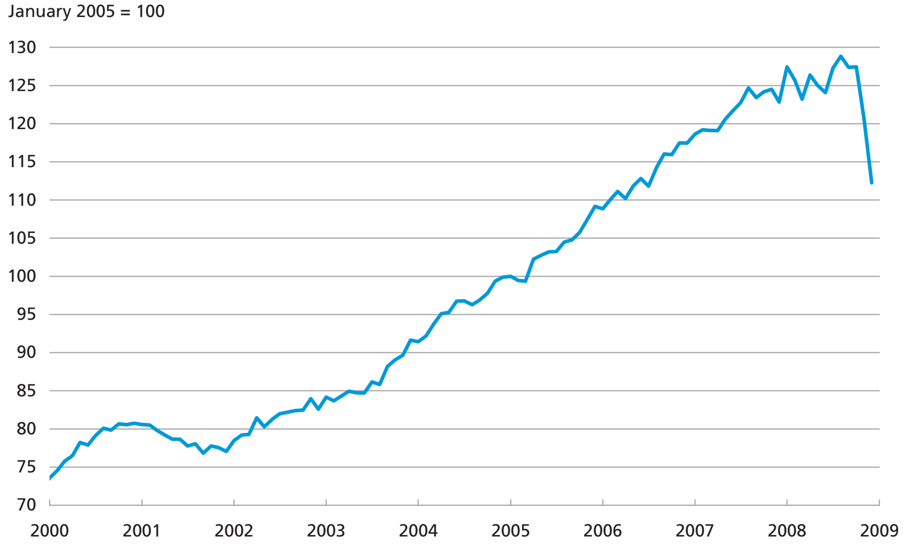
In the USA, GDP fell by 1.6 per cent in the 4th quarter of 2008. This sharp decline has amplified the downward trend in employment. From November 2008 to February 2009, 2.6 million jobs were lost, compared with 1.8 million in the preceding 10 months. Unemployment rose to 8.1 per cent in February 2009.

In China, growth in the 4th quarter of 2008 was at the lowest level since the Asian crisis in 1998. Chinese exports have been seriously hit by the global slowdown and have been declining since September.

The crisis has also accelerated in Europe. In the euro area, output fell by 1.5 per cent in the 4th quarter of 2008, and unemployment rose from 7.9 per cent in November 2008 to 8.2 per cent in January 2009.

Outside the euro area, Iceland and Eastern Europe are particularly severely affected. Iceland is implementing an extensive adjustment programme, supported by a loan agreement with the IMF. Domestic demand is set to plummet, and unemployment has climbed sharply from 1.9 per cent in October 2008 to 8.2 per cent in February 2009.

GLOBAL TRADE | Chart 2



Source: CPB Netherlands Bureau for Economic Policy Analysis, World-trade Monitor.

The countries in Eastern Europe have had large current-account deficits for some years and have built up considerable foreign debts. As a result of the financial crisis, other countries have become less willing to finance these large deficits, and capital inflows have dwindled. At the same time, many corporate and household loans were raised in foreign currency, typically euro or Swiss francs. Depreciation of the local currency increases the debt burden and thus the volume of bad debts. Many of the banks in Eastern Europe are owned by Western European banks. The Austrian banks are particularly exposed.

Latvia has had to introduce a stringent adjustment programme supported by a loan agreement with the IMF, cf. Box 1. On the basis of this agreement, Danmarks Nationalbank and Sveriges Riksbank have made liquidity in euro available to Latvijas Banka by way of swap facilities. Together with Norges Bank and Sveriges Riksbank, Danmarks Na-

THE CRISIS IN LATVIA Box 1

At the end of December, the Executive Board of the IMF approved a 1.7 billion euro loan to Latvia. The loan is part of a comprehensive loan agreement totalling 7.5 billion euro, with contributions from the EU and Sweden, Norway, Finland and Denmark. In addition, Danmarks Nationalbank and Sveriges Riksbank in December concluded swap facilities with Latvijas Banka (the central bank of Latvia), in Danmarks Nationalbank's case for up to 125 million euro in exchange for Latvian lats.

The Latvian economy has been characterised by large imbalances in recent years. Strong growth in government spending and wage increases that outpaced productivity gains have contributed to overheating and rapidly falling competitiveness. The real exchange rate has appreciated by approximately 25 per cent since Latvia joined the EU. Fiscal policy has not been sufficiently tight, and with annual current-account deficits in the range of 20 per cent of GDP, Latvia's external debt has increased to 135 per cent of GDP – the highest ratio among the new EU member states. Short-term external debt has also risen substantially. The international financial crisis has increased risk related to this vulnerability, and there have been runs on Latvia's second largest bank, Parex, which is domestically owned.

Following negotiations with the IMF, the Latvian authorities have accepted a tight stabilisation programme based on continuation of the fixed-exchange-rate policy against the euro within ERM II. This policy is supported by the EU and keeps Latvia on track for eventual participation in the euro. The key elements of the programme are pronounced tightening of fiscal policy, reductions of public-sector salaries by 15 per cent in 2009 and a number of measures to restore financial stability, including full control of Parex. In December, the Latvian parliament adopted a supplementary budget limiting the budget deficit in 2009 to a maximum of 5 per cent of GDP. The programme supports the socially vulnerable and keeps government investments at a high level so as not to weaken Latvia's long-term growth potential. A long period of adjustment is expected in Latvia, with output falling by 5 per cent in 2009 and slightly less in 2010 before the tide turns in 2011.

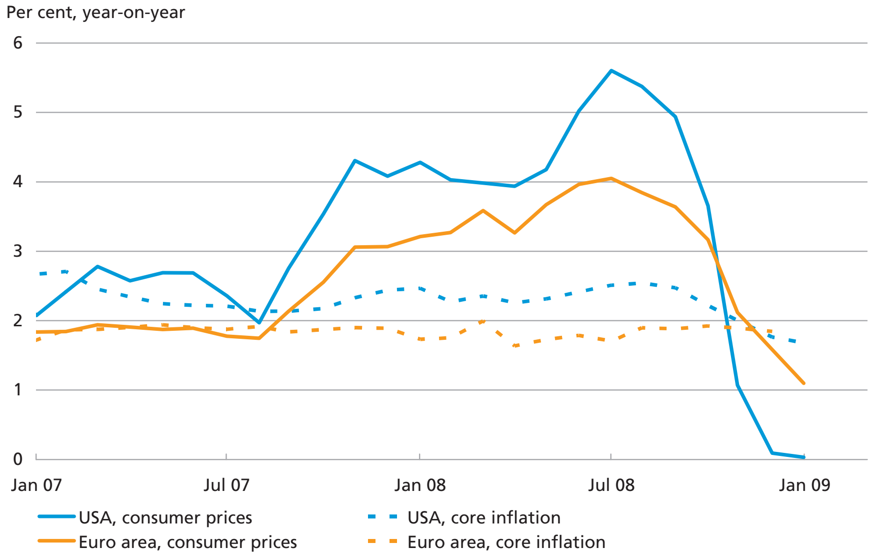
tionalbank has also concluded a swap facility with Iceland. In addition, the governments of Demark, Finland, Norway and Sweden have made commitments to lend Iceland and Latvia 2.5 billion dollars and 1.8 billion euro, respectively.

International price developments

Commodity prices dropped sharply in the latter half of 2008 as global activity slowed down. Oil prices have stabilised in recent months. Just before Christmas, OPEC announced that production would be cut. Demand for oil has been relatively high because of a cold winter in the northern hemisphere. In February 2009, a barrel of Brent crude oil had fallen to 43 dollars, from 48 dollars at the beginning of December 2008 and 143 dollars in mid-July 2008. Agricultural and metal prices have also stabilised.

Falling commodity prices have reduced annual consumer price inflation in most parts of the world, cf. Chart 3. Both the IMF and the OECD predict that the annual rate of change in consumer prices will temporarily turn negative in several industrialised countries, including Germany, Japan and the USA, during 2009 due to lower commodity prices. The underlying price inflation, i.e. inflation stripped of energy and food, has been more stable, but is declining marginally in the USA.

INFLATION DEVELOPMENTS — Chart 3



Note: Core inflation is the increase in consumer prices stripped of energy and food.
Source: EcoWin.

The financial markets

The financial markets are still characterised by uncertainty. Uncertainty in the equity markets – measured by volatility in prices – has decreased since early December 2008, but remains far above the pre-crisis level. The benchmark stock indices have dropped by around 15 per cent since November 2008.

The financial sector is still under pressure and many banks suffered huge losses in the 4th quarter of 2008. Over just three months, the IMF raised its estimate of the potential losses in the US financial sector from 1,400 billion dollars to 2,200 billion dollars in January 2009.

The price of bank stocks has dived by around 65 per cent in the USA and 40-45 per cent in the UK and the euro area since the turn of the year. Notwithstanding the many government rescue packages, substantial consolidation is taking place within the financial system, and the banks are hesitant to grant credit. This reinforces the global economic downturn.

Long-term government bond yields in Germany and the USA reached a low in December 2008, with 10-year yields standing at 2.9 and 2.1 per cent, respectively. This development reflected factors such as the worsening growth outlook and falling inflation. Prospects of large government issues and rapidly deteriorating government budgets have, however, contributed to reversing the trend, so that yields had risen to 3.0 and 2.8 per cent, respectively, at the beginning of March.

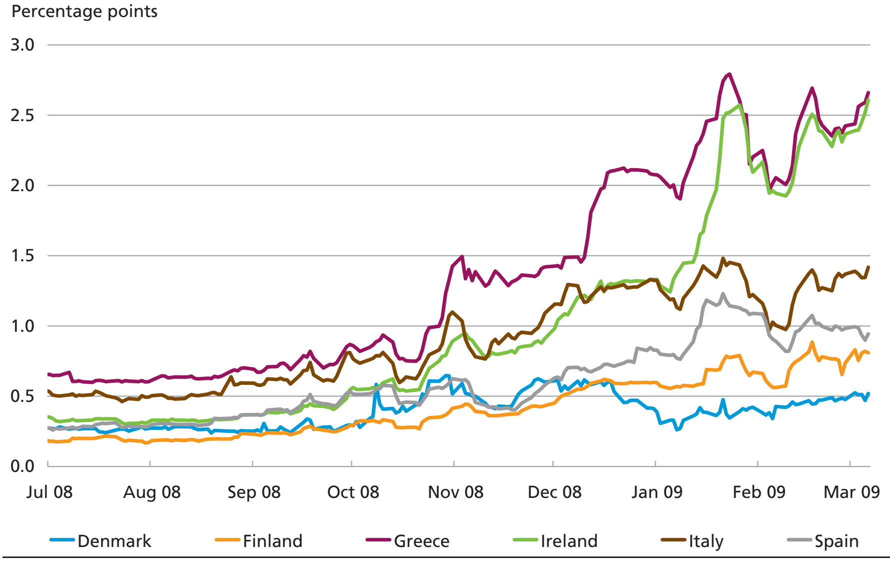
Yield spreads to Germany have widened considerably in a number of European countries, including Greece, Ireland and Italy, cf. Chart 4. This may be attributable to higher risk premiums due to increasing concerns among market participants about fiscal sustainability in view of the rapidly growing budget deficits in a situation where government debt was already high.

The euro strengthened vis-à-vis the dollar and the yen in December, but weakened correspondingly in January and February as a result of market expectations of lower key interest rates in the euro area, as well as a worsening growth outlook for Europe. The currencies of several Eastern European countries have depreciated considerably against the euro since the early autumn, cf. Chart 5. The Swedish krona has also weakened. Swedish banks have relatively large exposure to Eastern Europe, particularly the Baltics, and moreover, Sveriges Riksbank has eased monetary policy significantly.

Monetary policy

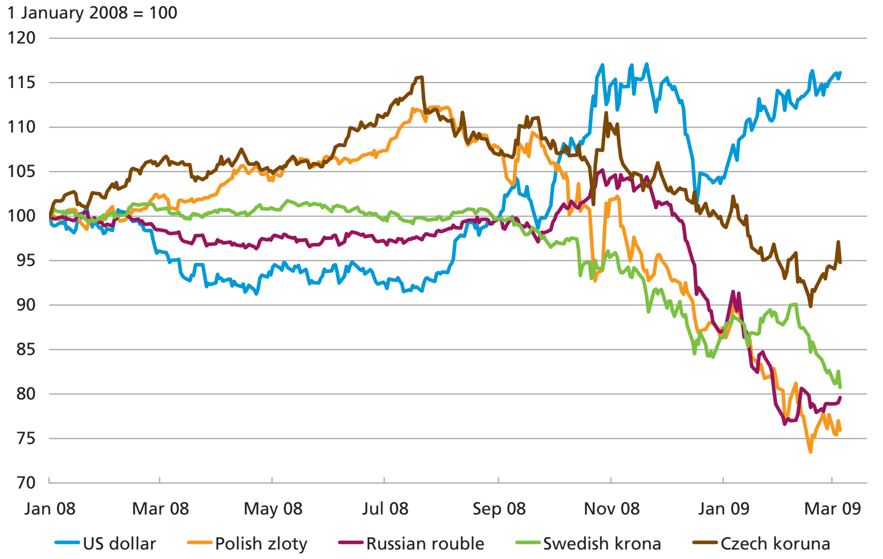
As the international financial crisis has escalated, authorities worldwide have taken various steps to safeguard financial stability and boost credit

YIELD SPREADS TO GERMANY FOR 10-YEAR GOVERNMENT BONDS Chart 4



Note: Adjusted for differences in maturity. The most recent observations are from 6 March 2009.
Source: Bloomberg.

DEVELOPMENT IN SELECTED CURRENCES VIS-À-VIS THE EURO Chart 5



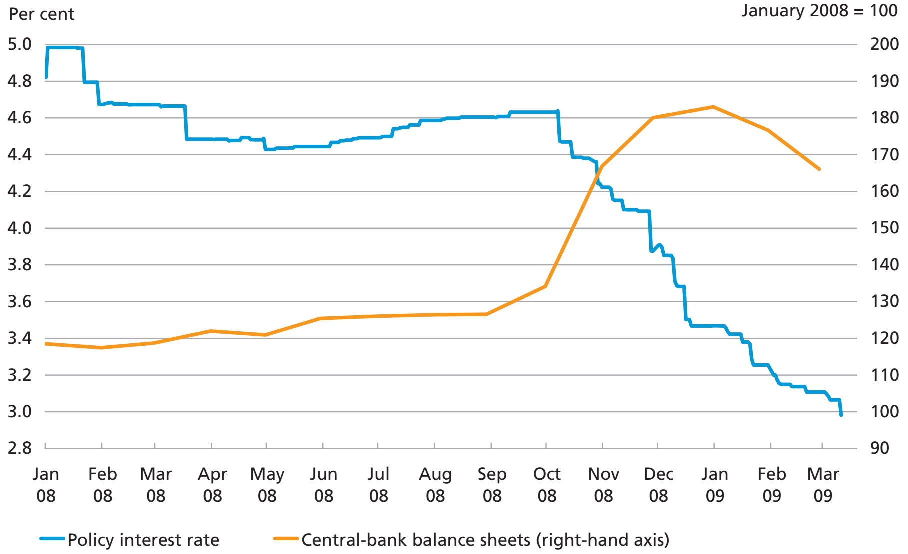
Note: Euro per foreign currency unit. A rising index indicates strengthening of the currency. The most recent observations are from 5 March 2009.
Source: EcoWin.

intermediation by the financial system. In addition, both monetary and fiscal policies have been relaxed substantially.

Many countries have eased their monetary policies, cf. Chart 6. On 16 December, the Federal Reserve announced an interval of 0-0.25 per cent for the fed funds target rate, as well as low interest rates for some time to come. The European Central Bank, ECB, cut its key interest rate by 0.5 per cent in both January and March, to stand at 1.5 per cent, while the Bank of England has lowered the Bank Rate on three occasions in 2009, by a total of 1.5 per cent to 0.5 per cent – an all-time low. On 11 February 2009, Sveriges Riksbank cut the repo rate by 1 per cent to 1 per cent. In China, monetary policy has also been eased and the quantitative restrictions on lending have been abolished, leading to strong lending growth.

Furthermore, central banks have provided extensive liquidity to banks by expanding the collateral base for loans and introducing new lending facilities, which has increased central bank balance sheets dramatically, particularly in the euro area, the UK and the USA. In Japan, the USA and the UK, policy interest rates are close to zero, and the central banks have resorted to unconventional tools to ease monetary policy further, cf. Box 2. The aim is to safeguard financial stability and reduce borrowing costs for households and the corporate sector.

GDP-WEIGHTED POLICY INTEREST RATES IN G20 COUNTRIES Chart 6



Note: The policy interest rate has been calculated exclusive of Argentina and Saudi Arabia. The central-bank balance sheets have been calculated exclusive of Argentina, Russia, Saudi Arabia and South Africa PPP-adjusted weights have been applied.

Source: EcoWin, The Conference Board and Groningen Growth and Development Centre, Total Economy Database, January 2009, and own calculations.

UNCONVENTIONAL MONETARY-POLICY INITIATIVES Box 2

As the financial crisis has widened, many countries have taken an aggressive monetary-policy stance. Policy interest rates have been lowered considerably, and central banks have provided liquidity by way of monetary-policy loans, cf. Chart 5. In several countries, notably the USA and Japan, policy interest rates are in effect zero. However, the central banks have not exhausted their monetary-policy options.

Central banks can relax monetary policy further by increasing the banks' liquidity and by purchasing securities in order to reduce yield spreads. At the beginning of this decade, this practice was used extensively in Japan, where a target was set for provision of liquidity to the economy via purchases of short-term government securities. However, the effectiveness of quantitative relaxations has been questioned, as they primarily led to monetary-policy counterparties exchanging their non-interest-bearing risk-free securities (government bonds) for other assets (cash)[1].

In the current crisis, the central banks have initially purchased securities to support the financial sector and improve the functioning of the financial markets. In a situation with a poorly functioning financial sector, central banks may aim to strengthen credit markets by purchasing securities with a view to reducing yield spreads between corporate bonds or mortgage bonds and government securities. This approach was recently announced in both the USA and the UK. In the USA, the Federal Reserve has begun to purchase bonds issued or guaranteed by the government-sponsored enterprises Fannie Mae and Freddie Mac. This has lowered the yield on long-term mortgage bonds. In addition, the Federal Reserve has announced a programme to purchase asset-backed securities collateralised by student loans, credit card loans and auto loans. In the UK, the Bank of England has been authorised by the Chancellor of the Exchequer to purchase high-quality private sector assets and UK government securities (gilts) in the secondary market for up to 150 billion pounds. In Japan, the Bank of Japan has announced its intention to purchase shares from banks to improve the banks' balance sheets and to purchase corporate bonds to improve the credit market.

[1] Cf. Niels C. Beier, Japan's Economic Crisis and Monetary-Policy Options, Danmarks Nationalbank, *Monetary Review,* 2nd Quarter 2002.

Fiscal policy

Government finances dampen cyclical fluctuations via the automatic stabilisers, cf. the article on p. 55. Moreover, the IMF, the OECD and the European Commission have all recommended easing fiscal policy considerably in order to reduce the global economic downturn.

Large stimulus packages have been adopted or planned worldwide, cf. Box 3. According to IMF calculations, the G20 countries have so far adopted or are planning to adopt fiscal-policy relaxation measures corresponding to 0.5 per cent of GDP in 2008, 1.5 per cent in 2009 and around 1.1 per cent in 2010. The international organisations emphasise that such packages should be of a general nature and should not include protectionist measures, which could trigger a negative spiral in the global economy.

FISCAL-POLICY INITIATIVES IN SELECTED COUNTRIES Box 3

Countries across the globe have announced or adopted a number of initiatives to counter the negative real economic developments. An overview of initiatives in selected countries is provided below:

- **USA**

In February, the federal authorities decided to implement a stimulus package worth 789 billion dollars, equivalent to 5.5 per cent of GDP. The package comprises tax cuts, extended unemployment benefits and healthcare, as well as increased government spending, e.g. by way of infrastructure investments. Just under one fourth of the funds will be spent in the fiscal year 2009, and a good half in 2010. The total budget deficit is forecast to increase to 12.0 per cent of GDP in 2009, and government debt is expected to grow to 81.2 per cent of GDP.

- **Japan**

In December, the government announced fiscal-policy initiatives amounting to 1.4 per cent of GDP in 2009 in connection with the presentation of a tax reform and the 2009 budget. The measures are aimed at both households and the corporate sector and include increased spending for employment, income support for households and lower tax on small and medium-sized enterprises and housing loans. The total budget deficit is expected to increase to 7.1 per cent of GDP in 2009, and government debt is forecast to grow to 217 per cent of GDP.

- **Euro area**

Since the late summer of 2008, euro area member states have announced measures corresponding to 1 per cent of GDP in 2009 and 0.7 per cent of GDP 2010. The 2009 initiatives are mainly aimed at boosting household purchasing power and increasing government investments and focus less on the corporate sector. However, the size and content of the discretionary packages vary considerably from one member state to another. The total budget deficit is expected to increase to 4.0 per cent of GDP in 2009, while government debt is forecast to grow to 72.7 per cent of GDP.

- **UK**

In November 2008, the UK government announced a stimulus package worth 20 billion pounds, equivalent to approximately 1 per cent of GDP. The package is primarily aimed at households and comprises a temporary reduction in VAT from 17.5 to 15 per cent. The lower VAT rate applies from 1 December 2008 until the end of 2009. The total budget deficit is expected to increase to 7.2 per cent of GDP in 2009, and government debt is expected to grow to 61.0 per cent of GDP.

- **China**

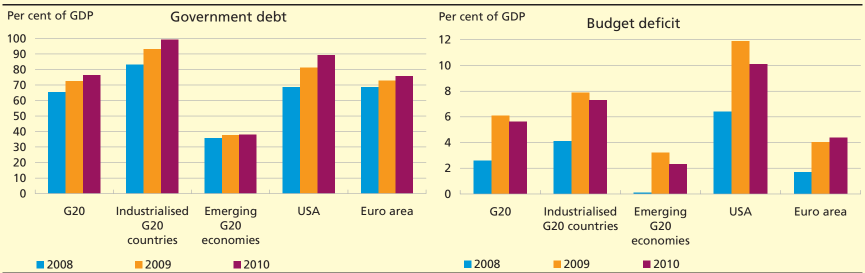
In November 2008, the Chinese authorities announced fiscal-policy relaxation measures equivalent to 2 per cent of GDP in 2009 and 2.0 per cent of GDP in 2010. Government infrastructure investments constitute a major element of the package. The total budget deficit is expected to increase to 2.0 per cent of GDP in 2009, and government debt is expected to grow to 22.2 per cent of GDP.

- **Denmark**

In Denmark, fiscal policy will be eased by 1.2 per cent of GDP in 2009 and 1.0 per cent of GDP in 2010 (revenue impact). The measures are described in more detail in Box 7. The budget deficit is expected to be 0.8 per cent of GDP in 2008, growing to 3.0 per cent of GDP in 2009. This will bring government debt to almost 30 per cent of GDP. The automatic stabilisers are more pronounced in Denmark than in other countries.

CONTINUED Box 3

BUDGET DEFICITS AND GOVERNMENT DEBT, 2008-10 Chart 7



Source: IMF, The State of Public Finances: Outlook and Medium-Term Policies After the 2008 Crisis, 6 March 2009, and the European Commission's interim forecast, January 2009.

As a result of lower government revenue and rapidly rising expenses, a pronounced deterioration of public finances is expected in many countries. In the USA, the government budget deficit is estimated to be 12 per cent of GDP in 2009 and 8.9 per cent in 2010, while the euro area deficit is expected to grow from 1.7 per cent in 2008 to 4.0 per cent in 2009 and 4.4 per cent in 2010. Government debt and issuance of government bonds are thus set to increase substantially.

THE DANISH ECONOMY: MONETARY AND EXCHANGE-RATE CONDITIONS

The foreign-exchange markets have been calm in recent months following the turmoil in the autumn. The Danish krone has been stable around its central rate in ERM II.

On 19 December 2008, Danmarks Nationalbank lowered its lending rate and the rate of interest on certificates of deposit by 0.5 per cent to 3.75 per cent. The monetary-policy interest-rate spread between Denmark and the euro area thus narrowed from 1.75 per cent to 1.25 per cent. The interest-rate reduction was a consequence of developments in the foreign-exchange market, where Danmarks Nationalbank had been buying foreign exchange for some time.

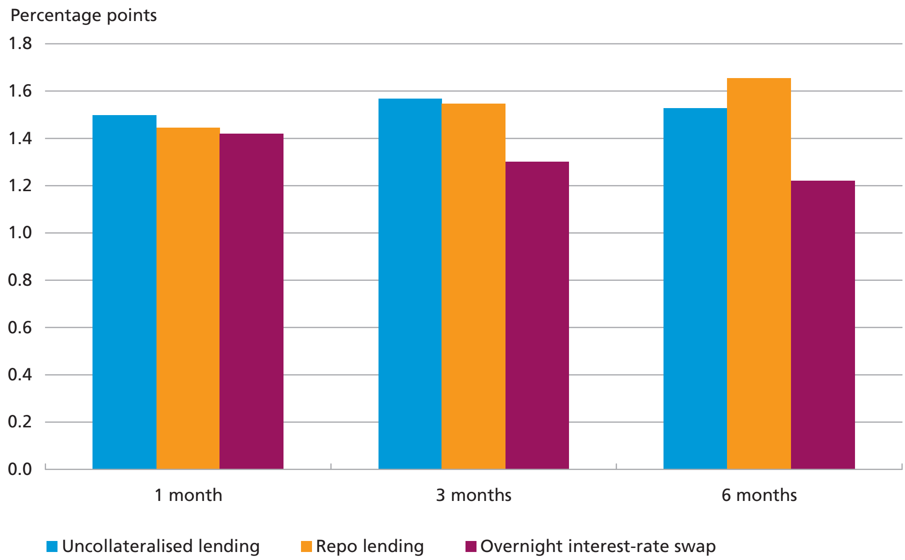
At the beginning of January, Danmarks Nationalbank continued to intervene in the foreign-exchange market by purchasing foreign exchange against kroner. The ECB cut the interest rate on the main refinancing operations by 0.5 per cent to 2 per cent on 15 January 2009. In this connection Danmarks Nationalbank lowered the lending rate and the rate of interest on certificates of deposit by 0.75 per cent to 3 per cent with effect from 16 January. The discount rate and the current-account rate were also lowered by 0.75 per cent, to 2.75 per cent. The spread between Danmarks Nationalbank's lending rate and the ECB's interest rate on the main refinancing operations was thus reduced to 1 per cent.

On 5 March, the ECB cut its interest rate by 0.5 per cent to 1.5 per cent. Danmarks Nationalbank followed suit, lowering its lending rate and rate of interest on certificates of deposit by 0.75 per cent to 2.25 per cent and the discount rate and the current-account rate by 0.75 per cent to 2 per cent, effective from 6 March 2009. Danmarks Nationalbank's interest rates were lowered by 0.25 per cent more than those of the ECB due to continued purchase of foreign exchange in the market. The monetary-policy interest-rate spread to the euro area thus narrowed further, to 0.75 per cent.

Effective 13 March 2009, Danmarks Nationalbank reduced the supplementary interest rates on the lending facility against loan bills and the credit facility on the basis of capital adequacy, from the lending rate plus 2 per cent to the lending rate plus 1 per cent.

Money-market interest-rate spreads between Denmark and the euro area for various money-market products have, however, been somewhat above the monetary-policy spread of 0.75 per cent, cf. Chart 8. The reason is that the overnight interest rate in the euro area (Eonia) has been considerably below the ECB's interest rate on the main refinancing operations since the end of January due to full liquidity allotment in the ECB's weekly tenders and extensive demand for liquidity from credit institutions, which place the funds in deposit accounts at the ECB, cf. Box 4.

MONEY-MARKET INTEREST-RATE SPREADS BETWEEN DENMARK AND THE EURO AREA FOR VARIOUS PRODUCTS AND MATURITIES (10 MARCH 2009) Chart 8



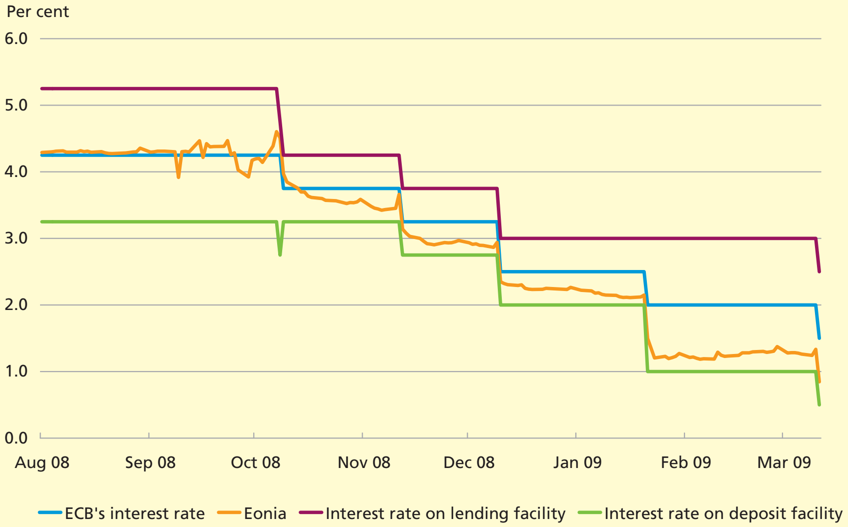
Note: The interest-rate spread for uncollateralised lending is the spread between Cibor and Euribor.
Source: EcoWin.

THE OVERNIGHT MONEY-MARKET INTEREST RATE IN THE EURO AREA Box 4

The overnight interest rate in the euro area (Eonia) is usually close to the ECB's 7-day lending rate on the weekly main refinancing operations. Since mid-October 2008, Eonia has consistently been below the ECB's lending rate, and recently considerably below. This reflects adjustments of the ECB's monetary-policy instruments. On 8 October 2008, the ECB announced that until further notice the weekly tenders would be with full allotment, whereas previously a given amount of liquidity was allotted at a variable rate.[1] In addition, the ECB announced that the corridor of standing facilities would be reduced from 200 to 100 basis points. The standing facilities are the marginal lending facility and the deposit facility, respectively, under which euro area credit institutions can borrow and deposit liquidity overnight. The interest rates on the standing facilities are the limits for Eonia, and the ECB's interest rate on the main refinancing operations is in the middle of the corridor.

As of 21 January 2009, the corridor of standing facility rates was restored from 100 to 200 basis points in order to encourage credit institutions to once again exchange liquidity in the money market rather than depositing excess liquidity with the ECB. Since 21 January, Eonia has been close to the interest rate on the deposit facility, cf. Chart 9. This is consistent with the ample supply of liquidity since the ECB began to carry out its weekly main refinancing operations as fixed-rate tenders with full allotment.[2] This development reflects that, due to the poor functioning of the money market, the credit institutions have considerable demand for liquidity, which is placed in ECB deposit accounts.

THE ECB'S INTEREST RATES AND EONIA Chart 9



Note: Until 8 October, the ECB's interest rate is the minimum bid rate, after that the fixed interest rate on the main refinancing operations. Changes in the ECB's interest rates and the corridor are as of the settlement date. The switch to a fixed allotment rate, which was announced on 8 October with settlement on 15 October 2008, is as of the date of announcement, however. The most recent observations are from 11 March 2009.

Source: Danmarks Nationalbank.

[1] On 5 March 2009, the ECB decided to continue the fixed rate tender procedure with full allotment for as long as needed, and in any case beyond the end of 2009.

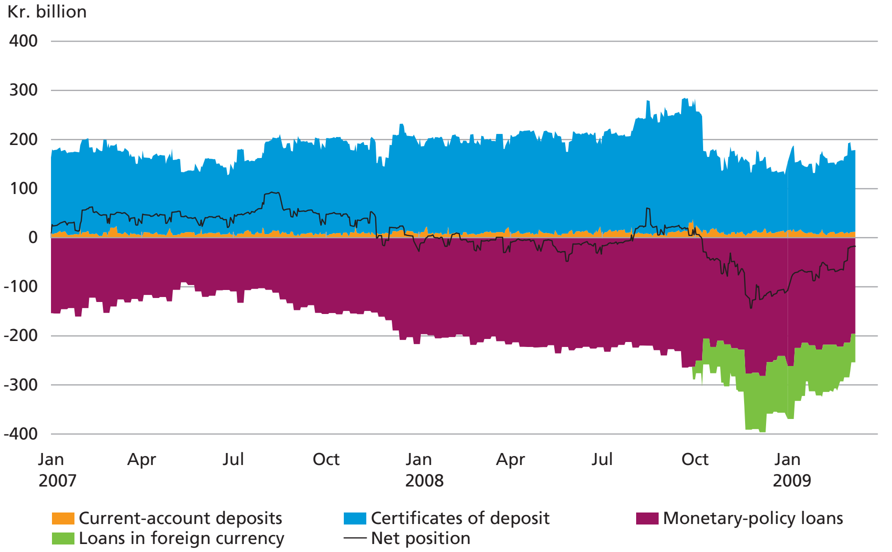
[2] See also the ECB's Monthly Bulletins for February and March 2009.

Thus the development in the ECB's deposit rate, rather than in the interest rate on the main refinancing operations, has been the benchmark for money-market interest rates in the euro area.

The most recent developments in money-market interest rates are described in the article on p. 45.

The net position of the banks and mortgage-credit institutes vis-à-vis Danmarks Nationalbank was reduced considerably towards the end of 2008, cf. Chart 10, mainly reflecting extraordinary issuance of 30-year government bonds for around kr. 90 billion. The proceeds were deposited in the central government's account at Danmarks Nationalbank. In addition, the central government, at the instigation of Danmarks Nationalbank, raised foreign loans for kr. 64 billion in order to strengthen the foreign-exchange reserve in view of the considerable outflow of foreign exchange in the autumn. The central government's foreign debt is raised with the foreign-exchange reserve in mind, and the equivalent value in kroner of the government's foreign borrowing is deposited in its account at Danmarks Nationalbank. Besides foreign borrowing, the substantial balance of the central government's account at end-February, approximately kr. 216 billion, must cover the need to finance relending to Eksport Kredit

NET POSITION OF BANKS AND MORTGAGE-CREDIT INSTITUTES VIS-À-VIS DANMARKS NATIONALBANK — Chart 10



Note: Balances. The banks' and mortgage-credit institutes' loans in foreign currency from Danmarks Nationalbank are not included in the net position vis-à-vis Danmarks Nationalbank. Loans in foreign currency are granted by Danmarks Nationalbank to banks and mortgage-credit institutes on the basis of swap facilities with the Federal Reserve and the ECB. Loans in foreign currency were exchange-rate-adjusted at the end of 2008, which caused the outstanding amount to fall by kr. 8 billion (from kr. 116 billion at end-December to kr. 108 billion at year-end). The most recent observations are from 10 March 2009.

Source: Danmarks Nationalbank.

CAPITAL INJECTIONS INTO CREDIT INSTITUTIONS (THE CREDIT PACKAGE) Box 5

On 3 February 2009, a bill on government capital injections into credit institutions was passed by the Folketing (Danish parliament) in a situation where pressures on the solvency of credit institutions were expected to mount.

Until 30 June 2009, all credit institutions domiciled in Denmark can apply to the government for injections of hybrid core capital or have the government underwrite capital increases, provided that the credit institutions observe the statutory solvency requirements, etc. The arrangement comprises all banks, savings and cooperative banks, mortgage-credit institutes and Danish Ship Finance. Neither Danish branches of foreign credit institutions nor foreign subsidiaries of Danish institutions are comprised. Credit institutions receiving capital injections under the Act must subsequently have a Tier 1 ratio of at least 12 per cent.

Hybrid core capital is a hybrid between a subordinated loan and share capital. Repayment of hybrid core capital requires permission from the Danish Financial Supervisory Authority so the maturity cannot be agreed beforehand. Interest payments on the capital injections lapse if the credit institution has insufficient free reserves. In the event of compulsory liquidation, hybrid core capital is at risk when the share capital has been lost. It therefore differs from share capital in several respects; for example, it entails no voting rights.

The purpose is to give credit institutions a financial buffer and thus provide a sufficient capital base to reduce the risk that sound business enterprises and households are unable to obtain financing from credit institutions. It is a requirement that credit institutions receiving government capital injections do not tighten their lending policies further than warranted by economic developments in general, while keeping in mind that they should be operated as sound and responsible businesses.

If all credit institutions take full advantage of the offer, approximately kr. 100 billion in new Tier 1 capital will be provided by the government – approximately kr. 75 billion to banks and approximately kr. 25 billion to mortgage-credit institutes.

The Minister for Economic and Business Affairs may agree the specific terms and conditions with the individual credit institutions and will make a decision on the basis of a recommendation from the "Coordination Group for Financial Stability" with representatives of the Ministry of Economic and Business Affairs, the Ministry of Finance, the Danish Financial Supervisory Authority and Danmarks Nationalbank.

The following main provisions apply:

- In principle, the government capital injections are loans that must be serviced and repaid. The interest payable by the individual credit institution will be determined on the basis of objective criteria and is estimated to be in the range of just over 9 per cent to just under 12 per cent p.a. The average rate of interest is expected to be around 10 per cent.
- In accordance with the forthcoming revised EU capital-adequacy rules, hybrid core capital must not exceed 50 per cent of Tier 1 capital. In the event that a credit institution's hybrid core capital exceeds 35 per cent of the total Tier 1 capital, the Danish Financial Supervisory Authority may require that the capital be converted into share capital if the credit institution is ailing.
- The purpose of the capital injection is to give the credit institution financial scope for lending.

  Every six months, the credit institution must publish an account of the development in its lending activities.

CONTINUED Box 5

- The credit institution may not implement capital reductions by disbursing funds to shareholders, guarantors or members, or introduce new own share buy-back programmes.
- The credit institution may not issue bonus shares at a favourable price or make use of similar advantageous plans for the management.
- The credit institution may not disburse dividend before 1 October 2010, and only if such dividend can be financed from current profits.
- The credit institution may not implement new management share option plans or similar, or extend or renew existing plans.
- The credit institution may not remunerate executive management with variable pay elements to an extent that such elements exceed 20 per cent of the total base salary, including pension contributions.
- In its tax accounts, the credit institution may not deduct more than half of the individual executives' remunerations.
- The central government may sell or otherwise dispose of the hybrid core capital injected into credit institutions.

The credit institutions may repay the loans after three years. The government would prefer repayment as soon as possible and will provide a financial incentive for the credit institutions to settle the loans.

The Financial Stability Act (Bank Rescue Package I) gave depositors and other unsecured claims a government guarantee up to and including 30 September 2010. Subsequently, ordinary depositors will be covered by the increased depositor guarantee of kr. 750,000 for ordinary deposits and full coverage of special deposits.

To facilitate the transition to normal market terms for other unsecured claims, the Credit Package includes a transitional arrangement under which banks may apply for individual government guarantees for specific issuances of non-subordinated unsecured debt, and, for institutions issuing covered bonds, for junior covered bonds with a maturity of up to three years issued before 31 December 2010. The transitional arrangement is an amendment to the Financial Stability Act.

Unsecured debt is debt, bonds or securities (including attached obligations such as swap lines) that not are collateralised by the issuer's assets and which, in the event of compulsory liquidation, rank before other subordinated claims. Thus, the guarantee may cover anything from short to long fixed-term deposits (up to three years).

Applications may be submitted by banks meeting the statutory 8-per-cent solvency requirement, the individual capital need or any higher individual requirement laid down by the Danish Financial Supervisory Authority.

Dividend may not be disbursed (from 1 October 2010, dividend may, however, be disbursed within the current profits), and capital reductions and implementation of new management share option plans are not permitted during the period of the government guarantee.

Fonden and government capital injections into banks in connection with the Credit Package, cf. Box 5. Deterioration of government finances will increase the domestic financing requirement and entail a need for net issuance of government securities in kroner.

At end-February, the banks and mortgage-credit institutes had raised loans in foreign currency for kr. 71 billion from Danmarks Nationalbank in connection with the swap facilities concluded with the Federal Reserve and the ECB in the autumn. Since the beginning of December, six dollar auctions and five euro auctions have been held.

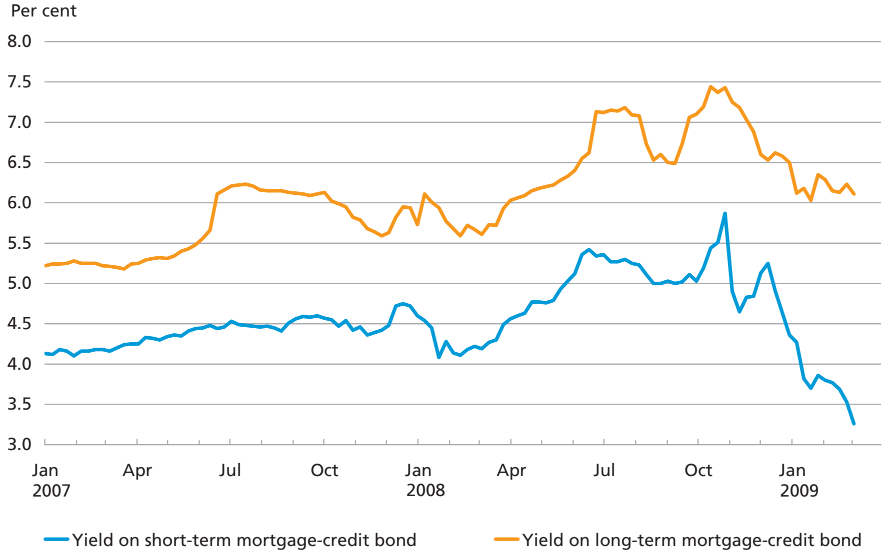
The yield on 10-year Danish government bonds was approximately 3.4 per cent at the beginning of March, i.e. slightly lower than at the beginning of December. The yield spread to the corresponding German bonds narrowed by approximately 0.1 per cent to 0.5 per cent over the same period.

The yields on both short-term and long-term Danish mortgage-credit bonds have declined since the end of November, to stand at 3.3 and 6.1 per cent, respectively, in early March, cf. Chart 11.

Bank interest rates and credit developments

As previously mentioned, Danmarks Nationalbank has reduced its monetary-policy interest rates in recent months, and this is now passing through to the banks' retail interest rates. From November 2008 to January 2009, the banks' average lending and deposit rates fell by 1 and 0.9 per cent, respectively, for households and by 0.9 and 1.1 per cent for the corporate sector, cf. Chart 12.

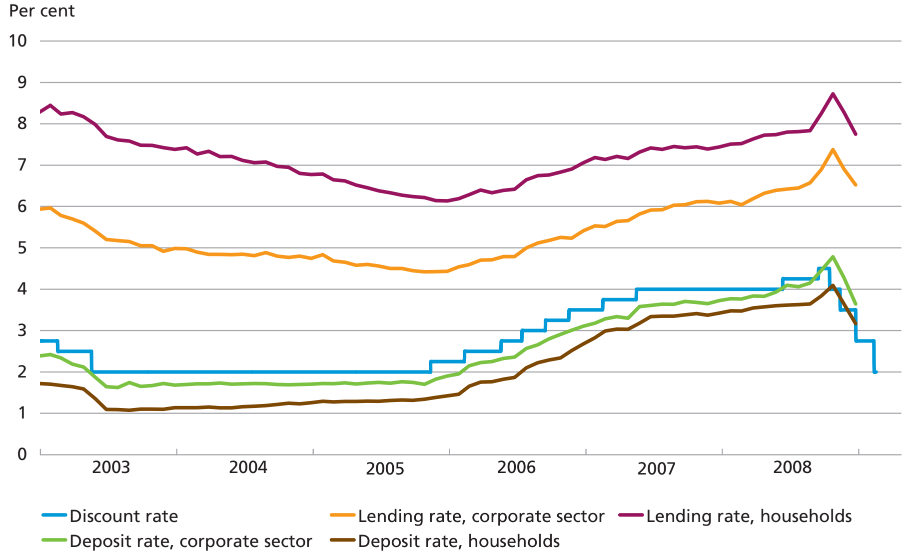
YIELDS ON MORTGAGE-CREDIT BONDS — Chart 11



Note: Weekly data. The yields on mortgage-credit bonds are average yields to maturity, the short-term yield being based on 1- and 2-year non-callable mortgage-credit bonds, the long-term yield on 30-year callable mortgage-credit bonds, cf. the Association of Danish Mortgage Banks. The most recent observations are from calendar week 10, 2009.

Source: Association of Danish Mortgage Banks.

THE DISCOUNT RATE AND THE BANKS' AVERAGE INTEREST RATES Chart 12



Note: The discount rate is on a daily basis. Other interest rates are monthly averages for outstanding business. The most recent observation is from 11 March 2009 for the discount rate and January 2009 for the other interest rates.
Source: Danmarks Nationalbank.

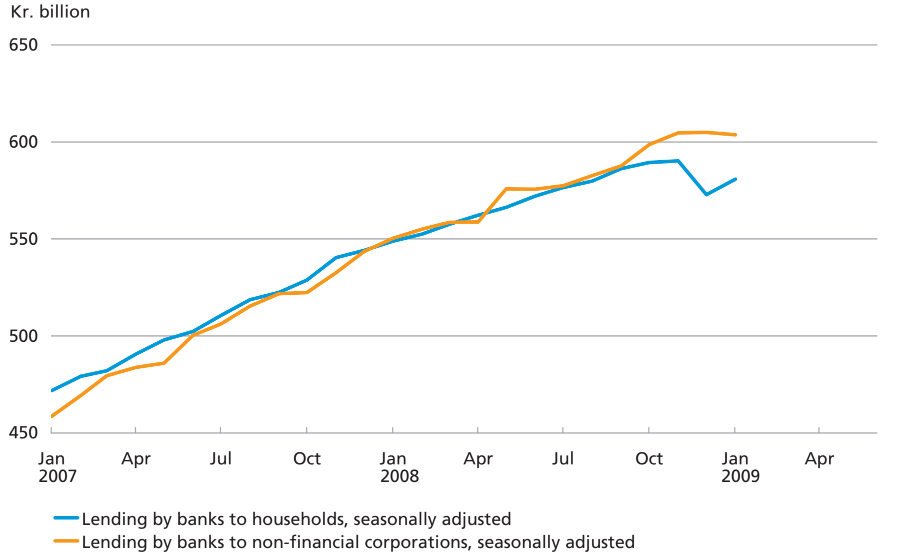
From the onset of the financial turmoil in the summer of 2007 until January 2009, the banks' average lending rates for households and the corporate sector rose. Lending rates have risen more than deposit rates, and the interest-rate margin vis-à-vis both households and the corporate sector has increased, cf. the article on p.45. This is in line with Danmarks Nationalbank's new lending survey[1], in which the credit institutions have stated that they tightened credit policies from the 3rd to the 4th quarter of 2008, mainly by adjusting prices. Mounting losses, higher financing costs and contributions to "Bank Rescue Package I" have led to widening of the banks' interest-rate margins.

Aggregate growth in lending to households and non-financial corporations by banks and mortgage-credit institutes resident in Denmark has been declining and was 7.3 per cent year-on-year at end-January. Seasonally adjusted bank lending to households has shown a declining trend in recent months, cf. Chart 13. Lending by banks to non-financial corporations has been broadly unchanged.

The cyclical downturn and lower housing prices dampen the demand for loans. In the lending survey, the banks report that the households' demand for loans fell from the 3rd to the 4th quarter of 2008, while demand from the corporate sector overall rose from new customers and

[1] See p. 81 for a description of the survey.

BANK LENDING TO HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS Chart 13



Note: Lending by banks in Denmark. The most recent observations are from January 2009.
Source: Danmarks Nationalbank.

fell from existing customers.[1] The mortgage-credit institutes reported higher demand from both new and existing customers.

On the supply side, the banks and mortgage-credit institutes stated that they have tightened their credit policies, especially towards the corporate sector, but also towards households. This is mainly attributable to changes in the credit institutions' risk assessments, including expectations for economic activity in general. Besides adjusting prices and collateral requirements, the institutions have increased their focus on loan size, maturity and loan-to-value ratio.

The international financial crisis has made it difficult for Danish credit institutions to obtain new capital in the markets. To address mounting solvency pressures, the Folketing (Danish parliament) on 3 February 2009 adopted the Act on State-Funded Capital Injections into Credit Institutions (the Credit Package), cf. Box 5. Without access to capital, the credit institutions would have had to reduce their balance sheets and thus their lending. This would increase the risk of a credit crunch, whereby even creditworthy borrowers would be unable to obtain loans, which in turn might reinforce the cyclical downturn.

[1] In the lending survey, lending to corporations comprises lending to non-financial corporations and sole proprietors, while the latter are included as households in the lending statistics (balance-sheet and flow statistics for the MFI sector). In the lending survey, lending to households comprises lending to wage earners and pensioners, etc.

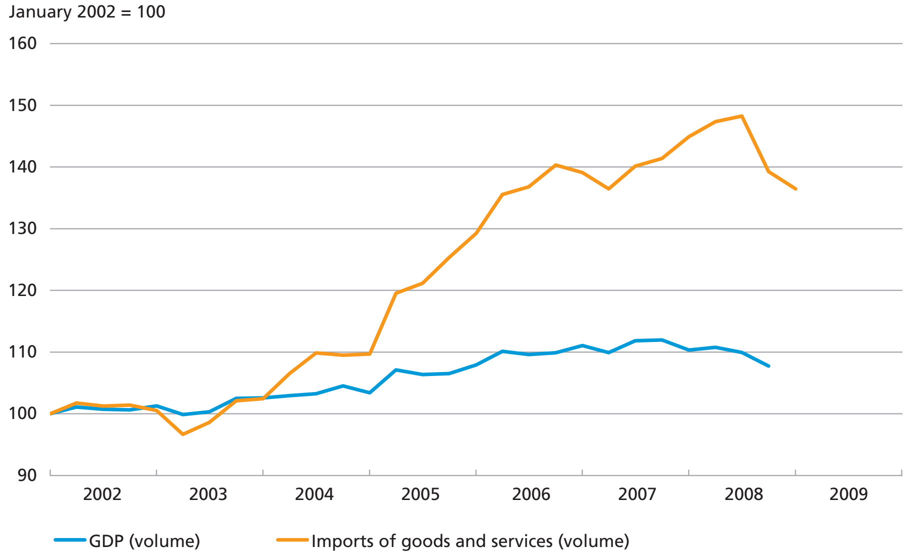
On 23 February, Fionia Bank announced that its actual solvency ratio was below the statutory requirement. The Danish Financial Supervisory Authority gave the bank a deadline by which the solvency requirement must be met. In that connection, Fionia Bank entered into an agreement with the Winding-Up Company (Afviklingsselskabet til sikring af finansiel stabilitet A/S). Fionia Bank established a new bank, to which all assets and liabilities except equity and subordinated debt were transferred. The Winding-Up Company owns one share in the new Fionia Bank, while the remaining shares are owned by the former bank. The former Fionia Bank pledged its shares to the Winding-Up Company, which thus acquired the voting rights on all shares and control of the new bank. The Winding-Up Company contributed subordinated capital of kr. 1 billion to the new bank so that it met the solvency requirement.

On 2 March, Løkken Sparekasse had to acknowledge that its equity was insufficient for it to continue as an independent savings bank. Against that background, it has transferred all its assets and liabilities except guarantee capital to the Winding-Up Company.

THE DANISH ECONOMY: REAL ECONOMY

The Danish economy has been slowing down for some time, and even more so in 2008. For a couple of years, the Danish economy has been close to its capacity limit. GDP has thus been almost flat in recent years, while imports have grown substantially, cf. Chart 14. This shows that the

DANISH OUTPUT AND IMPORTS — Chart 14



Source: Statistics Denmark.

low growth was initially attributable to domestic capacity problems rather than demand shortfalls. All that has changed. Labour market developments and expectation indicators show that the high capacity utilisation will relatively soon make way for spare capacity.

GDP fell by 2.0 per cent in the 4th quarter of 2008, and by 1.3 per cent in the full year. This is the first time in 15 years that the annual rate of change is negative. The fall is of the same magnitude as that seen in the mid-1970s in the wake of the first oil crisis.

Private consumption fell by 2.8 per cent in the 4th quarter, reflecting factors such as substantially lower car sales, while government consumption rose a little. Consumption declined throughout 2008 in spite of a positive trend in real disposable incomes. This should be viewed in the light of very negative consumer expectations and decreasing wealth, including home equity, due to falling stock indices and housing prices. With the current outlook for price and wage developments, real wages for people in employment will increase further in 2009, also boosted by income tax cuts.

Fixed capital formation declined by 3.9 per cent in the 4th quarter and by 2.7 per cent for the full year. The fall was broadly distributed on investment categories. Exports and imports were down by 3.8 and 6.0 per cent, respectively, in the 4th quarter.

The downward trend in exports is primarily attributable to a general decline in demand in most of Denmark's export markets, but also reflects that Danish price and wage increases have exceeded those of Denmark's competitors for a number of years.

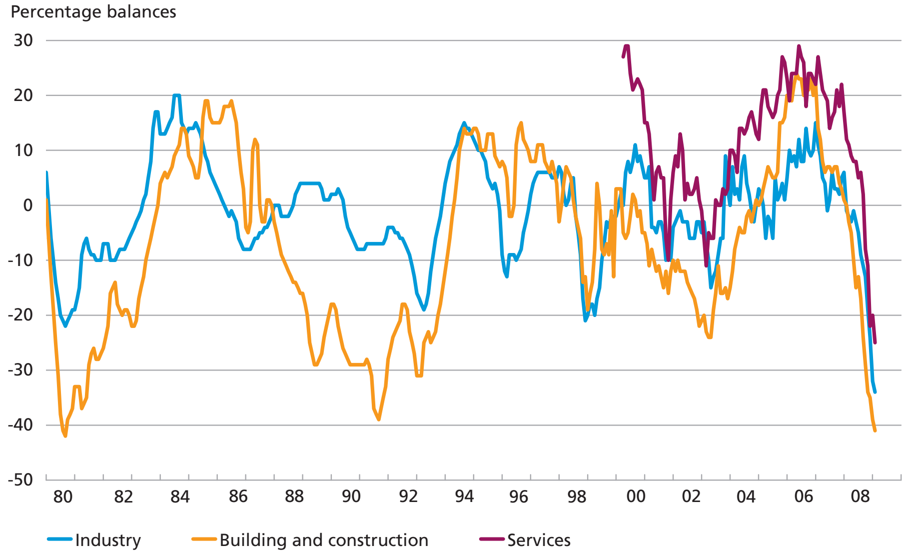
Confidence indicators

All confidence indicators for the Danish economy point downwards. Consumer confidence, which has historically shown close covariation with the cyclical pattern, has dropped considerably since the autumn, cf. Box 6. Business expectations declined throughout 2008, but at an accelerating pace, cf. Chart 15. Confidence indicators for industry, services and construction are now substantially below their historical averages.

Retail sales are still falling and were some 6 per cent lower in January than one year earlier, bringing them back to the level in the autumn of 2004. Car sales have been going down since the autumn of 2008, albeit from a very high level, and in December and January sales could still match the level in the years before the upswing.

The number of compulsory liquidations continues to rise and in February reached the highest levels since the statistics were introduced in 1979. The number of enforced sales of homes has also shown an upward trend, but remains low in a long-term perspective.

BUSINESS CONFIDENCE INDICATORS Chart 15



Source: Statistics Denmark.

On the face of it, the indicators are thus gloomy. However, it is important to keep things in perspective – unemployment is still moderate, both in a historical and an international context.

The housing market

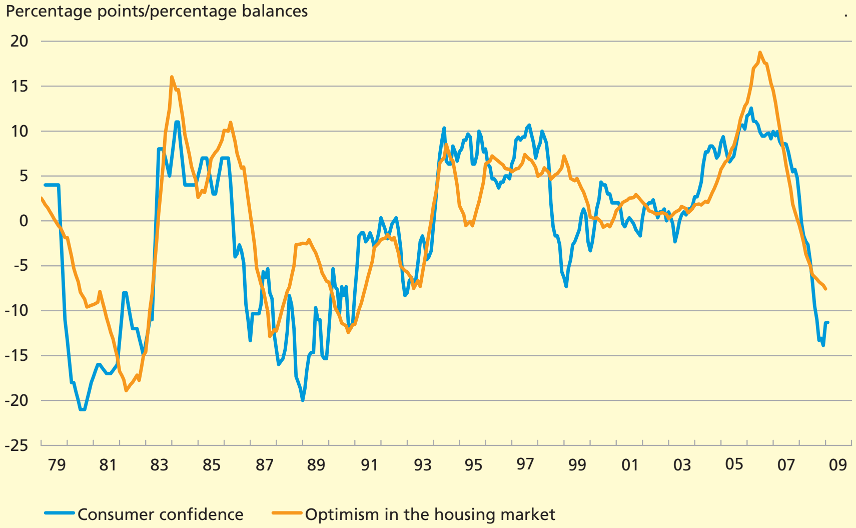
The fall in house prices continued in the 4th quarter of 2008 and has spread from the Copenhagen area to most of the country. At the national level, seasonally adjusted cash prices for single-family and terraced houses have declined by 8 per cent since the peak in the 2nd quarter of 2007. Prices in the Copenhagen area and parts of Zealand have tumbled by almost 20 per cent, while the trend has been more moderate for Denmark overall. The prices of owner-occupied flats, which are primarily found in the Copenhagen area, have dived even more than those of single-family and terraced houses. Price adjustments are now also seen in the market for summer cottages. In general, the areas most severely affected are those where the rate of price increase was most rapid prior to the reversal, and where the price per square metre is highest.

The supply of owner-occupied homes, including flats, for sale is high, at 60,000, and according to statistics from the Association of Danish Mortgage Banks sales for the 4th quarter were at the lowest level since the statistics began in 1995.

CONSUMER CONFIDENCE AND CYCLICAL PATTERNS Box 6

Consumer and business confidence has plummeted in the last quarter. The consumer confidence indicator is now approaching the level seen during the second oil crisis in the late 1970s and the recession in the late 1980s, cf. Chart 16.

EXPECTATIONS AND THE HOUSING MARKET Chart 16



Note: "Optimism in the housing market" is the difference between the annual rate of increase in cash prices and GDP in percentage points. "Consumer confidence" is a percentage balance.
Source: Statistics Denmark, Association of Danish Mortgage Banks and own calculations.

Consumer confidence is frequently characterised by an abrupt shift in the indicator prior to a boom or a recession. This was the case in connection with the boom years in the mid-1980s, the cyclical reversal in 1993-94 and the slowdown in the wake of the 1998 "Whitsun Package". The most recent drop in consumer confidence is attributable to the financial crisis and the resulting global pessimism.

It is not surprising that the economy is losing steam after having operated at close to its capacity limit for a number of years. It would have done so even without a financial crisis. The change of sentiment is, however, surprisingly strong. Unfreezing the housing market seems to be the key to changing the mood among households and thus also in the business sector. On the other hand, further deterioration of the housing market may have a pronounced negative impact on consumer confidence.

An economy with a large public sector, such as the Danish one, has strong automatic stabilisers via public finances. In addition, active fiscal policy may mitigate, but not prevent, cyclical fluctuations. Fiscal-policy relaxation will only be effective if there is, in fact, spare capacity to meet the increase in demand. If not, it will – even if consumer and business confidence is restored – lead to mounting inflationary pressures and deterioration of the current-account balance to the extent that higher demand must be met by foreign output. Furthermore, substituting increased output in domestically oriented sectors for declines in the exporting sectors may distort the economy and lead to balance-of-payments problems in the long term.

Besides the general economic slowdown, the fall in cash prices should be seen against the backdrop of somewhat higher prices, especially for long-term mortgage financing, in 2008 than in the preceding years, and the fact that prices in the Copenhagen area in particular had reached a very high level. The main reason why the housing market is practically frozen right now is that further price reductions are expected. This prophecy is self-fulfilling and the market does not seem to be thawing. The decline in housing prices may be cushioned by the pronounced drop in short-term interest rates.

Balance of payments and foreign trade

Both imports and exports of goods fell substantially in the period up to the turn of the year and were unchanged in January 2009, reflecting the rapid economic slowdown in Denmark and in its export markets. At the same time, Denmark's competitiveness continued to deteriorate, partly on account of a relatively high rate of wage increase, partly as a result of the currencies of some of Denmark's key trading partners having weakened. Industrial order books and the assessment of the order intake from export markets showed a pronounced downward trend just before the turn of the year.

Energy exports have been hit by the drop in oil prices over the past six months, but also industrial exports and, to a lesser extent, agricultural exports have been affected. The decline in exports is broadly based, but particularly strong in a number of key markets such as the UK, Sweden and the USA. On the imports side, imports for both consumption and business have declined.

The falling external trade has had only a limited impact on the seasonally adjusted trade surplus, which solely comprises trade in goods. In January it was at the same level as in the last couple of years – approximately kr. 2 billion per month.

In the 12 months up to and including January, the balance of payments showed a surplus of kr. 35 billion, compared with kr. 11 billion in the preceding period. The surplus is attributable to trade in services and investment income from abroad. The latter is subject to uncertainty and may be revised when company financial statements for 2008 are incorporated into the statistics. The surplus on sea freight has declined in recent months and with the current outlook for global trade it will probably continue to fall in the near future.

So far, the balance of payments has been buoyed up by a steady improvement of the terms of trade. Whether this can continue in an international recession, in which highly priced goods are among the first things to be cut out of the budget, remains uncertain.

Labour market

The recession has dealt the labour market a strong blow. It is normal for a slowdown in economic growth to be reflected in unemployment rates with a certain lag.

Unemployment bottomed out in June 2008, with 47,000 full-time unemployed (seasonally adjusted), equivalent to 1.7 per cent of the labour force. In January the number had risen to 64,200, i.e. an unemployment rate of 2.3 per cent. The reversal has been abrupt, and in recent months 5,000 people per month have joined the ranks of the unemployed. The rapid adjustment to the change in demand is a result of the flexible Danish labour-market model (the flexicurity model), which imposes few limitations on business enterprises in terms of adapting the labour force to changing conditions.

The lower demand for labour means that the labour market has become less tight. Nevertheless, unemployment is still believed to be somewhat below the structural level. This is reflected in a rate of wage increase that is still relatively high, but receding.

In February, only few construction enterprises and no industrial enterprises reported that they had problems recruiting sufficient labour. The number of jobs posted on the Internet in January was almost 50 per cent lower than one year before. In the public sector there are, however, still recruitment problems in some areas, but the number of unfilled vacancies is declining.

Following a prolonged period of increase, seasonally adjusted employment fell by 13,000 from the 3rd to the 4th quarter according to the national accounts. The fall was entirely driven by the private sector. The decrease in employment exceeded the increase in unemployment in the same period.

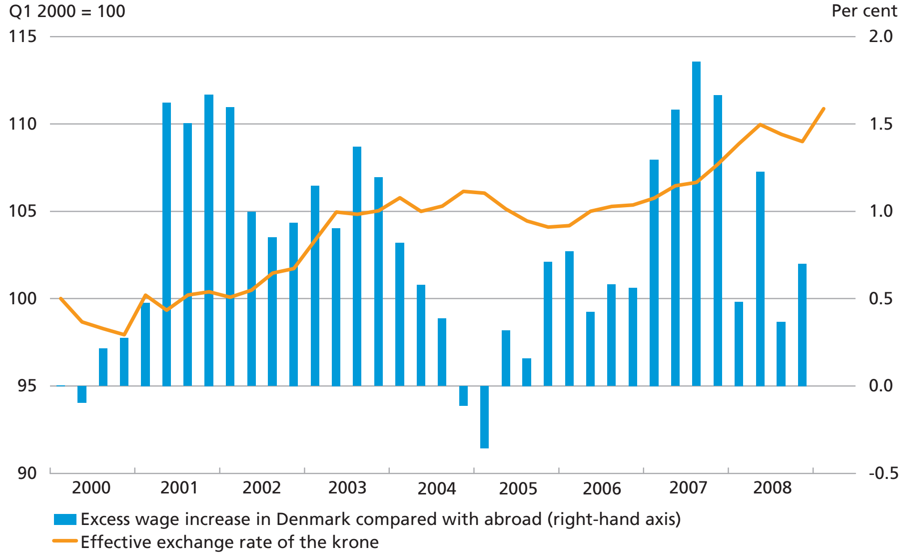
Wages and prices

The rate of Danish wage increase slowed in the 2nd half of 2008 to stand at just over 4 per cent p.a., but remains higher than in competitor countries, cf. Chart 17. The deterioration in competitiveness has been accentuated by an increase in the effective exchange rate of the krone.

Over the last five years, the rate of wage increase in building and construction has been substantially higher than in the rest of the private labour market, cf. Chart 18. This reflects considerable capacity pressures in this sector during the boom.

Wage growth typically displays a sluggish pattern, especially when slowing down. Consequently, it takes time before the labour market can eliminate an elevated rate of wage increase reached during a boom, and unemployment may therefore be above the structural level for some

EXCESS WAGE INCREASE IN DENMARK AND EFFECTIVE EXCHANGE RATE OF THE KRONE — Chart 17

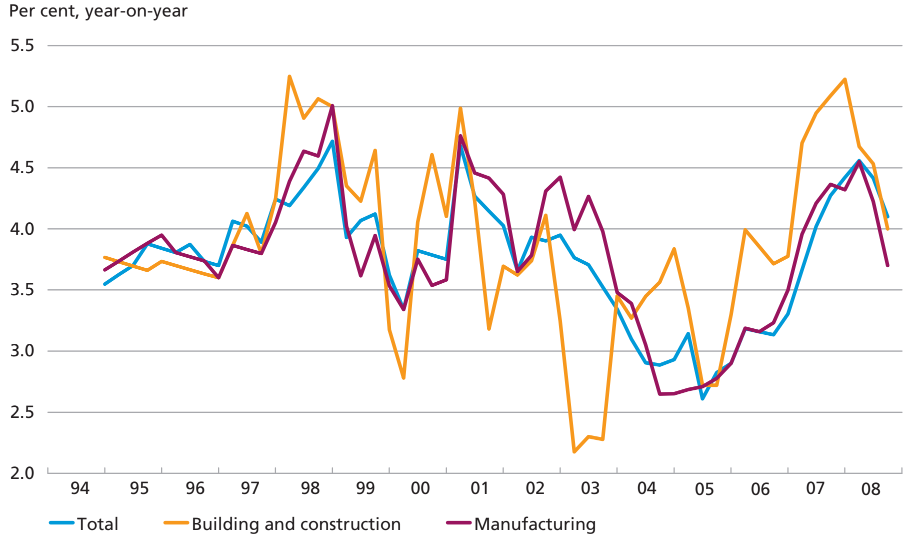


Note: The "excess wage increase" is calculated on the basis of industrial wages.
Source: Confederation of Danish Employers (DA) and Danmarks Nationalbank.

time. Adaptation to a large extent depends on the degree of flexibility in wage formation in connection with local bargaining.

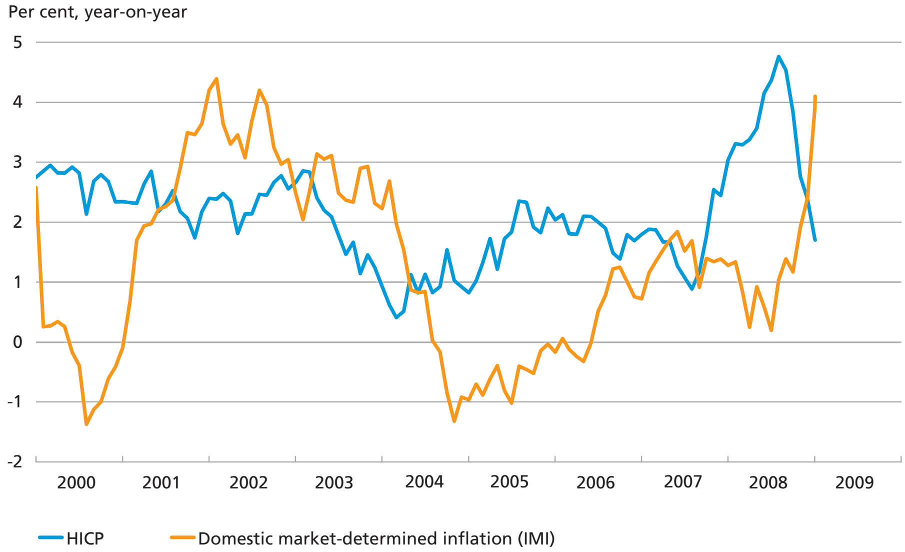
Consumer price inflation, measured by the Harmonised Index of Consumer Prices, HICP, has declined in recent months after a peak in

RATE OF WAGE INCREASE IN THE PRIVATE-SECTOR LABOUR MARKET — Chart 18



Note: "Total" covers the private-sector labour market.
Source: Statistics Denmark.

INFLATION IN DENMARK Chart 19



Note: "HICP" is the EU's Harmonised Index of Consumer Prices. IMI for the most recent month is a partial estimate. The most recent month included is February.
Source: Statistics Denmark.

August 2008, cf. Chart 19. In February, inflation was 1.7 per cent year-on-year. The more subdued rate of price increase is mainly attributable to falling energy prices. Together with food prices, this was also the component that drove the rise in inflation until August. Base effects alone can be expected to keep inflation low in the coming months too. Wholesale prices have been going down in recent months.

Domestic market-determined inflation, on the other hand, has risen in recent months, to 4.1 per cent in February, which is the highest level since 2002. The underlying causes are the still high rate of wage increase in Denmark, as well as restoration of corporate profit margins, which are typically squeezed in periods with rapidly increasing import prices as in the first part of 2008.

Preliminary data show that euro area HICP inflation was 1.7 per cent in February. Core inflation, i.e. HICP excluding energy, food, alcohol and tobacco, was 1.6 per cent in January compared with 2.4 per cent in Denmark. The difference reflects higher capacity utilisation in the euro area, among other factors.

Economic policy

The economic outlook is unusually uncertain. In its central estimate, Danmarks Nationalbank operates with a peak in unemployment of just over 150,000 at the beginning of 2011. This will be a relatively moderate development compared with the situation in many other countries. However, a much gloomier scenario cannot be ruled out, particularly if the actual contraction in global trade exceeds the substantial fall assumed in the forecast. The Box on p. 34 illustrates the consequences of such a development.

The uncertainty as to the strength of the recession poses a special challenge in relation to economic policy. Denmark's economic policy has been eased considerably in 2009 in that people have been given the option to withdraw their SP savings (special pension scheme), public-sector investments have been brought forward and various other initiatives have been implemented, cf. Box 7.

By reducing the marginal tax rate for many people, the planned tax reform for 2010 includes a structural element and will ultimately contribute to boosting the supply of labour. In the current cyclical situation the key issue is, however, the pronounced underfinancing during the phasing-in of the reform.

In addition to the impact of the automatic stabilisers, the relaxation of fiscal policy will, according to the Ministry of Finance, account for 1.2 per cent of GDP in 2009 and 1.0 per cent of GDP in 2010, measured by

INITIATIVES TO SUPPORT GROWTH AND FINANCIAL STABILITY — Box 7

Denmark has the most cyclical government budget balance among the OECD countries. Public finances automatically make a substantial contribution to dampening an economic downturn. Besides this automatic reaction, a number of further initiatives have been taken to support economic growth and curb the increase in unemployment:

- Option to withdraw special pension savings in 2009 at a reduced rate of taxation
- Earmarking of kr. 1.5 billion for renovation of private housing in 2009
- Bringing fixed local-government investments forward beyond what was envisaged in the 2009 budgets, in the range of kr. 1.5-2 billion
- Increasing traffic infrastructure investments by a total of kr. 5 billion in 2009 and 2010
- A temporarily underfinanced tax reform, effective from 2010, when it is underfinanced by approximately kr. 14 billion

In addition, various measures have been launched to support the financial and business sectors.

- A Bank Rescue Package covering all unsecured claims to support stability in the financial sector
- A Credit Package allowing for government injections of hybrid core capital into banks and mortgage-credit institutes for up to kr. 100 billion, cf. Box 5
- An export loan scheme, etc. of kr. 20 billion
- Extended credits for payment of VAT and other taxes, etc. in excess of kr. 65 billion, equivalent to government interest expenses of kr. 1.5 billion in 2009.

the direct revenue impact, and the activity effect will total 1.5 per cent of GDP. Like many other countries, Denmark is thus implementing expansionary measures to reverse the negative trend. Unemployment remains low in Denmark and substantially below the level in most other countries.

Combined with the budget effects of the general economic slowdown and a significant reduction of recent years' extraordinarily high revenue from taxation of North Sea oil and gas production, pension yields and company profits, the economic-policy relaxation means that public finances can be expected to show a deficit in 2009 and larger deficits in the coming years. This will lead to higher government debt following a number of years in which the central government's net debt has been reduced considerably. To finance the deficits, net issuance of government bonds is required. The deterioration of the government budget balance limits the scope for further fiscal-policy relaxation.

Whether the economic policy measures adopted will have any decisive impact on the economy in the current situation remains uncertain. Little can be done to counter the fall in exports. Moreover, it is very difficult to control shifts in expectations by means of economic policy. When consumer confidence is low and concerns about unemployment high, there is every probability that higher disposable incomes are initially used to boost savings rather than consumption. If the mood swings, the households have the necessary funds to increase consumption rapidly and substantially.

In conclusion, Danmarks Nationalbank believes that the initiatives already taken should be given time to work before any further measures are considered.

The Danish Economy 2009-11

INTRODUCTION AND SUMMARY

This article reviews Danmarks Nationalbank's forecast for the Danish economy in the years 2009-11. The forecast has been produced using the macroeconometric model MONA[1] and is based on available economic statistics, including Statistics Denmark's quarterly national accounts for the 4th quarter of 2008[2].

The Danish economy is experiencing a slowdown with declining demand and output. 2008 saw a substantial drop in GDP; a trend that continues into 2009, rendering GDP in 2009 1.1 per cent lower than in 2008, cf. Table 1. Inflationary pressures have eased, primarily on account of falling prices in the international commodity markets. After several years of high growth and a growing shortage of labour, driven by the pressure of domestic demand in particular, the economy was expected to enter a period of low growth. The slowdown is now being further amplified by the financial crisis and the resulting international setback, but the slowdown is from a very high level.

GDP is expected to be 3.5 per cent lower in the 1st half of 2009 than in the 2nd half of 2007, and it will not be possible to catch up with the loss of output until the 2nd half of 2011. A similar setback has not been seen since the mid-1970s. The loss of output is at the same level as expected in the euro area and larger than in the US economy, cf. Chart 1, despite the fact that the financial crisis originated in the USA. The setback occurs earlier in Denmark than in the euro area, reflecting that in recent years the Danish economy has been ahead of the rest of Europe in the economic cycle.

Private-sector employment has declined over the last quarters, and the capacity pressure, which has been severe in recent years, is rapidly abating. The acute shortage of labour has ceased, and unemployment has increased by just over 17,000 persons since the summer of 2008. If the current rate of increase continues, unemployment will already reach its structural level this autumn, i.e. the level that is compatible with stable development in wages and prices, and which is estimated to be in the range of 100,000-120,000 persons.

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

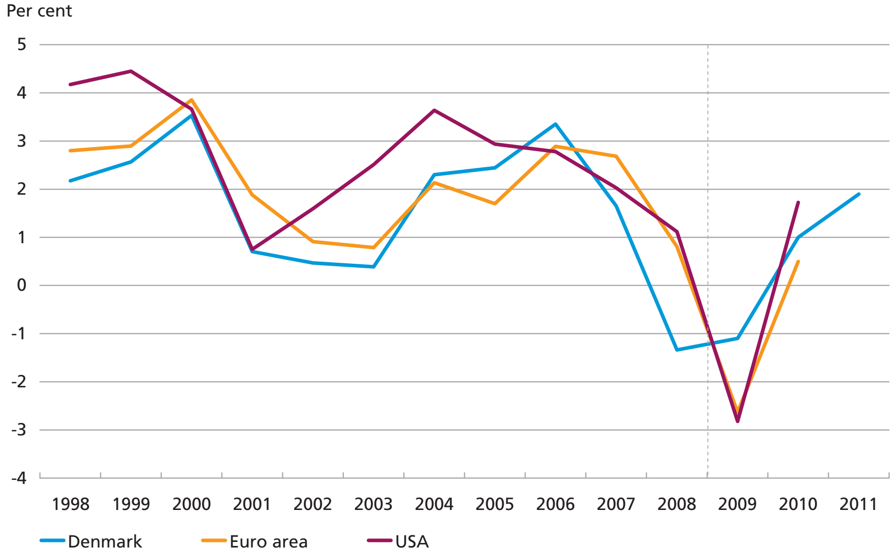
[2] The calculations are based on statistical information up to and including 11 March 2009.

KEY ECONOMIC VARIABLES				Table 1
Real growth on previous year, per cent	2008	2009	2010	2011
GDP	-1.3	-1.1	1.0	1.9
Private consumption	0.0	-0.9	2.1	1.8
Public consumption	0.6	2.4	1.5	1.5
Residential investments	-4.6	-7.2	-4.0	-0.3
Public investments	1.8	14.4	7.6	3.8
Business investments	-2.4	-7.6	0.0	4.2
Inventory investments[1]	0.2	-0.2	-0.1	-0.3
Exports	1.9	-5.7	0.6	3.2
Industrial exports	0.3	-8.1	0.2	4.7
Imports	4.1	-6.3	1.1	2.8
Consumer prices, per cent year-on-year	3.6	1.0	1.5	1.6
Unemployment, 1,000 persons	50.9	92.1	139.9	151.0
Balance of payments, per cent of GDP	2.0	1.4	1.4	1.8
Government balance, per cent of GDP	2.7	-0.8	-3.0	-1.7
Hourly wages, per cent year-on-year	4.2	3.7	3.5	3.4

[1] Contribution to GDP growth.

Private-sector wage increases declined substantially throughout the autumn in step with the abating pressure on the labour market, but it remains clearly higher than abroad. In addition, productivity growth has been weak in recent years, while the effective krone rate has strengthened significantly as a result of the weakening of the Swedish krona and the pound sterling, among others. The considerable deterioration of

GDP GROWTH IN DENMARK, THE EURO AREA AND THE USA — Chart 1



Note: Estimates after the broken line.
Source: Statistics Denmark, EcoWin, Consensus Economics March 2009 and own forecast.

competitiveness is exerting strong pressure on export enterprises against the backdrop of weak international economic prospects.

Domestic demand, notably private consumption and investments, fell in 2008 after strong growth in the previous years. The weak development is expected to continue in the coming quarters in light of the gloomy consumer and business sentiment. An upswing in the housing market, which has been deteriorating since 2007, does not seem imminent. The considerable interest-rate decreases in recent months and the expansionary fiscal-policy measures in both 2009 and 2010 have the opposite effect, however. The forecast operates with substantial deterioration of public finances as a result of budget cyclicality and the accommodative fiscal policy. The deficit will peak at 3.0 per cent of GDP in 2010.

The forecast assumes that in view of the general uncertainty, including the weaker development in the labour market, households will be reluctant to spend tax cuts as well as the released special pension savings on increased consumption. Box 1 analyses an alternative scenario where domestic demand reacts more strongly to the fiscal-policy expansion as well as a scenario with further worsening of the international economic outlook, which has gradually been adjusted downwards over the past months.

The revisions of the forecast compared with the September 2008 forecast are outlined below, followed by a more detailed review of the forecast, including its underlying assumptions.

REVISIONS IN RELATION TO THE PREVIOUS FORECAST

According to Statistics Denmark's calculation, GDP growth in the 2nd half of 2008 is substantially weaker than estimated in the previous forecast from September 2008. Growth in 2009 is also expected to be considerably weaker than predicted in September, cf. Table 2. The downward adjustment is to a large extent attributable to shrinking export markets.

REVISIONS IN RELATION TO THE PREVIOUS FORECAST — Table 2

	Actual	This forecast			Previous forecast		
	2008	2009	2010	2011	2008	2009	2010
GDP, per cent year-on-year	-1.3	-1.1	1.0	1.9	0.9	1.0	0.5
Unemployment, 1,000 persons	50.9	92.1	139.9	151.0	47.3	60.4	95.3
Balance of payments, kr. billion	35.4	25.0	24.5	33.0	23.0	35.7	46.8
HICP, per cent year-on-year	3.6	1.0	1.5	1.6	3.8	2.6	1.9

Note: The previous forecast was published in September 2008.

ALTERNATIVE SCENARIOS | Box 1

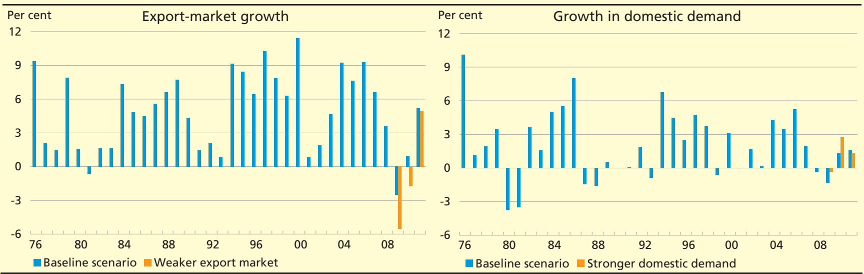
The real-economic effects of the financial crisis have turned out to be more serious than expected. This has led to a number of downward revisions of forecasts in recent months, both in Denmark and abroad. The prospects of a marked slowdown in activity in many of Denmark's trading partner countries have led to significant downward adjustment of the central estimate for export market growth since September, and export markets are now expected to shrink by 2.5 per cent in 2009. An export market decline from one year to the next is unusual and was last seen in 1981, cf. the Chart below to the left.

The possible consequences of a stronger international downturn than anticipated in the central estimate are illustrated by means of an alternative scenario below. This scenario implies lower export market growth as from the 1st quarter of 2009. The changed assumptions entail an export market reduction of approximately 5.5 per cent in 2009 and 1.7 per cent in 2010, cf. the yellow bars in the Chart below to the left. In this scenario the marked decline in activity abroad is followed by a fall in interest rates of 1 percentage point for short-term and long-term interest rates in both Denmark and abroad as from the 2nd quarter of 2009.

Weaker external demand in the alternative scenario leads to a more pronounced decrease in GDP in 2009 than in the baseline scenario, cf. the Table below. The effect of the substantial export decline thus dominates the positive impact of lower interest rates on investments and via cash prices also on private consumption. The GDP drop leads to stronger unemployment growth, peaking at about 180,000 persons at the beginning of 2011 compared with a peak of 155,000 in the baseline scenario. The balance of payments deteriorates due to falling exports, but the balance remains positive.

The fiscal policy stance is expected to be accommodative in the forecast period. In addition to the planned tax cuts this year, it has been agreed to provide financial support for households' renovation of permanent residences, to enable local governments to bring forward their fixed investments and to allow households to cash in their special pension savings at a reduced tax rate. Other factors include a number of measures aimed at facilitating capital allocation and corporate liquidity. In the coming years the agreed temporary underfunding of the tax reform will boost activity. The exact impact of these initiatives on the Danish economy is subject to uncertainty, however, particularly in the current situation of low consumer confidence. As regards disbursement of special pension savings, it is uncertain how many will make use of the opportunity, and how much will be spent on increased consumption rather than savings.

ASSUMPTIONS OF ALTERNATIVE SCENARIOS



CONTINUED Box 1

Another alternative scenario therefore operates with fiscal-policy initiatives resulting in a smaller reduction of the consumption ratio than in the baseline scenario as from the 2nd quarter of 2009. At the same time, the more positive development in private consumption is assumed to spill over into housing investments. Finally, the scenario operates with stronger development in public consumption than in the baseline scenario, specifically via higher public investments and employment as from the 2nd quarter of 2009. Overall, the stronger development in private and public consumption leads to a decrease in domestic demand of 0.4 per cent in 2009, followed by an increase of almost 3 per cent in 2010, cf. the yellow bars in the Chart above to the right.

Stronger growth in domestic demand increases activity compared with the baseline scenario, and in the second alternative scenario the decline in GDP in 2009 is reduced to 0.6 per cent. Growth in 2010 will also be stronger than in the baseline scenario, and the stronger development in activity limits the increase in unemployment, which peaks at about 130,000 persons in 2011. Higher consumption and investment push up imports, but nevertheless the current account shows surpluses in all the three years.

In the last scenario, which combines lower external demand with higher domestic demand, GDP is more or less in line with the baseline scenario in 2011. The unemployment trend is also very similar to the baseline scenario, peaking at about 155,000 persons in 2011. Stronger domestic demand leads to increased imports, and because exports continue to be forced down by declining export markets, the balance of payments clearly deteriorates, leading to deficits in 2010 and 2011.

ALTERNATIVE SCENARIOS

	Baseline scenario	1: Weaker export market	2: Stronger domestic demand	Total, 1+2
2009				
GDP, per cent year-on-year	-1.1	-1.4	-0.6	-0.9
Unemployment, 1,000 persons	92	97	84	89
Balance of payments, kr. billion	25	19	18	13
HICP, per cent year-on-year	1.0	1.0	1.0	1.0
2010				
GDP, per cent year-on-year	1.0	0.6	1.7	1.3
Unemployment, 1,000 persons	140	157	120	137
Balance of payments, kr. billion	24	9	6	-9
HICP, per cent year-on-year	1.5	1.5	1.6	1.5
2011				
GDP, per cent year-on-year	1.9	1.8	1.6	1.6
Unemployment, 1,000 persons	151	179	126	154
Balance of payments, kr. billion	33	12	17	-4
HICP, per cent year-on-year	1.6	1.5	1.7	1.6

Realised unemployment for 2008 as a whole deviates only a little from the September forecast. Unemployment is expected to continue to rise.

The current-account surplus was slightly higher in 2008 than predicted in September. This primarily reflects a higher-than-expected surplus on sea freight. Looking ahead, the current-account surplus is reduced compared with the previous forecast, reflecting the severity of the international economic slowdown. Due to the substantial drop in commodity prices, consumer price inflation has since the autumn declined more than expected. Consequently, the 2009 estimate of consumer prices has also been adjusted downwards. The economic slowdown means that inflation in 2010 will also be slightly lower than in the previous forecast.

ASSUMPTIONS IN THE PROJECTION

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

The international economy

The international financial crisis has had stronger real-economic effects than anticipated, and since the autumn the economic growth expectations for Denmark's trading partners have been subject to substantial downward revision. The prospects for Denmark's export markets have thus become significantly gloomier compared with the September 2008 forecast. Many countries have adopted extensive stimulus packages to support financial stability and fiscal-policy growth packages to curb the slowdown. At the same time, monetary policy has generally been eased. Despite these measures, Denmark's export markets are expected to be reduced by 2.5 per cent from 2008 to 2009, cf. Table 3. That is the largest annual reduction since 1975, when the OECD first began compiling these statistics. The cyclical reversal abroad is not expected until the end of 2009 or the beginning of 2010, and export markets are expected to grow as economic activity picks up.

Global price pressures have eased since the summer of 2008 as a result of declining growth in the global economy and the substantial drop in oil prices. The estimates of price increases in the export markets for industrial goods and the goods with which Danish enterprises compete in the domestic market have therefore been revised downwards from the previous forecast. Wage inflation abroad is expected to decline in response to the weaker international economy.

Interest rates, exchange rates and oil prices

In the forecast, the development in short-term and long-term interest rates is based on the expectations that can be derived from the yield curves in the financial markets. Short-term interest rates rose from 2005 until the autumn of 2008, and then fell until the beginning of March. According to market expectations, short-term interest rates will continue

OVERVIEW OF FORECAST ASSUMPTIONS				Table 3
	2008	2009	2010	2011
International economy:				
Export market growth, per cent year-on-year	3.6	-2.5	0.9	5.2
Export market price[1], per cent year-on-year .	1.8	2.0	1.7	2.0
Foreign price[2], per cent year-on-year	2.2	2.1	1.6	2.0
Foreign hourly wages, per cent year-on-year	3.4	2.4	2.4	2.8
Financial conditions, etc.:				
3-month money-market interest rate, per cent per annum	4.5	2.5	3.0	3.4
Average bond yield, per cent per annum	5.0	4.4	4.9	5.4
Effective krone rate, 1980 = 100	105.8	107.6	107.7	107.7
Dollar exchange rate, DKK per USD	5.1	5.9	5.9	5.9
Oil price, Brent, USD per barrel	98.5	47.2	53.7	58.3
Fiscal policy:				
Public consumption, per cent year-on-year ..	0.6	2.4	1.5	1.5
Public investment, per cent year-on-year	1.8	14.4	7.6	3.8
Public-sector employment, 1,000 persons	819.0	830.0	832.4	834.7

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

to fall until the summer of 2009 and then increase by approximately 1 percentage point until 2011.

Bond yields have also declined since the autumn of 2008, and in the first months of 2009 they were above the rock-bottom level of 2005. Bond yields are predicted to gradually increase again to 5.4 per cent in 2011.

Recent years have seen a strengthening of the krone vis-à-vis the currencies of Denmark's trading partners, and in December 2008 the nominal effective exchange rate of the krone reached the highest level seen since 1979. From December until the beginning of March the effective exchange rate of the krone weakened slightly because of the depreciation, among other factors, of the krone vis-à-vis the dollar and the pound sterling. In the projection, the dollar rate and the effective krone rate are assumed to be unchanged from the level at the beginning of March 2009.

Oil prices fell significantly from approximately 135 dollars per barrel in July 2008 to a little over 40 dollars at the beginning of March 2009. In the projection, oil prices are assumed to mirror futures prices and rise a little from the current level. Consequently, oil prices have been more than halved compared with the September 2008 forecast.

Fiscal assumptions

The fiscal assumptions in the forecast reflect the 2009 Finance Act and the agreed tax reform, the agreed stimulus initiatives (Spring Package

2.0) and the political transport agreement. Growth in real public consumption is expected to be 2.4 per cent in 2009 and 1.5 per cent in both 2010 and 2011. The relatively high growth in public consumption in 2009 should be viewed in the light of the fact that according to preliminary national accounts data, consumption growth was only 0.6 per cent in 2008. In the forecast, increases in public investments are also relatively high in 2009 and 2010 on account of local governments being expected to move forward their fixed investments and of the political transport agreement. The accommodative fiscal policy is expected to stimulate economic activity throughout the period.

FORECAST FOR THE DANISH ECONOMY 2009-11

Output and employment

Output declined by 1.3 per cent in 2008. The decline in growth since 2007 can be viewed as a natural reaction after the significant output expansion in 2003-06, but it should also be viewed in the light of the financial crisis, which intensified in the 2nd half of 2008. In the forecast, output growth increases, but due to the substantial drop at the end of 2008, growth in 2009 will be negative. Positive growth rates of 1-2 per cent are expected in 2010 and 2011.

The strong capacity pressures on the Danish economy seen during the upswing are now subsiding. The output gap, obtained as the difference between actual and potential output, reached a level of 2.5 per cent in 2007. In view of the decrease in both external and domestic demand in 2008 and 2009, the output gap will close in 2009.

The economic slowdown has spilled over into the labour market. Unemployment reached a low of 1.7 per cent of the labour force in the summer of 2008 and subsequently rose to 2.3 per cent, or 64,200 persons, in January 2009. The forecast operates with a further increase in unemployment, reaching the structural level at the end of 2009 or the beginning of 2010. Unemployment is expected to peak at around 155,000 in early 2011, cf. Table 4.

THE LABOUR MARKET — Table 4

1,000 persons, annual averages	2008	2009	2010	2011
Total employment	2,876	2,812	2,753	2,734
Private sector	2,057	1,982	1,920	1,899
Public sector	819	830	832	835
Unemployment	51	92	140	151
Labour force	2,927	2,904	2,892	2,885

The labour force increased considerably during the upswing with strong demand for labour in recent years. The economic slowdown exerts downward pressure on the labour force, and the forecast operates with a partial reversal of recent years' increase in participation rates. At the same time, the underlying demographic trend will also reduce the labour force, and overall, an average annual reduction by 14,000 persons is envisaged in 2009-11.

Recent years have seen a decrease in productivity as employment has grown at a faster rate than output. The projection envisages a gradual recovery of productivity growth.

Wages and prices

After a period of extensive pressures on the labour market and high wage increases, wage inflation is beginning to decline as a result of the economic slowdown. This tendency is expected to continue in 2009, when annual wage inflation in industry is 3.7 per cent, cf. Table 5. Towards the end of the forecast period, with unemployment exceeding its structural level, wage inflation is expected to have declined further.

For a period of time, wage increases in Denmark have been high compared with our trading partners. In the projection, the economic slowdown contributes to lower wage inflation in the euro area and Denmark's trading partners taken as one. Growth in hourly wages in industry is thus likely to remain stronger in Denmark than abroad despite rising unemployment. Further deterioration of wage competitiveness is therefore expected in the forecast period, accompanied by moderately declining export market shares for Denmark.

Hourly wage costs are projected to mirror the development in wages in the absence of significant changes in business enterprises' other labour costs. Following a period of negative productivity growth, the development in hourly productivity is reasonably strong in the projection. This reflects the expectation that the least productive part of the labour force will be the first to be affected by dismissals. As a result, unit labour costs will remain virtually unchanged after significant increases in 2008. The wage share will decline as labour-market pressures abate. But in a

WAGES, ETC. IN NON-AGRICULTURAL SECTORS — Table 5

Per cent, year-on-year	2008	2009	2010	2011
Hourly wages	4.2	3.7	3.5	3.4
Hourly wage costs	4.4	4.2	3.4	3.3
Hourly productivity	-3.4	2.3	4.6	3.7
Wage share, per cent of gross value added	69.6	69.4	67.9	67.1

CONSUMER PRICES Table 6

Per cent, year-on-year	Weight[1]	2008	2009	2010	2011	2008 and 2009 Q4	Q1	Q2	Feb.	Mar.	Apr.
HICP		3.6	1.0	1.5	1.6	3.0	1.6	1.0	1.7	1.5	1.3
Index of net retail prices	100.0	3.7	1.7	1.4	1.5	3.1	2.3	1.7	2.6	2.2	2.1
Exogenous:											
Energy	7.1	11.5	-12.4	-0.7	1.0	3.7	-8.8	-13.9	-6.0	-9.2	-11.1
Food	13.1	8.0	2.1	0.5	1.5	6.1	4.1	2.2	4.1	3.6	2.6
Adm. prices	4.2	3.5	3.9	3.4	3.0	3.8	3.2	3.3	3.5	2.0	3.3
Rent	23.6	2.9	4.3	1.9	1.4	2.8	4.0	4.4	4.6	4.5	4.4
Excl. exogenous	52.0	1.7	2.4	1.4	1.5	2.3	2.7	2.7	2.4	2.6	2.9
Imports	15.6	3.1	-2.7	1.9	3.3	3.2	-1.2	-2.8	-1.8	-2.5	-2.7
IMI	36.4	1.1	4.6	1.2	0.7	1.8	4.4	5.1	4.4	4.8	5.4

Note: The most recent actual data covers February 2009.
[1] Weight in the index of net retail prices, per cent.

longer-term perspective a wage share of 67.1 per cent, which is expected for 2011, is still relatively high.

Price inflation has declined significantly during the autumn and winter, and in February 2009 annual consumer price inflation was 1.7 per cent in terms of HICP, cf. Table 6. The lower inflation rate is primarily a result of plummeting energy prices in the autumn and a lower rate of food price increases. At the same time the prices of imported goods have decreased considerably. Core inflation, excluding energy and food prices, was 1.9 per cent in February.

Domestic market-determined inflation, IMI, has recently increased considerably to around 4 per cent. This reflects a normal pattern of increasing IMI in a situation with decreasing import and energy prices since business enterprises do not fully pass on price decreases to consumers. High IMI is expected to continue in the coming months due to the falling import prices. IMI then falls back somewhat, and in 2010 and 2011 the weak demand and declining wage inflation will cause IMI to drop to a relatively low level.

Due to the substantially lower commodity prices, annual energy price inflation is assumed to be negative throughout 2009 and the beginning of 2010, followed by a moderate increase. In the forecast, the rate of increase in food prices is also dampened to the level prior to the price acceleration in 2006. Falling energy prices combined with the general slowdown result in a further decrease in consumer price inflation in 2009, falling below 1 per cent during the summer, measured as annual HICP inflation. In 2010 and 2011 consumer inflation is expected to remain considerably below 2 per cent year-on-year, primarily due to declining domestic inflationary pressures as a result of the economic slowdown.

Domestic demand

Private consumption declined during 2008 following strong growth from 2003 to 2007. The strong decline in consumption of almost 3 per cent in the 4th quarter of 2008 is expected to be reversed during 2009. Private consumption is supported by the agreed fiscal expansion measures, but since growth will be slower than for disposable income, a lower consumption-to-income ratio is expected in 2009 and 2010, cf. Table 7. The lower ratio reflects a higher level of household prudence due to uncertainty concerning the economic situation and tighter credit conditions as lower housing and equity prices have reduced household wealth.

The level of activity in the housing market has declined, and sales prices for single-family and terraced houses fell about 4 per cent in 2008. Pressures on the housing market are also reflected in the continued high number of homes on the market and an increasing number of enforced sales. Consequently, cash prices are expected to fall by around 5 per cent in 2009 and after a slight decline in 2010 to gradually approach normal price development.

Residential investments declined during 2008 compared with the very high level in 2006-07. In the projection, residential investments are expected to continue to decline in step with the lower real cash prices. However, the decline in investments in 2009 is moderated by the agreed pool of funds for renovation of permanent residences.

The decrease in business investments in 2008 is chiefly attributable to lower fixed investments. At the prospect of lower output growth and more difficult financing conditions, further reductions in non-residential construction are expected in 2009 and 2010. Investments in machinery, transport equipment and software increased considerably during the recent economic upswing with its substantial capacity pressures. Since the end of 2007 investments in equipment have declined, and the lower level at the end of 2008 is expected to remain almost the same until 2011, bringing the investment ratio to a somewhat lower level than seen in the last three years.

INCOME, WEALTH AND CONSUMPTION — Table 7

	2008	2009	2010	2011
Cash prices, per cent year-on-year	-3.7	-5.0	-1.0	1.2
Real disposable income, private sector, per cent year-on-year	2.6	1.3	2.8	1.2
Consumption ratio, per cent of private sector disposable income	91.0	89.0	88.3	88.9
Net lending, private sector, kr. billion	-11.8	38.6	79.3	64.6

Total domestic demand, excluding inventory investments, fell by 0.5 per cent in 2008. Lower business and residential investments and contraction of private consumption are expected to lead to a continued decline in demand in 2009. Domestic demand will then slowly pick up again, driven by increasing private and public consumption and later also by higher investments.

Foreign trade and the balance of payments

Exports in constant prices fell by 2.5 per cent from the 1st to the 2nd half of 2008 when the sales opportunities in Denmark's export markets deteriorated substantially. Exports of goods were the most severely affected by the international setback, but exports of services also declined. A continued decline in Danish export markets is expected throughout 2009, and exports in constant prices are estimated to decrease until the end of the year. Exports will then increase again as external demand begins to pick up.

Industrial exports in constant prices fell by 1.3 per cent from the 1st to the 2nd half of 2008 on account of weaker external demand and deteriorating competitiveness. In the projection, industrial exports are expected to shrink throughout 2009 and then slowly to pick up again.

Energy exports in constant prices have been reduced in recent years. Oil and gas production in the North Sea is estimated to diminish in the coming years, so the forecast operates with a continued reduction in energy exports.

Agricultural exports in constant prices fell by almost 5 per cent from the 1st to the 2nd half of 2008. In the projection, the fall continues in the beginning of 2009, driven by a decline in exports of animal products. Projected growth in exports of grain and other vegetable products is slow, and an annual increase in total agricultural exports of approximately 1.5 per cent is expected from 2010 onwards. Reduced growth in exports of services, primarily sea freight, is expected in the forecast period as a consequence of the weak development in global trade.

Imports in constant prices fell by 1.7 per cent from the 1st to the 2nd half of 2008. The decline reflects lower consumption and investments and the fact that exports, which have a large import content, were also reduced. Imports fell more than demand in the 2nd half of 2008, causing the import ratio to diminish. The ratio grew at a brisk pace in 2003-07, when capacity pressures on the Danish economy were high. In the projection, the import ratio reaches a low this year and then begins to pick up a little.

Danish export prices have risen more rapidly than import prices for a number of years, resulting in improved terms of trade. This reflects the

EXPORTS AND IMPORTS				Table 8
Per cent, year-on-year	2008	2009	2010	2011
Real exports	1.9	-5.7	0.6	3.2
Real imports	4.1	-6.3	1.1	2.8
Export prices	5.7	-7.0	-2.0	1.2
Import prices	4.4	-7.4	-2.5	0.7
Terms of trade	1.3	0.4	0.6	0.4
Import ratio, non-energy goods, standard calculation, 2000 = 100	114.5	110.2	111.3	112.1

continued ability of Danish business enterprises to specialise in products that sell at relatively high prices in the global market. According to the available national accounts, the terms of trade deteriorated towards the end of 2008. In the projection, the terms of trade are gradually restored, cf. Table 8.

The current-account surplus increased from approximately kr. 12 billion in 2007 to approximately kr. 35 billion in 2008 on account of larger investment income and sea freight surpluses. Investment income in 2008 is subject to a high degree of uncertainty and may very well be revised. The forecast operates with an estimated reduction in the investment income surplus from the high 2008 level. Squeezed by lower global trade and increased competition, the sea freight surplus is also expected to decline in the next few years. Domestic demand is estimated to grow at a somewhat slower pace than external demand, resulting in a gradual improvement of the trade surplus up until the end of 2011. This slightly increases the total current-account surplus in the forecast, cf. Table 9.

BALANCE OF PAYMENTS				Table 9
Kr. billion	2008	2009	2010	2011
Trade in goods	-22.8	-11.6	-8.5	-1.1
Trade in services	54.5	47.3	43.7	44.9
Interest, transfers, etc.	3.7	-10.7	-10.6	-10.8
Current account, total	35.4	25.0	24.5	33.0

Money Market Segmentation and Bank Retail Rates During the Financial Crisis

Steen Ejerskov, Statistics

INTRODUCTION AND SUMMARY

Efficient interbank financing in the money market is a key precondition for a well-functioning financial system with lending to creditworthy business enterprises and households. Significant frictions in the global money markets, including in Denmark, have led to higher financing interest rates for banks, and this has ramifications for retail lending rates.

Small and medium-sized banks have been particularly hit. The large banks are charging higher interest on loans to smaller banks. At the same time, the spread between financing interest rates for individual banks has widened. The significant excess financing rate for small and medium-sized banks is remarkable in light of the bank deposit guarantee under the Danish Bank Rescue Package I. Normalisation of market conditions is proceeding at a very sluggish pace despite the measures introduced by Danmarks Nationalbank and the extensive rescue packages.

In general, the credit lines that were tightened when the crisis intensified in September 2008 have not been eased after the guarantee. Due to uncertainty about credit conditions and about their own liquidity situation, banks continue to hoard liquidity. The credit ratings of banks are influenced by their basic structure and long-term earnings expectations, while only a few isolated debt issues can obtain a credit rating corresponding to that of the central government, which is backing the guarantee. Another factor may be the legal risk in case of liquidations. Finally, some banks may be exploiting the currently weaker market forces and the smaller banks' dependency on the money market to strengthen their position.

The first section below describes the problems in the Danish money market, beginning with the international background. The second section considers differences between large and smaller banks that have been reinforced by increased market segmentation during the crisis. The impact on interest rates for bank loans to the corporate sector and households is described in the third section.

THE DANISH MONEY MARKET DURING THE CRISIS

A substantial cooling of financing in the money markets has played a key role during the financial crisis.[1] In 2007, the banks' exposure to the US mortgage market (especially the least creditworthy part, i.e. the subprime market) began to affect the closely interlinked global money markets, including the Danish market. Considerable uncertainty about the quality of bank loans and their other assets resulted in uncertainty about the creditworthiness of counterparties in the interbank market. To compensate for the poorer quality of the assets, the banks have reduced their credit and liquidity risk and increased their demand for liquidity. For example, the banks' credit lines for uncollateralised deposits with other banks have generally been reduced for individual banks and groups of counterparties.

Liquidity demand has increased dramatically and those who have had liquid funds have held on to them, like a situation of hoarding. The market forces have weakened and it has been difficult to find a price to balance supply and demand. Concerns about credit conditions have thus led to a deep and persistent liquidity crisis. As a result, the spread between uncollateralised and collateralised short-term interbank financing rates widened significantly from a few basis points (hundredths of a percentage point) to 50-100 basis points in August 2007, cf. Chart 1.

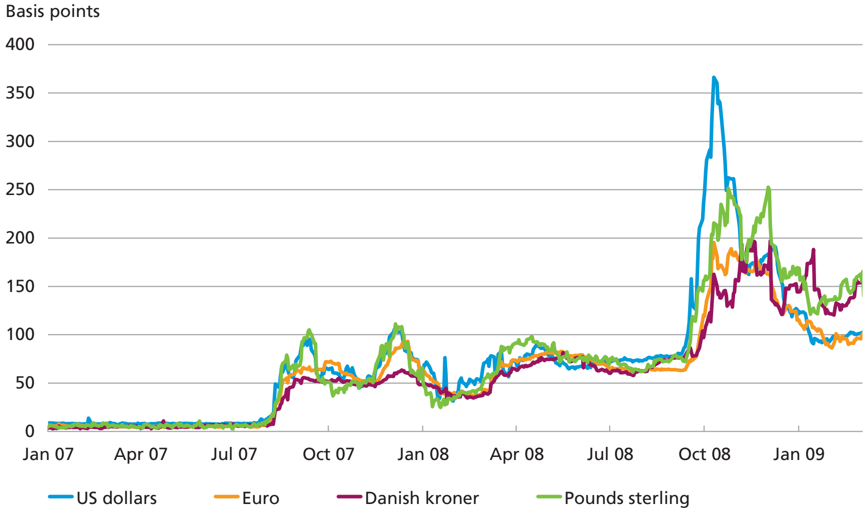
The turmoil intensified from mid-September 2008 after the US investment bank Lehman Brothers filed for bankruptcy (Chapter 11). Seeing a very large bank with complex market links file for bankruptcy without the authorities having a winding-up plan led to increased market concerns about the creditworthiness of counterparties.

Banks were subsequently under significant pressure to secure funding over longer horizons, also to better match the funding maturity with the maturities of loans to the corporate sector and households, but that is a difficult task. Uncollateralised funding with a maturity of 2-3 months used to be relatively common in the Danish money market, even for small and medium-sized banks. Now it is difficult to obtain uncollateralised funding with a maturity of more than a week. Banks granting loans in the money market want short maturities. This was reflected in the volume of overnight loans, which increased from kr. 10-20 billion before the crisis to kr. 20-30 billion in the 2nd half of 2007. Collateralised deposits, i.e. financing from other banks against securities, with maturities of more than a month are still seen, but turnover in the col-

[1] A general review of the chronology of the financial crisis and the rescue packages can be found in The International Financial Crisis, Danmarks Nationalbank, *Monetary Review*, 4th Quarter 2008.

SPREAD BETWEEN UNCOLLATERALISED AND COLLATERALISED 3-MONTH DEPOSIT RATES

Chart 1



Note: The rate of interest on a 3-month interest-rate swap has been applied as the collateralised rate. Daily data. The most recent observations are from 3 March 2009.
Source: Bloomberg.

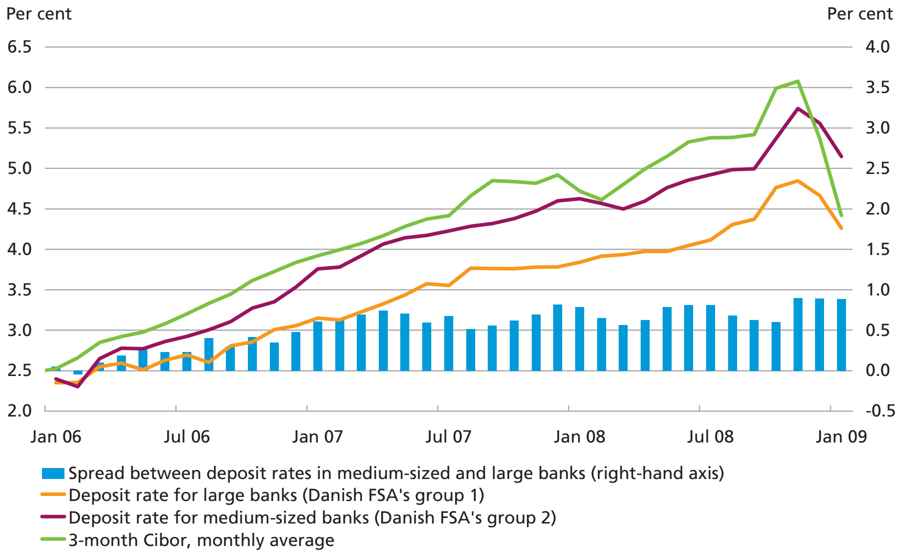
lateralised money market has not increased significantly compared with the uncollateralised money market. Total Danish interbank deposits, both collateralised and uncollateralised, fell by around 10 per cent in 2008.

The money markets have become more segmented during the financial crisis, and it has become more difficult for Danish banks to obtain foreign financing. There has been a decline in cross-border money-market transactions, cf. the ECB's Money Market Study 2008. Banks prefer to lend to domestic banks, stating that they have better information about their financial strength under the current conditions. Some bank group units with a liquidity surplus are reducing their external lending considerably during the financial crisis to be able to supply liquidity to the rest of the group. According to the banks, market efficiency has generally been reduced during the crisis.

LARGEST INCREASES IN FINANCING INTEREST RATES FOR SMALL AND MEDIUM-SIZED BANKS

Small and medium-sized banks with interbank financing needs are particularly severely affected by the unusual market conditions in the money market. Over the last two years, the medium-sized banks in Denmark have paid a higher money-market rate than the large banks, cf. Chart 2.

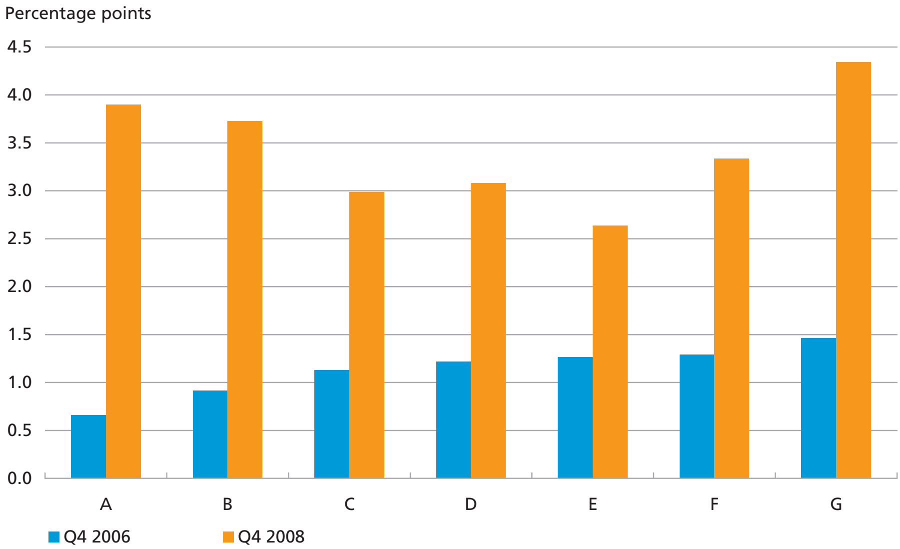
EXCESS INTEREST RATES FOR MEDIUM-SIZED BANKS Chart 2



Note: The Danish Financial Supervisory Authority's group 1 comprises Danske Bank, Nordea, Jyske Bank, Sydbank and FIH Erhvervsbank, while group 2 comprises Amagerbanken, Arbejdernes Landsbank, Fionia Bank, Forstædernes Bank, Roskilde Bank, Ringkjøbing Landbobank, Alm. Brand Bank, Vestjysk Bank, Nykredit Bank, Sparbank Vest, Spar Nord and Sammenslutningen Danske Andelskasser. In 2008, winding-up proceedings were initiated in respect of Roskilde Bank, and Forstædernes Bank was acquired by Nykredit. Consequently, they have been excluded. Danmarks Nationalbank's interest-rate statistics cover only few banks in the Danish Financial Supervisory Authority's group 3. The statistics cover both collateralised and uncollateralised deposits for all maturities, while CIBOR is a reference interest rate for uncollateralised deposits with a specific maturity. Monthly data. The most recent observations are from January 2009.

Source: Danmarks Nationalbank.

EXCESS INTEREST RATES FOR SELECTED MEDIUM-SIZED BANKS IN 2006 AND 2008 Chart 3



Note: Deposit rates for seven selected banks from the Danish Financial Supervisory Authority's group 2 less the average for group 1. Averages for the 4th quarter of 2006 and the 4th quarter of 2008. The banks have been anonymised.

Source: Danmarks Nationalbank.

Following Lehman Brothers' filing for bankruptcy and the intensification of the crisis in September and October 2008, this excess interest rate for the medium-sized banks has risen even further.

At the same time, the volatility in financing interest rates has increased substantially, and the dispersion of interest rates for small and medium-sized banks has widened. A number of these banks, with considerable financing needs in the money market, are now paying up to 3-4 per cent more for money-market deposits than the average large bank, as compared with less than 1.5 per cent at the end of 2006, cf. Chart 3. At the beginning of 2006 the excess interest rate for medium-sized banks was close to zero. For the five largest banks in the Danish Financial Supervisory Authority's group 1, the dispersion of interest rates has not widened significantly during the financial crisis.

The considerable excess interest rates still charged to the smaller banks is remarkable in view of the guarantee for unsecured deposits in Bank Rescue Package I that was adopted by the Danish parliament on 10 October 2008. The vast majority of deposits will mature before the guarantee expires.

Despite the extensive rescue packages and the measures introduced by Danmarks Nationalbank, cf. Box 1, progress towards normalisation in the money market seems to be very slow. There may be several reasons for this.

Even with the government guarantee for deposits, restoring basic creditworthiness and lower risk premiums will be a lengthy process. According to the implied forward rates in the money market, a significant difference between uncollateralised and collateralised money-market interest rates will persist into 2010. In many cases the credit lines that were tightened after Lehman Brothers filed for bankruptcy have yet to be eased after the introduction of the deposit guarantee. Apparently, there is still fear among banks of further significant liquidations with complex ramifications. Due to uncertainty about credit conditions and about their own liquidity situation, banks continue to hoard liquidity, granting loans at only the shortest maturities or against high-quality securities. The banks that are able to obtain funding from foreign banks may demand a premium for passing liquidity on to other banks in the Danish market.

Several effects may exacerbate the problems in the money market. Growing uncertainty about the financial strength of other banks due to lack of insight into the quality of the assets (asymmetrical information) causes the financing interest rate to rise to compensate for the higher risk. If the financing interest rate reaches a certain level, some sound assets may become too expensive for otherwise creditworthy banks to

CENTRAL BANKS ARE PERFORMING MONEY MARKET FUNCTIONS	Box 1

To counter the cooling-down of the money market, a number of central banks have reduced their key interest rates significantly and are offering substantially more liquidity than usually, both ordinary short-term liquidity and extraordinary liquidity at longer maturities.

In Denmark, lending by Danmarks Nationalbank to the banks has increased from around kr. 100 billion before the onset of the turmoil in the summer of 2007 to kr. 200-300 billion in 2008.[1] In addition, the number of banks borrowing from Danmarks Nationalbank has risen. Small and medium-sized banks, which previously only borrowed funds in the money market, obtained liquidity via Danmarks Nationalbank's money-market operations in 2008.

Like a number of other central banks, Danmarks Nationalbank also offers liquidity in dollars and euro as a special facility. These currencies are global reserve currencies that Danish banks need for their day-to-day transactions with customers and for their own purposes. Flows in e.g. the dollar money market, which is usually highly liquid, deep and decentralised, have been severely impeded by the increasing market segmentation during the crisis.

Furthermore, Danmarks Nationalbank has temporarily expanded the collateral base in its money-market operations. This measure has been taken by several countries in order to extend access to liquidity and ease the pressure to divest less liquid assets. In Denmark, the expansion covers loan bills issued by banks, the banks' excess capital adequacy and other types of securities.

In addition to the steps taken by central banks, the authorities in several countries have implemented bank rescue packages with deposit guarantees, guarantees for bank debt and recapitalisation in order to dampen concerns about credit standings in the money market and stimulate the banks' ability to finance creditworthy business enterprises and households.

The central-bank initiatives are expected to be scaled down once the money markets begin to normalise, in order to support market-based financial systems. These considerations are reflected in e.g. the ECB's decision to restore the width of the corridor of standing facility rates to 2 percentage points in January 2009, which strengthens the incentives for banks to search the money market rather than taking recourse to the central-bank facilities.

[1] Part of the increase in lending is, however, attributable to higher issuance of government bonds in 2008 and the consequent reduction of the banks' and mortgage-credit institutes net position vis-à-vis Danmarks Nationalbank.

finance. As a result, such banks may reduce their financing needs in the money market and sell their assets. Banks with riskier assets will typically accept a higher rate of interest since it matches the higher risk and they will therefore continue to participate in the money market (adverse selection). This mechanism will result in a further reduction of the average creditworthiness in the money market, cf. e.g. Heider, Hoerova and Holthausen (2009). Amplified effects of asymmetrical information will typically be most significant for financing from foreign banks.

Furthermore, the temporary guarantee does not carry much weight in connection with the bank credit ratings of agencies such as Standard & Poor's and Moody's, which often form the basis for the determination of credit lines. The rating is influenced by the bank's basic structure (e.g. balance-sheet structure, business model, market position, etc.) and long-term earnings expectations. Only a few isolated debt issues can obtain a credit rating corresponding to that of the central government, which is backing the guarantee.

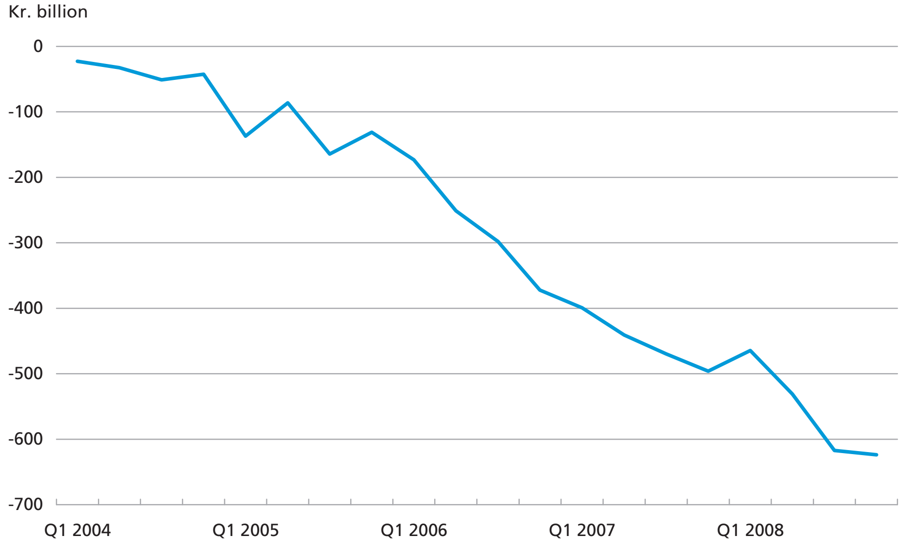
Moreover, technical causes such as the impending closing of the accounts for 2008 (a year-end effect) may to some extent have contributed to the higher risk premiums.

Finally, some banks may exploit the weaker competition and the smaller banks' dependency on the money market to strengthen their market position.

CONSEQUENCES FOR BANK LENDING RATES

In recent years, Danish banks have become increasingly dependent on financing in the money market, especially from abroad. By and large, the lending of Danish banks used to be financed by deposits from the corporate sector and households. However, since the end of 2004, lending has grown at a much faster rate than deposits, cf. Chart 4. The deposit

DEPOSIT SURPLUS — Chart 4



Note: Difference between Danish banks' total lending to and deposits from the corporate sector and households. Consolidated for foreign units of Danish banks. Quarterly data. The most recent observation is from the 4th quarter of 2008.

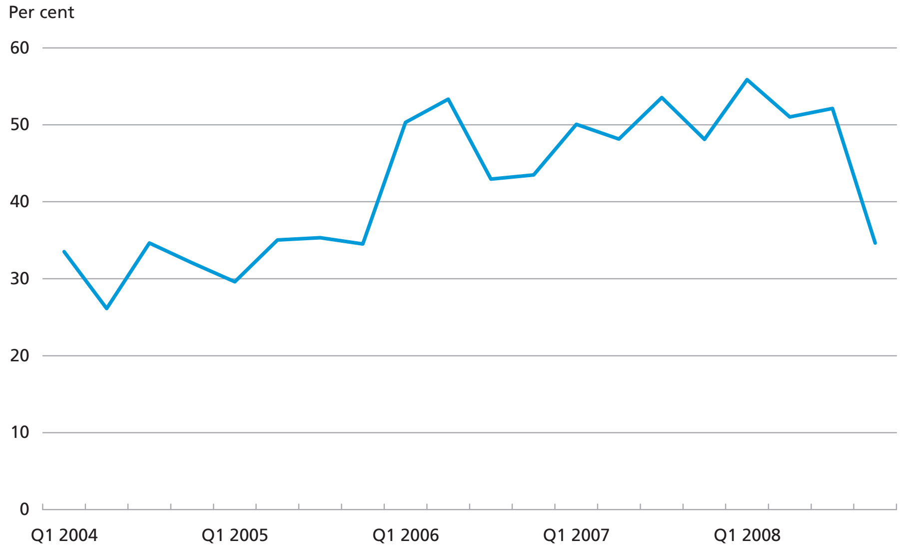
Source: Danmarks Nationalbank.

deficit has been covered by increased financing in the money market and issuance of debt securities. The banks' dependence on money-market financing has made them vulnerable, particularly to changes in foreign banks' ability and willingness to finance them. The share of foreign-bank deposits in medium-sized Danish banks has been growing steadily, from approximately 30 per cent at the beginning of 2004 to approximately 50 per cent at the beginning of 2008, cf. Chart 5. In the 4th quarter of 2008 it dropped to around 35 per cent. The volume of foreign-bank deposits has fallen in a number of small and medium-sized banks. The default of Roskilde Bank in July-August 2008 drew negative international attention to Danish banks and made foreign banks more cautious.

The liquidity crisis affects the banks' ability to grant loans to the corporate sector and households and has a significant impact on interest rates and other loan conditions. The problems in the money market can thus reinforce the economic slowdown. Moreover, it may reduce the effectiveness with which monetary-policy changes are transmitted to retail lending rates.

The banks' interest-rate margin vis-à-vis the corporate sector and households increased in the 2nd half of 2008, particularly for the smaller banks, which also experienced the highest increase in money-market financing costs. This effect was also reported by banks in Danmarks Nationalbank's bank lending survey for the 4th quarter of 2008, in

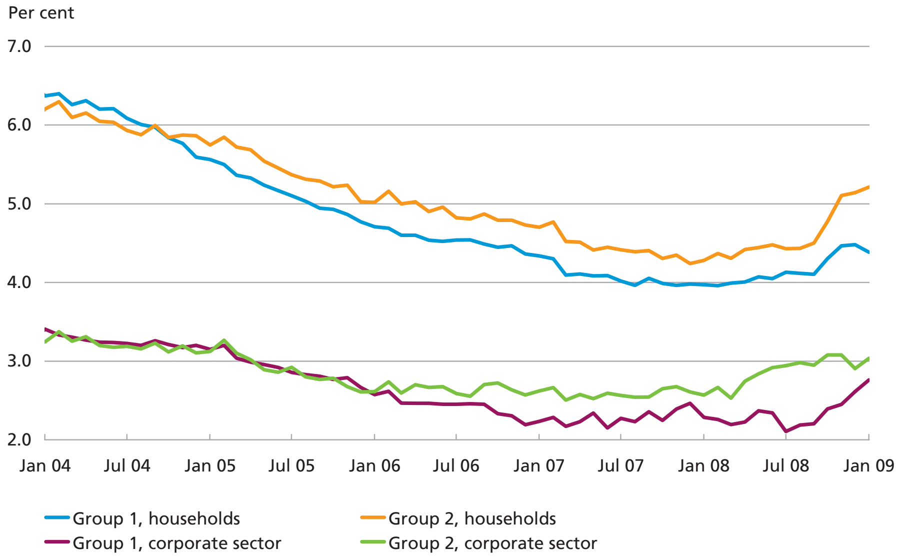
SHARE OF FOREIGN MONEY-MARKET LOANS IN MEDIUM-SIZED BANKS Chart 5



Note: Share of deposits in banks in the Danish Financial Supervisory Authority's group 2 that come from foreign banks. Roskilde Bank and Forstædernes Bank have been excluded. Adjusted for foreign branches. Quarterly data. The most recent observation is from the 4th quarter of 2008.

Source: Danmarks Nationalbank.

INTEREST-RATE MARGIN VIS-À-VIS HOUSEHOLDS AND THE CORPORATE SECTOR Chart 6



Note: Spread between lending and deposit rates, broken down by the Danish Financial Supervisory Authority's groups 1 and 2. Monthly data. The most recent observations are from January 2009.
Source: Danmarks Nationalbank.

which the medium-sized banks indicated a substantial tightening of their customer credit policies, stating financing costs as a significant contributory factor.

The interest-rate margin vis-à-vis households increased by around 0.7 per cent for medium-sized banks in the 2nd half of 2008, or more than twice as much as for the large banks, cf. Chart 6. The interest-rate margin vis-à-vis the corporate sector increased the most for medium-sized banks in the 1st half of 2008, but overall the increase was more or less the same for large and medium-sized banks in 2008.

The financing costs are not the only parameter behind the price of a loan, however; other factors such as the degree of collateralisation, guarantees and liability in customer agreements are also significant. Furthermore, the increase in the interest-rate margin cannot be attributed to the money-market crisis alone. In a normal economic slowdown some mechanisms typically lead to an increase in the interest-rate margin, e.g. higher risk premiums to compensate for the higher probability of incurring losses on customers in a slump.

CONCLUSION

The money market has played a key role during the financial crisis. Uncertainty about the creditworthiness of counterparties in the interbank market and about the banks' own liquidity situation has led to increased demand for liquidity and rising financing costs. Small and medium-sized banks have been particularly affected by the unusual conditions in the money market. The large banks are charging higher interest on loans to smaller banks.

The significant excess interest rate for small and medium-sized banks in the last three months is remarkable in view of the bank deposit guarantee under Bank Rescue Package I. Normalisation of the money market is proceeding at a very sluggish pace despite the extraordinary measures introduced.

In general, the credit lines that were tightened when the crisis intensified in September 2008, have not been eased after the guarantee. The credit rating of a bank is influenced by its basic structure and long-term earnings expectations. Moreover, some banks may be exploiting the weaker competition and the smaller banks' dependency on money market funding.

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Automatic Stabilisers

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INTRODUCTION AND SUMMARY

In the current situation, with many countries experiencing a sharp cyclical downturn, the role of the automatic stabilisers in government budgets is very much in focus. There are two main reasons for this. Firstly, the automatic stabilisers imply that a cyclical downturn has a negative impact on government budgets. This may limit the fiscal-policy scope, especially in countries that already have large government deficits or debts. Secondly, the automatic stabilisers help to reduce the downturn since a deterioration of public finances automatically leads to expansion of fiscal policy in a situation with low demand. This may reduce the need for actual – discretionary – relaxation of fiscal policy. It is therefore important to know how strong the automatic stabilisers are and how fast they act.

In simplified terms, the automatic stabilisers are the items on the government budget that automatically – i.e. without changes to existing regulations – respond to cyclical fluctuations. These are chiefly revenue from direct and indirect taxes and expenditure for transfer payments. In a downturn with falling output and incomes and rising unemployment, tax revenue automatically falls, while expenditure for unemployment benefits automatically rises. This mitigates the downturn by increasing private disposable incomes compared with what they would otherwise have been. In the same way, the automatic stabilisers stabilise economic activity in an upswing since higher tax revenue and lower expenditure for transfer payments dampen growth in private disposable incomes. Thus, fiscal policy is in this case automatically tightened.

This article examines the significance of the automatic stabilisers in relation to the cyclical impact on the government budget, as well as their role in smoothing the cyclical fluctuations in economic activity. Initially, a general description is provided of the cyclicality of the government budget, including a comparison with other OECD countries. The conclusion is that the Danish government budget is highly cyclical, and more so than those of other countries. This reflects the high taxes and the high degree of compensation by way of transfer payments, which imply that the automatic stabilisers are relatively strong in Denmark.

Part of the explanation is, however, also that the discretionary or active element of fiscal policy has to a large extent adapted to the business cycle, as fiscal policy has typically been expansionary during downturns and tight during upswings. This has increased the cyclicality of the government budget.

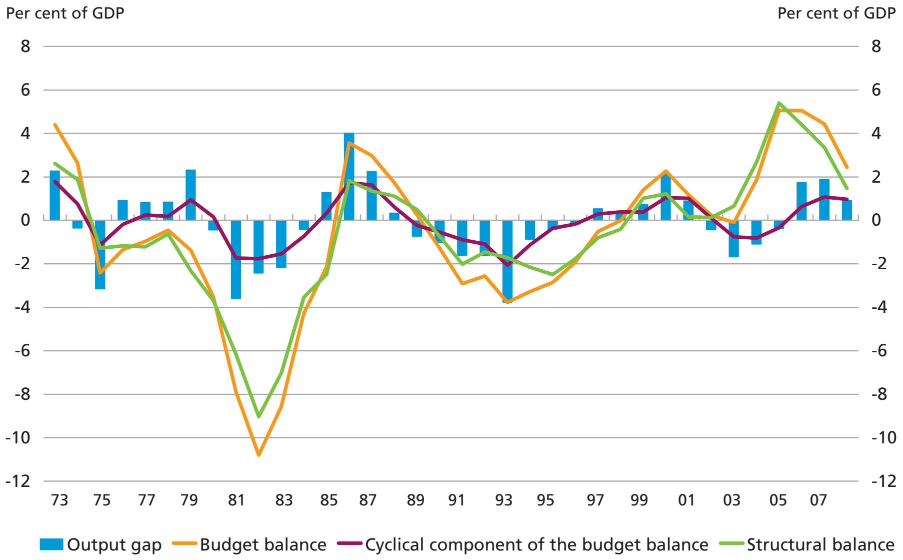
The rest of the article focuses on the significance of the automatic stabilisers. Within the framework of Danmarks Nationalbank's macroeconometric model, MONA, the budget and activity effects of shocks to private consumption, exports and business investments are analysed in a situation where the discretionary element of fiscal policy is kept unchanged. First, the government budget impacts of the three types of demand shocks are calculated. This is followed by an analysis of the extent to which the effect on economic activity is cushioned by the automatic stabilisers. The results show that the automatic stabilisers have potentially strong and rapid effects on both the government budget and economic activity in terms of private-sector output and employment. However, the impact critically depends on the nature of the underlying shock, as the budget and activity effects of the automatic stabilisers are substantially stronger and materialise more rapidly for changes in private consumption than for changes in exports and investments. This reflects that private consumption has a high content of indirect taxes such as VAT and excise duties, and that indirect taxes greatly affect the strength of the automatic stabilisers. The results also show that the impact on GDP is generally very different from the impact on private-sector output and employment. The effects on GDP, which is normally used as the measure of economic activity, are typically modest since GDP includes indirect taxes.

THE CYCLICALITY OF THE GOVERNMENT BUDGET

The automatic stabilisers are reflected in the cyclicality of the government budget. In a boom, public finances are positively affected by rising turnover, employment and incomes, as tax revenue increases and expenditure for transfer payments is reduced. On the other hand, public finances deteriorate during a downturn. The positive correlation between the fiscal balance and the cyclical position, measured by the output gap, is clear, cf. Chart 1.

However, the correlation between budget balance and business cycle is not purely attributable to the automatic stabilisers; the discretionary element of fiscal policy also depends on the cyclical position. Discretionary fiscal policy is reflected in the "structural budget balance", cf. Hansen and Knudsen (1999). The structural, or cyclically adjusted,

THE CYCLICALITY OF THE GOVERNMENT BUDGET BALANCE Chart 1



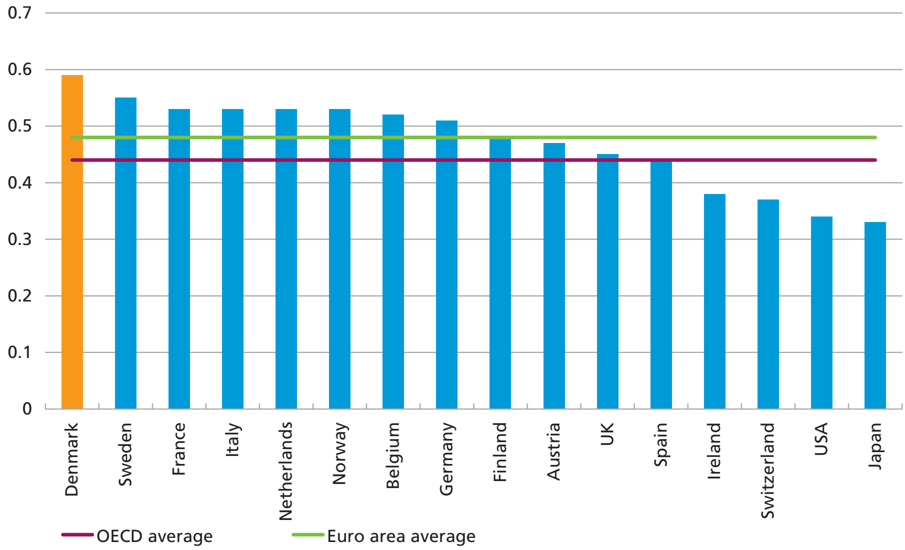
Note: The output gap states the difference between actual and potential GDP and is calculated as a percentage of potential GDP. A positive (negative) output gab indicates a boom (slump). The cyclical component of the budget balance indicates the difference between the actual and structural budget balance. Partial estimates for 2008.
Source: OECD, *Economic Outlook*, No. 84, November 2008.

budget balance is, in simplified terms, the fiscal balance in a situation with a sustainable level of unemployment and is calculated by adjusting the actual budget balance for the impact of cyclical fluctuations as well as any extraordinary items[1]. Except in recent years, there has been a clear tendency for discretionary fiscal policy to be expansionary in an economic downturn and tight in a boom, which has contributed to increasing the cyclicality of the government budget.

In Denmark, the government budget reacts fairly strongly to cyclical fluctuations. This is stated in e.g. OECD (2005), which has studied the cyclicality of government budgets in a number of OECD countries. For each country, budget elasticity is estimated, defined as the change (in per cent of GDP) in the government budget balance if the output gap changes by 1 per cent of GDP, cf. Chart 2. For Denmark, the estimated budget elasticity is just under 0.6, which is the highest value among the OECD countries and significantly above the average for both the OECD countries and the euro area member states. The strong cyclicality in Denmark should be viewed in light of the high, progressive income taxes and the high level of unemployment benefits.

[1] Such as extraordinarily large or temporary revenue from taxation of pension yields or of North Sea oil and gas production.

GOVERNMENT BUDGET ELASTICITY FOR SELECTED OECD COUNTRIES Chart 2



Note: The budget elasticity is the change in the government budget balance (as a percentage of GDP) on a change in the output gap of 1 per cent of potential GDP.
Source: OECD (2005).

The OECD's findings are confirmed in a recent study by Blix (2009), which also concludes that the government budget is more cyclical in Denmark than in other OECD countries. Blix (2009) also tests several hypotheses as regards the correlation between the budget balance and the cyclical position, including whether the government balance reacts asymmetrically to upswings and downturns. This does not seem to be the case in Denmark. On the other hand, there are indications that the government balance is less cyclical now than in the 1970s and the first half of the 1980s, possibly because successive tax reforms have reduced marginal income taxes.[1] The cyclicality of the budget may vary over time, as the tax system and rules for transfer payments change. A recent example is the freezing of property value taxes, which has lowered effective property value taxes since 2001, cf. Olesen and Pedersen (2006). This has reduced the pass-through from housing prices to tax revenue.

The above studies consider the overall cyclicality of the government budget without distinguishing between the effects of the automatic stabilisers and the effects of any cyclically dependent discretionary fiscal policy. The reason is that in practice it can be difficult to identify the separate contribution from the automatic stabilisers to the development

1 According to Blix (2009), the findings are attributable to less cyclical government revenue, and the change (a structural break) can be dated to around 1987. There are no strong signs of a change in the cyclicality of government expenditure in the period 1970-2007.

in the budget balance, cf. e.g. Blix (2009) and Caldara and Kamps (2008). The sections below focus on the effects of the automatic stabilisers viewed in isolation. The MONA model is used to analyse the budget and activity effects of three types of demand shocks in a situation where discretionary fiscal policy is unchanged. Such calculations are stylised experiments, but enable examination of the separate impact of the automatic stabilisers.

MONA experiments: the budget effects of cyclical fluctuations

In this section, the effects on the government budget balance of three types of demand shocks are calculated – a fall in private consumption, a fall in exports and a fall in business investments. In all three experiments, demand is affected by an exogenous negative shock in year 1, with a permanent impact. A calculation is performed of how government revenue and expenditure adapts over a 5-year horizon, and the results are presented as deviations from a stylised baseline scenario that reflects the current rates of direct and indirect taxes and the current level of transfer payments. The size of the demand shock is normalised so that private-sector output, measured as gross value added (GVA) in the private sector, is reduced by 1 per cent on average in years 2 and 3. The normalisation entails that the three shocks are equally strong, which makes it possible to compare the impacts on the government budget. The review will focus on the consumption experiment, while the other two experiments will be summarised.

The results for the government budget and various key variables are shown in Table 1. The impact on the government budget varies considerably across the three experiments, with the strongest impact by far in the consumption experiment. In the latter case, private consumption in year 1 falls by an average of just over 2.5 per cent compared with the baseline scenario. Car sales go down somewhat less in year 1, but otherwise the decline in private consumption is broadly distributed on goods and services. Consumption is permanently lower in the following years. Initially, the lower rate of consumption reduces revenue from indirect taxes such as VAT, excise duties and registration fees. The lower demand leads to a fall in domestic output and thus in incomes, which means that revenue from direct taxes also decreases. At the same time, lower output leads to lower employment and higher unemployment, thereby increasing expenditure for unemployment benefits. In year 1, the budget balance deteriorates by around 4 per thousand of GDP, corresponding to approximately kr. 7 billion in 2008. The budget effects increase in the following years as output, income and employment levels adapt, and in years 4 and 5 the budget balance has deteriorated by 11 per thousand

EFFECTS ON THE GOVERNMENT BUDGET OF DEMAND SHOCKS, YEARS 1-5 Table 1

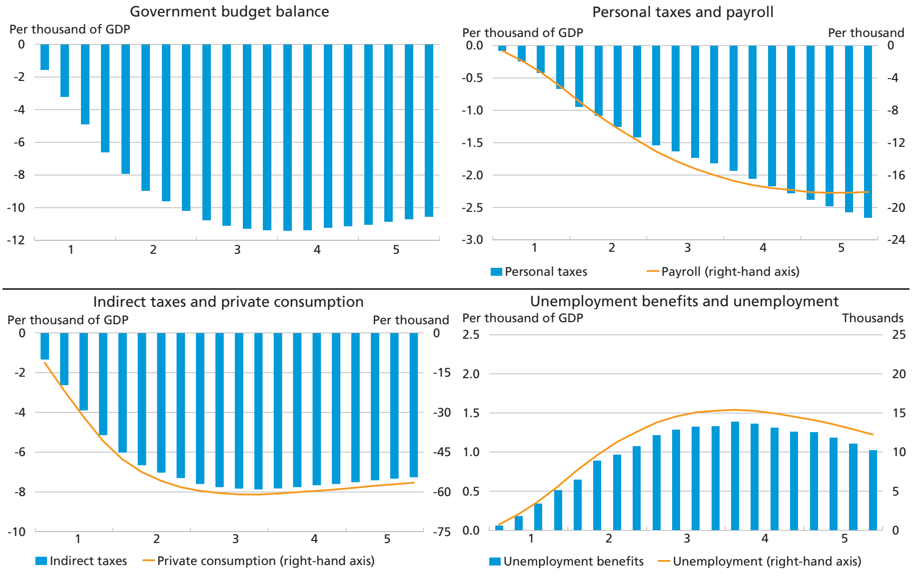
Deviation from baseline scenario (per thousand of GDP)	Consumption shock			Export shock			Investment shock		
	1	2-3	4-5	1	2-3	4-5	1	2-3	4-5
Budget balance	**-4.1**	**-10.1**	**-11.0**	**-0.6**	**-3.2**	**-4.6**	**-0.7**	**-2.1**	**-2.2**
Current revenue	**-3.9**	**-9.0**	**-10.0**	**-0.5**	**-2.6**	**-4.2**	**-0.6**	**-1.6**	**-1.4**
Direct taxes	-0.6	-1.7	-2.4	-0.3	-1.5	-2.5	-0.2	-0.8	-0.9
Personal taxes	-0.4	-1.4	-2.3	-0.2	-1.2	-2.6	-0.1	-0.6	-0.9
Corporate taxes	-0.3	-0.3	-0.1	-0.2	-0.3	0.1	-0.1	-0.2	0.0
Indirect taxes	-3.3	-7.2	-7.5	-0.2	-1.1	-1.6	-0.4	-0.8	-0.6
VAT	-2.1	-4.5	-4.6	-0.1	-0.7	-1.0	-0.2	-0.4	-0.2
Registration fees	-0.2	-0.8	-0.9	0.0	-0.1	-0.1	-0.1	-0.1	-0.1
Excise duties	-1.0	-2.0	-1.9	-0.1	-0.3	-0.3	0.0	-0.2	-0.2
Current expenditure	**0.1**	**0.5**	**-0.8**	**0.1**	**0.5**	**-0.2**	**0.1**	**0.5**	**0.4**
Transfers	0.3	1.0	0.7	0.1	0.9	1.2	0.1	0.4	0.4
Unemployment benefits	0.3	1.1	1.2	0.1	0.9	1.6	0.1	0.5	0.6
Pensions	0.0	-0.1	-0.5	0.0	-0.1	-0.5	0.0	0.0	-0.2
Subsidies	-0.1	-0.3	-0.4	-0.1	-0.3	-0.4	0.0	-0.1	-0.1
Consumption, investments	0.0	-0.2	-1.1	0.0	-0.1	-1.0	0.0	0.1	0.2
Net interest income	**-0.0**	**-0.6**	**-1.8**	**-0.0**	**-0.2**	**-0.6**	**-0.0**	**-0.1**	**-0.4**
Memo:									
GDP	-0.6	-1.3	-1.1	-0.2	-0.6	-0.7	0.2	-0.6	-0.8
Private-sector GVA	-0.5	**-1.0**	-0.8	-0.3	**-1.0**	-1.2	-0.3	**-1.0**	-1.3
Private-sector employment	-4.7	-17.4	-18.1	-2.3	-15.2	-24.3	-1.7	-7.8	-8.3
Hourly wages, private sector	0.0	-0.3	-0.8	0.0	-0.2	-0.8	0.0	-0.1	-0.3
Consumer prices	0.0	-0.1	-0.2	0.0	-0.1	-0.2	0.0	0.1	0.2

Note: For each shock, the first column shows the effect of the experiment in year 1, the second column the average effect in years 2 and 3, and the last column the average effect in years 4 and 5. The Table shows only the most cyclical budget items. Memo items are stated as percentage deviations from the baseline scenario, except for employment, which is the deviation in thousands.

of GDP, or approximately kr. 20 billion, compared with the baseline scenario. The considerable and rapid effect of a fall in private consumption reflects that consumer goods are typically highly taxed. Thus, the greater part of the budget deterioration is attributable to lower revenue from indirect taxes, cf. also the correlation between private consumption and indirect taxes in Chart 3. Roughly speaking, the lower revenue from indirect taxes accounts for three quarters of the aggregate budget deterioration in all years.

Revenue from direct taxes reacts somewhat less and more slowly than revenue from indirect taxes. The effect is small in year 1, but gradually increases so that revenue falls by just over 2 per thousand of GDP in years 4 and 5. Revenue from direct taxes declines as lower output reduces incomes. This is reflected in payroll costs, which fall in step with the decline in employment and the weaker wage development, cf. Chart 3.

BUDGET EFFECTS OF A PERMANENT FALL IN PRIVATE CONSUMPTION Chart 3



Note: Deviations from baseline scenario. Budget items: per thousand of GDP in the baseline scenario. Private consumption and payroll: per thousand of the value in the baseline scenario. Unemployment: deviation in thousands. Quarterly developments in years 1-5.

On the expenditure side, government expenditure for unemployment benefits increases with the rate of unemployment. The impact on unemployment is relatively modest in year 1, but gradually increases, and in years 4 and 5 unemployment is up by 14,000 compared with the baseline scenario. This is slightly lower than the fall in employment, the reason being that higher unemployment goes hand in hand with a reduction of the labour force. In years 4 and 5, the rise in unemployment increases expenditure for unemployment benefits by just over 1 per thousand of GDP or approximately kr. 2 billion. This impact seems fairly small compared with the effect on government revenue.

On the other hand, a number of other expenditure items are reduced. Subsidies, including product and operation subsidies, fall as the level of activity goes down. At the same time, expenditure for pensions and other transfer payments are reduced, primarily because weaker wage developments reduce the rate by which transfer payments are regulated to reflect wage inflation in the private-sector labour market. Expenditure for public consumption and investments also falls. This is purely a price-and-wages effect, as a fixed volume of consumption and investments is assumed. A fall in the general level of prices entails lower prices for public procurement of goods and services, and weaker wage developments in the private-sector labour market also spill over into public-sector wages and salaries. The effects are most visible over a longer horizon, when the slowdown in economic activity has had time to pass through to wage and price formation.

The fall in the above expenditure items is sizeable and entails a reduction of total current expenditure compared with the baseline scenario in years 4 and 5. The effect from these items, which is primarily attributable to indexation to the general development in prices and wages, boosts public finances during a recession, and reduces them during a boom. This dampens the effects of the automatic stabilisers, but compared with the overall budget effects the impact is small.[1]

If the demand shock materialises by way of falling exports, the government budget deteriorates considerably less, cf. Table 1. The negative export shock is modelled as a permanent fall in demand in Denmark's export markets. This primarily affects industrial exports, which fall by just over 1 per cent in year 1, while other export components fall by 0.5 per cent.[2] The impact on the government budget is relatively modest in the first year, but gradually increases in subsequent years, and by years 4 and 5 the budget balance has deteriorated by almost 5 per thousand of GDP compared with the baseline scenario. This is less than half of the budget effect in the consumption experiment. The reason for this large difference is that indirect taxes on exports are relatively low, and consequently the effect on revenue from indirect taxes is much smaller. The impact on direct taxes and unemployment benefits is almost the same, as output and employment are affected to more or less the same degree as when private consumption falls.

The investment experiment looks at the effects of a fall in investments in equipment in the business sector, by just over 5 per cent in year 1 compared with the baseline scenario. As a consequence of this shock, investments and the capital stock are permanently reduced. This shock has a lower impact on the government budget than the two other shocks regarded, cf. Table 1. From year 2, the budget balance deteriorates by approximately 2 per thousand of GDP compared with the baseline scenario. The low impact is attributable to, firstly, relatively low indirect taxation of investment goods. Secondly, the impact on employment and unemployment is considerably smaller than in the other experiments, which means that direct taxes are reduced by less and transfer payments do not

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1 It is possible to quantify the effects of price and wage indexation by repeating the consumption experiment with price and wage indexation in MONA deactivated. In years 4 and 5, indexation entails a fall in total current expenditure of 1.6 per thousand of GDP, corresponding to kr. 3 billion. A derived effect will be seen on government revenue, which also falls because government expenditure is indexed to prices and wages. This is attributable to e.g. falling revenue from taxation of the lower pensions. Government revenue falls by approximately kr. 1.5 billion, so price and wage indexation improves the government budget balance by kr. 1.5 billion net.

2 Disregarding any effects from an international recession on oil prices and interest rates, which are fixed (exogenous) in the experiment.

rise as much. The weaker labour-market effect is linked to the fact that the exogenously determined fall in investments in equipment reduces the capital stock, which in itself points to lower output. Business enterprises therefore retain a larger share of employment in reaction to the fall in demand than in the other experiments. It should also be noted that in this experiment public consumption and investments rise a little, reflecting that a smaller capital stock reduces labour productivity and increases unit labour costs, even though hourly wages are lower. This supply effect pushes the general level of prices up, and thus also prices of goods and services purchased by the public sector.

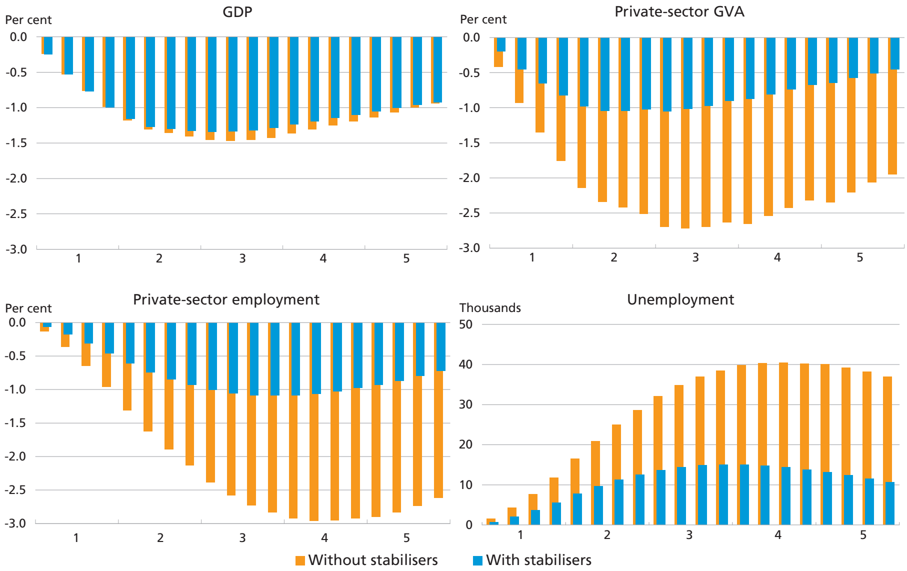
ACTIVITY EFFECTS OF THE AUTOMATIC STABILISERS

Basically, the activity effects of the automatic stabilisers depend on the degree to which government budget items are affected, and the impact of the various budget items on economic activity. The activity effects can be illustrated by means of MONA experiments based on the previous findings. The experiments in the previous section showed the budget and activity effects of three types of demand shocks in a situation where the automatic stabilisers were allowed to work freely. In this section, the experiments are supplemented with a model calculation of the activity effects of the same shocks in a situation where the automatic stabilisers have been deactivated. The difference between the two scenarios is the effect of the automatic stabilisers.

First, we regard the experiment with a fall in private consumption. In this case, the automatic stabilisers have a large, immediate impact on private-sector output, employment and unemployment, cf. Chart 4 and Table 2. In year 1, when the consumption shock occurs, the stabilisers, viewed in isolation, boost private-sector output by 0.6 per cent.[1] In the subsequent years, this contribution rises to around 1.5 per cent. This should be compared with the situation without active stabilisers where private-sector output falls by approximately 2.5 per cent. The dampening of the impact on private-sector output reduces the decline in the business enterprises' demand for labour, which in turn stabilises the development in employment and unemployment. For example, unemployment rises by 12,000 in years 2 and 3 when the automatic stabilisers are active, but by 29,000 in a situation without stabilisers. Broadly speaking, the activity contributions from the automatic stabilisers eliminate or offset half of

[1] Corresponding to the difference between the fall in output without automatic stabilisers (1.1 per cent compared with the baseline scenario) and with the stabilisers (0.5 per cent), cf. Table 2.

ACTIVITY EFFECTS OF A PERMANENT FALL IN PRIVATE CONSUMPTION Chart 4



Note: Deviations from baseline scenario. An exogenous and negative permanent shock to private consumption from year 1. The Charts show quarterly developments for years 1-5. Partially overlapping bars. The blue bars show the development with automatic stabilisers, the yellow without active stabilisers. The differences between the yellow and blue bars are the contributions from the automatic stabilisers.

the consumption shock in year 1, and almost three quarters of the consumption shock in years 4 and 5.

The contribution from the automatic stabilisers to GDP, which is often used as the measure of economic activity, is, however, modest. The reason is that the stabilisers have two opposite effects on GDP. On the one hand, stabilisation of private-sector output points to a smaller reaction in GDP. On the other hand, the automatic stabilisers entail a fall in revenue from indirect taxes. As indirect taxes are included in the compilation of GDP[1], this will, viewed in isolation, point to a greater reaction, i.e. a greater fall in GDP. The latter somewhat technical effect, which is not directly related to employment and output, means that the overall contribution from the automatic stabilisers to GDP is small.

The strong and rapid effects of the stabilisers on private-sector activity are chiefly attributable to the contribution from indirect taxes, cf. Box 1. Private consumption is relatively heavily taxed via VAT and excise duties, and revenue from indirect taxes therefore reacts rapidly and strongly to a fall in consumption. This dampens the impact on private-sector output. The lower revenue from direct taxes and the higher expenditure for

[1] GDP is a compilation of total output at market value, i.e. at market prices including indirect taxes such as VAT and excise duties. GDP is calculated as gross value added (GVA) plus indirect taxes on goods less subsidies on goods.

ACTIVITY EFFECTS OF THE AUTOMATIC STABILISERS IN YEARS 1-5 — Table 2

Deviation from baseline scenario (per cent)	Consumption shock			Export shock			Investment shock		
	1	2-3	4-5	1	2-3	4-5	1	2-3	4-5
GDP									
With stabilisers	-0.6	-1.3	-1.1	-0.2	-0.6	-0.7	-0.2	-0.6	-0.7
Without stabilisers	-0.6	-1.4	-1.2	-0.2	-0.7	-0.8	-0.2	-0.7	-0.8
Contribution	*-0.0*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*
Private-sector GVA									
With stabilisers	-0.5	-1.0	-0.7	-0.3	-1.0	-1.1	-0.3	-1.0	-1.3
Without stabilisers	-1.1	-2.5	-2.3	-0.3	-1.3	-1.6	-0.3	-1.2	-1.5
Contribution	*0.6*	*1.5*	*1.6*	*0.0*	*0.3*	*0.5*	*0.0*	*0.2*	*0.2*
Private-sector employment									
With stabilisers	-0.3	-0.9	-0.9	-0.1	-0.8	-1.3	-0.1	-0.4	-0.4
Without stabilisers	-0.5	-2.2	-2.9	-0.1	-1.0	-1.7	-0.1	-0.5	-0.7
Contribution	*0.3*	*1.3*	*1.9*	*0.0*	*0.2*	*0.4*	*0.0*	*0.1*	*0.3*
Unemployment (thousands)									
With stabilisers	3	12	13	2	11	18	1	6	6
Without stabilisers	6	29	39	2	13	23	1	7	10
Contribution	*-3*	*-17*	*-26*	*-0*	*-2*	*-5*	*-0*	*-2*	*-4*
Activity multiplier									
GDP	-0.0	0.1	0.1	0.1	0.2	0.3	0.1	0.2	0.3
Private-sector GVA	1.4	1.5	1.5	0.5	0.7	1.0	0.4	0.8	1.2
Private-sector employment	0.7	1.2	1.8	0.2	0.5	1.0	0.2	0.6	1.2

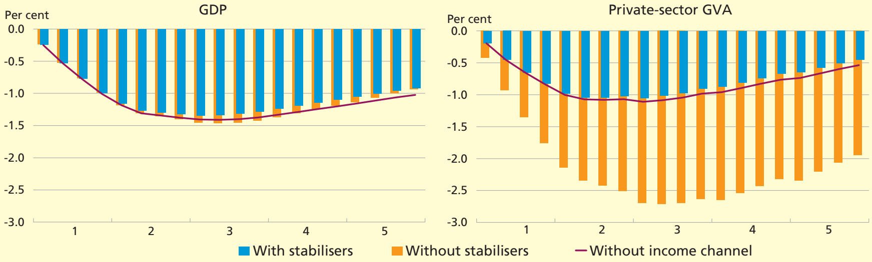
Note: Deviations from baseline scenario. Average for years 2 and 3 and for years 4 and 5. Deviations in per cent of value of baseline scenario for all variables except employment (deviation in thousands). "With stabilisers" shows the activity effects when the automatic stabilisers are active. "Without stabilisers" shows the corresponding effects when the automatic stabilisers have been deactivated. "Contribution" is the activity effect of the automatic stabilisers calculated as the effect with stabilisers less the effect without stabilisers. The activity multiplier is calculated as the relationship (with opposite sign) between the contribution from the stabilisers to the relevant variables (measured as percentage deviations) and the budget effect of the stabilisers in the same year (change in government balances as a percentage of GDP, cf. Table 1).

transfer payments contribute to stabilising activity, but this effect is far smaller and much slower. This reflects how direct taxes and transfer payments affect activity via private disposable incomes and private consumption. This impact is sluggish, partly because it takes time before changes in demand are reflected in these government budget items, partly because disposable incomes affect consumption with a certain lag. At the same time, consumption does not react fully to an increase in disposable incomes because part of the increase in income is allocated to savings. Another indicator of the relatively modest effect on activity from direct taxes and transfer payments is that the budget effects in the consumption experiment are primarily attributable to changes in revenue from indirect taxes, cf. the previous section.

ACTIVITY EFFECTS OF THE STABILISERS IN THE CONSUMPTION EXPERIMENT Box 1

In the MONA model, the automatic stabilisers have an impact on activity via two channels, (1) indirect taxes and (2) direct taxes and transfer payments, in the following referred to as the income channel. It is possible to split the aggregate activity contribution from the automatic stabilisers into the effects from the two channels. This is done in an additional model calculation showing the activity impact of a given demand shock in a situation where the income channel has been deactivated while revenue from indirect taxes adjusts endogenously.

BREAKDOWN OF ACTIVITY EFFECTS – FALL IN PRIVATE CONSUMPTION Chart 5



Note: Deviations from baseline scenario. For the blue and yellow bars, see Chart 4. The red curve shows the effects of a permanent fall in private consumption (same shock as before) when direct taxes and transfer payments remain unchanged, i.e. the income channel has been deactivated. The difference between the yellow bars and the red curve is the contribution from indirect taxes, while the difference between the red curve and the blue bars is the contribution from the income channel.

The contribution from the automatic stabilisers to dampening fluctuations in private-sector output is clearly dominated by the effects via indirect taxes, cf. Chart 5 (right). Over a 2-3 year horizon, with the stabilisers lifting output by a total of 1.5 per cent, cf. Table 2, indirect taxes contribute almost the whole effect. The income channel can only be glimpsed in years 4 and 5 when it boosts private-sector output by 0.1 per cent, out of a total effect from the automatic stabilisers of 1.6 per cent. On the other hand, the effects on GDP, which are generally small, are primarily attributable to the income channel, cf. Chart 5 (left).

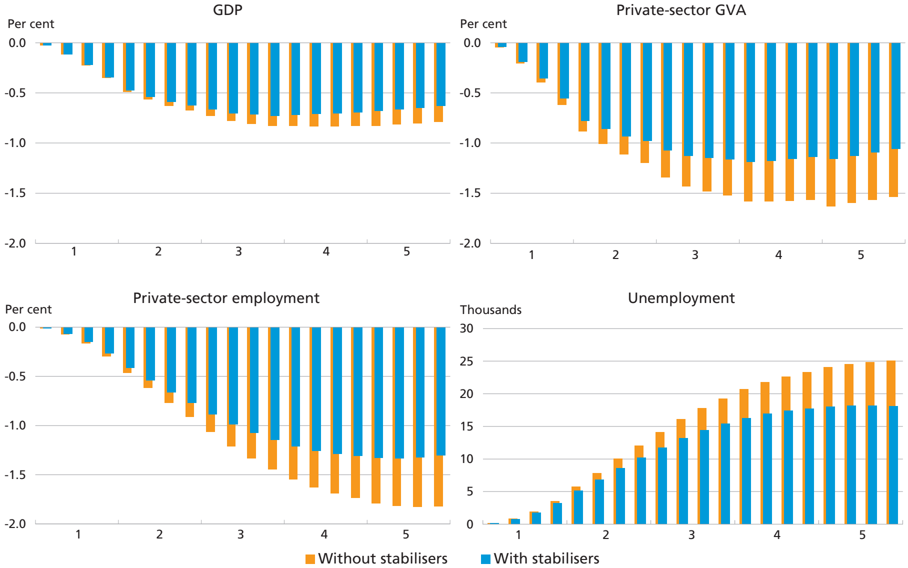
In general, the income channel helps to stabilise activity because the automatic adjustment in direct taxes and transfer payments dampens fluctuations in private disposable incomes. The relatively modest activity impact via the income channel reflects that the effect on the said government budget items is small and that the income channel has an indirect impact on activity via income effects on private consumption. This both dampens and delays the activity effects. The weak activity impact can be illustrated by a small calculation. Take, for example, the effects of the income channel in years 2 and 3. In the consumption experiment, direct taxes are reduced by 0.17 per cent of GDP, while expenditure for transfer payments increases by 0.10 per cent of GDP, cf. Table 1. All other things being equal, this increases private disposable incomes by a total of 0.27 per cent of GDP. In MONA, the households' propensity to consume out of income is around 0.1 in the short term and 0.4 in the long term. Income redistribution via the government budget thus increases private consumption by a total of 0.03-0.11 per cent of GDP, the effect being smallest in the short term. This is in line with the calculated GDP contribution from the automatic stabilisers (which is, as previously stated, dominated by the income channel), cf. Table 2. With marginal indirect taxation of private consumption at approximately 25 per cent, the effect on private-sector output (which is around half the size of GDP) is in the same range.

CONTINUED Box 1

Indirect taxes stabilise activity by reducing the pass-through from changes in demand to output and incomes. This effect is particularly visible in the consumption experiment, because of the high indirect taxes on consumption. This can also be illustrated by a small calculation. Once again, take the effects over a 2-3-year horizon. Model calculations show that when the automatic stabilisers *have been deactivated*, private consumption falls by around 6.5 per cent, or kr. 50 billion, compared with the baseline scenario (in volumes). This affects GDP, which is approximately kr. 20 billion lower than in the baseline scenario, with lower imports accounting for the gap up to the fall in consumption. Without automatic stabilisers, the GDP change is fully reflected in private-sector output, which also declines by kr. 20 billion. *Now take the case where indirect taxes react to the fall in consumption*. Given the same fall in consumption as above, the GDP effect will be the same. However, since private consumption is taxed at 25 per cent, revenue from indirect taxes (in volumes) will now fall by kr. 12.5 billion (25 per cent of kr. 50 billion) compared with the baseline scenario. This dampens the pass-through to private-sector output, which in this case falls by kr. 7.5 billion (20-12.5). In other words, the adjustment in indirect taxes increases private-sector output by kr. 12.5 billion compared with a situation where the automatic stabilisers are *not* active. Roughly speaking, this is equivalent to a boost in private-sector output by 1.5 per cent, which is in line with the calculated activity contribution from indirect taxes, cf. above. The limited GDP effect via this channel is illustrated by the fact that the reduction of revenue from indirect taxes of kr. 12.5 billion (which reduces GDP) corresponds to the increase in private-sector output (which increases GDP), so that the net effect in this stylised example is zero.

Indirect taxation of exports is relatively limited and therefore automatic stabilisers in the export experiment have a substantially lower and more sluggish effect on activity, cf. Table 2 and Chart 6. The effects of the stabilisers on private-sector output and employment are weak in year 1, but gradually increase as the export shock ripples through the economy, and in years 4 and 5 the automatic stabilisers boost private-sector output by 0.5 per cent. This should be seen in relation to a fall in output by 1.6 per cent compared with the baseline scenario when the stabilisers are deactivated. The calculated activity effects entail that the automatic stabilisers offset approximately 10 per cent of the decline in exports in year 1, with the counterbalancing effect rising to almost 30 per cent in years 4 and 5. The impact is thus sizeable, but only in the longer term. Similar results are found for employment and unemployment. Calculations show that even though exports are not heavily taxed, changes in indirect taxes still have the greatest impact on activity. The reason is that the decline in exports leads to a fall in consumption via lower output and incomes, and the resulting decline in revenue from indirect taxes reduces the pass-through from consumption to private-sector output –

ACTIVITY EFFECT OF A PERMANENT FALL IN EXPORTS Chart 6



Note: Deviations from baseline scenario. Exogenous and negative permanent shock to demand in the export markets from year 1. The Charts show quarterly developments in years 1-5. Partially overlapping bars. The blue bars show the development with automatic stabilisers, the yellow without active stabilisers. The differences between the yellow and blue bars are the contributions from the automatic stabilisers.

just as in the analysis in Box 1. Like in the consumption experiment, the impact of the automatic stabilisers on GDP is limited.

Investments also have a relatively low content of indirect taxes, and the calculated activity contributions from the automatic stabilisers are generally very similar to those found in the export experiment, cf. Table 2. The activity effects are slightly lower in the investment experiment, reflecting a more subdued impact on the labour market in this case. This entails a smaller impact on direct taxes and transfer payments, and consequently the stabilising effect on private disposable incomes and on private consumption is lower.

More about calculating activity effects

The worsened economic outlook in Denmark and internationally has increased focus on the effects of the automatic stabilisers. The estimated budget effects of expected cyclical fluctuations are often used as a measure of the magnitude of the stabilisers. This gives an indication of the expected fluctuation in the government budget balance, but is only a rough measure of the activity effects of the automatic stabilisers. In simplified terms, the budget effects can only be used as a direct measure of activity effects if changes in the government budget balance have a one-to-one effect on economic activity.

To illustrate the transition from budget to activity effects, a number of multipliers have been calculated on the basis of the analysed experiments. These multipliers show the effect on GDP, private-sector output and employment over various time horizons from a given change in the government balance, cf. Table 2 (lower section). More specifically, the multipliers have been calculated as the ratio between the activity contribution from the stabilisers in a given year and the effect on the government budget balance in the same year. For a *given* demand shock, the multipliers can be interpreted as the activity effect from the automatic stabilisers for a cyclically determined change in the government budget balance of 1 per cent of GDP. For example, a cyclically determined deterioration on the government budget balance by 1 per cent of GDP, which is attributable to falling consumption, will, all other things being equal, boost private-sector output by 1.4 per cent in the year when the shock occurs.

It is seen that the multipliers typically differ somewhat from 1 and that there are considerable differences, e.g. across experiments and activity measures. The GDP multipliers are generally very small, illustrating that the budget effects may deviate considerably from the activity effects of the automatic stabilisers. Moreover, it is important to distinguish between the underlying causes of a cyclical downturn, including the underlying demand shocks, in an assessment of the stabilising effect on activity from the automatic stabilisers.

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Developments in European Securities Settlement

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INTRODUCTION AND SUMMARY

In Europe, domestic securities transactions are settled efficiently via national systems. Cross-border transactions, on the other hand, are considerably more expensive and difficult to settle. This is an impediment to the development of an integrated securities market in the EU as envisaged in connection with the introduction of the euro. The increase in cross-border financial activity in Europe has accentuated the lack of efficiency, and a number of initiatives have therefore been launched to facilitate integration of securities settlement in Europe. The Eurosystem is working on various projects, including the establishment of a European securities settlement system, TARGET2-Securities, T2S.

This article discusses the T2S project and the significance of the single settlement platform for Danish participants. On the basis of the general work within this field at EU level the background to and financial perspectives of T2S are described, followed by an outline of the technical aspects of T2S and the future stages of the project.

COSTS OF SECURITIES SETTLEMENT IN EUROPE

The costs of settling securities transactions are often difficult to quantify precisely and thus also difficult to compare across central securities depositories, CSDs, in Europe. Several studies have attempted to measure the costs, partly to compare levels in different countries, partly to quantify the costs of cross-border settlement. The approaches taken vary, but all studies show that the direct costs of settling domestic securities transactions in the EU are similar to those in e.g. the USA, whereas the direct settlement costs for cross-border transactions are, on average, 11 times higher than for domestic transactions. This is also the case in Denmark, where settlement of a domestic transaction in VP Securities A/S, VP, is far less costly than an equivalent cross-border transaction via VP's link to the international CSD Euroclear. One of the main explanations is that securities settlement is still highly fragmented in Europe, with different national technical standards, legal frameworks, etc. Both private and public sector players are working to reduce these costs.

EU INITIATIVES WITHIN SECURITIES SETTLEMENT

In connection with the introduction of the euro, the European Commission set up a group of financial market experts, known as the Giovannini Group. Since the launch of the euro, this Group has analysed the fragmentation of the European financial markets and presented two reports on securities settlement, published in 2001 and 2003, respectively, both of which formed the basis of Commission initiatives in this area.

In its 2001 Report, the Giovannini Group identified 15 barriers to an efficient market for cross-border securities settlement. The barriers were categorised under three main headings: technical requirements and market practice, taxation, and legal certainty. According to the Report, these barriers prevent the creation of an integrated market for securities settlement in the EU. The Group's Second Report includes proposals for eliminating these barriers and introducing uniform technical standards, market conventions, etc. Harmonisation of legislation and taxation is the responsibility of the national governments and the Commission, while harmonisation of technical standards, market conventions, etc. is the responsibility of the financial sector.

On the basis of a public consultation on the barriers identified, the Commission has set up three expert groups: a general group tasked with monitoring progress in removing the barriers – the Clearing and Settlement Advisory and Monitoring Experts, CESAME – and two subgroups to tackle the legal and tax-related barriers.

CESAME is chaired by the Commission and is composed of representatives of various mainly private bodies involved in clearing and settlement, including CSDs. Besides monitoring general progress in the area and advising the Commission in this respect, CESAME has also been empowered to organise private initiatives to bring down the barriers. Progress is being made in removing the technical barriers to market practices, cf. Box 1, while elimination of the legal and tax-related barriers is still at the initial stage.

Acknowledging that harmonisation of securities settlement in the EU would take longer than initially anticipated, the Commission in the summer of 2006 signed a Code of Conduct, CoC, with infrastructure participants as outlined in Box 2.

PRIVATE SECURITIES SETTLEMENT INITIATIVES | Box 1

Besides the securities settlement initiatives taken by the European Commission and the Eurosystem, the Society for Worldwide Interbank Financial Telecommunication (SWIFT), the European Central Securities Depository Association (ECSDA), the European Banking Federation (FBE) and the two European international CSDs (Euroclear and Clearstream) are working on integration.

Euroclear consolidates settlement through mergers with the national CSDs of the UK, France, the Netherlands, Belgium, Sweden and Finland. Euroclear uses a Single Settlement Engine, SSE, for securities settlement. The SSE was launched in France in 2006, and according to Euroclear all the group's CSDs will be using it by 2010.

Clearstream, which comprises the CSDs of Germany and Luxembourg, has initiated Link Up Markets, in which eight European CSDs work together on cross-border securities settlement. Link Up Markets will allow all participating CSDs to register and settle all securities issued by the linked-up CSDs, and according to calculations by Link Up Markets it will be possible to offer cross-border settlement at a price that is up to 80 per cent lower than today's. Besides Clearstream, the participating CSDs are those of Denmark, Switzerland, Greece, Spain, Austria, Cyprus and Norway.

A major step towards harmonisation of securities trading in Europe was taken by the European Central Bank, ECB, in the summer of 2006, when the plans to establish a European securities settlement system, T2S, were announced. A general technical description of T2S and an assessment of its significance for Danish participants are provided below.

CODE OF CONDUCT | Box 2

The European Commission originally proposed a framework directive for securities settlement in the EU; a proposal that met with considerable resistance among market participants. Instead, the Commission decided to prepare a CoC for the CSDs, among others, to sign.

The CoC lays down the conditions for transparency in relation to prices and services, common principles, fair access conditions, unbundling of services and accounting separation. In combination with the provisions of the Markets in Financial Instruments Directive, MiFID, which liberalises the stock-exchange area, the CoC is aimed at enhancing competition and facilitating access across the various systems. The CoC entered into force at the end of 2006. In 2007, a strategy was prepared for achieving common principles, while unbundling of services and accounting separation were implemented at the end of 2007. The CoC is generally believed to have served its purpose, although it is still difficult to compare prices across CSDs owing to their diverse pricing structures. Nevertheless, the ECSDA has attempted to do so.

TARGET2-SECURITIES

The concept of T2S emerged in connection with an analysis by the Eurosystem of two possible models for a European securities settlement system: (i) an integrated model, which is deemed to be the most efficient model for handling payment and securities settlement since all settlement takes place on a single platform; and (ii) an interface model, whereby securities settlement takes place at a CSD, while the cash leg is settled at a central bank, which may prove to be less efficient, particularly for cross-border securities settlement.

Using an integrated model means outsourcing the handling of central-bank money to CSDs, which was a cause for concern for several euro area central banks. Settlement in central-bank money is outlined in Box 3. Consequently, the proposed solution was to insource securities settlement to a single system, T2S, owned by the Eurosystem. The technical development and subsequent operation of T2S have been assigned to the central banks of Germany, Italy, France and Spain.

In many ways, the establishment of T2S is expected to act as a catalyst for harmonisation of securities settlement within the EU as it will provide a single European securities settlement system. Furthermore, standardisation will be required in order to reap the full benefit of T2S, and indeed T2S will contribute to this process by highlighting differences in national legislation in this area.

Participation in T2S will be voluntary for CSDs. T2S will not be a CSD as such, and the existing national CSDs will be the points of entry for market participants. Instead, T2S will be a technical platform for CSDs, providing settlement services and potentially offering the option to settle all securities issued in the EU. T2S is expected to go live in 2013.

Settlement on TARGET2-Securities

Since the ECB announced the establishment of T2S, it has discussed the platform design with representatives of CSDs and their participants, mainly large banks and central banks. On the basis of these discussions, a set of general functional specifications and a set of user requirements for T2S have been prepared, on which the further development work will be based.

The underlying T2S settlement principle is that each CSD outsources significant parts of the administration of its participants' securities accounts to the T2S platform. Exceptions include country-specific details and corporate actions such as interest and dividend payments, which will still be handled at national level. The degree of customer detail varies among CSDs, including whether they operate direct holding systems

SETTLEMENT IN CENTRAL-BANK MONEY Box 3

Settlement of payments in central-bank money means that payments are settled via accounts with a central bank, i.e. the recipient has a claim on the central bank and the remitter either has a deposit at the central bank or the option to borrow from the central bank against collateral. Using central-bank money considerably reduces the credit and liquidity risks in payment and settlement systems. International standards recommend using central-bank money or equally safe funds in systemically important payment and securities settlement systems.

with single-investor accounts, as VP in Denmark does, or pool investor portfolios in omnibus account holding systems so that single-investor accounts are not registered by the CSD, but by custodian banks. The additional services offered by the individual CSDs also vary. The national CSDs will maintain legal relations with their customers. Likewise, the securities will still be subject to national legislation applying to the CSD through which they were issued.

The system will be based on the principles behind the infrastructure of the European euro payment system, TARGET2, and on settlement of the cash and securities legs on the same technical platform. T2S will also be able to settle in other currencies than euro. The structure of T2S is shown in Box 4, illustrating the settlement and information flows between the various parties and the platform.

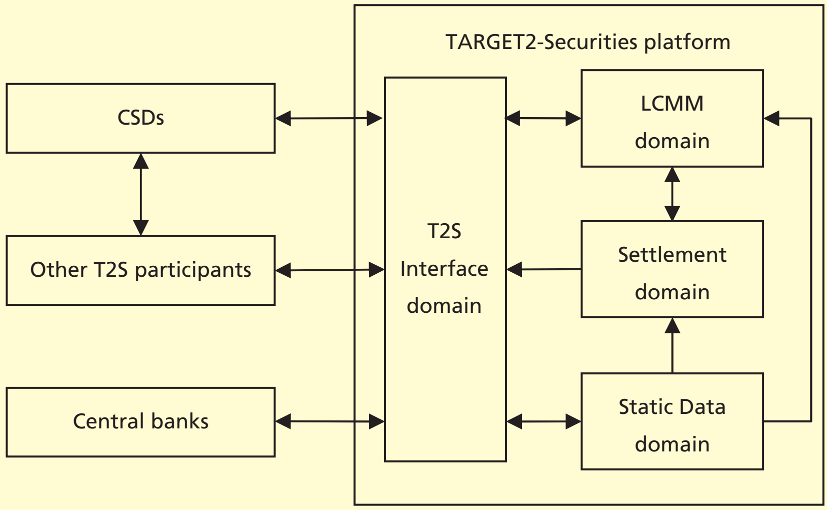
It will be sought to settle most of the participants' transactions by way of full multilateral net settlement during night-time settlement cycles the night before the value date. In the daytime, participants will also be able to settle individual transactions in real time, i.e. real-time gross settlement, RTGS. The latter requires more liquidity than net settlement, and in order to reduce liquidity requirements T2S therefore offers a number of liquidity-optimising features. These features continuously seek to improve settlement, e.g. by settling several transactions at the same time if they cannot be settled individually.

T2S is expected to provide for considerable netting of euro payments in the cash leg for participants with large euro-denominated debit balances with one CSD and large euro-denominated credit balances with another CSD at the same time. Moreover, if a participant settles the same asset through several interlinked CSDs, e.g. Danish securities in Euroclear, T2S will also improve settlement netting as compared with the individual national CSDs viewed in isolation.

In T2S, it will be possible to pledge securities as collateral for settlement liquidity in the same way as under the automatic collateralisation arrangement in Denmark. This includes securities already held by the

T2S INFRASTRUCTURE Box 4

In T2S, central functionalities are known as domains. The T2S Interface domain is the central link between CSDs and other participants and the platform itself. All information and instructions to and from T2S pass through this domain. The Static Data domain contains all the necessary master data for assets settled via T2S. Such master data is updated by the CSD issuing the asset in question. In addition, the various central banks open participant cash accounts on the T2S platform for settlement purposes. Settlement in relation to an instruction is managed by the Life Cycle Management and Matching, LCMM, domain, which handles the entire T2S process from receipt to settlement of an instruction. Settlement takes place in the Settlement domain where cash account balances and securities accounts are checked and updated.



In the actual settlement procedure, the CSD or another T2S participant instructs T2S on the settlement details. It could be a trade, moving a securities account, a corporate action such as disbursement of dividend, a stock loan, etc. The instruction is sent via T2S Interface to LCMM. Here, the information is validated against master data, and, in the case of a trade, the instruction is matched against the opposite instruction to verify consistency between the buyer's and seller's information. LCMM then forwards the consolidated settlement instruction to Settlement, where the actual securities accounts are updated and the relevant counterparty cash account transactions performed. Once settlement has been completed, Settlement sends a status message to T2S Interface, which forwards the final T2S platform updates to the relevant CSDs, central banks and any other T2S participants for further processing.

participant, as well as the option to pledge securities as collateral in the settlement cycle in which they are received.

Straight-through-processing, STP, will be supported in accordance with international standards, as will simultaneous exchange of securities and cash, i.e. delivery versus payment, DvP.

Reduced costs for cross-border settlement

One of the Eurosystem's objectives in relation to T2S is to make cross-border settlement as efficient as domestic settlement. Consequently, each CSD must establish links by way of accounts with the other participating CSDs. This will also make it possible for CSD customers to hold all securities in one account with a single CSD of their choice, thereby streamlining securities handling and liquidity management.

According to Eurosystem calculations, the direct costs per settlement instruction will be in the range of 10 euro cents. A more conservative estimate is 15 euro cents, which the Eurosystem currently expects to be able to guarantee CSDs signing up at an early stage. The actual price will depend on the settlement volume in T2S, including the development in securities trading volumes, and the extent to which CSDs opt to join T2S.

In line with the wishes of Danish market participants, VP has indicated that it intends to use the T2S platform for settlement in both euro and kroner and expects to settle through omnibus accounts, while the Danish single-investor accounts will be maintained at VP. Danmarks Nationalbank has indicated its willingness to outsource the technical management of central-bank accounts in kroner to the Eurosystem in the event that settlement in kroner is transferred to the T2S platform; this means that settlement in kroner will still take place in central-bank money.

Significance of TARGET2-Securities to Danish participants

When T2S is realised, it will be easier to trade Danish securities in the European market. T2S will reduce the fragmentation of the settlement infrastructure, thereby improving settlement efficiency and safety and promoting integration of the European financial markets. In addition, T2S will ease the mobilisation of the issuers' securities as collateral against loans from the Eurosystem, which will have a positive impact on liquidity in the securities market. At the same time, it will be easier for some participants to handle collateral in T2S, as consolidation of the collateral base could potentially mean that fewer securities are tied up.

Under the assumptions presented by the ECB, settlement will be possible at a cost level similar to that seen in today's domestic transactions. T2S will thus not only reduce direct costs for Danish investors and banks, the less fragmented settlement infrastructure will also lower indirect costs. However, joining T2S will also involve a number of costs for participants.

By reducing settlement costs and streamlining the settlement chain, T2S should eventually contribute to enhancing the general liquidity of European securities. Enhanced liquidity will lead to keener pricing of securities and thus bring down capital costs for issuers. Increased turnover will also reduce the variable costs and improve settlement netting.

Via links in T2S, VP will be able to register securities from all the other participating CSDs, as described above. It will thus be possible to hold securities from all over Europe in investor accounts with VP. Combined with the lower costs for cross-border settlement this can reduce the diversification costs to Danish investors of actively managing international securities portfolios, while also simplifying the process.

In Denmark, as in other countries participating in the development of T2S, a national user group has been set up. This group comprises the Danish market participants, VP and Danmarks Nationalbank and safeguards Danish interests in the T2S specification phase.

Development trends

T2S is thus expected to entail clear advantages in relation to the settlement of Danish securities. The establishment of T2S and infrastructure adaptations will, however, involve significant development costs for Danish stakeholders. For example, VP and the Danish banks will have to adapt their systems and procedures so as to be in line with T2S.

At the European level it remains uncertain how developments within the securities settlement area until 2013 will affect T2S. Euroclear has announced that it will offer a User Choice Model, whereby participants can choose whether to settle a given transaction via T2S or via Euroclear's internal Single Settlement Engine, SSE. The SSE is described in Box 1. Likewise, a number of central counterparties, CCPs, are expanding their business so as to offer services from an increasing number of regulated markets and multilateral trading facilities, MTFs. These initiatives involve netting of securities transactions and/or settlement outside T2S and may therefore reduce the number of settlement instructions sent to T2S. This, in turn, may undermine the expected cost reductions in T2S.

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Danmarks Nationalbank's Lending Survey – New Statistics for Changes in Banks' and Mortgage-Credit Institutes' Credit Policies

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INTRODUCTION

In January 2009, Danmarks Nationalbank published the results of the first Danish lending survey. It is a qualitative survey in which the credit managers of a number of banks and mortgage-credit institutes assess changes in the supply of and demand for loans in the current quarter, as well as expected changes in the coming quarter.

The survey should be seen as a supplement to the existing quantitative statistics for credit institutions' lending and interest rates. Among other things, the survey sheds light on changes in credit policies, i.e. whether it has become easier or more difficult for borrowers to obtain loans. It also discloses the rationale for changing credit policies and the credit institutions' expectations for future developments in the credit market.

This article outlines the information content of lending surveys and how the surveys are used.

LENDING SURVEYS AND EXPERIENCE FROM OTHER COUNTRIES

Danmarks Nationalbank's lending survey is inspired by surveys in other countries. The Federal Reserve was the first to introduce a Senior Loan Officer Opinion Survey in 1967. Over the last decade, other central banks have introduced similar surveys, including the Bank of Japan (2000), the European Central Bank, ECB (2003), the Bank of England (2007) and Norges Bank (2007). These surveys show a close correlation between changes in credit policies and real economic factors such as lending, consumption and investments. Lending surveys thus provide useful input for interpreting credit patterns and real economic trends. They are used by the central banks themselves, but also by external market participants, analysts, media and researchers. The growing interest in lending surveys is related to their information content, which cannot be derived from the quantitative statistics. Lending surveys contribute to a better under-standing of the link between credit markets and business cycles.[1] Interest is also attributable to analyses of the US survey, which have shown a significant correlation between changes in credit policies and real economic variables such as actual lending, investments, consumption and GDP growth.

Several empirical surveys show that changes in credit policies are related to the credit policies conducted by the institutions and the expected future economic developments. For example, Lown and Morgan (2002) shows that through changes in credit policies there is a distinct interaction between credit markets and the economy, thereby confirming the link between credit cycles and business cycles. The same conclusion is reached in Lown and Morgan (2006), which demonstrates that changes in bank credit policies significantly influence corporate inventory investment decisions, which in turn have a considerable impact on the economy. The surveys also show a strong correlation between actual lending and credit policy developments, however, and the latter may therefore have limited independent explanatory power in a cyclical context. Nevertheless, lending surveys are a powerful tool for analysing the factors behind actual credit developments, and not least whether a given development in lending is attributable to changes on the demand or supply side.

Chart 1 shows changes in the reported credit policies and lending growth for large corporate loans and US recessions in the period 1967-2007.

Two findings are worth noting. Firstly, four of the five recession periods have coincided with significant tightening of bank credit policies. Secondly, tightening of credit policies has preceded falls in lending growth.

Danmarks Nationalbank will use its new lending survey as input for interpreting actual lending developments and analysing financial stability. The financial sector has also shown an interest in the survey findings for benchmarking and analysis purposes. The survey enables comparison of credit conditions between Denmark and other countries, and when a sufficiently long time series is available, data may also be used for more comprehensive econometrical analyses.

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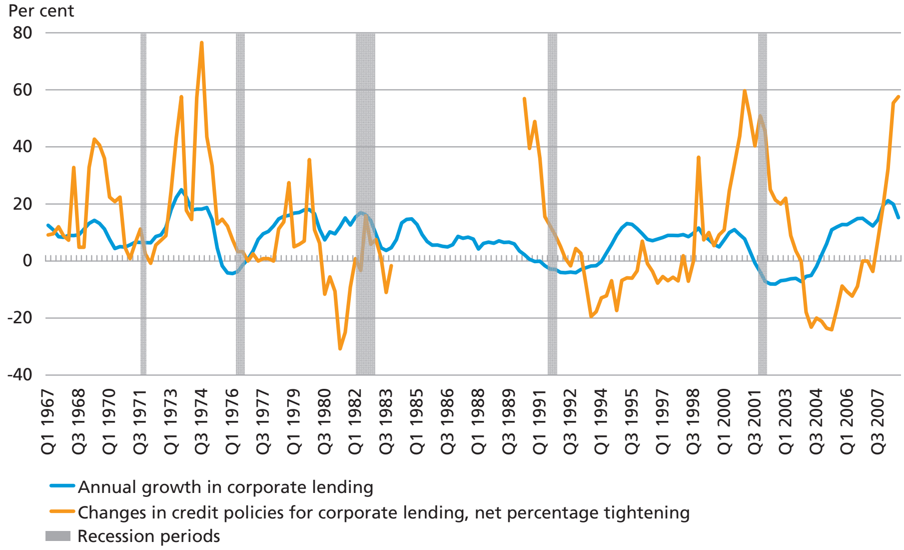
1 For a summary, see e.g. Berg et al. (2005).

CHANGES IN CREDIT POLICIES AND ANNUAL GROWTH RATES FOR CORPORATE LENDING IN THE USA

Chart 1



Note: In the period 1984-90 the question of changes in credit policies was not included in the Senior Loan Officer Opinion Survey.
Source: Federal Reserve System and Bureau of Economic Analysis.

THE FINDINGS OF DANMARKS NATIONALBANK'S FIRST LENDING SURVEY

Not surprisingly, the findings of the first Danish lending survey, covering the 4th quarter of 2008, show that the credit institutions are adjusting to the cyclical downturn and the financial crisis.

The design of the Danish lending survey is described in Box 1.

The Danish banks and mortgage-credit institutes reported that in the 4th quarter of 2008 they had tightened their credit policies for corporate loans substantially, cf. Chart 2. In spite of differences in compilation methods, foreign lending surveys also indicate tighter lending policies in the 4th quarter of 2008, particularly for corporate lending.

When interpreting the survey findings it is important to keep in mind that the findings do not reflect absolute changes, but simply quarter-on-quarter changes. As Chart 2 shows, the tighter credit policies are primarily attributable to changing risk assessments, i.e. a negative view of the general economic development and reduced risk appetite. Particularly the medium-sized credit institutions reported that funding costs and conditions had led to tightening. The institutions have mainly implemented the tighter credit policies through higher interest rates and stricter collateral requirements. In the 4th quarter of 2008, the institutions expected the negative outlook to continue in the 1st quarter of 2009.

DESIGN OF DANMARKS NATIONALBANK'S LENDING SURVEY Box 1

Questions. The survey is based on questionnaires to be completed by the credit managers of the participating institutions on a quarterly basis. The survey consists of two practically identical questionnaires, one regarding lending to corporations and one regarding lending to households. The first part of the questionnaires is about credit policies – the factors contributing to changes in credit policies and how the institutions have implemented such changes via their terms and conditions for loans. The second part of the questionnaires is about changes in the demand for loans on the part of current and new customers, the purpose being to distinguish whether changes in overall lending are governed by supply or demand. The final part of the questionnaires is about changes in write-downs and losses on outstanding loans. From time to time, ad hoc questions relating to topical issues may also be included.

For each question, there is a choice of five responses "tightened/increased considerably", "tightened/increased somewhat", "unchanged", "eased/declined somewhat" and "eased/declined considerably". Both developments in the current quarter and expectations for the coming quarter must be reported. Responses should always be based on an assessment of quarter-on-quarter changes, not a long-term perspective. This is done to ensure consistency and comparability with existing lending surveys, and because long-term equilibrium is difficult for the institutions to assess and the assessment is individual.

The ***population*** has been selected so as to reflect the Danish credit market, which is characterised by a heterogeneous bank structure, as well as a mortgage-credit sector that accounts for a considerable share of overall lending. The population comprises the banks in the Danish Financial Supervisory Authority's groups 1 and 2, i.e. the largest 16 Danish banks and the largest five mortgage-credit institutes.[1] This population covers 74 per cent of lending to households and 84 per cent of corporate lending, a high coverage compared with foreign surveys.

Data calculation.[2] To summarise the survey findings, the responses are quantified as net balances by assigning a value to each of the five options, i.e. "tightened considerably" = -100, "tightened somewhat" = -50, "unchanged" = 0, "eased somewhat" = +50 and "eased considerably" = +100. The net balance is achieved by weighting the value of the individual credit institutions' responses by their share of total lending:

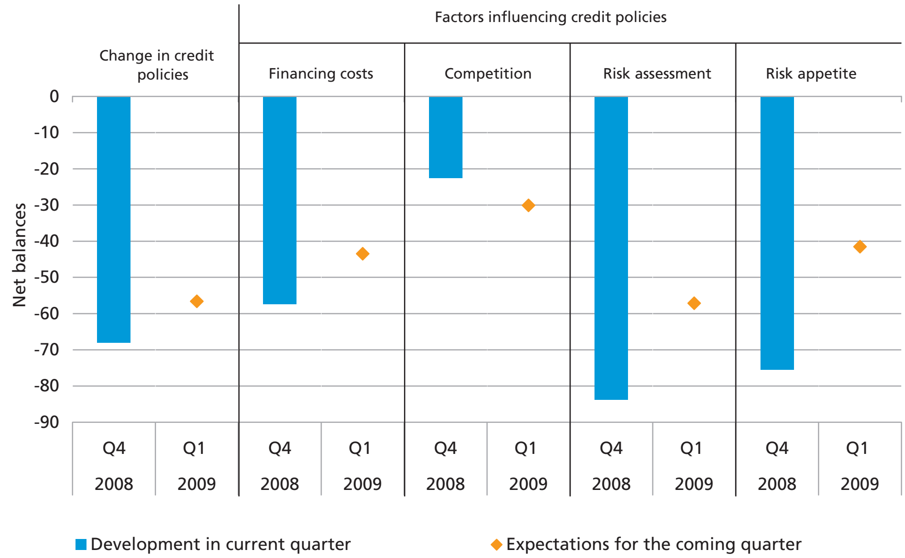
$$Net\ balance = \sum s_i \cdot v_i$$

where s_i is the value of respondent i's answers, and v_i is the weight of respondent i. The scale runs from -100 to +100. 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. For example, the net balance will be +(-)100 if all institutions answer that their credit policies have been eased (tightened) considerably.

[1] For the financial year 2008, the Danish Financial Supervisory Authority's group 1 comprises: Danske Bank, Nordea Bank Danmark, Jyske Bank, Sydbank and FIH Erhvervsbank. Group 2 comprises: Nykredit Bank, Spar Nord Bank, Forstædernes Bank, Amagerbanken, Fionia Bank, Arbejdernes Landsbank, Alm. Brand Bank, Sparbank, Vestjysk Bank, Ringkjøbing Landbobank and Sammenslutningen Danske Andelskasser. The largest five mortgage-credit institutes are: Nykredit Realkredit, Realkredit Danmark, Nordea Kredit, BRFkredit and DLR Kredit.

[2] Data calculation in the Danish survey is based on the Bank of England's method, as it quantifies the overall result by incorporating all five possible responses and is easy to understand and interpret. An alternative method is the one used by the ECB, which calculates net tightening, i.e. the percentage of institutions tightening credit policies less the percentage relaxing credit policies. The ECB's method does not distinguish between "considerably" and "somewhat".

CHANGES IN CREDIT POLICIES, CORPORATE LENDING Chart 2



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The Chinese Economy and the Financial Crisis

Thomas Elkjær, the Danish Embassy in Beijing, and Rasmus Tommerup, Economics

INTRODUCTION AND SUMMARY

While 2008 marked the 30th anniversary of the introduction of economic reforms in China, the strength of the Chinese economy is being tested by the global recession. High long-term growth has doubled China's economy at intervals of just under eight years over the last 30 years, and a substantial part of the global growth in recent years has come from China. In a global recession, continued high growth in China would therefore to some extent support the global economy. However, China's share of the total world economy, measured in market exchange rates, is only approximately 7 per cent against 2.6 per cent in 1980. In comparison, Denmark accounts for around 0.6 per cent and the USA for around 23 per cent of the total world economy.

The long period of high growth has, especially in recent years, led to theories about a possible "decoupling". Initially China was not particularly hard hit by the current crisis, but towards the end of 2008 the economic situation deteriorated considerably and quickly. At the same time there were signs of a domestic slowdown, so the authorities reacted promptly by introducing a massive stimulus package and relaxing monetary policy. As a result of the authorities' ability and willingness to stimulate the economy, combined with the considerable dynamics of the Chinese economy, a reversal will presumably be seen sooner in China than in the industrialised countries. In the medium term, however, there are a number of structural obstacles to growth, including balancing growth towards increased domestic consumption, better utilisation of resources, including labour and the environment, and financial sector reforms. So China still has a considerable way to go before achieving a self-sustained economy.

CHINA'S ECONOMY

Annual economic growth in China has been 10 per cent on average over the last 30 years. Growth in external trade has been even stronger.

Despite very high investments, savings have been even higher to ensure significant current-account surpluses. This reflects a dynamic economy that has been integrated into the global economy at a brisk pace, but also an economy with increasing imbalances, where growth is based on exports and investments financed by savings. The economic dynamism is the result of several factors: economic reforms, strong entrepreneurial traditions, opening up to the rest of the world and globalisation.

Many of the reforms have focused on industrialisation and extensive privatisation, but the authorities continue to control some sectors. So while state-owned enterprises created 82 per cent of the value added in the industrial sector in 1994, this figure had fallen to 41 per cent in 2005, cf. ECB (2007). At the same time the labour force in the state-owned enterprises was reduced from approximately 80 million to approximately 40 million through dismissals, cf. Naughton (2007). This development, together with gradually increasing access for foreigners to invest in China, has led to the establishment of three very different sectors: the private sector, the foreign-owned sector and the state-owned sector, which jointly account for two thirds of GDP[1]. State-owned enterprises dominate the input sectors (e.g. extraction of raw materials, steel and petrochemistry), the network sector (e.g. transport, communication and electricity) and the banking sector. The state-owned enterprises do not always have a monopoly and are often operated according to semi-commercial principles. These enterprises have relatively easy access to financing and are therefore strongly represented in the capital-intensive heavy industry. Private enterprises are often small enterprises within the service, trade or light industry sectors. They do not have similar access to loan financing, which is why output growth has to a higher extent been achieved through increased employment. Finally, there is the foreign-owned sector accounting for more than half of the production for exports and 90 per cent of high-technology exports, cf. Dragonomics (2008).

Trade

China is the third largest exporter in the global market. As a consequence, Chinese growth is often described as export-driven, but net exports have only had a significant, direct impact on growth since 2005, cf. Chart 1. Investments have been much more important, while consumption, despite substantial growth, has been unable to keep up with output growth.

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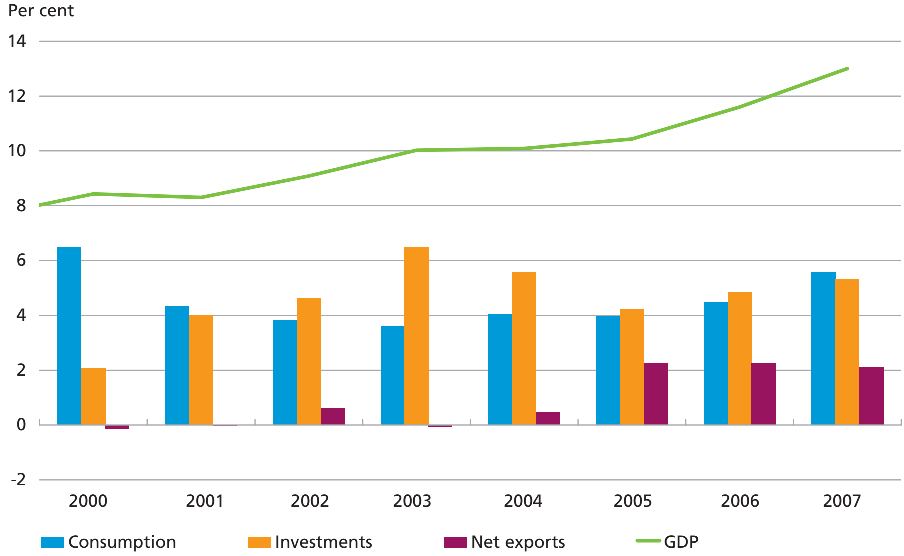
[1] In addition to these three sectors, agriculture accounts for approximately 11 per cent of GDP and the public sector for approximately 20 per cent of GDP.

GROWTH CONTRIBUTIONS Chart 1



Note: Growth contributions have been calculated at current prices and then scaled down to the growth rate of GDP at constant prices.
Source: EcoWin and own calculations.

Globalisation has substantially increased China's ability to utilise its comparative advantage of being a country that has an abundance of labour but is poor in raw materials. Today, raw materials can be purchased globally and transported cheaply to China for labour-intensive processing. In the increasingly globalised world trade, China has therefore to some extent acted as the world's "assembly hall", i.e. importing sub-components, assembling them into finished products and re-exporting them. The import content of exports is high, and while the profit margins of export enterprises have increased, they remain at a low level. The value added in China is therefore limited. Exports are moving away from the highly labour-intensive sectors such as textiles and toy production towards products with higher value added, e.g. electronics and appliances, but China's main contribution to world trade remains cheap labour[1], cf. World Bank (2008) and Cui et al. (2007). Labour being China's main contribution, a considerable number of better paying jobs have also been created in the export sector compared to those in the agricultural sector. This development has supported the extremely rapid urbanisation.

[1] According to National Bureau of Statistics: China Statistics Yearbook on High Technology Industry 2007, China Statistical Yearbook 2007, high-technology production as a ratio of GDP more than doubled from 1995 to 2006, but still accounts for only about 5 per cent.

Technology and knowledge transfer

Technology and knowledge transfer through direct foreign investments has frequently played a significant part in global economic integration and economic progress. China has been a large recipient of direct investments since 1992, receiving about one third of the industrialised countries' total direct investments in the emerging market economies. More than a third of foreign direct investments come from Hong Kong, Taiwan, Macau and off-shore financial centres, while approximately 15 per cent come from the USA, Europe and Japan put together, cf. Naughton (2007). The current-account surplus means that China no longer needs foreign financing, and to a wide extent the authorities' approval of foreign direct investments is currently motivated by their ability to contribute new technology or knowledge. The motive of foreign enterprises has also changed. Initially it was to take advantage of cheap Chinese labour for low-cost production and re-exportation to the home country, the motive is increasingly to produce for Chinese purchasers: industry, infrastructure development or the Chinese middle class, which is increasing rapidly in numbers and purchasing power[1]. From January 2008 to January 2009, foreign direct investments decreased by just over 30 per cent. The negative effect of a long-term reduction in direct investments will primarily be less technology transfer.

The financial markets

The financial sector in China consists mainly of the banking sector, where the largest banks are state-owned. Consequently, state-owned industrial enterprises usually have better and easier access to funding than smaller privately owned enterprises. After 30 years of reforms, the state-owned enterprises still yield substantially lower returns on capital than privately owned or foreign enterprises. Thus, the financial system is one of the structural limitations to growth in China. A more efficient allocation of capital could reduce the investment ratio by 5 percentage points without loss of output, cf. Dollar and Shang-Jin (2007). Although the authorities recognise the financial sector problems and have implemented liberalisations, state ownership is an effective way for the authorities to maintain considerable influence on the economy.

Integration with international financial markets is not particularly advanced. Foreign financing by way of bank loans and securities is extremely modest. On the assets side, most foreign assets are held by state-

[1] China is often described as a large market for luxury consumer goods where foreign retail chains and consumer goods producers must have a presence. Assuming, however, that GDP per capita must exceed 5,000 dollars before households begin to purchase non-basic goods, the Chinese consumption market is no bigger than the Spanish market or about one third of the German market, cf. Dragonomics, A billion Customers, or six Malaysias?, *China Economic Quarterly*, Vol. 9, No. 1, 2006.

controlled units or by the People's Bank of China[1], while the banks hold few foreign securities. As a result, the global financial crisis has had a very limited impact on the financial sector, thereby undoubtedly strengthening the decoupling theory up until the summer of 2008 when the impact of the financial crisis on the global real economy was less evident than today, see e.g. Keidel (2008). The Chinese stock market has also seen dramatic drops since 2007, but due to a number of special circumstances, price formation is not comparable with or directly attributable to the falling stock markets in the West.

Imbalanced growth

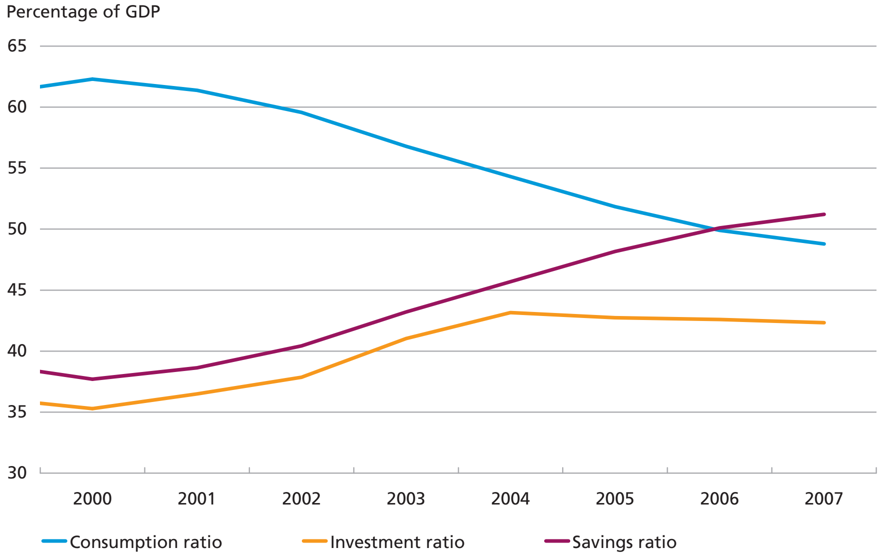
China's growth is often characterised as imbalanced, cf. e.g. Restall (2008), because it is based on the "East Asian development model" where growth is achieved via high investments, even higher savings and exports to industrialised countries, particularly Europe and the USA, cf. Chart 2. At more than 40 per cent of GDP, the investment ratio is much higher than in other developing countries and also higher than in Japan in the early 1990s.

Export revenues are reinvested in the industrialised countries, where they provide the basis for credit expansion, increased consumption and thereby further exports to the industrialised countries. The dependence on exports makes the economy vulnerable to a cyclical downturn in the industrialised countries, and the high investment level involves a risk of overinvestment in the sense that investments do not yield the returns to society or the market as would alternative uses such as healthcare or education. At the same time, a large proportion of the investments are used for expansion of the capital stock in the export sector, thus increasing the reliance on export growth. Other emerging market economies, e.g. Eastern Europe, that are also experiencing economic convergence have financed investments by capital imports, resulting in current-account deficits. Due to the high propensity to save in China, the large increase in investments has coincided with rising current account surpluses, especially in the last 5 years, amounting to more than 11 per cent of GDP in 2007.

The increasing savings ratios have been driven by the corporate sector and the government, in particular, while household savings have been high, but stable. The corporate sector's high savings ratios are probably attributable to a number of years of high profits combined with a weakly developed financial sector. Furthermore, credit rationing causes enter-

[1] Out of the Chinese foreign-exchange reserve of approximately 2,000 billion dollars, approximately 700 billion is invested in US Treasury securities.

SAVINGS, INVESTMENT AND CONSUMPTION Chart 2



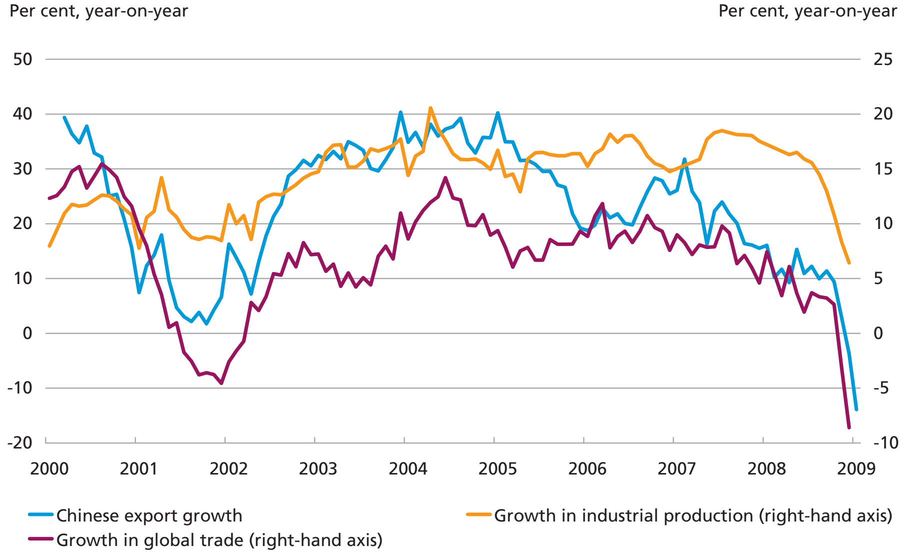
Note: Gross ratios. Aggregate consumption, investment and savings in the economy in relation to GDP. The difference between the savings and investment ratios is equivalent to the current-account surplus as a percentage of GDP.
Source: EcoWin and own calculations.

prises to save up for investment projects rather than borrowing to finance them, cf. IMF (2005). Household savings have remained more or less constant and have stabilised at a very high level of about 25 per cent of disposable income, cf. IMF (2005), so the rising current account surplus is not attributable to the household sector. The reason for the household sector's high savings ratios is the weak social safety net, e.g. in terms of pension and healthcare benefits. Moreover, the financial system is less flexible as regards access to credit for major purchases, including homes.

THE SLOWDOWN IN THE CHINESE ECONOMY

In 2008 the booming Chinese economy experienced an unprecedented reversal both in terms of speed and scale. Unlike in the previous phases of the financial crisis, the economy in China has since the autumn declined in parallel with the global economy, cf. Chart 3, which is experiencing its worst post-war recession. There has been a significant downturn in global trade since November, and the same applies to Chinese foreign trade. Growth in industrial production is declining sharply and confidence in the future has decreased substantially. GDP growth amounted to 6.8 per cent in the 4th quarter of 2008 compared with the same period of 2007. This was the lowest level since 2001, and the ex-

EXPORT GROWTH AND INDUSTRIAL PRODUCTION | Chart 3



Note: Chinese export growth is stated in renminbi. For Chinese export growth and industrial production, 3-month moving averages have been applied. Global trade is stated in volumes.

Source: Export growth and industrial production: EcoWin and own calculations; global trade: Netherlands Bureau for Economic Policy Analysis.

tent of the slowdown is masked somewhat by high growth earlier in the year. Given the weak growth rates in industrial production, which accounts for about half of the total production, it is indeed possible that there was zero growth from the 3rd to the 4th quarter of 2008. As recently as in 2007, growth was 13 per cent compared with the year before. The acceleration of the slowdown has come as a surprise to many in China. It has changed expectations significantly in a society so far characterised by a high level of dynamism. In recent years there has been an urgency to complete investment projects and production orders, better today than tomorrow, so as not to miss out on potential earnings. That has all changed. A certain caution has set in, and this may contribute to a more subdued reversal.

As a result of China's strong productivity growth, a slowdown to 6-7 per cent in 2009, as forecast by the IMF and the World Bank, would presumably be categorised as a recession in a Chinese context, with the resulting social costs for the population.

Lately, the Chinese public, especially the state-controlled press, has had strong focus on the increase in unemployment as a result of the sudden slowdown. The official statistics cover only cities and do not include migrant workers, who are often the first to be laid off. The statistics showed a marginal rise in unemployment from 4 per cent in 2007 to 4.2 per cent in 2008, and the authorities expect a rise to 4.6 per cent in 2009. Both the real level and the rise are probably considerably higher. According to the Chinese Ministry of Agriculture, 20 million out of the 130 million migrant workers have lost their jobs over the last six months. Some of them will be able to find work in their home areas, but a great many will become unemployed.

Investment growth has declined considerably, especially in construction, and the derived effects on heavy industry, which is to a large extent aimed at the construction sector, have been pronounced. Electricity consumption showed early signs of a slowdown, but this was often linked to the desire for blue skies during the Olympic Games in August and the resulting temporary closing of plants in Northern China.

As recently as in the summer of 2008, inflation and export growth remained very high and the risk of overheating of the economy was imminent. Economic policy had therefore been tightened over a prolonged period to avoid overheating and resulting inflation. So while China's export sectors are affected by the weaker international economy, the slowdown can also be attributed to domestic factors.

Economic policy in China during the crisis

The shift in economic policy has been swift and strong. Up until mid-2008 the overall economic policy, as formulated by the Polit Bureau, was to ensure stable growth while limiting inflation. The first sign of an economic policy shift came in mid-September when the People's Bank of China eased monetary policy for the first time in more than five years, after having tightened it twice in June 2008. The banks' reserve requirements were reduced to increase their lending. The government-controlled exchange rate, which had continuously strengthened against the dollar since 2005, has been maintained at an almost unchanged level since July 2008.

The Chinese leaders postponed their annual economic policy planning conference, and on 8 November announced a stimulus package of 4,000 billion renminbi or approximately 15 per cent of GDP over two years, cf. Table 1. The government tried to restore confidence in the economy by quickly announcing a large package.

The package has been criticised for being too focused on investments and infrastructure. The Chinese leaders have long called for more balanced growth attaching more importance to domestic consumption, both private consumption and public consumption in the form of education and healthcare, and a higher level of sustainability in the form of better resource exploitation and a smaller environmental impact. China's infrastructure has improved substantially over the last 10 years, and the investment needs are not so obvious any more. In addition to the direct

THE ANNOUNCED FISCAL PACKAGE — Table 1

Sector	Billion renminbi
Infrastructure (roads, railways, airports)	1,800
Reconstruction after earthquake	1,000
Rural infrastructure	370
Environment (e.g. water supply)	350
Affordable housing	280
Technology and development	160
Health and education	40
Total	4,000

effect, increased expenditure for healthcare and education may also reduce the households' precautionary savings motive and thus contribute to a long-term rebalancing of the economy.

The stimulus package's focus on infrastructure investments may have the greatest short-term effect on growth and employment, cf. IMF (2009), but in a longer-term perspective it is still necessary to address the structural problems in order to increase domestic demand more permanently, thereby making the Chinese economy more resilient to future economic cycles in the industrialised countries. The Chinese leadership has strong focus on maintaining a high level of growth to ensure jobs in connection with migration from low-productivity jobs in agriculture to more productive jobs in the cities. Many of the jobs created in the cities are relatively capital-intensive, and high growth is therefore needed to create the necessary employment.

OUTLOOK

China is not unaccustomed to economic downturns. The Chinese economy was hit by severe setbacks at the end of the 1980s and during the South East Asian crisis in the late 1990s. The background to the crisis at the end of the 1980s was a dual price system whereby most goods had a controlled price and a market price with high inflation that eroded the purchasing power of the population. During the South East Asian crisis, China struggled with a large, ineffective state-owned industrial sector that was kept going by loans from the state-owned banks, whose share of non-performing loans increased to over 40 per cent, with subsequent government recapitalisation of the banks.

China's situation is better than before as it no longer has the same structural problems. Bank lending is very much targeted at state-owned enterprises, thereby reducing the risk of losses, and the banks are in a position to increase lending, which is also one of the elements of the stimulus package. In the slightly longer term, streamlining and privatisation of the financial markets will result in significant efficiency gains, however.

Although the barriers to the free mobility of labour between sectors and regions have not yet been removed, the labour market is much more flexible than it used to be. There are still many administered prices, especially on energy and certain commodities, but the number of liberalised markets has grown considerably. The falling commodity prices combined with increasing focus on energy efficiency also constitute a structural improvement for China. These basic conditions and the willingness and capacity of the Chinese authorities to influence the economy point to an earlier cyclical reversal in China than in many of the industrialised countries. The main economic challenges are perhaps more in the medium term, where a more effective financial system needs to be established to ensure better utilisation of investments in the capital stock and labour in order to achieve more balanced growth with increased room for higher domestic demand.

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Statement by Governor Nils Bernstein in connection with the euro consultation of the European Affairs Committee of the Folketing (Danish parliament) on 22 January 2009

Danish participation in the euro can be expected to lead to slightly lower interest rates, a small increase in foreign trade and lower transaction costs. In normal, calm periods, interest rates will be only marginally lower than under the current fixed-exchange-rate regime. In turbulent periods such as the present one, the spread widens, often at a rather inopportune time, since the widening may go hand in hand with other negative factors affecting the real economy.

Over a longer horizon, adopting the euro will have a certain positive overall effect on growth in Denmark. But it is difficult to quantify this effect, which is hardly likely to be felt in the short term.

Since the introduction of the euro in 1999, Denmark has performed well outside the euro area. This is due to our stability-oriented economic policy with focus on medium-term objectives and reforms to improve the structure of our society, not least the labour market. It is important that Denmark continues along this path – even if we eventually join the euro.

The main reason for establishing the euro was to create a foundation for sustainable economic growth by way of stable prices and an area with irrevocably fixed exchange rates. With its fixed-exchange-rate policy vis-à-vis the euro, Denmark has benefitted from this foundation.

In the current situation with a financial crisis and a global economic slowdown, the Economic and Monetary Union demonstrates its strength. The single currency and single monetary policy are stabilising factors that prevent the individual member states from seeking their own – often mutually competitive – monetary solutions to the crisis. This would only make it escalate further, as we saw in the 1970s.

It is and has been the general view of Danmarks Nationalbank that Denmark's adoption of the euro is a natural extension of our fixed-exchange-rate policy and would not involve major economic upheavals.

For Danmarks Nationalbank, Danish participation in the euro would mean joining the Eurosystem, which comprises the central banks of the euro area member states. The Chairman of the Board of Governors of

Danmarks Nationalbank would be given a seat on the Governing Council of the ECB. This would give us a say in relation to monetary policy and other key decisions concerning monetary conditions in the euro area.

Today, I am a member of the General Council of the ECB, which meets every three months. This is mainly a forum for discussing and exchanging analyses of recent economic and monetary trends.

Denmark's status as a non-euro area member state excludes us from a number of decisions, even though they are highly relevant to us. This applies to interest-rate decisions, of course, which affect us directly owing to our fixed-exchange-rate policy. It also applies to e.g. the agreement with the Federal Reserve to provide dollar liquidity to euro area banks at an early stage of the financial crisis. It took some time before we were able to present a similar agreement for the Danish banks.

I could list a number of other examples. Recently the Governing Council has thus agreed on standard-setting recommendations for the structure and pricing of government guarantees and capital injections in the banking sector. Likewise, the Governing Council has laid down rules for how EU central banks can deposit money in publicly owned banks. And decisions have been made concerning financial assistance from the ECB to Eastern and Central Europe.

These examples show that not only interest-rate decisions, but also many other decisions made by the Governing Council have a direct impact on us – and yet we have no influence on these decisions, or even insight into the rationale behind them.

In addition, the ECB is responsible for the second-largest currency in global terms and is therefore increasingly represented in international forums, where it influences global monetary issues.

The regulatory consequences of the financial crisis are being debated strongly at the moment – in the ECOFIN Council and the Eurogroup, in the Basel Committee, in the Financial Stability Forum, in the IMF and in G7, G20, etc. The outcome of these discussions will have a major impact on the structure of the financial markets and regulation and supervision of financial institutions, including the whole issue of supervising cross-border banks, funds and so forth.

It would definitely be in Denmark's interest to participate in, influence and be informed of such discussions. The ECB is an important actor on this stage. I am aware that our opportunities to exert influence should not be exaggerated, but needless to say the opportunities are greater if we actually take part in the discussions.

Participation in the Governing Council is not limited to merely safeguarding Denmark's interests. It is a question of putting a Danish fingerprint on the key discussions and decisions that are shaping and developing the monetary-policy framework for the euro area and this area's influence on global economic policy in a broader sense.

The Governing Council of the ECB has decided that when the number of euro area member states reaches 19, i.e. three more than at present, it will introduce a rotation system in relation to voting in the Governing Council, as is already the case in the Federal Reserve. When this system is introduced, the central-bank governors of all euro area member states will, for short periods, be unable to vote in the Governing Council, but they will all participate fully in the meetings and be entitled to speak. In my assessment, this system will not significantly reduce the influence of the individual central-bank governors in the Governing Council.

Working Papers Issued

Press releases

16 DECEMBER 2008: NATIONALBANKEN ENTERS INTO SWAP FACILITY WITH LATVIJAS BANKA

Danmarks Nationalbank and the central bank of Sweden have entered into bilateral swap facility agreements with the Bank of Latvia, Latvijas Banka.

The facility gives Latvijas Banka the right to acquire euro if needed to ensure macroeconomic and financial stability. Latvia is about to enter an economic stabilization program with the International Monetary Fund, IMF.

The agreement with Danmarks Nationalbank means that Latvijas Banka can acquire euro against Latvian lats up to an aggregate amount of EUR 125 million.

See also: www.bank.lv and www.riksbank.se

19 DECEMBER 2008: INTEREST-RATE REDUCTION

Effective from today Danmarks Nationalbank's lending rate and the rate of interest on certificates and deposits are lowered by 0.50 per cent to 3.75 per cent. The discount rate and the current-account rate remain unchanged at 3.50 per cent.

The interest-rate reduction is a consequence of the developments in the foreign-exchange market, where Danmarks Nationalbank during a period has purchased foreign exchange.

15 JANUARY 2009: INTEREST RATE REDUCTION

Danmarks Nationalbank's lending rate and the rate of interest on certificates are lowered by 0.75 per cent to 3.0 per cent. The discount rate and the interest rate on the banks' current accounts with Danmarks Nationalbank are lowered by 0.75 per cent to 2.75 per cent. The reduction will have effect as from 16 January 2009.

The interest rate reduction is a consequence of the lowering by 0.50 per cent to 2.0 per cent in the European Central Bank's rate on the main refinancing operations. Danmarks Nationalbank's interest rates are further reduced by 0.25 per cent as a consequence of further purchase of foreign exchange in the market.

3 FEBRUARY 2009: EXTENSION OF SWAP FACILITY WITH THE FEDERAL RESERVE

The Federal Reserve and Danmarks Nationalbank have extended the existing temporary reciprocal swap facility of 15 billion US dollars to 30 October 2009.

As announced, Danmarks Nationalbank provided US dollars liquidity in an auction held previously today 3 February 2009 and in an auction to be held on 12 February 2009. Danmarks Nationalbank will monitor the need for additional US dollar auctions.

Further information on the US dollar auctions and the tender procedures is published on www.nationalbanken.dk.

19 FEBRUARY 2009: THE LAST POLAR COIN WITH NORTHERN LIGHTS

The 23 February 2009 the third and final coin in the series to commemorate the International Polar Year will be issued.

The sculptor, Professor Morten Stræde is the artist behind the relief of Northern Lights. He reflects on his work with this coin as follows:

"My idea with this coin is to give a very compact impression of some of the scientific research based in Greenland. I have chosen to focus on research around the magnetic North Pole, on ice core research and finally on mineralogy."

The modelling of the three fields of the coin differs. "The Northern Lights are open with a light touch, the minerals are shown in their basic crystalline forms and the landscape in the middle is modelled so as to resemble a direct experience of a Polar landscape – the surface of the water, the curve of the sky and the sharp structural diversity of the mountains and the ice.

At the bottom of the coin, the compass card points to the North Star at the top of the motif."

Morten Stræde was also the artist behind the relief of the thematic coin with Svaneke water tower.

The Northern Lights coin will be issued as a 10-krone coin in an edition of 1.2 million to be distributed via banks and used as ordinary coins in circulation. In addition, the coin will be minted in collector's editions in silver and gold with denominations of 100 and 1,000 kroner, respectively.

5 MARCH 2009: INTEREST-RATE REDUCTION

Danmarks Nationalbank's lending rate and the rate of interest on certificates of deposit are lowered by 0.75 per cent to 2.25 per cent. The discount rate and the interest rate on the banks' current accounts with Danmarks Nationalbank are lowered by 0.75 per cent to 2.00 per cent. The reduction will have effect as from 6 March 2009.

The interest-rate reduction is a consequence of the lowering by 0.50 per cent to 1.50 per cent in the European Central Bank's rate on the main refinancing operations. Danmarks Nationalbank's interest rates are further reduced by 0.25 per cent as a consequence of purchase of foreign exchange in the market.

9 MARCH 2009: REDUCTION OF SUPPLEMENTARY INTEREST RATES

In the light of the diminishing interest-rate level, Danmarks Nationalbank reduces the supplementary interest-rates on the lending facility against loan bills and the credit facility on the basis of capital adequacy. The supplementary interest rates are reduced from the lending rate plus 2 percentage points to the lending rate plus 1 percentage point. The reduction will have effect as from 13 March 2009.

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 21 April 2009 and thus based on more recent information than the equivalent section of the Danish edition.

Danmarks Nationalbank is the source for Tables 1-14, 16-18 and 23-24, while the OMX Nordic Exchange is the source for series of bond yields and the share-price index in Table 1. Statistics Denmark is the source for Tables 15 and 19-22. The calculations in Tables 20 and 24 have been made by Danmarks Nationalbank on the basis of data from Statistics Denmark and OECD.

INTEREST RATES AND SHARE-PRICE INDEX Table 1

Effective end-of-year/ from	Danmarks Nationalbank's interest rates: Discount rate	Danmarks Nationalbank's interest rates: Lending and certificates of deposit	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
2004	2.00	2.15	2.00	2004	2.16	3.87	5.07	286.66
2005	2.25	2.40	2.25	2005	2.46	3.30	4.39	393.52
2006	3.50	3.75	3.50	2006	3.81	3.95	5.24	441.48
2007	4.00	4.25	4.00	2007	4.65	4.48	5.61	464.14
2008	3.50	3.75	2.50	2008	4.20	3.31	6.21	247.72
2008 19 Dec ...	3.50	3.75	2.50	Sep 08	5.15	4.29	6.66	351.15
				Oct 08	5.30	4.35	6.64	285.19
2009 16 Jan	2.75	3.00	2.00	Nov 08	5.60	3.84	6.44	263.05
6 Mar ...	2.00	2.25	1.50	Dec 08	4.20	3.31	6.21	247.72
3 Apr ...	1.75	2.00	1.25	Jan 09	3.45	3.70	6.31	261.79
				Feb 09	2.00	3.46	6.19	241.48
21 Apr ...	1.75	2.00	1.25	Mar 09	2.50	3.40	6.05	228.36

[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-credit institutes' net position with Danmarks Nationalbank			
				Certificates of deposit	Deposits (current account)	Loans	Total net position
	Kr. billion						
2004	217.6	52.0	60.8	160.4	6.9	72.6	94.6
2005	212.3	56.2	56.4	207.6	12.8	135.3	85.1
2006	171.7	59.8	73.8	163.2	8.8	153.7	18.2
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
Oct 08	132.4	59.2	121.8	157.1	7.3	217.5	-53.1
Nov 08	172.8	59.2	234.5	134.7	13.1	275.2	-127.4
Dec 08	212.7	61.3	259.6	118.5	9.7	240.9	-112.7
Jan 09	217.5	58.2	222.8	147.0	6.7	227.9	-74.3
Feb 09	235.7	57.8	216.4	156.2	8.3	213.8	-49.4
Mar 09	260.7	58.1	202.6	164.3	21.8	192.7	-6.6

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

Table 3

	Central-government finance			Net purchase of foreign exchange by Danmarks Nationalbank					The banks' and the mortgage-credit institutes' 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	Net purchase of bonds by Danmarks Nationalbank	Other factors	Change in net position	End of period
	Kr. billion									
2004	75.5	92.6	-17.1	-12.5	6.1	-6.4	-2.6	-1.2	-27.3	94.6
2005	39.5	30.9	8.6	-18.4	3.0	-15.4	-2.2	-0.5	-9.5	85.1
2006	-14.5	16.2	-30.6	-34.3	4.3	-30.0	-4.9	-1.2	-66.7	18.2
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
Oct 08	8.0	14.7	-6.7	-63.9	-9.5	-73.4	1.2	9.4	-69.4	-53.1
Nov 08	-52.1	57.5	-109.6	31.6	5.8	37.4	0.1	-2.2	-74.3	-127.4
Dec 08	12.1	20.7	-8.6	24.7	-1.3	23.4	-0.4	0.4	14.8	-112.7
Jan 09	33.2	3.9	29.3	12.1	0.6	12.7	-2.3	-1.2	38.4	-74.3
Feb 09	14.2	3.0	11.2	10.1	3.4	13.5	0.1	0.2	24.8	-49.4
Mar 09	27.4	6.8	20.7	18.1	-0.6	17.5	0.4	4.2	42.8	-6.6

SELECTED ITEMS FROM THE CONSOLIDATED BALANCE SHEET OF THE MFI SECTOR

Table 4

End of period	Total balance	Assets: Domestic lending: Public sector	Assets: Domestic lending: Private sector	Assets: Domestic securities: Bonds, etc.	Assets: Domestic securities: Shares, etc.	Liabilities: Domestic deposits	Liabilities: Bonds, etc. issued	Foreign assets, net [1]
	Kr. billion							
2004	3,684.5	97.5	2,246.2	100.8	46.3	848.9	1,222.1	-65.7
2005	4,228.2	107.8	2,584.2	75.9	53.5	971.3	1,318.2	-172.9
2006	4,672.7	116.8	2,953.6	51.8	60.3	1,077.0	1,433.4	-224.2
2007	5,497.4	119.9	3,353.7	43.3	63.5	1,219.7	1,505.2	-304.5
2008	6,286.4	134.0	3,719.3	40.6	56.7	1,487.5	1,508.4	-407.9
Sep 08	5,878.3	127.5	3,584.4	33.6	58.6	1,238.1	1,517.3	-494.9
Oct 08	6,247.6	130.1	3,629.6	41.1	56.6	1,353.4	1,471.1	-491.8
Nov 08	6,416.3	130.1	3,685.1	46.5	56.6	1,468.5	1,446.4	-463.1
Dec 08	6,286.4	134.0	3,719.3	40.6	56.7	1,487.5	1,508.4	-407.9
Jan 09	6,247.9	134.1	3,722.0	38.0	57.1	1,478.8	1,502.4	-441.2
Feb 09	6,285.0	131.8	3,700.1	45.0	56.0	1,462.5	1,510.4	-454.8
	Change compared with previous year, per cent							
2004	...	8.8	8.9	-18.2	7.0	12.5	5.5	...
2005	...	10.6	15.0	-24.7	15.4	14.4	7.9	...
2006	...	8.3	14.3	-31.8	12.8	10.9	8.7	...
2007	...	2.7	13.5	-16.4	5.2	13.3	5.0	...
2008	...	11.8	10.9	-6.2	-10.7	22.0	0.2	...
Sep 08	...	10.7	11.3	-36.4	-7.5	5.0	2.9	...
Oct 08	...	10.4	12.2	-24.2	-12.8	13.0	-0.6	...
Nov 08	...	10.6	12.3	17.9	-10.6	18.8	-2.2	...
Dec 08	...	11.8	10.9	-6.2	-10.7	22.0	0.2	...
Jan 09	...	10.2	10.6	-11.9	-8.6	17.2	-2.2	...
Feb 09	...	10.3	9.2	15.9	-10.6	13.9	0.1	...

Note: The MFI sector includes Danish monetary financial institutions, i.e. banks and mortgage-credit institutes, 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-a-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								
2004	43.7	492.8	536.5	119.2	21.0	676.7	2.0	20.2	699.0
2005	47.3	596.3	643.5	114.1	18.4	776.0	14.2	8.4	798.7
2006	50.7	648.6	699.3	143.0	17.9	860.2	8.0	21.3	889.5
2007	51.9	703.2	755.1	199.7	18.0	972.8	6.2	61.5	1,040.6
2008	50.4	704.8	755.2	286.4	18.4	1,060.0	4.0	57.0	1,121.1
Sep 08	50.1	695.7	745.8	228.7	17.9	992.3	18.5	102.9	1,113.8
Oct 08	50.2	708.5	758.7	288.9	18.4	1,066.0	6.5	95.3	1,167.9
Nov 08	50.3	711.5	761.8	283.2	18.7	1,063.7	7.9	86.7	1,158.4
Dec 08	50.4	704.8	755.2	286.4	18.4	1,060.0	4.0	57.0	1,121.1
Jan 09	49.1	720.4	769.5	293.6	19.9	1,083.0	5.8	99.3	1,188.2
Feb 09	48.9	728.2	777.1	280.0	20.3	1,077.3	3.9	113.3	1,194.5
	Change compared with previous year, per cent								
2004	...	...	14.4	...	...	12.7	...	...	2.7
2005	...	...	19.9	...	...	14.7	...	...	14.3
2006	...	...	8.7	...	...	10.8	...	...	11.4
2007	...	...	8.0	...	...	13.1	...	...	17.0
2008	...	...	0.0	...	...	9.0	...	...	7.7
Sep 08	...	...	0.4	...	...	4.0	...	...	12.4
Oct 08	...	...	1.7	...	...	9.7	...	...	16.0
Nov 08	...	...	1.8	...	...	9.0	...	...	14.8
Dec 08	...	...	0.0	...	...	9.0	...	...	7.7
Jan 09	...	...	0.3	...	...	8.5	...	...	10.7
Feb 09	...	...	0.8	...	...	7.4	...	...	6.3

[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: House-holds, etc.	Assets: Domestic lending, of which: Non-financial compa-nies	Assets: Holdings of securities	Liabilities: Loans from MFIs	Liabilities: Deposits
	Kr. billion							
2004	2,418.4	495.6	754.8	324.8	309.6	780.3	823.1	908.0
2005	2,867.3	652.0	920.1	396.6	370.0	862.1	975.7	1,065.6
2006	3,242.0	715.0	1,124.3	475.0	458.0	889.6	1,133.8	1,148.3
2007	3,993.4	926.6	1,333.6	557.4	551.8	1,065.8	1,444.1	1,345.6
2008	4,579.6	985.7	1,546.3	586.8	614.6	1,092.1	1,455.4	1,424.1
Sep 08	4,429.9	979.8	1,438.7	592.1	582.6	1,207.0	1,623.9	1,377.0
Oct 08	4,750.5	1,041.0	1,472.7	588.0	590.3	1,166.3	1,590.3	1,444.3
Nov 08	4,874.7	1,088.2	1,510.1	583.4	606.0	1,201.0	1,686.0	1,445.5
Dec 08	4,579.6	985.7	1,546.3	586.8	614.6	1,092.1	1,455.4	1,424.1
Jan 09	4,586.0	958.2	1,535.1	578.8	597.8	1,157.4	1,445.7	1,452.0
Feb 09	4,587.3	927.1	1,497.3	571.9	582.7	1,179.2	1,404.3	1,422.2
	Change compared with previous year, per cent							
2004	...	5.6	13.8	19.6	8.4	2.1	-0.1	14.2
2005	...	31.7	21.9	22.1	19.5	10.5	18.5	17.3
2006	...	9.7	22.2	19.8	23.8	3.2	16.2	7.8
2007	...	29.6	18.6	17.4	20.5	19.8	27.4	17.2
2008	...	6.4	15.9	5.3	11.4	2.5	0.8	5.8
Sep 08	...	12.6	15.2	12.3	12.6	19.4	26.7	5.6
Oct 08	...	17.5	17.8	11.5	15.0	13.7	22.8	9.4
Nov 08	...	20.5	17.9	9.3	13.8	17.0	26.1	8.7
Dec 08	...	6.4	15.9	5.3	11.4	2.5	0.8	5.8
Jan 09	...	1.9	14.9	5.8	9.6	6.1	3.4	3.9
Feb 09	...	-1.5	11.5	4.4	4.9	3.6	-1.4	0.7

Note: Excluding Danish banks' units abroad.

SELECTED ITEMS FROM THE BALANCE SHEET OF THE MORTGAGE-CREDIT INSTITUTES

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: House-holds, etc.	of which: Non-financial compa-nies				
	Kr. billion								
2004	2,097.4	91.2	1,489.9	1,141.3	307.9	481.2		26.1	1,952.5
2005	2,519.9	101.4	1,664.4	1,281.5	334.2	645.0		151.7	2,237.0
2006	2,699.9	245.1	1,834.8	1,420.2	358.2	574.1		226.5	2,297.9
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	467.4	633.5		474.4	2,582.3
Sep 08	2,748.0	372.9	2,136.8	1,616.7	442.2	176.0		320.4	2,138.0
Oct 08	2,809.0	383.8	2,147.2	1,622.0	446.0	207.4		355.5	2,150.9
Nov 08	2,874.8	360.1	2,158.9	1,629.2	462.3	275.6		367.0	2,242.1
Dec 08	3,322.7	428.5	2,164.6	1,629.6	467.4	633.5		474.4	2,582.3
Jan 09	2,892.1	336.9	2,177.5	1,636.8	468.1	299.0		409.9	2,265.9
Feb 09	2,855.9	335.4	2,188.7	1,644.7	476.3	245.3		406.4	2,231.0
	Change compared with previous year, per cent								
2004	...	-9.6	6.8	6.5	8.3	40.4		-19.9	12.9
2005	...	11.1	11.7	12.3	8.5	34.0		481.5	14.6
2006	...	141.7	10.2	10.8	7.2	-11.0		49.3	2.7
2007	...	48.0	9.9	9.1	12.8	13.1		52.0	8.6
2008	...	18.1	7.4	5.2	15.7	-2.4		37.8	3.5
Sep 08	...	29.3	8.6	6.6	12.9	12.3		31.2	7.7
Oct 08	...	38.8	8.3	6.3	11.9	20.9		42.4	6.6
Nov 08	...	25.9	8.0	6.1	15.0	54.9		42.1	9.6
Dec 08	...	18.1	7.4	5.2	15.7	-2.4		37.8	3.5
Jan 09	...	6.5	7.4	6.4	9.4	11.5		45.5	2.9
Feb 09	...	9.1	7.3	6.3	10.5	7.7		42.3	3.2

LENDING TO RESIDENTS BY THE BANKS AND THE MORTGAGE-CREDIT INSTITUTES Table 8

	Total lending			The banks' lending			The mortgage-credit institutes' lending		
	Total	House-holds, etc.	Business	Total	House-holds, etc.	Business	Total	House-holds, etc.	Business
End of period	Kr. billion								
2004	2,276.0	1,466.1	741.0	786.0	324.8	426.8	1,489.9	1,141.3	314.2
2005	2,614.5	1,678.0	852.2	950.2	396.6	510.4	1,664.4	1,281.5	341.7
2006	3,000.8	1,895.2	1,002.6	1,166.0	475.0	636.9	1,834.8	1,420.2	365.7
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	1,457.1	1,622.9	586.8	978.3	2,164.6	1,629.6	478.8
Sep 08	3,619.2	2,208.8	1,285.5	1,482.4	592.1	832.6	2,136.8	1,616.7	452.8
Oct 08	3,696.6	2,210.1	1,358.4	1,549.4	588.0	901.1	2,147.2	1,622.0	457.2
Nov 08	3,745.7	2,212.6	1,421.5	1,586.7	583.4	947.9	2,158.9	1,629.2	473.6
Dec 08	3,787.5	2,216.4	1,457.1	1,622.9	586.8	978.3	2,164.6	1,629.6	478.8
Jan 09	3,789.2	2,215.7	1,451.7	1,611.8	578.8	973.3	2,177.5	1,636.8	478.4
Feb 09	3,762.7	2,216.6	1,433.4	1,573.9	571.9	946.4	2,188.7	1,644.7	487.0
	Change compared with previous year, per cent								
2004	9.0	9.1	8.5	13.4	19.6	8.8	6.8	6.5	8.0
2005	14.9	14.5	15.0	20.9	22.1	19.6	11.7	12.3	8.8
2006	14.8	12.9	17.7	22.7	19.8	24.8	10.2	10.8	7.0
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	16.1
Sep 08	11.3	8.1	16.3	15.4	12.3	18.0	8.6	6.6	13.2
Oct 08	13.0	7.7	21.9	20.2	11.5	27.5	8.3	6.3	12.3
Nov 08	12.9	6.9	24.5	20.3	9.3	29.5	8.0	6.1	15.5
Dec 08	11.8	5.2	24.2	18.3	5.3	28.6	7.4	5.2	16.1
Jan 09	11.3	5.4	21.6	17.0	5.8	25.7	7.4	5.2	14.1
Feb 09	9.8	4.9	18.8	13.6	4.4	20.7	7.3	5.1	15.3

Note: Including lending in Danish banks' units abroad.

THE MORTGAGE-CREDIT INSTITUTES' LENDING BROKEN DOWN BY TYPE Table 9

End of period	Index-linked lending	Fixed-rate lending	Adjustable-rate lending: Total	Adjustable-rate lending: of which =<1 year	Total	of which: Lending in foreign currency	of which: Instal-ment-free lending [1]
	Kr. billion						
2004	94.6	733.9	659.8	382.2	1,488.4	84.9	170.5
2005	88.6	720.3	853.9	616.0	1,662.8	80.5	315.5
2006	83.5	797.5	951.7	720.5	1,832.7	85.7	432.2
2007	77.9	889.2	1,045.6	796.6	2,012.7	123.8	547.0
2008	72.4	903.9	1,189.1	900.3	2,165.4	155.3	626.4
Sep 08	75.3	891.6	1,170.5	895.2	2,137.3	150.3	612.7
Oct 08	75.3	917.9	1,154.7	870.5	2,147.9	152.2	617.3
Nov 08	74.9	910.7	1,174.1	870.7	2,159.7	154.1	622.0
Dec 08	72.4	903.9	1,189.1	900.3	2,165.4	155.3	626.4
Jan 09	72.7	901.1	1,204.4	964.9	2,178.1	159.5	629.4
Feb 09	73.0	896.0	1,220.7	977.4	2,189.6	165.6	634.9

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-credit institutes' instalment-free lending to owner-occupied dwellings.

THE BANKS' EFFECTIVE INTEREST RATES Table 10

	Lending: All sectors	Lending: House-holds, etc.	Lending: Non-financial compa-nies	Lending: Financial compa-nies	Deposits: All sectors	Deposits: House-holds, etc.	Deposits: Non-financial compa-nies	Deposits: Financial compa-nies
	Per cent, per annum							
Q4 2006	5.4	6.8	5.2	3.5	2.7	2.4	2.9	3.2
Q1 2007	5.7	7.1	5.5	3.6	3.1	2.8	3.2	3.4
Q2 2007	5.9	7.2	5.7	4.0	3.4	3.1	3.4	3.8
Q3 2007	6.1	7.4	6.0	4.1	3.6	3.3	3.6	4.0
Q4 2007	6.2	7.4	6.1	4.3	3.7	3.4	3.7	4.1
Q1 2008	6.2	7.5	6.1	4.5	3.7	3.5	3.8	4.2
Q2 2008	6.5	7.7	6.3	4.6	3.8	3.6	3.9	4.2
Q3 2008	6.6	7.8	6.5	4.9	4.0	3.6	4.1	4.5
Q4 2008	7.0	8.4	7.1	5.2	4.4	3.9	4.5	5.0
Q1 2009	...	...	...	...	...	...	...	...
Sep 08	6.7	7.8	6.6	5.1	4.1	3.6	4.2	4.6
Oct 08	7.0	8.2	6.9	5.3	4.4	3.8	4.5	4.9
Nov 08	7.3	8.7	7.4	5.3	4.6	4.1	4.8	5.1
Dec 08	6.8	8.3	6.9	4.9	4.2	3.6	4.3	5.0
Jan 09	6.4	7.7	6.5	4.6	3.7	3.2	3.6	4.6
Feb 09	6.0	7.4	6.3	4.0	3.3	2.7	3.2	4.1

SELECTED ITEMS FROM THE BALANCE SHEET OF THE INVESTMENT ASSOCIATIONS

Table 11

		Assets		Liabilities			
		Holdings of securities		Certificates issued by investment associations by owner			
	Total balance	Bonds, etc.	Shares, etc.	House-holds, etc.	Insurance compa-nies and pension funds	Other residents	Abroad
End of period	Kr. billion						
2004	574.2	326.5	164.6	213.1	163.4	180.1	15.3
2005	794.7	412.1	286.4	265.7	236.5	263.0	24.4
2006	924.7	431.8	385.4	294.3	289.4	305.3	28.8
2007	1,020.7	477.9	411.6	295.2	336.8	322.1	29.2
2008	773.3	424.4	223.7	211.4	265.9	238.2	14.6
Q4 2007	1,020.7	477.9	411.6	295.2	336.8	322.1	29.2
Q1 2008	963.9	466.4	356.2	268.6	329.3	304.0	23.9
Q2 2008	951.4	467.2	352.0	256.5	324.1	310.9	23.0
Q3 2008	889.3	458.5	302.0	238.0	310.6	275.6	19.0
Q4 2008	773.3	424.4	223.7	211.4	265.9	238.2	14.6
	Quarterly transactions, kr. billion						
Q4 2007	...	40.1	2.8	-0.2	3.7	6.6	-2.7
Q1 2008	...	4.0	12.0	-3.8	11.8	2.6	0.4
Q2 2008	...	12.7	9.0	1.2	2.8	20.9	-0.8
Q3 2008	...	-11.1	-11.8	-3.3	3.7	-20.5	-2.0
Q4 2008	...	-18.2	-8.2	-4.6	-9.3	-7.3	-2.2

SECURITIES ISSUED BY RESIDENTS BY OWNER'S HOME COUNTRY — Table 12

	Bonds, etc.							
			of which:					
	Total		Central-government securities		Mortgage-credit bonds		Shares	
	Denmark	Abroad	Denmark	Abroad	Denmark	Abroad	Denmark	Abroad
End of period	Market value, kr. billion							
2004	2,379.2	434.4	498.8	213.6	1,768.7	218.4	604.3	245.2
2005	2,559.7	461.2	434.9	205.1	2,002.9	252.5	845.2	300.5
2006	2,541.3	464.7	380.1	172.6	2,034.9	285.9	989.4	361.8
2007	2,701.2	475.8	301.9	176.2	2,247.1	287.7	996.1	445.4
2008	2,981.5	405.1	363.1	158.5	2,419.2	227.4	529.9	244.4
Oct 08	2,376.5	413.5	273.3	168.1	1,909.0	227.6	600.8	267.6
Nov 08	2,622.7	404.0	331.3	164.0	2,093.9	222.1	552.7	251.6
Dec 08	2,981.5	405.1	363.1	158.5	2,419.2	227.4	529.9	244.4
Jan 09	2,510.7	421.0	353.4	159.2	1,964.0	243.5	534.8	255.9
Feb 09	2,541.1	415.5	365.7	155.2	1,981.4	242.1	496.0	237.7
Mar 09	2,574.4	435.9	362.2	160.9	2,018.7	255.9	474.6	228.3

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

HOUSEHOLDS' FINANCIAL ASSETS AND LIABILITIES | Table 13

End of period	Assets					Liabilities		
	Currency and bank deposits, etc.	Bonds, etc.	Shares and certific-ates issued by invest-ment associa-tions, etc.	Life-insurance and pension-scheme savings, etc.	Total	Loans, etc.	Net financial assets	Total
	Kr. billion							
2004	674	174	474	1,403	2,725	1,637	1,088	2,725
2005	754	172	618	1,617	3,162	1,832	1,329	3,161
2006	804	180	712	1,681	3,377	2,054	1,322	3,376
2007	869	191	700	1,724	3,486	2,238	1,248	3,486
2008	879	183	459	1,749	3,271	2,381	890	3,271
Q4 07	869	191	700	1,724	3,486	2,238	1,248	3,486
Q1 08	875	188	628	1,727	3,418	2,295	1,123	3,418
Q2 08	897	186	608	1,706	3,397	2,296	1,101	3,397
Q3 08	884	194	548	1,711	3,336	2,306	1,030	3,336
Q4 08	879	183	459	1,749	3,271	2,381	890	3,271

COMPANIES' FINANCIAL ASSETS AND LIABILITIES | Table 14

End of period	Assets				Liabilities				
					Debt				
	Curren-cy, bank deposits and granted credits, etc.	Bonds, etc.	Shares and certific-ates issued by invest-ment associa-tions, etc.	Total	Loans, etc.	Bonds, etc. issued	Shares, etc. issued	Net financial assets	Total
	Kr. billion								
2004	646	164	746	1,556	1,219	142	1,253	-1,057	1,556
2005	737	168	969	1,873	1,354	143	1,490	-1,114	1,873
2006	768	151	1,064	1,984	1,582	140	1,563	-1,303	1,983
2007	837	132	1,111	2,080	1,715	119	1,745	-1,500	2,079
2008	1,010	137	890	2,036	1,925	109	1,338	-1,336	2,035
Q4 07	837	132	1,111	2,080	1,715	119	1,745	-1,500	2,079
Q1 08	806	131	1,060	1,997	1,768	117	1,662	-1,550	1,997
Q2 08	897	124	1,127	2,149	1,825	116	1,712	-1,503	2,149
Q3 08	948	132	1,027	2,107	1,843	114	1,544	-1,394	2,107
Q4 08	1,010	137	890	2,036	1,925	109	1,338	-1,336	2,035

Note: Companies are defined as non-financial companies.

CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS (NET REVENUES) Table 15

	Goods (fob)	Services	Goods and services	Wages and property income	Current transfers	Total current account
	Kr. billion					
2004	54.5	19.8	74.4	-2.4	-27.7	44.2
2005	43.9	38.3	82.2	9.9	-25.0	67.1
2006	17.3	40.5	57.8	16.6	-27.4	47.0
2007	-2.3	41.7	39.4	0.8	-28.2	12.0
2008	-8.9	49.3	40.4	25.0	-29.7	35.7
Mar 07 - Feb 08	0.7	42.4	43.1	2.7	-28.4	17.4
Mar 08 - Feb 09	-13.8	49.1	35.3	27.5	-30.2	32.6
Sep 08	0.0	6.1	6.1	3.1	-2.0	7.3
Oct 08	-1.2	4.9	3.7	2.9	-3.0	3.5
Nov 08	-1.1	4.8	3.7	3.8	-2.2	5.3
Dec 08	-0.2	1.6	1.3	2.7	-1.6	2.5
Jan 09	-4.3	2.2	-2.1	1.9	-3.7	-3.9
Feb 09	-1.3	3.2	1.8	1.9	-3.8	0.0

Note: As of 2005 the compilation is based on new sources and methodologies resulting in breaks in data.

FINANCIAL ACCOUNT OF THE BALANCE OF PAYMENTS
(NET PAYMENTS FROM ABROAD) Table 16

	Current account and capital account, etc., total	Capital import				Other[2]	Danmarks National-bank's transac-tions with abroad[3]
		Direct investments		Portfolio invest-ments[1]	Other capital import		
		Danish abroad	Foreign in Denmark				
	Kr. billion						
2004	44.4	62.1	-62.6	-87.1	-22.5	59.4	-6.2
2005	70.0	-97.1	77.2	-68.8	23.2	-16.2	-11.8
2006	47.0	-50.2	16.1	-103.3	83.4	-31.4	-38.3
2007	12.3	-111.7	64.5	-34.2	54.1	13.7	-1.2
2008	36.2	-138.7	55.7	38.5	-65.5	2.4	-71.4
Mar 07 - Feb 08	17.7	-92.3	76.5	35.9	-27.6	-4.5	5.6
Mar 08 - Feb 09	33.1	-144.9	57.1	27.6	-21.1	33.4	-14.8
Sep 08	7.3	-16.8	6.4	-6.1	-17.7	-4.8	-31.6
Oct 08	3.6	-4.9	0.5	22.2	-106.8	-3.3	-88.6
Nov 08	5.4	6.5	3.7	-8.0	26.0	-23.0	10.7
Dec 08	2.5	-5.4	-5.5	25.9	-28.7	50.2	39.2
Jan 09	-3.9	-8.4	8.1	18.1	24.3	-13.0	25.3
Feb 09	0.0	-16.4	9.9	-2.3	17.5	35.3	43.8

1 This item may differ from the total of the below Table 17, as portfolio investments are published 1-2 weeks earlier than the rest of the balance of payments.
2 Including errors and omissions and until end-December 2004 unrecorded trade credits.
3 As from 2005 transactions on *all* Danmarks Nationalbank's accounts with abroad. Until end-2004 only transactions on accounts included by compilation of the foreign-exchange reserve, 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 17

	Danish securities			Foreign securities		Total[1]
	Krone-denominated bonds, etc.	Foreign currency denominated bonds, etc.	Shares	Bonds, etc.	Shares	
	Kr. billion					
2004	-6.2	56.9	9.7	-104.4	-43.0	-87.1
2005	20.8	122.5	-18.9	-108.2	-85.0	-68.8
2006	16.3	70.0	-34.4	-21.5	-133.8	-103.3
2007	26.0	72.6	17.2	-97.1	-52.8	-34.2
2008	-58.9	127.0	10.1	-90.0	50.3	38.5
Sep 08	-7.0	-28.4	0.7	8.7	19.8	-6.1
Oct 08	-16.4	32.4	-10.7	-9.2	26.2	22.2
Nov 08	-4.7	10.6	-1.2	-20.3	7.6	-8.0
Dec 08	-6.2	38.1	0.3	-9.1	2.8	25.9
Jan 09	7.7	14.0	-1.4	-3.6	1.5	18.1
Feb 09	-8.3	29.5	0.7	-22.7	-1.4	-2.3

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 the above Table 16, as the rest of the balance of payments is published 1-2 weeks later.

DENMARK'S EXTERNAL ASSETS AND LIABILITIES Table 18

End of period	Direct investments: Equity	Direct investments: Inter-company debt, etc.	Portfolio investments: Shares, etc.	Portfolio investments: Bonds, etc.	Financial derivatives, net	Other investments: Trade credits	Other investments: Loans and deposits	Other investments: Other	Danmarks Nationalbank	Total
	Kr. billion									
Assets										
2004	471	220	369	547	48	34	584	20	223	2,515
2005	564	253	556	684	85	37	720	19	217	3,136
2006	583	257	741	674	47	41	823	30	178	3,374
2007	629	284	789	733	-3	49	1,035	32	176	3,724
2008	645	366	456	780	66	49	1,092	36	226	3,715
Q4 07	629	284	789	733	-3	49	1,035	32	176	3,724
Q1 08	619	302	683	690	14	51	1,073	32	185	3,651
Q2 08	678	318	663	740	-4	53	1,154	33	169	3,803
Q3 08	661	395	587	758	18	53	1,124	31	165	3,793
Q4 08	645	366	456	780	66	49	1,092	36	226	3,715
Liabilities										
2004	429	208	241	857	...	20	816	20	2	2,593
2005	506	231	311	1,019	...	27	967	21	3	3,084
2006	488	273	358	1,067	...	32	1,144	34	4	3,401
2007	528	272	427	1,122	...	36	1,407	37	5	3,835
2008	542	291	245	1,181	...	43	1,405	40	121	3,868
Q4 07	528	272	427	1,122	...	36	1,407	37	5	3,835
Q1 08	520	281	388	1,143	...	36	1,448	35	3	3,855
Q2 08	529	292	416	1,135	...	39	1,534	38	2	3,984
Q3 08	540	293	344	1,128	...	41	1,543	37	27	3,953
Q4 08	542	291	245	1,181	...	43	1,405	40	121	3,868
Net assets										
2004	42	12	128	-310	48	14	-233	0	221	-78
2005	59	22	245	-335	85	10	-247	-2	214	51
2006	94	-16	382	-393	47	9	-321	-5	174	-27
2007	100	12	363	-389	-3	13	-372	-5	171	-112
2008	103	75	211	-401	66	6	-313	-4	105	-153
Q4 07	100	12	363	-389	-3	13	-372	-5	171	-112
Q1 08	99	21	295	-453	14	15	-375	-3	183	-204
Q2 08	149	26	247	-395	-4	14	-380	-5	167	-181
Q3 08	121	102	243	-370	18	11	-418	-5	138	-160
Q4 08	103	75	211	-401	66	6	-313	-4	105	-153

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

GDP BY TYPE OF EXPENDITURE — Table 19

	GDP	Final domestic demand					Exports of goods and services	Imports of goods and services
		Private consump-tion	General-govern-ment consump-tion	Gross fixed capital formation	Change in invent-ories	Total		
	Kr. billion							
2004	1,466.2	707.2	389.0	285.0	13.5	1,394.8	665.0	593.6
2005	1,545.3	745.1	402.5	303.9	17.9	1,469.5	757.0	681.2
2006	1,628.6	792.8	422.5	349.5	14.4	1,579.2	846.5	797.0
2007	1,687.9	826.7	438.8	376.7	9.5	1,651.7	882.8	846.6
2008	1,739.7	851.5	461.2	376.3	13.1	1,702.1	950.8	913.2
Q4 07	444.5	220.1	114.3	102.3	-3.6	433.1	233.9	222.6
Q1 08	416.0	210.1	109.9	88.9	4.3	413.2	226.2	223.5
Q2 08	444.1	217.4	114.0	97.7	4.2	433.3	246.0	235.2
Q3 08	437.3	208.0	116.0	93.8	3.8	421.7	247.2	231.6
Q4 08	442.4	215.9	121.2	95.9	0.8	433.8	231.5	222.9
	Real growth compared with previous year, per cent							
2004	2.3	4.7	1.8	3.9	...	4.4	2.8	7.7
2005	2.4	3.8	1.3	4.7	...	3.5	8.0	11.1
2006	3.3	4.4	2.1	13.3	...	5.3	9.1	13.9
2007	1.6	2.4	1.3	3.1	...	2.0	2.2	2.8
2008	-1.1	-0.1	1.1	-3.6	...	-0.5	2.2	3.7
Q4 07	1.9	3.5	1.8	3.9	...	2.3	0.5	0.7
Q1 08	-0.4	2.7	-0.1	-2.0	...	0.9	1.5	3.9
Q2 08	1.1	2.6	1.0	-0.9	...	1.3	7.0	7.6
Q3 08	-1.3	-0.7	1.9	-1.8	...	-0.6	2.4	4.0
Q4 08	-3.7	-4.8	1.6	-9.2	...	-3.5	-1.7	-0.7
	Real growth compared with previous quarter (seasonally adjusted), per cent							
Q4 07	0.3	2.1	1.1	2.8	...	2.0	0.7	0.1
Q1 08	-1.2	-0.4	-1.0	-2.7	...	-1.1	0.9	2.6
Q2 08	0.3	-0.5	0.9	-2.7	...	-0.6	2.0	1.4
Q3 08	-0.8	-2.0	0.9	0.9	...	-0.6	-1.4	-0.2
Q4 08	-1.9	-2.3	0.7	-4.7	...	-2.0	-3.1	-4.5

EU-HARMONIZED INDEX OF CONSUMER PRICES (HICP) AND UNDERLYING INFLATION (IMI) Table 20

	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	10.8	19.6	69.6	7.7	4.5	57.4	50.7	16.2	34.5
	Year-on-year growth, per cent									
2004	0.9	2.6	-2.1	1.5	2.8	4.8	1.1	0.8	1.1	0.6
2005	1.7	7.6	1.0	1.0	2.4	3.2	0.6	0.7	3.4	-0.6
2006	1.9	5.3	2.2	1.2	2.1	0.9	1.1	1.3	3.1	0.4
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
Q1 06	2.0	8.9	0.9	1.2	2.2	2.6	1.0	1.1	3.7	-0.1
Q2 06	2.0	8.3	1.9	1.0	2.0	0.4	1.0	1.1	3.8	-0.2
Q3 06	1.8	3.9	2.6	1.3	2.0	0.2	1.2	1.6	3.2	0.8
Q4 06	1.6	0.4	3.5	1.3	2.0	0.4	1.3	1.3	1.9	1.0
Q1 07	1.9	1.1	4.1	1.3	2.0	0.3	1.3	1.3	1.7	1.1
Q2 07	1.5	-1.7	3.6	1.5	2.1	0.2	1.5	1.4	0.9	1.7
Q3 07	1.0	-1.4	2.0	1.2	2.2	0.8	1.0	1.2	0.9	1.4
Q4 07	2.2	3.3	5.2	1.2	2.0	1.0	1.2	1.6	2.0	1.4
Q1 08	3.2	7.5	6.0	1.7	2.2	2.4	1.6	2.0	3.6	1.2
Q2 08	3.7	9.7	7.4	1.7	2.6	4.0	1.4	1.8	4.2	0.6
Q3 08	4.6	10.4	8.6	2.5	3.9	3.7	2.2	2.2	5.0	0.9
Q4 08	3.0	3.1	5.0	2.4	2.4	3.8	2.3	2.3	3.2	1.8

Note: The weights reflect the weighting basis as of January 2006.

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 57.4 per cent of HICP's weight basis and 50.7 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 21

	Unem-ployment	Quantity index		Forced sales of real property	New passen-ger car registra-tions	Con-sumer confi-dence indicator	Composite cyclical indicator for		
		Manu-facturing industry [1]	Retail trade				Manu-facturing industry	Building and construc-tion	Service
	Per cent of labour force	2005=100	2005=100	Number		Balance per cent			
2004	5.8	97.2	91.4	2,640	122,543	7	3	-5	13
2005	5.1	100.0	100.0	1,874	148,578	9	0	7	20
2006	3.9	105.7	103.2	1,231	156,719	10	9	21	24
2007	2.8	107.0	104.5	1,392	162,480	7	5	9	20
2008	1.8	106.7	101.3	2,840	150,661	-8	-7	-16	3
				Seasonally adjusted					
Oct 08	1.8	104.8	98.8	318	11,075	-16	-13	-29	-8
Nov 08	2.0	100.9	98.7	267	9,153	-13	-19	-34	-11
Dec 08	2.2	101.0	97.2	350	8,308	-12	-24	-36	-22
Jan 09	2.3	97.5	97.9	292	8,846	-12	-32	-39	-20
Feb 09	2.5	94.9	98.7	320	8,788	-11	-34	-42	-25
Mar 09	...	...	...	245	...	-12	-32	-45	-27

[1] Excluding shipbuilding.

SELECTED QUARTERLY ECONOMIC INDICATORS Table 22

	Employment		Hourly earnings			Property prices (purchase sum, one-family dwellings)
	Total	Private	All sectors in Denmark, total	Manufac-turing industry in Denmark	Manufac-turing industry abroad	As a per-centage of property value 2006
	1,000 persons		1996=100			
2004	2,739	1,898	137.4	138.0	127.5	70.1
2005	2,767	1,924	141.4	141.7	130.7	82.5
2006	2,822	1,978	145.7	146.1	134.0	100.0
2007	2,898	2,056	151.3	152.0	137.1	104.8
2008	2,928	2,090	158.0	158.4	141.8	...
	Seasonally adjusted					
Q4 07	2,916	2,077	153.9	154.7	138.7	103.9
Q1 08	2,930	2,094	155.4	156.1	140.9	102.8
Q2 08	2,930	2,091	157.4	158.4	141.2	103.1
Q3 08	2,933	2,091	158.9	159.6	142.3	100.6
Q4 08	2,919	2,082	160.2	160.4	142.9	...
	Change compared with previous year, per cent					
2004	-0.6	-0.8	3.1	3.1	2.7	8.9
2005	1.0	1.4	2.9	2.7	2.5	17.6
2006	2.0	2.8	3.1	3.1	2.5	21.6
2007	2.7	4.0	3.8	4.0	2.3	4.6
2008	1.1	1.6	4.4	4.2	3.4	...
Q4 07	2.2	3.4	4.4	4.4	2.7	1.2
Q1 08	1.6	2.7	4.4	4.3	3.9	-1.2
Q2 08	1.5	2.1	4.7	4.5	3.3	-2.3
Q3 08	1.0	1.4	4.5	4.2	3.5	-4.9
Q4 08	0.1	0.2	4.1	3.7	3.0	...

EXCHANGE RATES Table 23

	EUR	USD	GBP	SEK	NOK	CHF	JPY
	Kroner per 100 units						
	Average						
2004	743.98	598.93	1,096.69	81.54	88.90	481.96	5.5366
2005	745.19	600.34	1,090.02	80.29	93.11	481.30	5.4473
2006	745.91	594.70	1,094.32	80.62	92.71	474.22	5.1123
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
Oct 08	745.45	560.29	947.73	75.69	86.83	490.96	5.6096
Nov 08	744.85	585.07	897.17	73.57	84.58	491.36	6.0444
Dec 08	745.03	557.46	829.94	69.51	79.55	482.65	6.1078
Jan 09	745.19	563.16	811.98	69.48	80.92	499.00	6.2313
Feb 09	745.14	582.88	840.26	68.37	84.84	499.96	6.3033
Mar 09	745.09	571.46	810.44	66.70	84.31	494.14	5.8408

EFFECTIVE KRONE RATE Table 24

Average	Nominal effective krone rate	Consumer-price indices: Denmark	Consumer-price indices: Abroad	Real effective krone rate based on consumer prices	Real effective krone rate based on hourly earnings	Consumer-price index in the euro area
	1980=100					2005=100
2004	102.2	237.4	224.0	108.3	109.8	97.9
2005	101.6	241.7	228.4	107.6	109.6	100.0
2006	101.6	246.2	233.0	107.5	110.4	102.2
2007	103.2	250.5	238.2	108.5	113.7	104.4
2008	105.8	259.0	245.8	111.5	117.6	107.8
Oct 08	104.5	260.7	247.8	110.5	...	108.6
Nov 08	104.7	260.0	246.3	111.4	...	108.0
Dec 08	107.4	259.2	245.1	114.2	118.3	107.9
Jan 09	107.3	258.3	244.3	114.2	...	107.0
Feb 09	106.7	261.6	...	...	...	107.4
Mar 09	108.0	262.5	...	...	...	107.8
	Change compared with previous year, per cent					
2004	1.0	1.2	1.7	0.4	1.3	2.1
2005	-0.6	1.8	1.9	-0.7	-0.2	2.2
2006	0.0	1.9	2.0	0.0	0.7	2.2
2007	1.6	1.7	2.2	0.9	3.1	2.2
2008	2.5	3.4	3.2	2.8	3.4	3.3
Oct 08	0.8	3.7	3.3	1.9	...	3.2
Nov 08	0.2	2.7	2.1	1.8	...	2.1
Dec 08	2.6	2.4	1.7	3.9	2.7	1.6
Jan 09	2.1	1.8	1.1	3.7	...	1.1
Feb 09	1.6	1.9	...	...	...	1.2
Mar 09	1.8	1.8	...	...	...	0.6

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.
The weights are based on trade in manufactured goods in 2002.
An increase in the index reflects a nominal or a real appreciation of the krone.

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