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

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Contents

Recent Economic and Monetary Trends	1
Trends in Mortgage-Credit Financing: the Market and its Players ...	23
Lars Jul Hansen, Market Operations, and Jesper Ulriksen Thuesen, Financial Markets	
A wide range of new products have been introduced in the Danish mortgage-credit market, but the fundamental structure of the Danish mortgage-credit system has not changed. This development has had and will have consequences for mortgage-credit institutes, markets, investors and borrowers.	
Trends in Mortgage-Credit Financing: Household Consumption	33
Lars Risbjerg, Economics	
Since the reintroduction of adjustable-rate mortgage-credit loans in 1996, additional products to finance owner-occupied housing have been launched, notably deferred-amortisation loans and the banks' mortgage loans. This article considers how this development can influence the households' consumption.	
Foreign Banks in Denmark	45
Jakob Windfeld Lund, Financial Markets, and Kristine Rasmussen, Statistics	
In terms of new balance-sheet data, foreign banks have larger market shares in Denmark than in most other EU member states. The market for deposits and lending within Denmark's borders is dominated by Nordic banks. However, non-Nordic banks account for larger shares of cross-border lending to Danish customers and financial-market issues by Danish companies.	
Financial Groups and Conglomerates	61
Birgitte Bundgaard Madsen, Financial Markets	
The establishment of financial groups and conglomerates is a natural element of the development of the single financial market in the EU. Conglomerates are subject to special types of risk. Developments make new demands of the boards and management of financial enterprises, but also of regulation and supervision, including international collaboration between supervisory authorities.	
The Foreign-Exchange Market for Danish Kroner	71
Kim Abildgren, Economics	
This article describes the institutional structure of the foreign-exchange market for Danish kroner. Global turnover is more than kr. 100 billion per banking day. The fixed-exchange-rate policy vis-à-vis the euro entails only small fluctuations in the exchange rate of the krone and thus narrower spreads between the large participants' bid and ask prices in the foreign-exchange market for Danish kroner than in other foreign-exchange markets.	

Demographics, Growth and Financial Markets.....	87
Erik Haller Pedersen, Economics	
In the coming decades, demographic changes will contribute to a radical shift in the global economic power balance. In addition, demographic factors may influence interest rates, share prices and housing prices.	
Speech by Governor Nils Bernstein at the Annual Meeting of the Danish Bankers Association on 30 November 2005	103
Working Papers Issued	107
Press Releases	109
Tables and Graphs Section	

Recent Economic and Monetary Trends

This review covers the period from the middle of November 2005 to the middle of February 2006

Growth in the global economy remained high in the 2nd half of 2005, even though 4th-quarter growth in the USA was disappointing. The up-swing was more broadly based than previously, as there was also sound growth in the euro area and Japan. Oil prices surged at the beginning of September in the wake of a violent hurricane in the Mexican Gulf, and even though prices then dropped the level is still high, at around 60 dollars per barrel. Combined with the robust growth, this has led to greater concern about rising inflation. As a consequence, monetary policy was tightened in e.g. the euro area and in the USA, where the series of interest-rate increases continued.

INTERNATIONAL FINANCIAL AND COMMODITY MARKETS

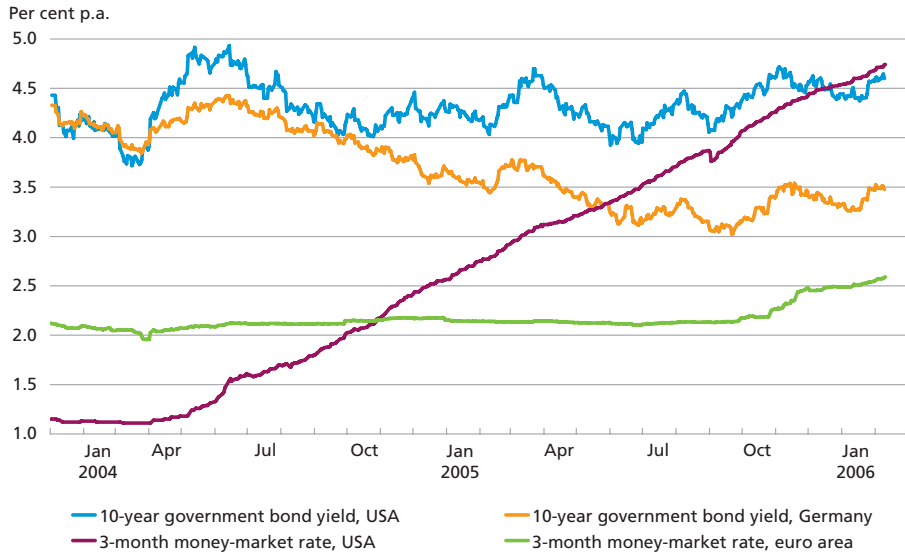
The strengthening of the US dollar vis-à-vis the euro throughout 2005 ceased at the end of the year, after which the dollar weakened a little to 1.19 dollars per euro in mid-February. This is approximately 10 per cent stronger than one year before. An equivalent development was seen against the Japanese yen.

Over the last year, the 10-year US government bond yield has fluctuated at a level of around 4.25 per cent, cf. Chart 1. Combined with the continued tightening of monetary policy, and thus rising short-term interest rates, this has led to a significant flattening and, most recently, inversion of the yield curve, as the 3-month money-market interest rate has exceeded the long-term yield since the turn of the year. Since the summer, the long-term yield in Germany has moved in parallel with the US yield, but at a level approximately one percentage point lower, and the flattening of the German yield curve is less pronounced as short-term interest rates have risen less.

Viewed in a historical perspective, the reaction of the long-term yield to the strong economic position has been very subdued. This reflects expectations in the market so far that inflation will remain moderate in the medium term. In general, there are very few concrete indications of wage effects derived from the high oil price.

SHORT-TERM MONEY-MARKET RATES AND LONG-TERM GOVERNMENT BOND YIELDS IN THE USA AND THE EURO AREA

Chart 1

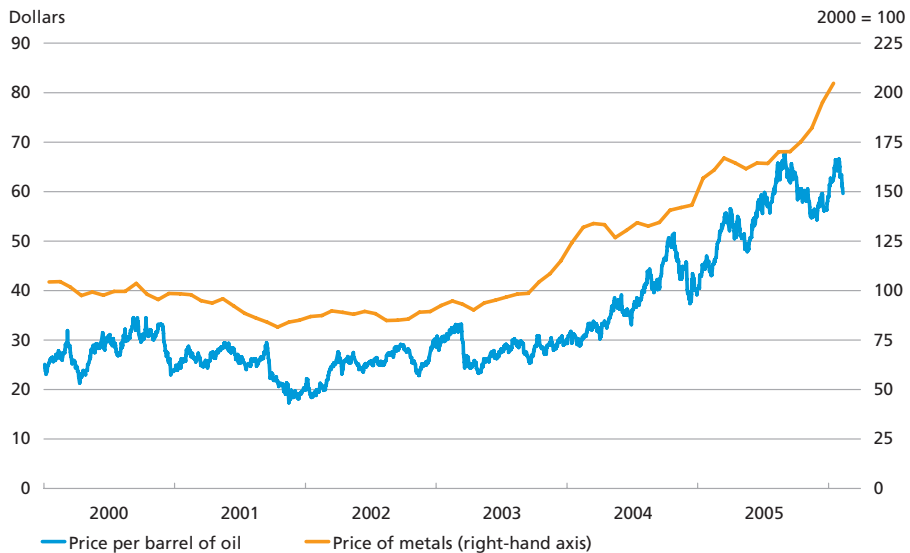


Source: Danmarks Nationalbank.

The oil price reached almost 70 dollars per barrel (Brent) at the beginning of September in the wake of a violent hurricane in the Mexican Gulf that damaged production facilities and refineries in the area. Subsequently the oil price dropped again, to 60 dollars per barrel in mid-February, cf. Chart 2.

COMMODITY PRICES IN US DOLLARS

Chart 2



Source: IMF and EcoWin.

The stock markets, particularly outside the USA, have risen considerably. The Danish OMXC20 index has risen by 30 per cent within the last year and is among the best-performing indices, except within the last month.

The gold price has increased strongly and in mid-February reached the highest level in dollar terms since 1981. Part of the explanation may be that several investors, e.g. hedge funds, have begun to invest in gold, in anticipation of continued price rises. Another factor is the growth in the global economy, which has generally boosted the demand for industrial metals. The most recent increase in the gold price does not stand out from the prices of other metals. The prices of many other commodities have also been rising strongly.

INTERNATIONAL ECONOMIC DEVELOPMENT

USA

The US economy grew by only 0.3 per cent in the 4th quarter. This was lower than in the preceding quarters and less than expected (consensus forecasts). This development is presumably attributable to temporary factors such as a fall in car purchases after a strong 3rd quarter, lower military expenditure and the effects of the hurricanes in the autumn. The US economy has previously proved to be very robust, so there is no reason to believe that it is facing an imminent period of low growth, cf. Box 1. Compared with the 4th quarter of 2004, growth was 3.1 per cent.

The sustained rise in housing prices has been the key factor behind the US upswing in recent years. At the national level, property prices have almost doubled since 1995. The increase can to a large degree be explained by economic fundamentals such as low interest rates, rising disposable incomes and moderate unemployment. In the last few months there have, however, been initial indications that the housing market is cooling off. Prices in certain areas have flattened out, and the length of time that new houses are offered in the market has increased. The development is in line with the tightening of monetary policy since mid-2004.

Large capital gains, primarily on housing, but also on shares and bonds, have contributed to reducing savings as a ratio of the households' disposable incomes in recent years. In spite of a sound improvement in the fiscal year 2004-05, the federal budget also shows a considerable deficit which looks set to deteriorate further in the current fiscal year, partly as a result of emergency relief following the hurricanes in the autumn. Consequently, the imbalances in relation to the rest of the world have reached new levels, with a trade deficit of more than 6 per cent of GDP in 2005. Since the USA accounts for around one third of the global economy (not purchasing-power-parity adjusted), a deficit of this

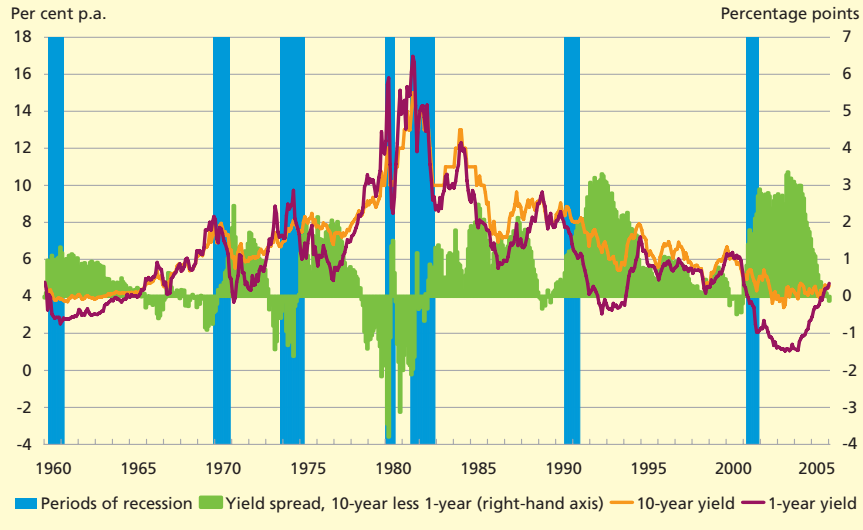
SLOPE OF THE YIELD CURVE AND RECESSIONS IN THE USA

Box 1

Since January 2004, the spread between the 1-year and 10-year US government bond yields has narrowed from 250 basis points to 0 basis points. Previously, flattening of the yield curve has preceded economic recessions¹. Prior to five out of six recessions in the USA since 1970, the yield curve flattened significantly, cf. Chart 3. Among other things this reflects that monetary policy must typically be tightened during an upswing in order to keep down current and expected inflation, and cannot be eased again until the economy has cooled down.

SLOPE OF THE YIELD CURVE AND RECESSIONS IN THE USA

Chart 3

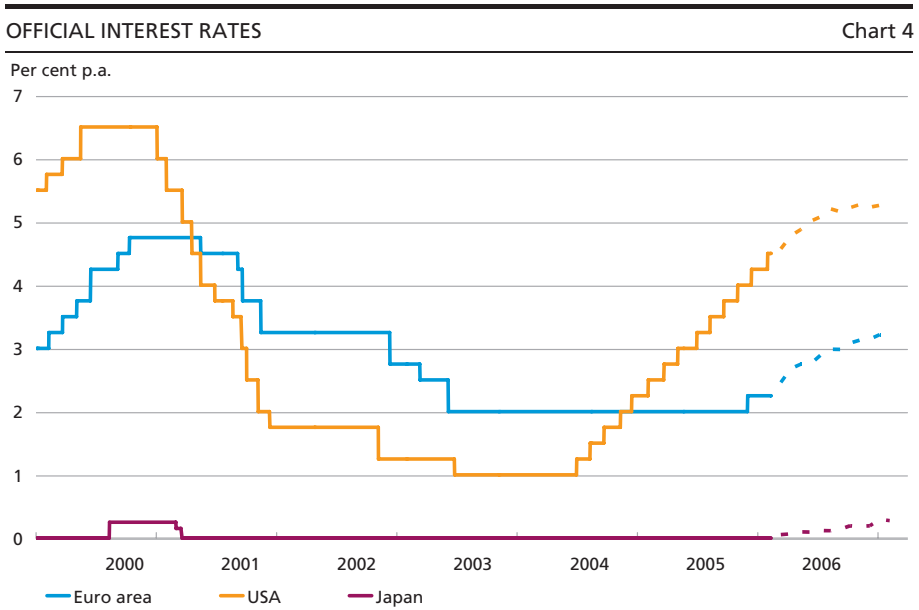


Both actual inflation and inflation expectations are low today, despite the upswing. In previous upswings, inflation expectations, and thus long-term yields, have tended to drift upwards. At the same time, real interest rates are relatively low. In key areas the situation today therefore differs from previously so there is reason to believe that this time the flattening of the yield curve will probably not be followed by a recession.

¹ The NBER's official dating of recessions has been applied, cf. www.nber.org.

magnitude absorbs a large proportion of global savings. Perhaps the most important issue for the global economy in the near future is how and how soon the US economic imbalances can be reduced, since they are not sustainable in the long term. Higher growth rates in Europe and Japan may contribute, but cannot in themselves solve the imbalances since a higher US savings ratio is required.

The consumer price index increased by 3.4 per cent year-on-year in December. Core inflation is stable at a level of around 2 per cent, and there are no indications of derived effects from the price increases for oil and other commodities. The most recent wage figures do, however,



Note: For the euro area: the minimum bid rate; for the USA: the fed funds target rate; for Japan: the official discount rate. The dashed lines indicate implicit forward rates calculated on the basis of spot rates. These include maturity and credit premiums and therefore overestimate market expectations of the future official interest rate.

Source: Danmarks Nationalbank.

point to a stronger increase than seen so far. Unemployment is approximately 5 per cent.

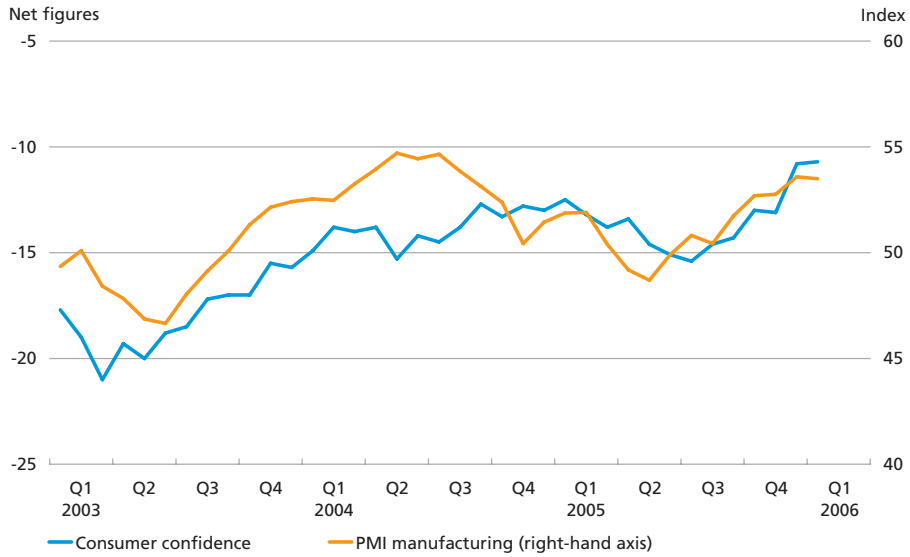
The Federal Reserve has raised its target rate by 25 basis points at each of the last 14 meetings of the Federal Open Market Committee, FOMC. At the meeting in January, the benchmark official interest rate, the fed funds target rate, reached 4.50 per cent, cf. Chart 4. The press release in connection with the FOMC meeting indicates that further tightening may be necessary. The financial markets expect the Federal Reserve to raise interest rates by a further 25 to 50 basis points in 2006.

Euro area

The beginning upswing in the euro area continued in the 4th quarter with quarterly growth of 0.3 per cent. Germany saw zero growth. The weak link was German private consumption, which continued to stagnate. A stronger, more self-sustained upswing in the euro area will require more pronounced development in consumption in Germany, which in turn requires a change of mood among consumers. There are some indications that this change is on its way, but the German economy has previously showed signs of a revival that subsequently petered away.

Indicators such as consumer confidence and the PMI index of business confidence, cf. Chart 5, point to a continued positive tendency in the

CONSUMER AND BUSINESS CONFIDENCE IN THE EURO AREA Chart 5



Note: The PMI is an index of business confidence. A value above 50 indicates expansion and below 50 contraction.
 Source: EcoWin.

euro area, and growth is expected to be around 2 per cent in the current year.

The German coalition government has presented a detailed Coalition Agreement aimed at solving the problems of low growth and a substantial budget deficit which significantly limits the options for fiscal-policy stimulation of the economy. In 2006, the budget deficit is expected to exceed 3 per cent of GDP for the fifth consecutive year, but the government is aiming for a deficit below 3 per cent of GDP in 2007.

The initiatives in the Coalition Agreement include a general increase in VAT from 16 to 19 per cent as from January 2007, which is expected to improve government finances by approximately 1 per cent of GDP. The announcement of the VAT increase may speed up consumption, thereby stimulating the economy in the current year. However, the question is whether this is sufficient to boost business investments and thus make a more durable contribution to growth.

Measures in the longer term include plans to raise the retirement age by one month a year from 2012 onwards, to 67 years in 2035.

Unemployment in the euro area fell steadily in 2005, but rose a little in December, to 8.4 per cent. In some months, the fall was particularly strong in Germany, but from a high level. In January, German unemployment rose again. Employment in Germany is affected by the loss of nearly 2 million jobs with full payment of social-security contributions since 2001, but employment has only fallen by one fourth of this. The explanation is

more people in subsidised employment, known as "1 euro jobs", "mini jobs", etc. The decrease in the number of real jobs undermines the financing of social security funds and impedes consumption growth.

In 2006, five euro area member states, including Germany, France and Italy, will again have substantial government budget deficits and are expected to exceed the limit of 3 per cent of GDP stipulated in the EU Treaty. The prospects of stronger growth in the euro area increase the possibilities of reducing the government deficit, and these possibilities should be utilised. However, a sustained improvement cannot solely be based on cyclical factors, but also requires measures of a more structural nature, since these member states are faced with an even more acute demographic challenge than Denmark, with an increasing number of retired people and ever fewer of working age in the coming decades.

Consumer prices in HICP terms rose by 2.4 per cent in January. This is more than at the beginning of 2005, but slightly less than in the autumn. The development to a large extent reflects energy prices. Core inflation, measured as HICP exclusive of food, energy, alcohol and tobacco, remained unchanged at around 1.5 per cent in January. The underlying inflationary pressure in the euro area is thus moderate, a conclusion that is supported by subdued wage increases.

On 1 December, the European Central Bank, ECB, raised its minimum bid rate by 25 basis points to 2.25 per cent, the first increase since June 2003. According to the ECB the increase is to be seen as part of the efforts to keep medium-term inflation expectations at bay, while ensuring that monetary policy continues to support growth in the economy.

Asia

The Japanese economy grew by 4.2 per cent year-on-year in the 4th quarter, which is somewhat higher than in the preceding quarters. The labour market is picking up with rising employment and falling unemployment. Monetary policy is highly expansionary, and the government budgets show a substantial deficit.

Property prices in Tokyo stabilised in 2005 after having fallen for 15 years. This is an indication that Japan may be on its way out of the deflation that has characterised the economy for several years. Concurrently with this development, the zero-interest-rate policy is coming to an end. The Bank of Japan has indicated that the rate of interest will not be raised before core inflation has become positive on a sustainable basis. The Bank of Japan finds it increasingly probable that this will be in the fiscal year 2006-07¹. Core inflation was 0.1 per cent in December.

¹ Bank of Japan, Outlook for Economic Activity and Prices, October 2005.

The Chinese economy grew at an unabated rate of almost 10 per cent year-on-year in the 4th quarter. If growth continues at this level, GDP in volume terms will double in only seven years. Growth in domestic demand picked up again after dampening in the 1st half of 2005.

The Chinese trade surplus tripled in 2005 compared with the preceding years. This was reflected in sustained growth in the Chinese foreign-exchange reserve, which closed the year at 820 billion dollars, equivalent to 45 per cent of Chinese GDP. The foreign-exchange reserve has mainly been invested in US government securities.

UK

The economy is in a period of stable, but dampened growth. GDP rose by 1.7 per cent year-on-year in the 4th quarter. Growth in private consumption was moderate as a result of subdued development in housing prices and disposable incomes. The rate of increase in cash prices fell to below 5 per cent p.a. at the beginning of 2006, after at one point exceeding 25 per cent p.a. This development should e.g. be seen against the background of the tightening of monetary policy by a total of 125 basis points to 4.75 per cent during 2003 and 2004. This has dampened the strong growth in housing prices. The base rate has remained unchanged in recent months after having been lowered to 4.50 per cent in August 2005.

There are imbalances in the UK economy. The trade deficit is large and increasing, and the government deficit was 3.3 per cent of GDP in 2005. A similar deficit is expected in 2006.

Inflation in the UK was 1.9 per cent in January and thus close to the government's target for the rate of price increase. For 2005 overall, average inflation was 2.1 per cent, which is the highest level since 1997. Core inflation was slightly lower, and there are no indications of derived wage effects from the rising energy prices. The exchange rate of the pound sterling against the euro has remained unchanged for the last six months, while the effective sterling rate has fallen a little.

Sweden

After weakening temporarily in the 1st half of 2005, the Swedish economy rallied strongly in the 3rd quarter, with annual growth of 3.4 per cent in real GDP. Domestic demand and exports both contributed positively to GDP growth. The high growth seems set to continue in 2006, e.g. as a result of highly expansionary monetary and fiscal policy. At the same time, housing prices are rising strongly. In addition, the Swedish krona has weakened during the past year, which in the short term improves competitiveness and squeezes capacity further. In mid-February, the effective krona rate was almost 10 per cent below the level one year

earlier. The exchange rate vis-à-vis the Danish krone had fallen back to below 0.80 krone per krona by mid-February.

So far the high growth has not really been reflected in the labour market, which is only marginally picking up. Unemployment has fallen only slightly during the last year, to 5.4 per cent in December. However, the number of vacancies continues to rise. Inflation measured by the KPI index was 0.6 per cent year-on-year in January and thus still below Sveriges Riksbank's target zone of 1-3 per cent. The rate of wage increase is not alarming either.

Due to prospects of sustained high activity, Sveriges Riksbank found it necessary to raise its repo rate by a total of 50 basis points in two stages in the first months of 2006, to 2.00 per cent. The 10-year government bond yield was 3.4 per cent in mid-February.

Norway

Growth in the Norwegian economy remains high. Mainland GDP increased by 3.1 per cent year-on-year in the 3rd quarter. The rate of growth is expected to be maintained in subsequent quarters.

Underlying inflation, measured by Norges Bank's preferred inflation measure (the KPI-JAE index), which excludes energy and indirect taxes, is still considerably below the target of 2.5 per cent. The sight deposit rate has been unchanged in recent months after an increase by 25 basis points, to 2.25 per cent, at the beginning of November.

DEVELOPMENT IN THE DANISH FINANCIAL MARKETS

In the period under review, the krone was close to its central rate in ERM II of 7.46038 kroner per euro.

Danmarks Nationalbank responded to the ECB's raising of its interest rates on 1 December by raising the lending rate by 25 basis points, to 2.40 per cent. The discount and current-account rates were also increased by 25 basis points, to 2.25 per cent. The increases had been expected in the market and did not give rise to any particular market reactions.

Danmarks Nationalbank did not intervene in the foreign-exchange market in January, and at end-January the foreign-exchange reserve was kr. 213.1 billion. The first part of February, however, saw an outflow of foreign exchange in connection with e.g. institutional investors' purchases of foreign shares and other securities, and on 17 February the lending rate was raised by 10 basis points to 2.50 per cent. The discount and current-account rates remained unchanged.

Following an increase by 50 basis points in the autumn, the 10-year government bond yield has fallen slightly since November, to around 3.5 per

THE EXCHANGE-RATE MECHANISM, ERM II

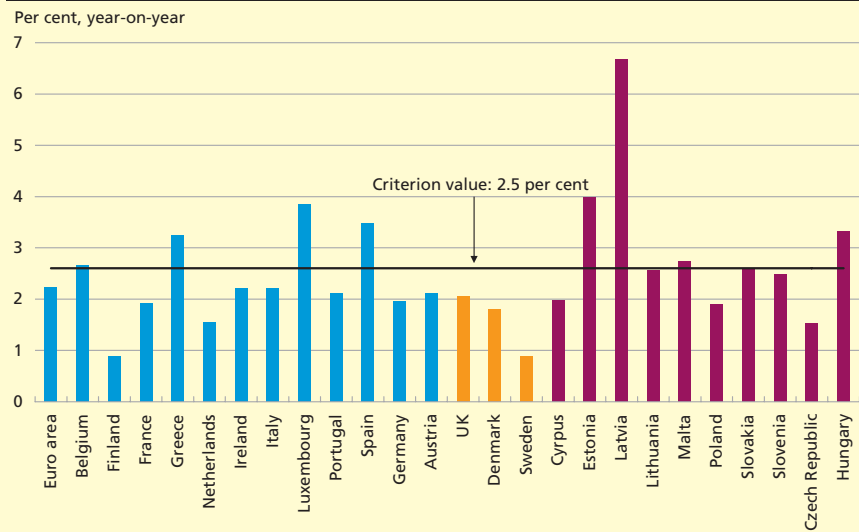
Box 2

On 28 November 2005, Slovakia joined the exchange-rate mechanism, ERM II. The central rate and fluctuation band of the Slovakian koruna have been fixed in relation to the euro, cf. Table 1. In recent years, Slovakia has managed its monetary policy according to an inflation target and as a managed float of the koruna, with the euro as the reference currency.

Slovakia's membership does not entail any adjustment of the central rate, fluctuation band and other terms for the Danish krone in ERM II, and nor have there been any adjustments for the other participants. The obligation to intervene if a participating currency reaches one of its fluctuation limits rests exclusively on the central bank of the relevant member state and the ECB. The other participants have no obligation to intervene.

INFLATION IN EU MEMBER STATES, DECEMBER 2005

Chart 6



Note: Inflation is calculated as a year-on-year increase in a 12-month moving average of the HICP index over the preceding 12 months. The criterion value is determined as the average of inflation in the three member states with the lowest inflation, plus 1.5 percentage points. The "criterion value" is the upper limit for inflation in accordance with the calculation of the inflation criterion previously applied to the assessment of convergence.

Source: Eurostat.

cent in mid-February. After Denmark's Nationalbank's raising of the lending rate, the 3-month yield (uncollateralised) rose by 7 basis points, to 2.7 per cent. In Denmark too, the spread between short- and long-term yields has generally narrowed in recent years.

The yield spread between Denmark and the euro area has narrowed since the summer of 2004, both for short-term money-market interest rates and for long-term bond yields. Since May 2005, the 10-year yield spread has been eliminated, i.e. the yield in Denmark has been at the same level as in the euro area. The yield spread is close to zero along the

CONTINUED

Box 2

With Slovakia's membership, ERM II comprised eight member states in mid-February 2006. In a few months, Estonia, Lithuania and Slovenia have been ERM II members for two years, which is one of the conditions for adopting the single currency, the euro. Cyprus, Latvia and Malta joined ERM II on 2 May 2005.

In addition to being an ERM II member for two years, EU member states wishing to adopt the euro must meet four convergence criteria relating to inflation, long-term nominal interest rates, budget deficits and government debt, the latter two as ratios of GDP. Convergence assessments of Estonia, Lithuania and Slovenia will take place in the 1st half of 2006. Compliance with the inflation criterion may prove to be especially difficult for Estonia, cf. Chart 6. One of the reasons is that energy typically weighs heavier in the consumer price index in low-income EU member states than in the more affluent member states.

A number of member states, including Poland and Hungary, have excessive budget deficits. For many of the new EU member states further convergence is thus necessary before they are ready to adopt the euro.

CENTRAL RATES AND FLUCTUATION BANDS IN ERM II

Table 1

National currency units per euro	Upper limit	Central rate	Lower limit	Fluctuation band, per cent
Danish kroner	7.62824	7.46038	7.29252	+/- 2.25
Estonian kroons	17.9936	15.6466	13.2996	+/- 15
Cyprus pounds	0.673065	0.585274	0.497483	+/- 15
Latvian lats	0.808225	0.702804	0.597383	+/- 15
Lithuanian litas	3.97072	3.45280	2.93488	+/- 15
Maltese lira	0.493695	0.429300	0.364905	+/- 15
Slovenian tolar	275.586	239.640	203.694	+/- 15
Slovakian koruna	44.2233	38.4550	32.6868	+/- 15

Note: Several member states unilaterally observe narrower fluctuation bands.

entire yield curve up to 10 years. Combined with the fact that the krone remains very close to its central rate, this can be taken to express great confidence in the strong Danish economy and the fixed-exchange-rate policy.

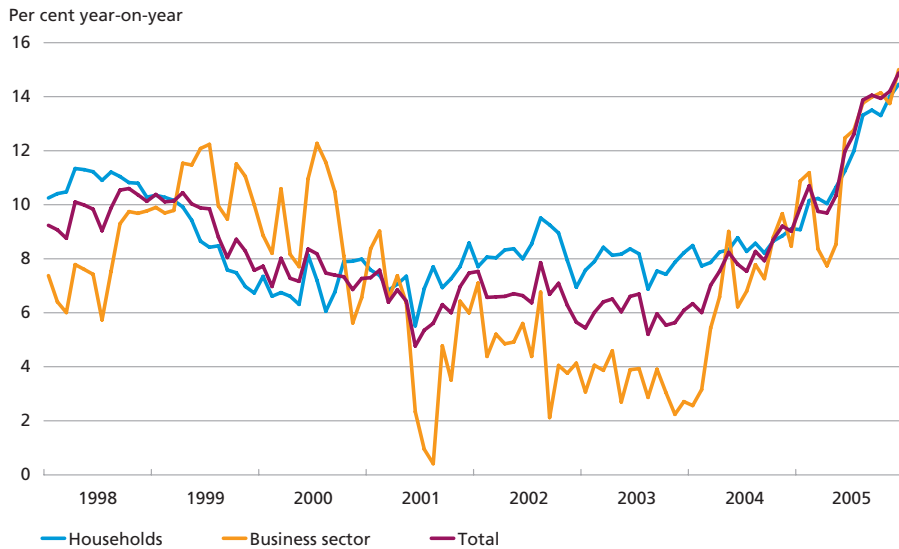
In late November 2005, Slovakia joined ERM II, cf. Box 2.

The positive development in the Danish economy is reflected in the financial balances. Growth in lending to households and the business sector by banks and mortgage-credit institutes was around 14 per cent year-on-year in the latter part of 2005, cf. Chart 7. This is the highest growth in lending since the mid-1980s. Some of the proceeds are invested in pension schemes.

At approximately 40 per cent in December, growth in the banks' lending for housing purposes was particularly strong. It is matched by a considerable increase in bank deposits from households since the autumn of

LENDING BY BANKS AND MORTGAGE-CREDIT INSTITUTES

Chart 7



Source: Danmarks Nationalbank.

2004. This reflects the structure of the banks' mortgage loans, whereby a loan against the home as collateral is established concurrently with a deposit account for the nominal value of the loan. The proceeds are not necessarily spent all at once. Therefore deposits increase, and thereby the money stock (M2), which has risen by 15 per cent over the last year.

On 2 January 2006, Danmarks Nationalbank made a minor adjustment to the framework for the monetary-policy counterparties' current-account deposits. The overall current-account limit was increased from approximately kr. 20 billion to approximately kr. 25 billion. A large part of the increase is attributable to simplification of the system so that the counterparties are now allocated standard limits. This entails that small counterparties are generally allocated higher limits than previously. The raising of the overall current-account limit should also be viewed against the background of the general economic growth since the last adjustment of the current-account limits in 2003. No counterparties' current-account limits were reduced in connection with the adjustment. The current-account-limit system is described in Box 3.

THE DANISH ECONOMY

Overall

The economic upswing has continued at full speed. The improvement has become more broadly based in recent quarters, as export growth has

DESCRIPTION OF THE CURRENT-ACCOUNT-LIMIT SYSTEM ¹	Box 3
<p>In 1999, a ceiling (limit) was introduced for the monetary-policy counterparties' total current-account deposits at the close of the day (i.e. at the close of the monetary-policy day at 3.30 p.m.). The overall limit is approximately kr. 25 billion, broken down as individual current-account limits for the counterparties. The standard current-account limit for the individual counterparties is kr. 100 million. Counterparties with extensive activity in the money market have a supplement to the standard limit since they are key contributors to smooth exchange of liquidity.</p> <p>The current-account limits¹ only apply if the counterparties' total current-account deposits exceed the overall limit. In other words, the monetary-policy counterparties may exceed their individual limits, provided that the overall limit is not exceeded. Deposits exceeding the individual limits also accrue interest at the current-account rate for as long as the overall current-account limit is not exceeded.</p> <p>If the overall limit is exceeded at the close of the day, deposits exceeding the individual limits will be converted into certificates of deposit. Conversion is to the certificate with the longest remaining term to maturity. To date it has not been necessary to convert current-account deposits into certificates of deposit.</p> <p>The purpose of the current-account limits is to prevent the build-up of large current-account deposits that may be used for speculation in interest-rate and exchange-rate changes in situations where the krone is under pressure. The current-account limits also contribute to ensuring a well-functioning money market since the counterparties are encouraged to exchange liquidity among themselves.</p> <p>Via extraordinary operations in certificates of deposit, Danmarks Nationalbank contributes to ensuring that the current-account limits do not present a problem in relation to the daily settlement of payments. If there are indications during the day that the current-account deposits at the close of the day will exceed the overall current-account limit, Danmarks Nationalbank normally opens sale of certificates of deposit. This allows the counterparties to adjust their current-account deposits so that the total current-account limit is not exceeded.</p>	

¹ The current-account limits applying at any time can be seen at Danmarks Nationalbank's website (www.nationalbanken.dk).

picked up, while the increase in domestic demand has continued unabated. This increases the risk of capacity problems in the economy. The labour market has clearly tightened, but so far generally without acceleration in wages, according to the wage statistics of the Confederation of Danish Employers. Government finances and the current account show sound surpluses, so Denmark does not face the same imbalances as many other countries, including the USA. The principal risk is overheating of the economy, which could derail the upswing, cf. Box 4.

Economic activity, the labour market and fiscal policy

GDP in volume terms grew by 1.4 per cent in the 3rd quarter. Compared with the same quarter of the preceding year, growth was almost 5 per cent. This rate of growth in one quarter has not been seen since 1994 in

RISK OF OVERHEATING OF THE DANISH ECONOMY

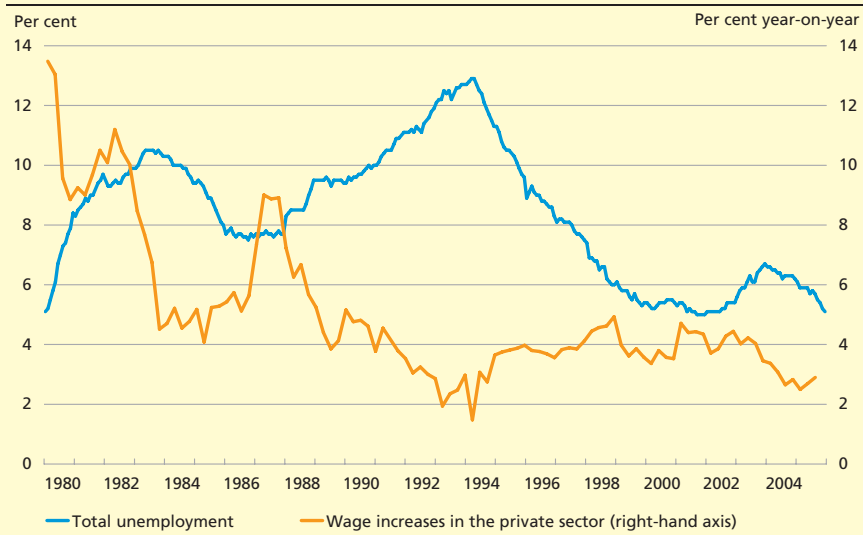
Box 4

The rate of wage increase in Denmark has been stable during the last quarters, and only slightly above the level abroad. Nevertheless, there is a risk of overheating since the strong growth in the Danish economy and the continued fall in unemployment increase the risk of capacity problems.

The relatively moderate wage increases in view of the economic situation, cf. Chart 8, should be viewed against the background of even lower wage increases in the euro area and in Asia. Business enterprises and their employees are thus faced with fierce foreign competition. Today this is to some extent also true of the building and construction sector, which has traditionally been oriented towards the domestic market and highly cyclically sensitive. Compared with previously, the labour market has generally become much more flexible, e.g. as a result of the labour-market reforms in the 1990s, as well as more decentralised wage formation. In addition, the level of Danish wages is among the very highest in the world, at any rate within manufacturing, where comparable statistics are available¹. Typically, wages react to cyclical trends with a considerable lag, however.

UNEMPLOYMENT AND RATE OF WAGE INCREASE

Chart 8



Source: Statistics Denmark and the Confederation of Danish Employers.

A positive consequence of wages only reacting to the strong growth to a limited extent is that the sectors exposed to competition carry a smaller share of the burden of adjusting to a tight labour market than in previous upswings. On the other hand, there is a higher risk that the consumption and investment ratios, i.e. in volume terms, and housing prices become too high, leading to a subsequent backlash. However, neither the consumption nor the investment ratio is at an alarmingly high level at present. If the low level of wage increase is maintained, the upswing may therefore prove to be sustainable in the long term.

The most appropriate reaction in the current favourable cyclical situation is to keep demand, including government demand, on a tight rein, and to expand the supply of labour as quickly as possible.

¹ Cf. US Bureau of Labor.

the wake of the "kick-start". However, at that time the upswing came after seven years' recession, and started from a far lower level with high unemployment and a stagnant housing market.

Growth in the 3rd quarter was driven by both private and government consumption as well as investments, and for the third consecutive quarter exports grew at a faster rate than imports. This reflects higher growth among Denmark's trading partners, particularly the euro area, but also that Denmark has regained some of the market shares lost since 2002.

Most of the economic indicators, such as retail sales, car sales and consumer expectations, point to continued growth. The confidence indicator for construction continued to rise, while the indicators for industry and services fell slightly at the end of the year. Manufacturing output rose substantially towards the turn of the year.

Employment, calculated on the basis of payments to ATP (the Labour Market Supplementary Pension Fund), rose by 8,500 in the 3rd quarter, a tendency that can be expected to have continued in the 4th quarter in view of the development in unemployment figures and other indicators for the Danish economy. Growth in employment has mainly been seen in the private sector, and especially in service areas aimed at the domestic market. The development in manufacturing industry, which is strongly export-oriented, has been weaker.

The future demographic development will make it ever more difficult to increase employment. The population aged 25-60 will decline by more than 100,000 in the next five years.

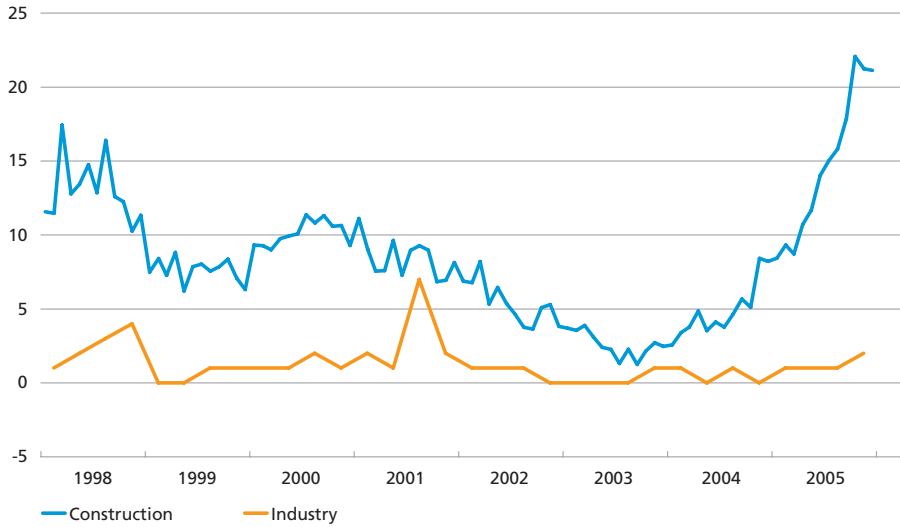
Unemployment has fallen at generally the same rate as employment has risen, and was down to 5.1 per cent in December. The decline in unemployment is broadly distributed on regions and sectors. It is thus obvious that the labour market is seriously beginning to tighten, cf. Chart 9. The number of bottlenecks has increased and there are recruitment problems in several areas. So far the impact on wages has been moderate, according to the statistics of the Confederation of Danish Employers. However, there are several areas, e.g. parts of the financial sector, where wages and salaries for some types of labour appear to be increasing substantially. The financial sector is not included in the statistics from the Confederation of Danish Employers.

The scheduling of wage negotiations between employees and employers may affect the timing of potential wage accelerations. The collective agreements within several key areas run until the spring of 2007, but the reaction to the favourable economy may be apparent from the local negotiations, which usually take place in the spring. Normally wages react to cyclical developments with a certain time lag.

SHORTAGE OF LABOUR

Chart 9

Net figures



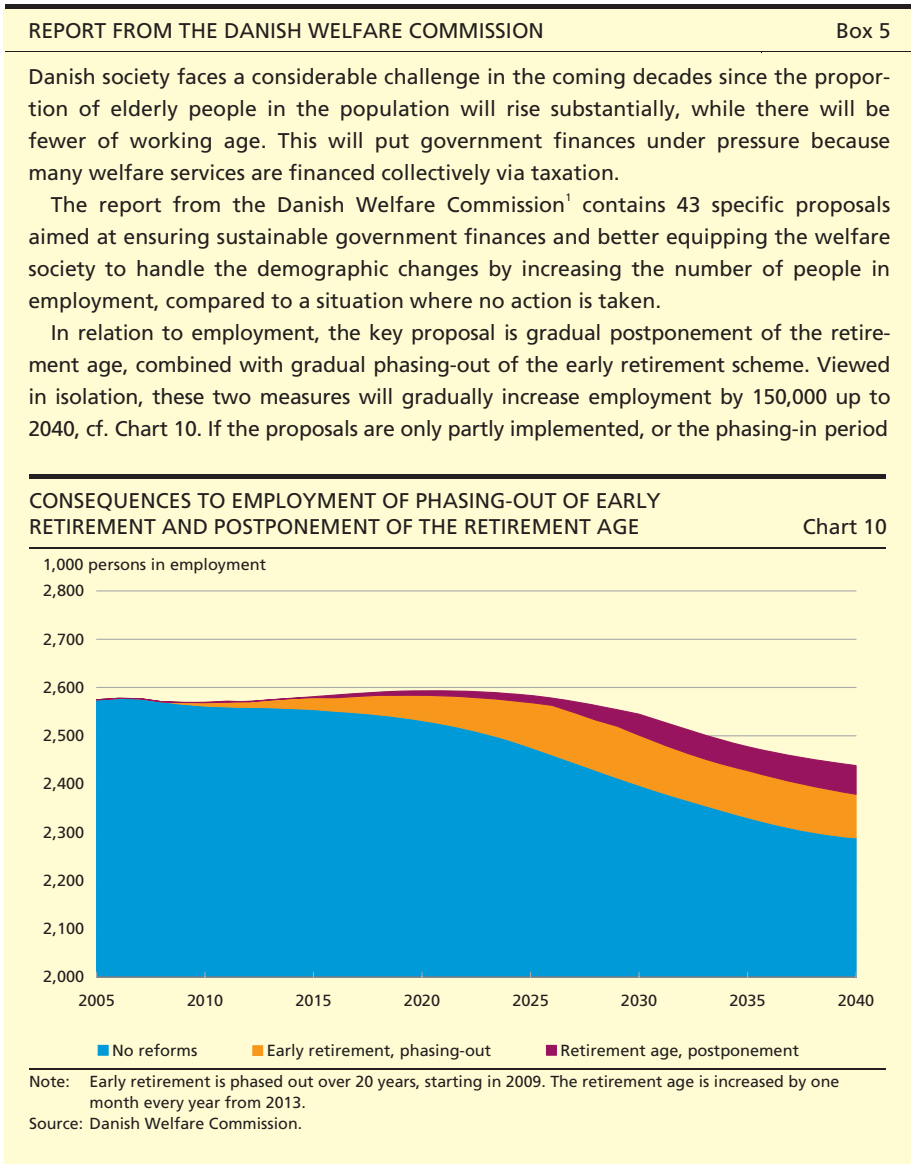
Note: Seasonally adjusted figures.
Source: Statistics Denmark.

The government's net cash surplus in 2005 was almost kr. 80 billion. The large surplus was not just a result of the cyclical upturn, but also reflected extraordinarily high revenue from e.g. taxation of pension yields (PAL taxation) and from corporate tax, including taxation of oil and gas activities in the North Sea and taxation of the banks. Much of the revenue taxed is thus based on high oil prices and capital gains as a result of higher share and bond prices, and is thus of a non-recurring nature. Such extraordinary income cannot be used to finance permanent improvements in public services or tax cuts without affecting fiscal-policy sustainability in the long term. The extra revenue should therefore solely be used to reduce debt.

The cyclical position with pressure on capacity and the labour market requires tight management of government expenditure, and the situation does not call for easing of fiscal policy. At present it is best for the Danish economy not to stimulate demand further via the government budgets. Historically it has proved to be very difficult to keep government expenditure within the targets set, and again in 2005 the government's target of real growth in government expenditure of maximum 0.5 per cent is likely to have been exceeded.

The prospects for the Danish economy in 2006 are positive, but there are risks. Sound growth can be expected. The short-term challenge is to ensure that the substantial cyclical upswing does not accelerate too much

and lead to overheating. In this context, reactions in the labour market play a key role. So far, wages have not reacted strongly, but experience shows that the situation may change rapidly. Consequently, it is necessary to expand the labour force immediately. To some degree this can be achieved by importing qualified labour, and there does indeed seem to be a growing interest in employing foreign labour under normal Danish collective agreements. Imported labour from e.g. eastern Europe has helped to ease the pressure on the labour market in countries such as Ireland and the UK. In the long term, more fundamental reforms are required, as stated in the final report from the Danish Welfare Commission, cf. Box 5.



CONTINUED

Boks 5

is more prolonged, the employment effects will be lower. Realisation of the two proposals will not have any decisive impact on the labour market today. Other proposals from the Welfare Commission include stepping up activities aimed at young people and increasing the use of qualified foreign labour, e.g. from eastern Europe.

The proposed postponement of the retirement age can by and large finance the impact on government expenditure of the expected future growth in mean life expectancy. Letting the retirement age follow the mean life expectancy makes the welfare society far more robust to the fact that people live longer. This is important in relation to ensuring fiscal-policy sustainability.

Overall, the proposed postponement of the retirement age and phasing-out of the early retirement scheme will improve the government balance by more than 4 per cent of GDP in 2040, compared to a situation where no action is taken. These proposals thus contribute significantly to ensuring fiscal-policy sustainability. If the proposals are only partly implemented, the effects on the government budgets are equivalently smaller, entailing a need for future adjustment.

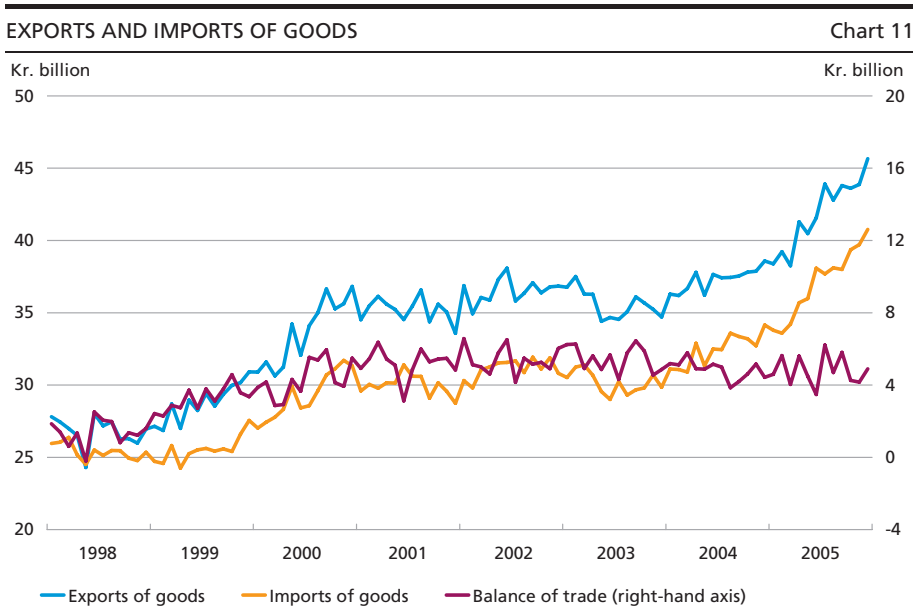
The proposals of the Welfare Commission include amendment of the tax system, whereby the middle tax bracket is eliminated, and the lower limit for payment of top-bracket tax and the employment allowance are both increased. This is, *inter alia*, to be financed by gradually increasing property tax and raising the retirement age. A tax reform along these lines will undoubtedly increase the supply of labour since the marginal tax on earned income is lowered for most people. However, this taxation package is underfinanced. This contributes to a negative government budget balance for many years if the full package is implemented.

Altogether, the Welfare Commission's report constitutes an important review of the challenges faced by the Danish society in the coming decades, while also containing a list of proposed solutions. The sooner action is taken, the less extensive the measures required to achieve the desired effect.

¹ The report "Fremtidens velfærd – vores valg" (Future welfare – our choice) was published in January 2006 and is available in Danish at www.velfaerd.dk.

Balance of payments and foreign trade

The current-account surplus was more than kr. 50 billion in 2005, equivalent to 3.5 per cent of GDP. Due to restructuring of the balance-of-payments statistics, figures are not directly comparable with previous years, but the surplus in the last three months of 2005, when statistics are comparable, was approximately kr. 2 billion below the same period of the preceding year. The large current-account surplus is surprising in view of the strong domestic economy, and the development is in stark contrast to historical experience. This is to a large extent attributable to the fact that since the mid-1990s Denmark has been a net exporter of oil and gas, which have been sold at high prices in recent years, and furthermore rates for sea freight have been high. The high current-account surplus was set off by increasing surpluses and savings in the corporate sector.



Note: Excluding ships, etc. Seasonally adjusted.
Source: Statistics Denmark.

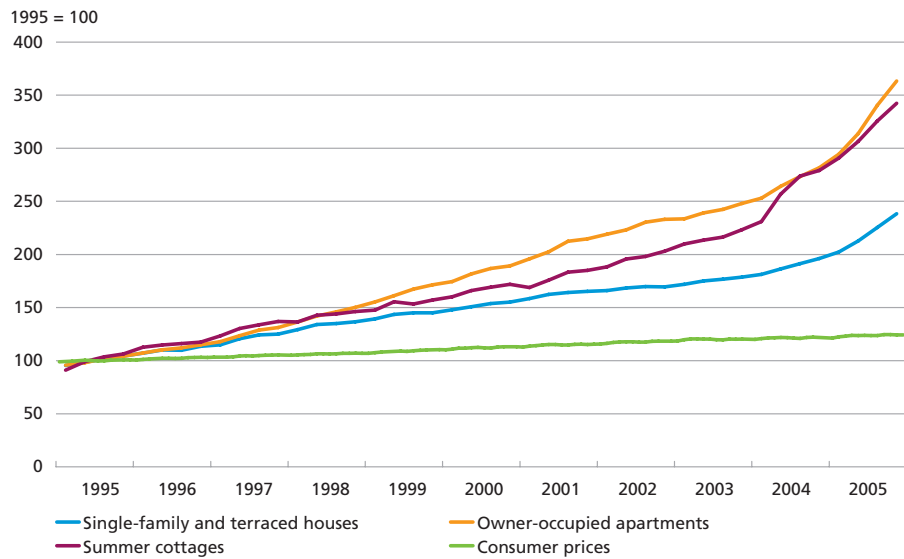
Both exports and imports of goods grew strongly in 2005, cf. Chart 11. The same applies to exports of services, e.g. sea freight. Manufactured exports have risen by 15 per cent in value terms in the last year. Danish business enterprises are thus gaining market shares after some years' losses. The growth in imports for both consumption and the business sector has been high.

Prices

Inflation remains low in Denmark. Consumer prices in HICP terms rose by 2.0 per cent in January and are thus still very close to the ECB's inflation target. The major contribution to the price-increase rate still came from energy, which rose by just over 10 per cent. Energy is included in the consumer price index with a weight of approximately 10 per cent. Generally, the strongest price impulses were external, while domestic market-determined inflation, which is stripped of the price development in food, including alcohol and tobacco, and administered prices, was close to zero. This shows that the higher prices for energy and other commodities have not been fully passed on to sales prices so far. Total revenue in the business sector has not been affected to the same extent since the volumes sold have increased. The low domestic pressure on prices should also be viewed against the background of dampened wage development and sound productivity gains.

CASH PRICES FOR OWNER-OCCUPIED HOUSING, NATIONAL AVERAGES

Chart 12



Source: Association of Danish Mortgage Banks and Statistics Denmark.

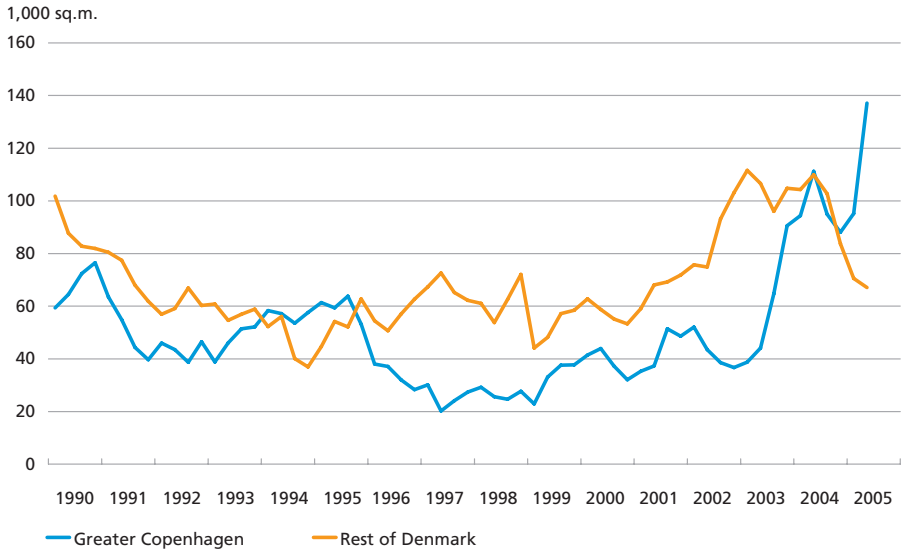
The housing market

The strong development in the housing market continued in the 4th quarter with increases of more than 20 per cent for single-family houses within the last year, but with large geographical variations. Prices for owner-occupied apartments, which are concentrated in the cities, have risen by almost 30 per cent on average, cf. Chart 12. Prices are rising more than previous experience would indicate, and this rate of increase cannot continue. However, the strong economy, the low interest rates, low unemployment and the freeze on property-value tax provide a firm foundation for the housing market, and the tide is scarcely likely to turn in the immediate future. Nonetheless, there are aspects of the most recent development that are unsound and increase the risk of a runaway upswing. Surveys show that in some parts of the market there are widespread expectations that cash prices will continue to rise at a higher rate than inflation in general. This entails a risk that residential investments are made on a speculative basis to achieve a capital gain, rather than just a home.

Particularly in the Greater Copenhagen area, the continued urbanisation and the fact that there are many educational institutions and highly paid jobs also exert upward pressure on housing prices. In the slightly longer term, demographic changes, viewed in isolation, are likely to dampen growth in cash prices, cf. the article on p. 87. Other factors may, however, have the opposite effect, e.g. the underlying increase in hous-

CONSTRUCTION OF NEW MULTI-STOREY HOUSING

Chart 13



Note: Greater Copenhagen comprises the cities of Copenhagen and Frederiksberg, as well as the counties of Copenhagen, Frederiksberg and Roskilde.

Source: Statistics Denmark, National accounts.

ing demand as incomes rise, and the steadily increasing number of one-person households.

The high prices per square metre have made new construction profitable, and construction of multi-storey housing has expanded significantly, particularly in the Copenhagen area, cf. Chart 13.

Trends in Mortgage-Credit Financing: the Market and its Players

Lars Jul Hansen, Market Operations, and Jesper Ulriksen Thuesen, Financial Markets

INTRODUCTION AND SUMMARY

During the last 10 years, the Danish mortgage-credit market has undergone considerable development. Many additional products have been introduced, but without any changes in the fundamental structure of the Danish mortgage-credit system, including the balance principle. The wider product range is an advantage to borrowers, who now have better opportunities for individual home-financing solutions. Financial consulting has become important to many borrowers.

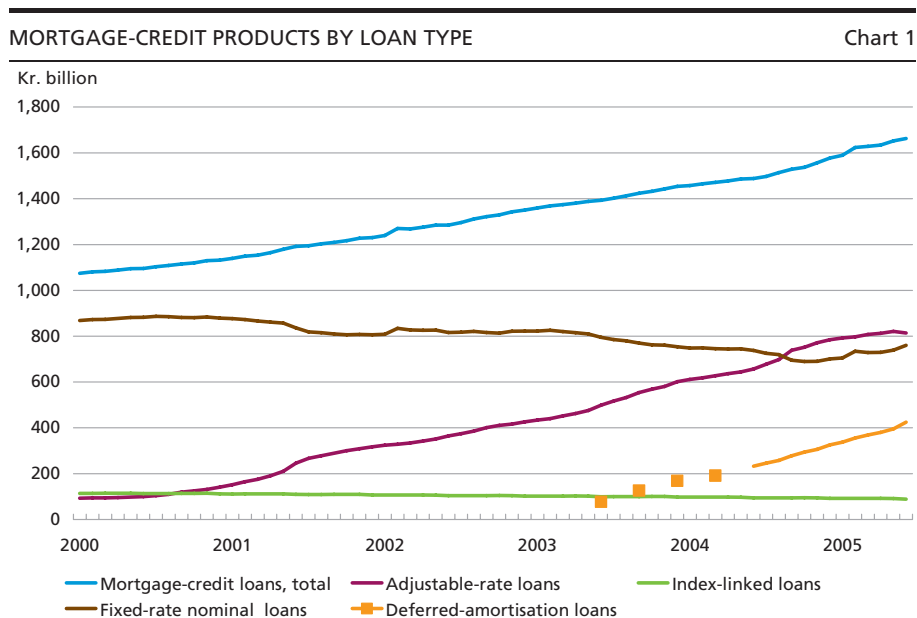
Intensive product competition in a market with many, complex options for borrowers entails that sales and marketing activities, including efficient sales channels, have become more important. However, price competition has not intensified.

The new loan types and the related new bonds have not reduced the outstanding volume of traditional callable fixed-rate mortgage-credit bonds, since the aggregate mortgage-credit market has expanded as real property has appreciated in value.

In the most recent generation of mortgage-credit bonds, the same volume has not been built up as in the traditional mortgage-credit bonds, be they fixed-rate or adjustable-rate. In addition, the market for the latest bond types is to a lesser extent a uniform market where bonds from the various issuers are seen as perfect substitutes. There is presumably less liquidity in these bonds than in the more traditional Danish mortgage-credit bonds. Both investors and borrowers should take varying characteristics, including liquidity risk, into consideration when using the new products.

THE DEVELOPMENT IN MORTGAGE CREDIT IN DENMARK

In the last decade, new home-financing products have been introduced at a steadily increasing rate. Adjustable-rate mortgage-credit loans were



Note: Deferred-amortisation loans are included twice since they are not separated from adjustable-rate loans and fixed-rate nominal loans. Capped-rate bonds are categorised as adjustable-rate loans.

Source: Balance and flow statistics of mortgage-credit institutes, Danmarks Nationalbank.

reintroduced in 1996 and have achieved a large volume, particularly within the last five years. In 2003, they were followed by deferred-amortisation loans. Towards the end of 2004, adjustable-rate mortgage-credit loans with capped interest rates for up to 30 years were introduced. Moreover, the banks began to offer a new type of competing mortgage loan against real property as collateral.¹

Today's borrowers are quick to adopt new loan types, cf. Chart 1. Traditional callable fixed-rate bonds still make up a considerable proportion of the total market, but their share has been declining in recent years. On the other hand, the proportion of variable-rate bonds, i.e. adjustable-rate and capped-rate bonds, has risen substantially. Since their introduction in 2003, deferred-amortisation bonds have also gained considerable ground.

From their introduction, the new opportunities offered to borrowers by the mortgage-credit institutes have contributed to higher remortgaging. The wider range of mortgage-credit products available today has also improved borrowers' future remortgaging opportunities. Furthermore, these opportunities have improved both in connection with changes in the level of interest rates and changes in the term structure

¹ For a more detailed review, see Ulrik Knudsen and Michael Sand, Developments in the Danish Bond Market since 1970, Danmarks Nationalbank, *Monetary Review*, 1st Quarter 2004.

THE BALANCE PRINCIPLE

Box 1

Under the Mortgage-Credit Loans and Mortgage-Credit Bonds, etc. Act and the Executive Order on Bonds issued pursuant thereto mortgage-credit institutes must observe a balance principle. The main elements of the balance principle are as follows:

- Mortgage-credit lending shall be financed via the issuance of mortgage-credit bonds and other securities.
- The proceeds from the mortgage-credit bonds and other securities issues shall be used for lending against registered mortgages on real property.

The balance principle sets limits to the size of the margin between incoming payments from borrowers (interest and repayments), financial instruments and surplus funds (see 2(2) of the Executive Order) on the one hand, and outgoing payments to the holders of the mortgage-credit bonds (interest and repayments), other securities and financial instruments on the other hand. In addition, the Executive Order sets limits to the interest-rate risk arising from such imbalances.

Even though a number of technical factors may temporarily lead to deviations from the overall principles, the balance principle entails a narrow correlation between the financial characteristics of the mortgage-credit institutes' lending and issuance of bonds.

of interest rates.¹ Revenue from remortgaging is a substantial element of the mortgage-credit institutes' profits.

CONSEQUENCES FOR THE MORTGAGE-CREDIT INSTITUTES

The structure of the Danish mortgage-credit system, which is based on the balance principle, cf. Box 1, has not impeded the rapid development of a broader range of products for borrowers and an equivalent increase in the number of different Danish mortgage-credit bonds. On the other hand, the development of new products has not changed the fundamental structure of the Danish mortgage-credit system, i.e. the way in which real property is used as collateral, the way in which loans are financed via the issuance of bonds, the close relationship between the borrower's interest and redemption profiles and the characteristics of the equivalent bond series, and the fact that private borrowers can normally finance the purchase of owner-occupied homes at the interest rates prevailing in the capital markets, i.e. that are not determined by the creditworthiness of the borrowers.

¹ Viewed in isolation, capped-rate bonds where the interest rate can fall below the ceiling (capped floaters) will not be subject to remortgaging to the same extent as e.g. traditional fixed-rate loans in the event that interest rates fluctuate around or above the ceiling.

Credit and market risks

There has been no change in the procedure for pledging collateral, or in who incurs *credit risk*. Mortgage-credit borrowing is only possible up to a limit of 80 per cent of the property value (permanent residence), and in some cases the interval of 60-80 per cent of the property value is covered by bank guarantees, which further reduces the mortgage-credit institutes' credit risk. However, some new loan types may entail certain shifts in credit risk; for instance, credit risk is higher for deferred-amortisation loans since repayments are postponed.

The mortgage-credit institutes' *market risk* has not changed significantly in recent years either.¹ The main challenge to the mortgage-credit institutes in terms of hedging changing market risks thus relates to their wish and need to hold working portfolios of the new bond series themselves. Consequently, market risk in relation to Danish mortgage-credit products is still predominantly traded in the market, i.e. between borrowers and investors.

Risks relating to increasing competition

Competition in the mortgage-credit area has not led to increasing price competition, i.e. competition in relation to the costs payable by borrowers to the mortgage-credit institutes. In some cases, the mortgage-credit institutes have even raised contribution rates in connection with the introduction of a new product. Likewise, the fact that the interest payable on the banks' new type of mortgage loans against real property as collateral is sometimes slightly higher has not prevented the widespread use of loans of this type. Table 1 shows that the costs of raising loans are remarkably identical across mortgage-credit institutes.² At the same time, contribution rates have not been falling.

For the mortgage-credit institutes there is, however, a profit risk as a result of the increased product competition. Due to the first-mover effect when new products, including variations of existing products, are introduced, a mortgage-credit institute can win – or lose – market shares in connection with its own or its competitors' introductions of new products. This can contribute to the ongoing development of new products.

Sales and marketing have to a larger extent than previously become a key competitive parameter in Danish mortgage credit. To be able to expand the customer base and business volume, it is essential to have a sales network that can be in close contact with borrowers. The banks' branch networks are important in this respect. Advisory services offered

¹ The introduction of variable-rate loans led to a slight change in market risk due to the change in the structure of borrowers' payments to the mortgage-credit institutes.

² The limited price competition is described in e.g. the report *Konkurrencen på realkreditmarkedet* (Competition in the mortgage-credit market – in Danish only), Danish Competition Authority, 2000.

COSTS ASSOCIATED WITH A 30-YEAR BOND LOAN OF KR. 1 MILLION

Table 1

	BRFkredit	Nordea Kredit	Nykredit	Realkredit Danmark	Totalkredit
1st-year contribution, kroner	5,219	5,419	5,170	5,370	5,170
Effective annual cost ratio, per cent	4.92	4.93	4.93/94	4.96	4.93/94

Source: Association of Danish Mortgage Banks, most recently updated on 13 July 2005.

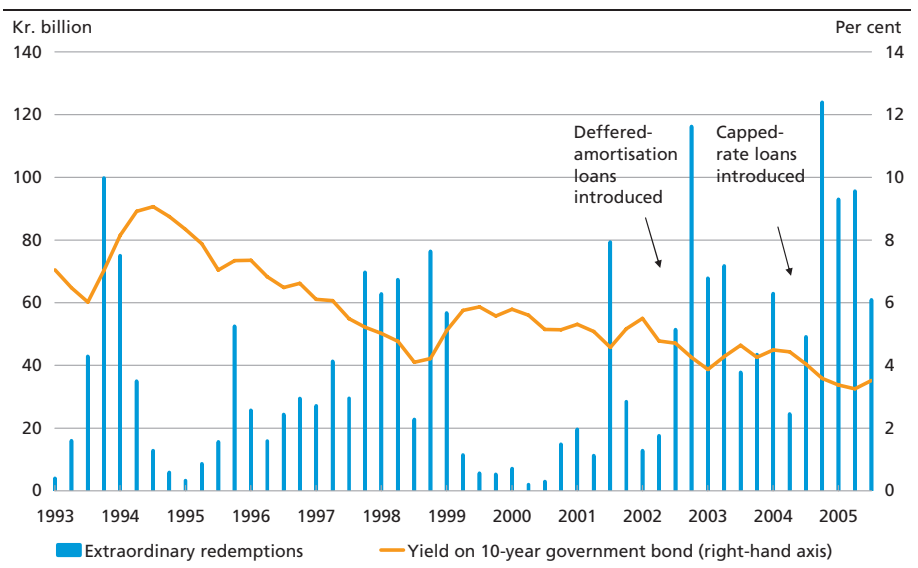
by estate agents also play a role, even though most private customers will probably always consult their own advisors in connection with major mortgage-credit transactions.

The significance of advisory services is likely to increase as the range of mortgage-credit products becomes ever more complex and thereby increasingly difficult for individual borrowers to grasp. Banks with affiliated mortgage-credit institutes have a competitive edge in that they can offer customers complete financial solutions, full-customer concepts, of which home financing is only one – albeit significant – element, and where direct price comparisons between various financial products become more difficult for the individual borrower.

As a result of the more intensive marketing, combined with the development in interest rates and the introduction of new loan types, the average borrower today remortgages more frequently than just a few years ago. The development in remortgaging activity, cf. Chart 2, indicates increased activity immediately after the introduction of new loan types.

EXTRAORDINARY REDEMPTIONS AND THE 10-YEAR YIELD

Chart 2



Source: Copenhagen Stock Exchange.

CONSEQUENCES FOR THE MARKET

Broadly speaking, Danish mortgage-credit bonds can be grouped into three categories: traditional callable mortgage-credit bonds, traditional adjustable-rate mortgage-credit bonds, and capped-rate bonds. Within each category there are a number of variations, e.g. deferred-amortisation bonds and different types of capped-rate bonds. Consequently, the range of bond types is considerably larger than it was 10 years ago. Against this background it is interesting to see whether the larger number of bond series has had or may potentially have consequences for liquidity in the key bond series and in the market as such.

Firstly, liquidity may change as the total issuance is spread across more series. So far the impact of the increased number of bond series has, however, to a large extent been set off by the growth in the total volume of outstanding mortgage-credit bonds resulting from higher housing prices and new construction. Secondly, liquidity may change due to changes in the perception of the Danish mortgage-credit market as a uniform market and to any related consequences for market making in mortgage-credit bonds.

Danish mortgage-credit bonds are still predominantly traded in a telephone-based market.¹ Data is therefore not available for analysis of liquidity indicators such as current bid-ask spreads, market depth at the various spreads and order coverage. However, data is available for one of the key liquidity indicators, i.e. the volume in the various bond series. Table 2 shows the outstanding volume in a number of the largest mortgage-credit bonds.

As can be seen, the outstanding volume in most bonds is considerable. For comparison, Chart 3 illustrates the historical development in the outstanding volumes in the largest callable and uncallable bonds. Although part of the recent decrease is probably attributable to the introduction of new products, the outstanding volume in the largest callable bond at present, 5 per cent 2035, is at the same level as in previous periods. For adjustable-rate bonds, the pattern is even clearer. The current outstanding volume in the largest adjustable-rate bond series was higher in 2005 than in the preceding nine years. Viewed in isolation, the relatively large outstanding volumes in callable fixed-rate bonds and adjustable-rate bonds indicate that so far the development in the mortgage-credit market in recent years does not give rise to concern about reduced liquidity in these bonds.

¹ Only a limited proportion of the total turnover takes place electronically via the Copenhagen Stock Exchange's systems.

OUTSTANDING VOLUMES OF SELECTED MORTGAGE-CREDIT BONDS

Table 2

Kr. million	30 December 2005
Fixed-rate 4% 2035.....	157,369
Fixed-rate 4% 2035 DA	30,750
Fixed-rate 4% 2038	41,009
Fixed-rate 4% 2038 DA	39,938
Fixed-rate 5% 2035	170,652
Fixed-rate 5% 2035 DA	26,308
2% adjustable-rate 1/1/2007	278,852
RD 6% floating-to-fixed 2038 ^{*)}	15,479
RD 6% floating-to-fixed 2038 DA ^{*)}	10,213
Nykredit 6% capped floater 2038 ^{*)}	11,609
RD 5% capped floater 2038 DA ^{*)}	12,238

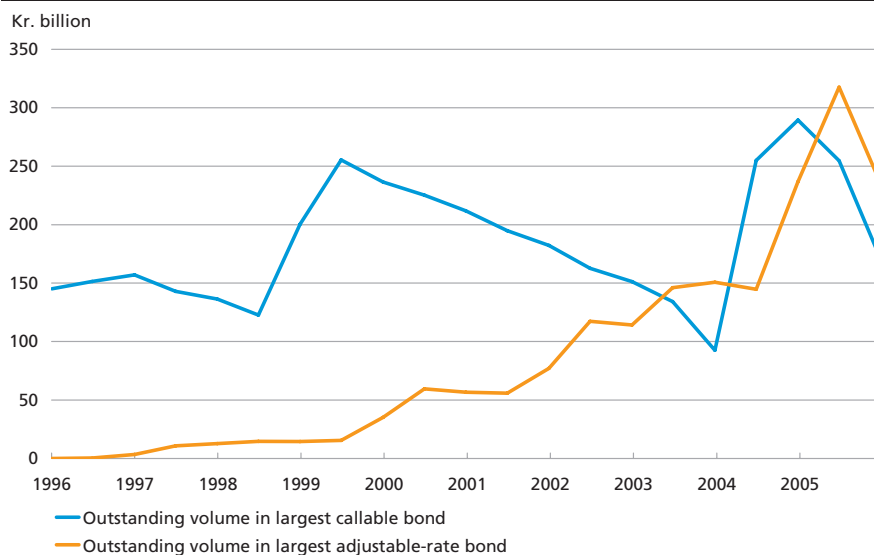
Note: Bonds with deferred amortisation (DA) are the sum of two types of bonds, with and without optional distribution of the deferred-amortisation periods. Outstanding volumes are summed across the following mortgage-credit institutes: BRK Kredit, Realkredit Danmark, DLR Kredit, Nykredit, Totalkredit, Nordea Kredit.

Source: Copenhagen Stock Exchange.

*) Largest outstanding volume of its type.

OUTSTANDING VOLUME IN THE LARGEST CALLABLE BOND AND ADJUSTABLE-RATE BOND

Chart 3



Note: Biannual observations. The callable bonds included in the outstanding volume are 6 per cent 2026 (from end-December 1995 to end-December 1997), 7 per cent 2029 (end-June 1998), 6 per cent 2029 (from end-December 1998 to end-June 2003), 5 per cent 2035 (from end-December 2003 to end-December 2005). The outstanding volumes are from the following mortgage-credit institutes: BRK Kredit, Realkredit Danmark, DLR Kredit, Danske Realkredit (up to and including end-2003), Nykredit, Totalkredit, Nordea Kredit.

The adjustable-rate bonds are all 1-year bonds: 6 per cent 1997 (1996), 6 per cent 1998 (1997), 4 per cent 1999 (1998), 4 per cent 2000 (1999), 4 per cent 2001 (2000), 5 per cent 2002 (2001), 4 per cent 2003 (2002), 4 per cent 2004 (2003), 2 per cent 2005 (end-June 2004), 4 per cent 2004 (end-December 2003), 4 per cent 2005 (2004), 4 per cent 2006 (2005) and 2 per cent 2007 (end-December 2005). The outstanding volumes are from the following mortgage-credit institutes: BRK Kredit, Realkredit Danmark, DLR Kredit, Nykredit, Nordea Kredit.

Source: Copenhagen Stock Exchange.

It is characteristic that these bonds are still traded in a uniform market, i.e. mortgage-credit bonds with a given coupon and maturity are regarded as almost perfect substitutes across issuers, and therefore also in the market maker arrangement that exists for these bonds. The market maker arrangement, whereby a number of securities dealers have committed to quoting current two-way prices within fixed bid-ask spreads for given amounts, greatly supports liquidity in the bonds comprised by the system.

The latest bond types in the Danish mortgage-credit market are not traded in a uniform market in the same way, since these bonds do not have identical characteristics to the same extent as traditional bonds. The outstanding volumes in a number of capped-rate and deferred-amortisation bonds are, moreover, substantially lower than for more traditional bonds, cf. Table 2. However, recently market-making activities have been established in some of the capped-rate and deferred-amortisation bonds, which ensures a certain degree of liquidity in these bond series. Overall, liquidity in the new bond types must be deemed to be lower than in the more traditional bond types.

Liquidity may possibly play a special role when the first deferred-amortisation loans expire if a large proportion of these loans are to be converted into new deferred-amortisation loans. In that case it may potentially be difficult for borrowers to buy the bonds in the market, especially if by that time interest rates have risen.

Differences in liquidity will also be taken into account in investors' assessments of the individual bond series. The borrowers' improved possibilities of remortgaging to other loan types, and their increased inclination to remortgage, even if the gain is small, means that significant changes in the outstanding volume of a given mortgage-credit bond can take place at a faster rate than previously. This applies in connection with fluctuations in interest-rate levels, but also in connection with changes in expectations of future interest rates. Ongoing product development also means that investors should increasingly be aware of event risks, i.e. the introduction of new products leads to increasing remortgaging activity in existing bond series.

At the end of the 3rd quarter of 2005, non-residents owned by and large the same proportion of the 30-year capped-rate products as of total Danish mortgage-credit issues, viz. approximately 14 per cent. So far there are thus no signs of diminished interest on the part of foreign investors. It is assumed that the group of foreign investors in Danish mortgage-credit bonds will continue to mainly comprise sophisticated investors such as large institutional investors and hedge funds. Such investors are normally interested in series with large volumes, e.g. because they generally operate with large transaction amounts.

The Danish mortgage-credit sector must consider whether further product development will eventually result in bond series that are so small that this will jeopardise the hitherto favourable interest-rate terms for Danish mortgage-credit bonds. Should that be the case, the borrowers' costs will increase. Falling liquidity may also be to the detriment of investors, although they receive a certain degree of compensation via higher yields.

CONSEQUENCES FOR BORROWERS

Borrowers, i.e. households and the corporate sector, have more opportunities, but are also faced with greater challenges, as a result of the development in the Danish mortgage-credit market.

In principle, the wider range of loans, including loans with different risk profiles, is an advantage since it give borrowers more freedom of choice and better opportunities to structure portfolios with individual financial risk profiles.

The option to remortgage from fixed-rate to adjustable-rate or deferred-amortisation loans with lower monthly payments can also help to mitigate the financial consequences of social events such as unemployment or a divorce. However, such remortgaging is only possible once.

The increasing complexity of the loan market also presents a number of challenges to borrowers. When purchasing real property and when contemplating whether and when to remortgage or raise a supplementary loan, the borrower must make a number of complex decisions on the basis of an assessment of the general market development: fixed or variable interest rate, capped variable rate, deferred-amortisation periods, mortgage loan, the potential impact of future product innovation on the market, etc. Financial consulting has therefore become important to many borrowers.

Trends in Mortgage-Credit Financing: Household Consumption

Lars Risbjerg, Economics

INTRODUCTION AND SUMMARY

Since the reintroduction of adjustable-rate mortgage-credit loans in 1996, a range of additional products to finance owner-occupied housing has been launched, notably deferred-amortisation loans and the banks' mortgage loans against real property as collateral. This article considers how the development in financing of owner-occupied housing can influence the households' consumption.

The households' interest payments on mortgage-credit loans have been reduced in recent years as adjustable-rate mortgage-credit loans have become more prevalent and interest rates have fallen. Viewed in isolation, this has allowed households to increase their consumption. At the same time, the households' disposable income, and presumably also their consumption, has become more exposed to future fluctuations in interest rates. On average, a rise in short-term interest rates by 1 percentage point increases the interest after tax on adjustable-rate mortgage-credit loans by almost 1 per cent of the homeowners' disposable income.

The development in the financing of owner-occupied housing can also affect private consumption since the introduction of deferred-amortisation loans and the banks' mortgage loans has weakened the link between mortgage-credit financing and subsequent loan repayments. This has made it easier for a household to achieve its preferred savings profile. The introduction of additional products can also strengthen the link between housing wealth and consumption and may lead to larger fluctuations in housing prices and thus to greater cyclical fluctuations than previously seen.

The households' borrowing for other purposes than residential investments has increased recently and is at a high level viewed over a number of years. This indicates that mortgaging of the home for other purposes than housing has been supported by the introduction of additional housing finance products. However, the households' propensity to

consume does not differ from e.g. the level during the upswing in the 1990s.

INTEREST COSTS AND INTEREST EXPOSURE

Today, adjustable-rate mortgage-credit loans make up half of the households'¹ total mortgage debt.

The households' interest payments on mortgage-credit loans have declined in recent years, even though mortgage debt is rising. Viewed in isolation, this has allowed households to increase their consumption. The growing prevalence of adjustable-rate mortgage-credit loans has contributed to reducing the interest costs of mortgage-credit borrowing since fixed long-term mortgage-credit interest rates are normally higher than the more volatile short-term interest rates. Moreover, the rate of interest on adjustable-rate mortgage-credit loans has fallen with the level of interest rates, which has also made it possible to remortgage fixed-rate loans to a lower interest rate.

Interest payments by the households to banks and mortgage-credit institutes totalled kr. 47 billion after tax in 2005, of which interest payments to mortgage-credit institutes accounted for kr. 36 billion, equivalent to 4.6 per cent of disposable income.² For comparison, interest costs on mortgage-credit loans in, respectively, 2003 and 2004 were 5.4 and 5.0 per cent of disposable income. On the other hand, the households' interest income has declined. However, the households only to a limited extent directly own mortgage-credit bonds, while indirect ownership, especially via pension savings, is somewhat higher. The net effect has been falling net interest costs, particularly if pension savings, which cannot be disposed of immediately, are omitted.

The more widespread use of adjustable-rate loans has at the same time made the households' disposable income, and thus presumably also private consumption, more sensitive to future fluctuations in short-term interest rates.³ The households are also exposed to changes in the short-term interest rates via their bank loans, cf. Chart 1.

On a permanent increase in short-term interest rates by 1 percentage point, the households' annual interest costs after tax on their existing adjustable-rate mortgage-credit loans will increase by kr. 4 billion. This is equivalent to 0.6 per cent of the households' disposable income. Home-

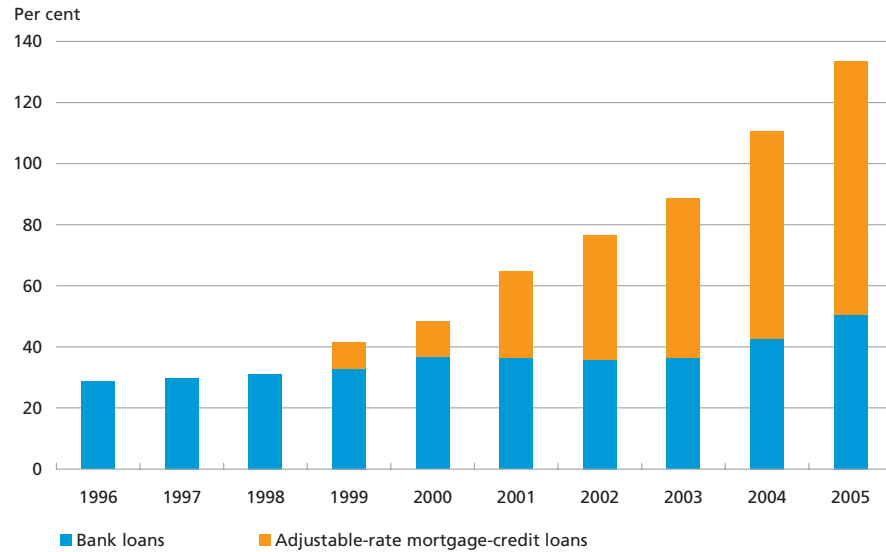
¹ The households include the self-employed.

² Disposable income includes pension contributions. For 2005, the estimate of the disposable income comes from the Ministry of Finance (2005), *Economic Survey*, December.

³ See Anders Møller Christensen and Kristian Kjeldsen (2002), *Adjustable-Rate Mortgages*, Danmarks Nationalbank, *Monetary Review*, 2nd Quarter, for a discussion of the exposure of incomes to adjustable-rate mortgage-credit loans and the monetary-policy aspects thereof.

THE HOUSEHOLDS' BANK LOANS AND ADJUSTABLE-RATE MORTGAGE-CREDIT LOANS AS A RATIO OF DISPOSABLE INCOME

Chart 1



Note: Data for adjustable-rate loans are available from 1999 onwards. The outstanding volume of adjustable-rate loans is partly an estimate on the basis of the distribution of mortgage-credit loans on property categories and loan types.

Source: Association of Danish Mortgage Banks, Statistics Denmark, Ministry of Finance and Danmarks Nationalbank.

owners' income constitutes an estimated two thirds of the households' total income after tax. So the increase in interest costs is equivalent to almost 1 per cent of the homeowners' disposable income.¹

However, an increase in interest rates will also entail higher interest income from the households' investments in variable-rate assets, cf. above, and it takes some time for an increase in interest rates to pass through to all adjustable-rate mortgage-credit loans. Around 29 per cent of the total outstanding volume of adjustable-rate mortgage-credit loans is subject to adjustment after more than 1 year. In addition, the interest rates on some of the adjustable-rate mortgage-credit loans are capped, which protects borrowers against large interest-rate increases. Capped mortgage-credit bonds constitute around 26 per cent of total outstanding adjustable-rate mortgage-credit loans. For adjustable-rate mortgage-credit annuity loans subject to ongoing repayment, the near-term repayments are reduced if interest rates rise. For deferred-amortisation adjustable-rate loans, an increase in interest rates has a full impact on debt service payments.

¹ This estimate of the homeowners' average interest-rate exposure by and large corresponds to the estimate in Danmarks Nationalbank (2005), *Financial Stability*, where the calculations are based on information from Nykredit's customer database.

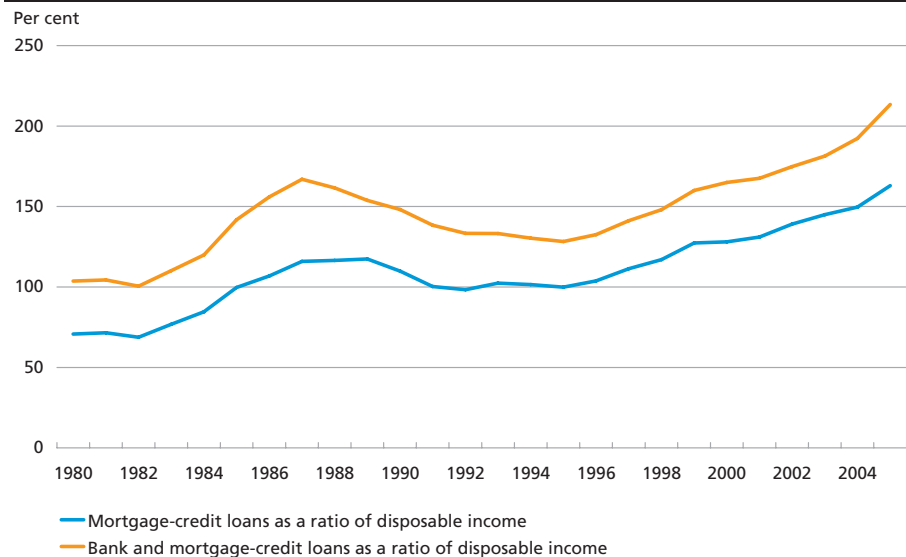
MORTGAGE-CREDIT BORROWING AND MORTGAGING OF HOUSING WEALTH

Private consumption tends to reflect the development in the households' wealth, which notably comprises housing wealth. By accumulating and spending wealth, the households can achieve an intertemporal reallocation of consumption compared to income. For instance, if the households' wealth increases, they can realise some of the increase as consumption today. In addition to the wealth effect, housing wealth can be used as collateral in order to borrow for consumption purposes. Rising housing prices can underpin consumption by increasing mortgageable values and alleviating credit restrictions.

The households' mortgage-credit loans and total borrowing from banks and mortgage-credit institutes as a ratio of their disposable income has more than doubled in the last 25 years, cf. Chart 2. The increase is primarily related to falling interest rates and rising housing prices, but also to the liberalisation of mortgage credit.

The development in home financing has made it gradually easier to mortgage the home for other purposes than housing. For example, loans with deferred amortisation, which were introduced in 2003, have led to greater separation of decisions concerning, respectively, mortgage-credit financing and savings. To the extent that the households have had limited access to liquidity, this may have contributed to increased borrowing and consumption.

THE HOUSEHOLDS' BANK AND MORTGAGE-CREDIT LOANS Chart 2



Source: Statistics Denmark, Ministry of Finance and Danmarks Nationalbank.

Deferred-amortisation loans constitute around 30 per cent of lending by the mortgage-credit institutes to the households. Homeowners' total ordinary repayments as a ratio of their outstanding mortgage debt has thus declined after the introduction of deferred-amortisation loans. In nominal terms, total ordinary repayments by homeowners are, however, by and large unchanged because the households have increased their mortgage debt. Ordinary repayments on loans for owner-occupied housing and holiday cottages totalled kr. 19 billion in 2005. For the individual homeowner, the opportunity to separate borrowing and savings decisions entails a risk of short-term focus on the first-year payments on the mortgage-credit loan, without adequately taking the consequences of lower savings for future consumption possibilities into account.

The banks' mortgage loans function as overdraft facilities against the home as collateral and are thus a mortgage-credit-type product. These loans also make it possible to postpone repayments on the debt.

In a European context, Denmark has a well-developed mortgage-credit market in terms of remortgaging opportunities and supplementary mortgage credit, as well as its range of mortgage-credit products, e.g. various types of interest-rate adjustment and repayment profiles.¹ Empirical studies indicate that a well-developed mortgage-credit market with good opportunities for borrowing against the free mortgageable value of owner-occupied housing increases mortgage debt and strengthens the relation between consumption and housing wealth.² The relation between housing prices and the consumption ratio is illustrated in Chart 3.

Just as new home financing products can influence consumption demand, they can also influence housing demand and housing prices, which in turn may affect consumption.³ Moreover, there are indications that housing prices – and thus housing wealth – are more volatile in countries where variable-rate housing loans are most prevalent than in countries with predominantly fixed-rate housing loans. Likewise, the impact of short-term interest rates on housing prices tends to be greater.⁴ Consequently, the development of new products may entail larger

¹ Cf. Mercer Oliver Wyman (2003), *Study on the financial integration of European mortgage markets*, European Mortgage Market Federation.

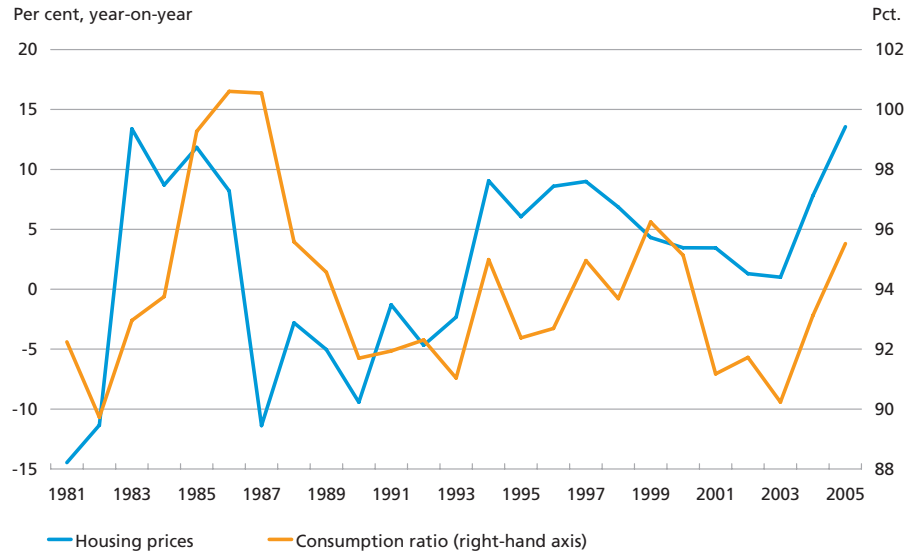
² Pietro Catte, Nathalie Girouard, Robert Price and Christopher André (2004), Housing markets, wealth and the business cycle, *OECD Economics Department Working Papers* No. 394, and Jenny Osborne (2005), Housing in the euro area – Twelve markets, one money, Central Bank & Financial Services Authority of Ireland, *Quarterly Bulletin*, 4. See also Nils Bernstein (2005), Speech at the Annual Meeting of the Danish Bankers Association, 30 November, p. 103 for the significance of the structure of the financial sector to the households' borrowing.

³ See Erik Haller Pedersen (2004), The Development in Cash Prices of Owner-Occupied Housing, Danmarks Nationalbank, *Monetary Review*, 1st Quarter, for an assessment of the impact of adjustable-rate mortgage-credit loans on housing prices.

⁴ Cf. IMF (2004), *World Economic Outlook*, September, and Kostas Tsatsaronis and Haibin Zhu (2004), What drives housing price dynamics: cross-country evidence, *BIS Quarterly Review*, March. Volatility in short-term Danish interest rates has been relatively low in recent years.

INCREASE IN REAL HOUSING PRICES AND CONSUMPTION RATIO

Chart 3



Note: Housing prices are deflated by the index of consumer prices.
 Source: Statistics Denmark and Ministry of Finance.

fluctuations in housing prices, and thereby greater cyclical fluctuations, than previously, if housing wealth is significant to private consumption and residential investments.¹

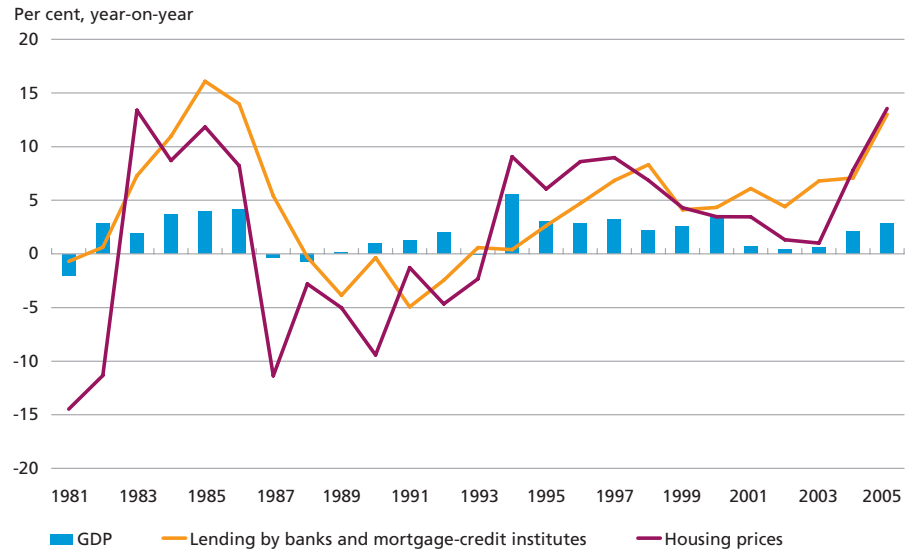
Borrowing by the households and housing prices are typically procyclical, cf. Chart 4. For instance, if housing prices flatten or decrease during a cyclical slowdown, the households often reduce their borrowing against the home as collateral. This can reduce consumption demand and amplify the cyclical fluctuations. Mortgaging of housing wealth for other purposes than housing (mortgage equity withdrawal, cf. below) and the risk that the contribution to economic growth from borrowing is eliminated or changes sign has attracted much attention in a number of countries in recent years.

This applies particularly in the USA, where borrowing against the home as collateral has increased in connection with rising housing prices.²

¹ The more widespread use of adjustable-rate loans is also of significance to the impact of long-term interest rates on homeowners' wealth. An increase in long-term interest rates will have a stronger effect on net housing wealth (the cash value of the property less the cash value of the debt) if the home is financed via an adjustable-rate mortgage-credit loan rather than a fixed-rate loan. This is due to the fact that for fixed-rate loans the market value of the debt falls, thereby counteracting the decline in the property value in connection with an increase in interest rates, while the market value of an adjustable-rate mortgage-credit loan remains virtually unchanged.

² Cf. e.g. Alan Greenspan (2005), *Mortgage banking*, speech to the American Bankers Association Annual Convention, Palm Desert, California, 26 September, and Margaret M. McConnell, Richard W. Peach and Alex Al-Haschimi (2003), *After the refinancing boom. Will consumers scale back their spending?*, Federal Reserve Bank of New York, *Current Issues in Economics and Finance*, Volume 9, Number 12, December.

REAL GROWTH IN LENDING TO HOUSEHOLDS, GDP AND HOUSING PRICES Chart 4



Note: Lending and housing prices are deflated by the consumer price index.
 Source: Statistics Denmark, Ministry of Finance and Danmarks Nationalbank.

Mortgage equity withdrawal and consumption

One way of finding out how mortgage-credit borrowing affects private consumption is to ask homeowners. In connection with remortgaging, homeowners were interviewed about their increased mortgage-credit borrowing and how the proceeds are used, cf. Box 1. According to these

REMORTGAGING AND CONSUMPTION	Box 1
<p>On behalf of the Association of Danish Mortgage Banks, Vilstrup Univero conducted an interview survey of homeowners' remortgaging.¹ According to the survey, homeowners increased their mortgage-credit loans in connection with remortgaging by respectively kr. 30 and 31 billion in 2003 and 2004. For 2004, this was equivalent to 57 per cent of the total (net) increase in outstanding mortgage-credit loans for owner-occupied housing and holiday cottages.</p> <p>In 2004, homeowners used 59 per cent of the cash proceeds for residential investments and 19 per cent for consumption, while 20 per cent was used for savings, investments and debt reduction. Some of the residential investments may, however, be stated as maintenance in the national accounts and consequently registered as consumption. Total expenditure on consumption and residential investments in connection with remortgaging of mortgage-credit loans comprised 3 per cent of disposable income.</p> <p>Gross annual payments were reduced by kr. 4.8 billion in connection with the remortgaging, of which 35 per cent was used for consumption and 21 per cent for residential investments.</p>	

¹ Cf. Vilstrup Univero (2003) and (2005), *Anvendelse af konverteringsgevinster* (Use of remortgaging gains – in Danish only), Association of Danish Mortgage Banks.

surveys, in 2004 homeowners primarily used the additional mortgage credit for residential investments, while a small proportion was used to increase consumption. These results should, however, be interpreted with caution since the households' demand in the absence of remortgaging is not known. In addition, it is difficult to draw any conclusions about trends as surveys are only available from two years.

An alternative approach to assessing the significance of mortgage-credit borrowing to consumption is to consider mortgage equity withdrawal, defined as the households' mortgage-credit borrowing less residential investments.¹ Mortgage equity withdrawal is an expression of the homeowners' dissaving in their home that is used for consumption, but also to reduce other debt and acquire financial assets.² Homeowners' supplementary borrowing, e.g. in connection with remortgaging, is a source of the households' borrowing and mortgage equity withdrawal, which also arise in connection with purchase and sale of homes, cf. Box 2.

Substitution between bank and mortgage-credit loans takes place on an ongoing basis. In addition to mortgage credit, the households raise bank loans against the home as collateral. Most of the growth in the banks' lending in recent years relates to lending for housing purposes, including banks' mortgage loans.³ Mortgage equity withdrawal, both including and excluding bank loans, increased in 2005, cf. Chart 5. It is difficult to state whether the recent increase is a result of product development in the mortgage-credit sector, or of housing prices and cyclical factors. If mortgage equity withdrawal has risen to a higher level than previously, this could indicate that the introduction of additional products has had an effect. Mortgage equity withdrawal is now somewhat above the level towards the end of the upswing in the 1990s, particularly if bank lending is included. The households' total borrowing from banks and mortgage-credit institutes, which can be used for consumption and net financial savings, has reached the same level as during the boom in the mid-1980s.

A proportion of the most recent increase in mortgage equity withdrawal presumably reflects supplementary borrowing in connection with the increasing remortgaging activity. The introduction of new house financing products may have stimulated remortgaging activity. In the early 1990s, mortgage-credit borrowing and mortgage equity withdrawal were also underpinned by the development in mortgage-credit

¹ In the national accounts, improvements and refurbishment are included under residential investments together with new construction, while ongoing repairs and maintenance are stated as consumption.

² The households, which include the self-employed, can also make other real investments than residential investments, which, however, constitute by far the greater part of the households' total real investments. A proportion of the borrowing is also used to cover capital losses and costs in relation to raising mortgage-credit loans.

³ Bank lending for housing purposes comprises loans against real property as collateral, but can also include loans without real property as collateral.

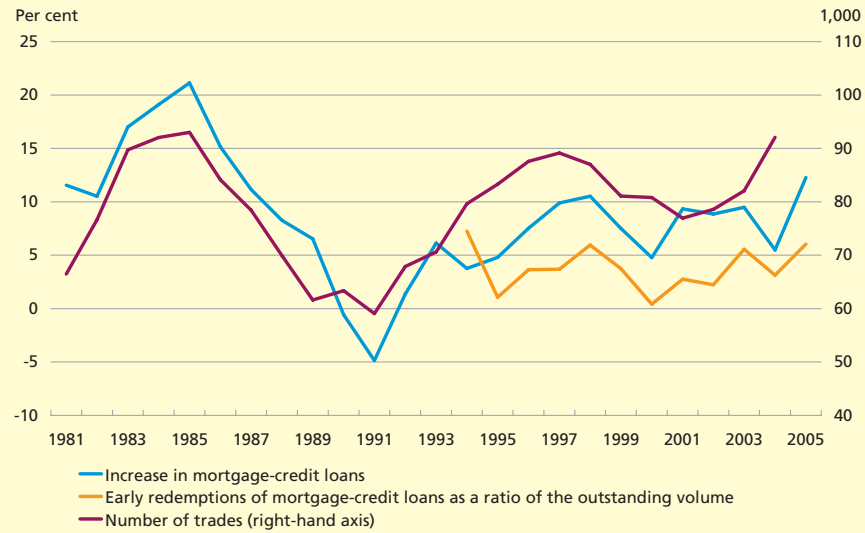
THE HOUSEHOLDS' MORTGAGE-CREDIT BORROWING

Box 2

The households can often raise supplementary mortgage credit in connection with remortgaging. The turnover of housing may also increase the overall mortgage-credit borrowing by the households, since the seller's outstanding mortgage debt is typically lower than the buyer's new mortgage-credit loan. This effect is underpinned by price increases in the housing market. Consequently, the households' mortgage-credit borrowing reflects both the turnover in the housing market and early redemptions. The latter arise both in connection with remortgaging, and when properties are bought and sold, cf. the Chart below.

Presumably any effects of new products on borrowing and private consumption can primarily be identified in connection with remortgaging and other supplementary borrowing. In a statistical context, the sources of borrowing and mortgage equity withdrawal are not directly identifiable.

MORTGAGE-CREDIT BORROWING, EARLY REDEMPTIONS AND TURNOVER OF HOUSING



Note: Early redemptions are 4-quarter averages, and the first observation is from 1994. The number of trades relates to trades within one year, and the most recent observation is from 2004.

Source: Statistics Denmark, Ministry of Finance, Copenhagen Stock Exchange and Danmarks Nationalbank.

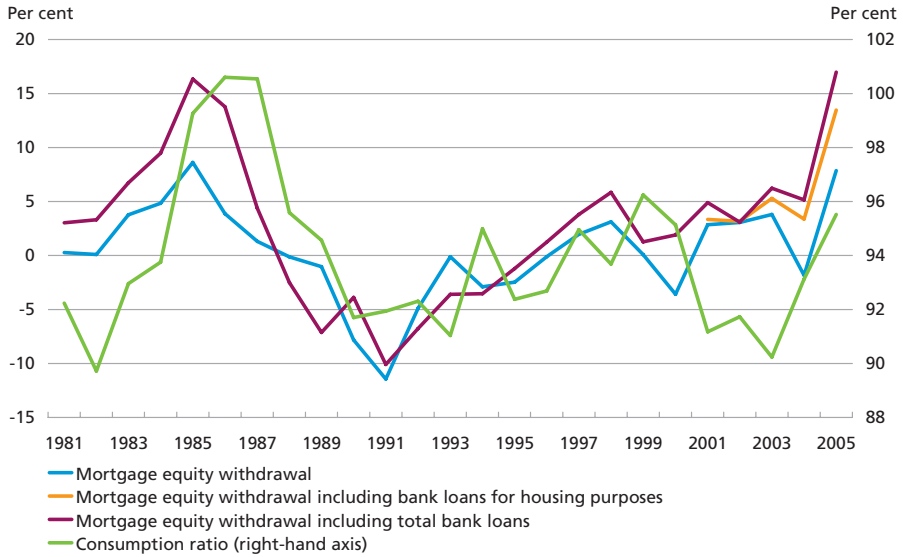
financing. In 1992 the opportunities to raise supplementary mortgage credit were enhanced. From 1993, it was no longer compulsory to use "mixed loans" for home financing, and 30-year annuity loans were reintroduced, leading to a wave of remortgaging when interest rates subsequently fell.¹

To what extent has mortgage equity withdrawal been used for consumption? In connection with rising housing prices and housing wealth

¹ See Jens Verner Andersen, Hanne Lyngesen and Erik Haller Pedersen (1999), Credit Expansion During Two Booms, Danmarks Nationalbank, *Monetary Review*, 2nd Quarter, for a description of credit expansion during the upswing in the 1990s.

CONSUMPTION RATIO AND MORTGAGE EQUITY WITHDRAWAL AS A RATIO OF DISPOSABLE INCOME

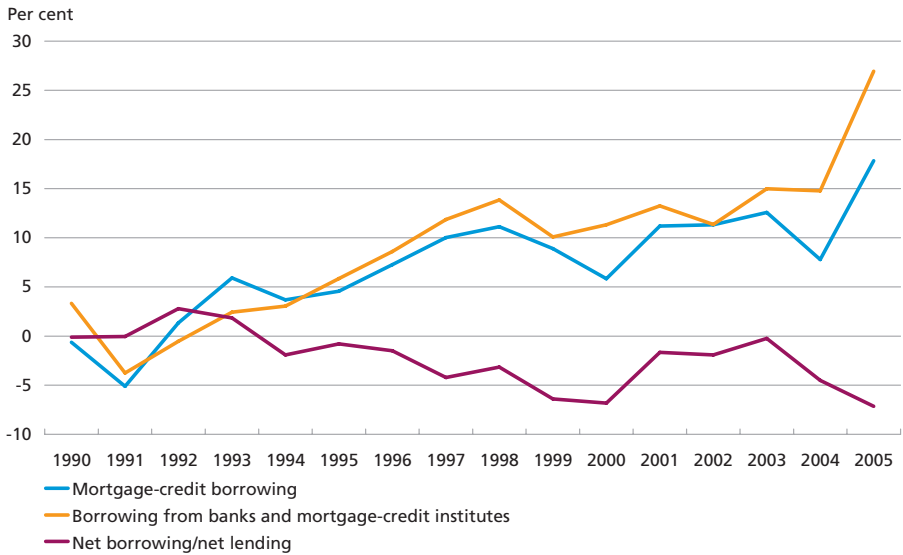
Chart 5



Note: Statistics for bank loans for housing purposes are available from mid-2000.
 Source: Statistics Denmark and Danmarks Nationalbank.

BORROWING BY HOUSEHOLDS AND NET BORROWING/NET LENDING AS A RATIO OF DISPOSABLE INCOME

Chart 6



Note: The households' net borrowing/net lending is their gross savings less residential investments and other real investments. Net capital transfers to the households are added.
 Source: Statistics Denmark, Danmarks Nationalbank and the Ministry of Finance.

the consumption ratio has increased during the current upswing. However, the consumption ratio does not differ from the level towards the end of the upswing in the 1990s. As was the case during the upturn in the 1990s, the households' financial savings surplus (net borrowing/net lending) has been reduced during the upswing that began in 2003, cf. Chart 6. However, the households' financial savings deficit is smaller than their borrowing from banks and mortgage-credit institutes since the households taken as one have invested part of the mortgage equity withdrawal in financial assets, e.g. via pension contributions. The increase in the households' pension wealth (including capital gains) since the end of 1998 by and large corresponds to the growth in their loans from banks and mortgage-credit institutes. At the same time, the households' net wealth has been increasing in recent years. The accumulation of wealth has been driven primarily by capital gains on housing and shares. Viewed in isolation, this has improved the households' future consumption possibilities. Analyses of financial stability also indicate that in general the households are well-consolidated.¹

¹ Cf. Danmarks Nationalbank (2005), *Financial Stability*.

Foreign Banks in Denmark

Jakob Windfeld Lund, Financial Markets, and Kristine Rasmussen, Statistics

INTRODUCTION AND SUMMARY

Like other sectors, the banking sector¹ is affected by globalisation and consolidation, with consequences for market shares and concentration. Cooperation within the EU has created the ground rules for the single market for financial services, and banks (particularly in the Nordic region) have increasingly utilised the opportunities for cross-border banking activities. It is difficult to obtain a full picture of foreign² banks' activities in Denmark, since activities vary considerably across customer groups and market segments. This article draws on various data sources to illustrate developments from several angles.

Overall, the banking sector in Denmark, as in several other small EU member states, is characterised by (i) a high concentration of market shares, and (ii) a significant presence of foreign banks. The balance sheets of foreign banks in Denmark have increased in recent years, while their market share has declined. Retail banking, i.e. deposits and lending, is dominated by Nordic banks, while non-Nordic banks' branches and subsidiaries in Denmark are of limited size. On the other hand, non-Nordic banks account for larger shares of cross-border lending to Danish customers and capital-market issues by Danish companies.

In the article, the concentration in the Danish banking sector is first measured on the basis of balance-sheet data³. Then the regulatory framework for and the scope of foreign banks' activities in Denmark are outlined. As a new feature, balance-sheet data is split into Danish and foreign banks in order to illustrate the size and structure of the balance sheets, as well as market shares. Supplementary data from alternative sources is used to investigate foreign banks' role in connection with cross-border lending and financial-market activities with Danish customers.

¹ In this article, the terms "banking sector" and "banks" are used both in a general sense and more specifically for the banking sector and banks (excluding mortgage-credit institutes) in Denmark.

² In this article, "foreign" means under foreign ownership.

³ In this article, "balance-sheet data" refers to the banks' reporting for Danmarks Nationalbank's Statistics on the balance sheets and flows of the MFI (Monetary Financial Institution) sector and does not include data for mortgage-credit institutes, other credit institutions, money-market funds and Danmarks Nationalbank.

CONCENTRATION OF MARKET SHARES

An analysis of market shares can contribute to assessing competition and stability in the Danish banking sector. The statistical returns and market

CONCENTRATION MEASURES

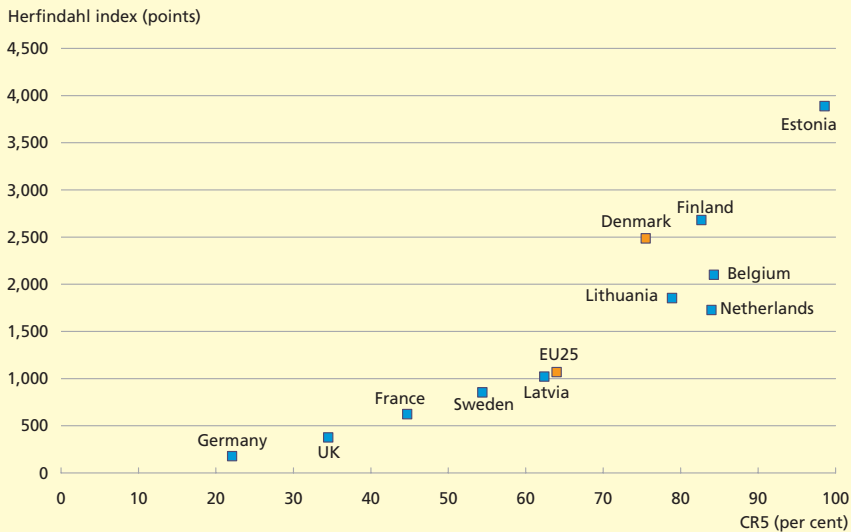
Boks 1

Concentration measures are used as a statistical indicator of the concentration of market shares within specific sectors, industries or areas/regions. Two well-known concentration measures are CR5 (Top-5 Concentration Ratio) and the Herfindahl index. CR5 is the sum of the market shares of the five largest banks. The *Herfindahl index* is defined as the sum of individual banks' squared market shares. The index is dependent on the number of banks, as well as differences in market shares. Increases in the value of both indices indicate a higher concentration. A market with a Herfindahl index of more than 1,800 is regarded as having a high concentration.¹

Compared with most other EU member states, the Danish banking sector appears to have a relatively high degree of concentration in terms of both the Herfindahl index and CR5, although the concentration in an international perspective is less pronounced when measured by CR5, cf. Chart A. The relatively high values of the concentration measures for the Danish banking sector do not in themselves say anything about competition, since competition from outside and the tendency for a higher concentration in small countries are not taken into account.

CONCENTRATION MEASURES IN SELECTED EU MEMBER STATES, END-2004

Chart A



Note: The calculation of the concentration measures does not include netting of group accounts. The measures shown for Denmark comprise banks only (not mortgage-credit institutes and other credit institutions), thereby eliminating the consolidation problem between banks and mortgage-credit institutes within the same group. The figures for Denmark are therefore not directly comparable with data in the article *Financial Groups and Conglomerates*, p. 61. The value for EU25 is the median value.

Source: Danmarks Nationalbank, ECB (2005c) and own calculations.

¹ This threshold value is applied by e.g. the Danish Competition Authority (www.ks.dk).

shares of individual banks cannot be published, but in Box 1 two summary statistical measures of the concentration of market shares are calculated. These concentration measures show a higher concentration in the banking sector in Denmark than in many other EU member states.

The concentration may have implications for financial stability. A highly concentrated banking system may be more vulnerable to systemic crises since, all other things being equal, banks with substantial market shares present a greater risk of contagion, both via the interbank market¹ and via macroeconomic feedback effects. In a financial system with a high concentration of market shares it is therefore particularly important that banks with large market shares are sufficiently robust to withstand potential shocks.

LEGAL FRAMEWORK FOR FOREIGN BANKS

Under the existing legal framework² foreign banks have several options with regard to serving Danish customers, cf. Chart 1.

From the late 1980s, cross-border banking activities – arrow (A) in Chart 1 – were made considerably easier by the liberalisation of capital flows. Both cross-border operations and establishment of local branches – arrow (B) in Chart 1 – were simplified with the adoption of the EU's second banking coordination directive³ in 1989, so that notification of the host country supervisory authority was all that was required. For the sake of completeness, arrow (C) in Chart 1 shows that foreign banks can serve the foreign entities or projects of internationally active Danish customers directly, possibly with guarantees from the Danish customers. Danmarks Nationalbank's balance-sheet data for banks in Denmark (described below) covers arrow (B), while BIS international banking data (described in Box 2) seeks to cover (A), (B) and (C).

At the end of 2005, there were 9 foreign banking subsidiaries and 26 branches of foreign banks in Denmark, while 271 foreign credit institutions had notified the Danish Financial Supervisory Authority that they wished to conduct cross-border banking activities.

The largest foreign bank in Denmark is Nordea, which operates as a banking subsidiary, but plans to convert its Danish subsidiary into a branch of a European company domiciled in Sweden and supervised by Finansinspektionen (the Swedish Financial Supervisory Authority). Nordea is an example of how the largest market shares of foreign banks

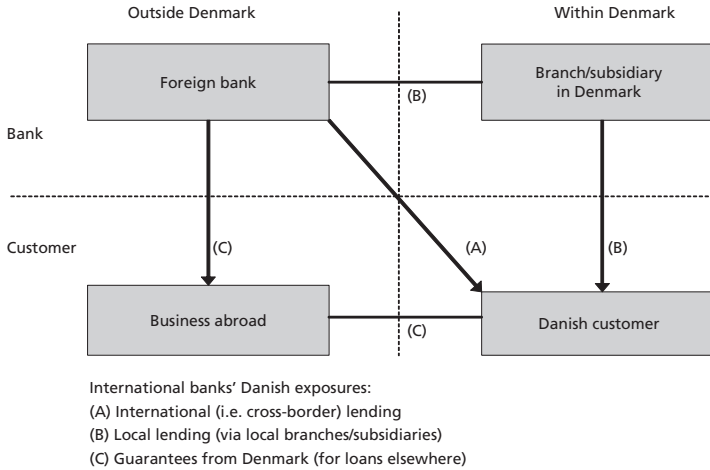
¹ Contagion risk in the Danish uncollateralised overnight interbank market is analysed in Amundsen and Arnt (2005).

² Cf. Danmarks Nationalbank (2004).

³ Directive 89/646/EEC.

SERVICING OF DANISH CUSTOMERS BY FOREIGN BANKS

Chart 1



in Denmark have been acquired via mergers or acquisitions, and not from organic growth via new branches or subsidiaries.

By far the majority of foreign banks in Denmark have a parent company in another Nordic country. A logical explanation for the Nordic dominance is that the Nordic region is relatively homogenous in terms of culture, languages, legislation, traditions and product range. Consequently, it can often be easier for a Nordic bank to set up in Denmark with a view to offering standard banking services such as deposits and lending than for a non-Nordic bank. At the end of 2005, Nordic banks accounted for approximately 84¹ per cent of foreign banks' total assets with Danish counterparties.

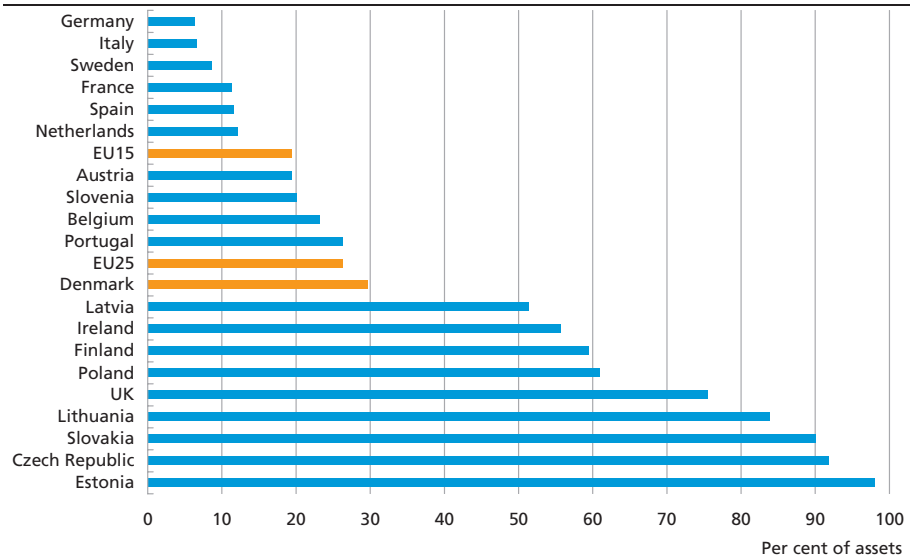
BALANCE-SHEET STRUCTURE AND MARKET SHARES

The market share of foreign banks is larger in Denmark than in most of the other EU15 member states, cf. Chart 2. The 10 new EU member states are generally characterised by a significantly higher degree of foreign ownership than EU15, but with considerable variations. In Estonia, the Czech Republic and Slovakia, foreign banks had market shares exceeding 90 per cent at the end of 2004, while the equivalent figure for Slovenia was only 20 per cent. The extensive foreign ownership which is characteristic of many of the new EU member states arose in the wake of the privatisation of previously state-owned enterprises². The large market share of foreign banks in the UK among other factors reflects London's role as an

¹ Calculated on the basis of the monthly reporting by banks to Danmarks Nationalbank's Statistics on the balance sheets and flows of the MFI sector. For more details about these statistics, see www.nationalbanken.dk or Danmarks Nationalbank (2003).
² ECB (2005a).

MARKET SHARES OF FOREIGN BANKS, END-2004

Chart 2



Note: Data comprises transactions with both domestic and foreign counterparties. The values shown for EU15 and EU25 are median values.

Source: Danmarks Nationalbank, ECB (2005c) and own calculations.

international financial centre. Other examples of financial integration in the retail market – e.g. between the Benelux countries – have not resulted in market shares for foreign banks that are quite as high.

The integration of the retail markets in the EU is still limited, while the interbank markets (measured as cross-border lending between financial institutions) show signs of increasing integration – particularly among the euro-area member states.¹ The relatively limited integration of the retail markets is attributable to differences in taxation, languages, traditions, product ranges, competition, legislation and consumer protection, which can act as barriers to banks operating outside their home country.² It is particularly difficult for foreign banks to gain a foothold in the household market segment, since households request fewer internationally standardised services than large business enterprises.

Size and structure of balance sheets

Danmarks Nationalbank's balance-sheet data can illustrate the balance-sheet structure and market shares of foreign banks³ in the Danish bank-

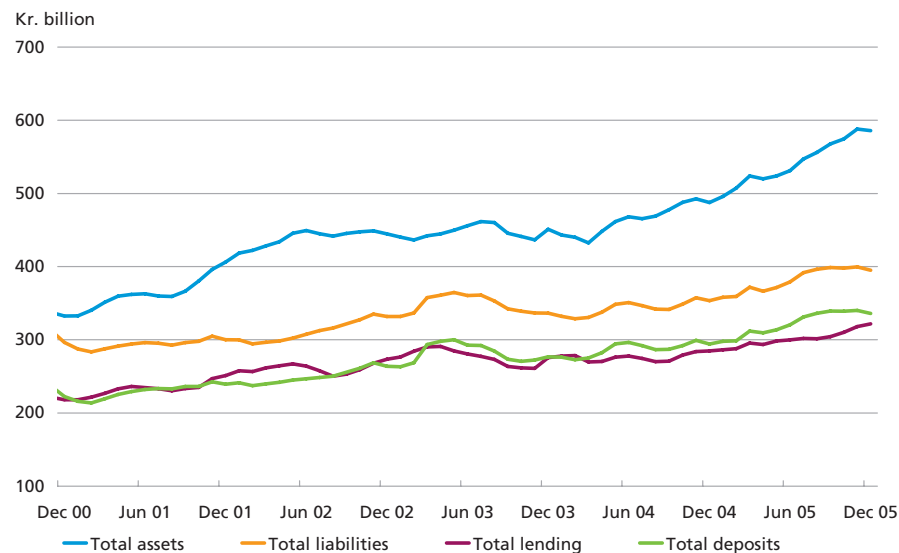
¹ ECB (2005b).

² ECB (2005c).

³ The population of foreign banks in the Statistics on the balance sheets and flows of the MFI sector varies over time, but in the period from 2000 to 2005 it has included ABN AMRO Bank, Alfred Berg Bank, Carnegie Bank, Citibank, Dexia Bank Denmark, DnB NOR Bank, Eik Bank, E*TRADE Bank, FIH Erhvervsbank (classified as a bank throughout the period), Forex Bank, FöreningsSparbanken København, Gudme Raaschou Bank, Handelsbanken, HSH Nordbank, Nordea Bank Danmark, Skandia-banken and Skandinaviska Enskilda Banken (branch and subsidiary).

BALANCE SHEETS OF FOREIGN BANKS, SELECTED ITEMS

Chart 3



Note: 3-month moving averages. Data comprises transactions with Danish counterparties.

Source: Danmarks Nationalbank and own calculations.

ing sector. In the last five years, foreign banks have increased both their assets and liabilities with Danish counterparties. Deposits and lending, which constitute the largest part of the balance sheet, have also been increasing in this period, cf. Chart 3.

Tables 1 and 2 show the development in selected balance-sheet items in the period 2000-05, split into Danish and foreign banks in Denmark. Table 1 states the balance-sheet items in billion kroner, while Table 2 presents the balance-sheet structure, i.e. the individual items as ratios of total assets/liabilities.¹

Foreign banks with branches or subsidiaries in Denmark had total assets of kr. 600 billion at end-2005, while their total liabilities were approximately kr. 400 billion, cf. Table 1. The total volume of business with customers in Denmark is, however, greater since the international banking statistics from BIS as of mid-2005 show total outstandings with Danish counterparties of kr. 1,770 billion. The difference between the two data sources reflects primarily that balance-sheet data in Table 1 includes data for the balance sheets of banks within Denmark only, while the BIS statistics comprise activities registered both within and outside Denmark's borders. Box 2 provides a more detailed comparison of the two data sources.

¹ From mid-2006, tables for the development in the balance sheets of foreign banks will be included as a regular element of the Tables supplement in the Statistics on the balance sheets and flows of the MFI sector.

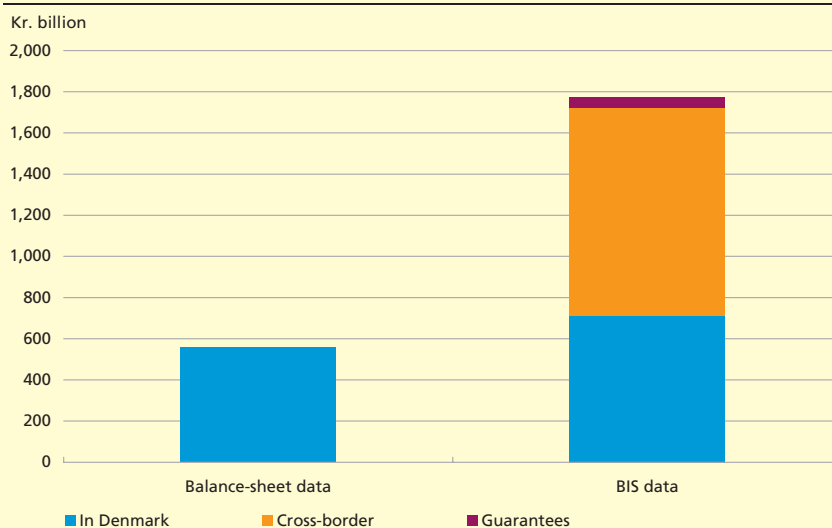
BIS INTERNATIONAL BANKING DATA

Box 2

The consolidated banking data of BIS¹ (Bank for International Settlements) is based on reporting from 30 countries of their banks' total claims on customers in other countries. Compared with the ECB's harmonised MFI balance-sheet statistics², the BIS data includes differences in coverage and methods between the reporting countries and statistical breaks over time. The BIS data provides a supplementary picture of foreign banks' total Danish claims, broken down (as shown in Chart 1) by (A) cross-border claims, (B) local office (branches/subsidiaries) claims, and (C) net guarantees. In Chart B these items are compared with balance-sheet data that solely cover (B) branches/subsidiaries in Denmark. In June 2005, the total Danish claims of international banks were kr. 1,770 billion, i.e. far more than the assets in local branches and subsidiaries.³

FOREIGN BANKS' CLAIMS ON DANISH COUNTERPARTIES

Chart B



The cross-border claims have a somewhat different profile from the balance-sheet structure of local subsidiaries and branches in Denmark, cf. Table 2. There are more claims on banks, constituting 59 per cent of the cross-border claims, and more claims with a maturity of one year or less. This sector and maturity profile is not unusual compared with BIS data for other countries. While balance-sheet data for foreign banks in Denmark is dominated by Nordic banks, cf. Table 3, BIS data for foreign banks' cross-border claims on Danish counterparties shows a lower relative market share for Swedish banks (50 per cent) and higher market shares for banks from e.g. Germany (12 per cent) and the USA (5 per cent).

¹ For a more detailed description of the BIS data, see McGuire and Wooldridge (2005).

² For a more detailed description of the balance-sheet statistics for the MFI sector, see www.nationalbanken.dk or Danmarks Nationalbank (2003).

³ The difference of approximately kr. 100 billion between balance-sheet data and BIS data for branches and subsidiaries in Denmark is to some extent attributable to methodology and population differences. The balance-sheet data used here cover banks only, while the BIS data may also cover mortgage-credit institutes and other credit institutions, but solely from BIS-reporting countries and not from e.g. Iceland.

BALANCE-SHEET STRUCTURE IN KR. BILLION FOR THE DANISH BANKING SECTOR – ALL BANKS, DANISH BANKS AND FOREIGN BANKS

Table 1

Kr. billion		Selected assets					
		Lending	Lending to MFIs ¹	Lending excluding MFIs ¹	Bonds	Shares	Danish assets, total
All banks	2000	690	121	569	259	76	1,106
	2001	751	114	637	389	70	1,299
	2002	799	152	647	468	71	1,443
	2003	795	132	663	555	83	1,510
	2004	860	106	755	556	88	1,583
	2005	1,095	175	920	615	103	1,906
Danish banks	2000	471	81	389	191	61	781
	2001	501	71	429	266	54	886
	2002	518	80	438	358	58	1,001
	2003	494	51	443	412	65	1,033
	2004	576	57	518	385	70	1,097
	2005	763	115	648	403	82	1,319
Foreign banks	2000	219	39	180	68	16	325
	2001	250	43	207	122	16	413
	2002	281	73	209	109	13	442
	2003	302	81	220	143	18	477
	2004	285	48	236	170	18	486
	2005	332	60	272	212	21	586

Kr. billion		Selected liabilities				
		Deposits	Deposits from MFIs ¹	Deposits excluding MFIs ¹	Capital and reserves	Danish liabilities, total
All banks	2000	787	175	612	151	1,048
	2001	873	230	643	153	1,223
	2002	933	257	676	161	1,218
	2003	965	254	711	171	1,244
	2004	1,027	239	788	173	1,328
	2005	1,238	324	914	211	1,552
Danish banks	2000	575	122	453	117	766
	2001	634	158	476	120	827
	2002	679	178	502	126	892
	2003	678	154	524	138	900
	2004	741	167	574	139	984
	2005	895	224	671	158	1,154
Foreign banks	2000	212	54	159	34	282
	2001	239	72	167	33	296
	2002	254	79	175	35	326
	2003	286	100	187	33	344
	2004	286	72	214	34	344
	2005	343	99	244	53	399

Note: The assets and liabilities sides do not balance because the amounts stated solely comprise transactions with Danish counterparties. The difference between the asset and liabilities sides of the Danish balance sheets constitutes the banks' net external positions. Data at the close of the year in question.

Source: Danmarks Nationalbank and own calculations.

¹ The term MFI (Monetary Financial Institution) covers banks, mortgage-credit institutes, other credit institutions, money-market funds and Danmarks Nationalbank.

BALANCE-SHEET STRUCTURE IN PER CENT FOR THE DANISH BANKING SECTOR – ALL BANKS, DANISH BANKS AND FOREIGN BANKS

Table 2

Per cent of total assets		Selected assets					<i>Danish assets, total</i>
		Lending	Lending to MFIs ¹	Lending excluding MFIs ¹	Bonds	Shares	
All banks	2000	62.4	10.9	51.5	23.4	6.9	100.0
	2003	52.7	8.8	43.9	36.7	5.5	100.0
	2005	57.5	9.2	48.3	32.3	5.4	100.0
Danish banks	2000	60.3	10.4	49.9	24.5	7.8	100.0
	2003	47.8	4.9	42.9	39.9	6.3	100.0
	2005	57.9	8.7	49.1	30.6	6.2	100.0
Foreign banks	2000	67.3	12.0	55.3	20.9	4.8	100.0
	2003	63.2	17.0	46.2	29.9	3.7	100.0
	2005	56.7	10.3	46.4	36.1	3.6	100.0

Per cent of total liabilities		Selected liabilities				<i>Danish liabilities, total</i>
		Deposits	Deposits from MFIs ¹⁾	Deposits excluding MFIs ¹⁾	Capital and reserves	
All banks	2000	75.2	16.7	58.4	14.4	100.0
	2003	77.6	20.4	57.2	13.8	100.0
	2005	79.6	20.8	58.9	13.6	100.0
Danish banks	2000	75.1	15.9	59.2	15.3	100.0
	2003	75.4	17.1	58.3	15.3	100.0
	2005	77.6	19.4	58.1	13.7	100.0
Foreign banks	2000	75.3	19.0	56.3	12.1	100.0
	2003	83.3	29.0	54.3	9.6	100.0
	2005	86.0	24.9	61.1	13.3	100.0

Note: Data at the close of the year in question.

Source: Danmarks Nationalbank and own calculations.

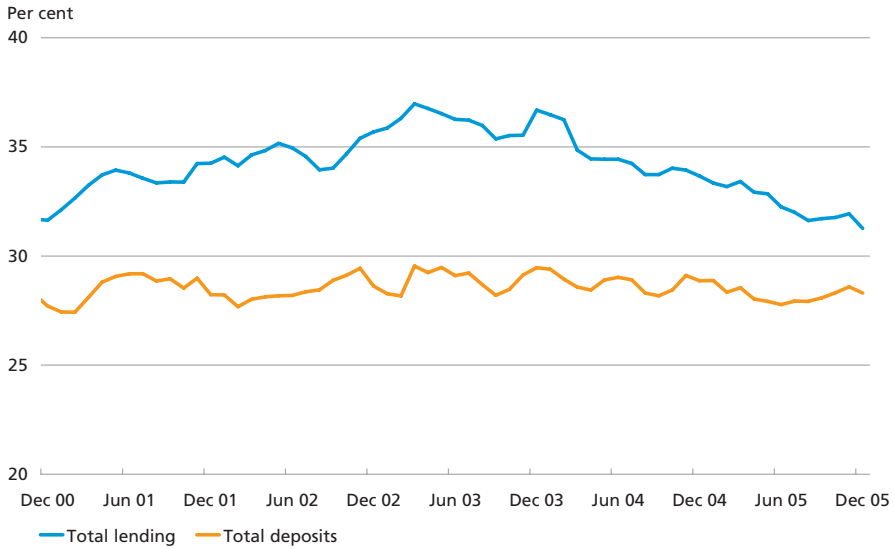
¹ The term MFI (Monetary Financial Institution) covers banks, mortgage-credit institutes, other credit institutions, money-market funds and Danmarks Nationalbank.

Market shares

Despite an increasing level of activities, foreign banks' market share of bank lending has been declining since late 2003, cf. Chart 4. Danish banks have thus gained a larger share of the growing market than their foreign competitors. The foreign banks' market share for deposits, on the other hand, has been relatively constant on the low side of 30 per cent throughout the period.

Foreign banks have primarily gained ground among business customers rather than private households, which is reflected in a substantially higher market share for the corporate sector than for households, in terms of both lending and deposits, cf. Chart 5. The market shares for lending to both the corporate sector and the households have, however, been declining for more than a year, while the market shares for deposits have been relatively constant for both sectors.

MARKET SHARES OF FOREIGN BANKS, TOTAL DEPOSITS AND LENDING Chart 4

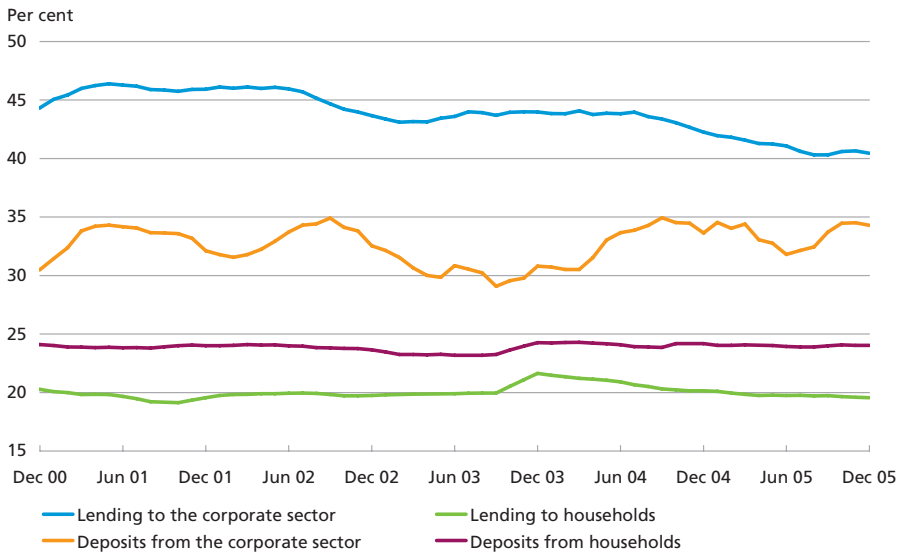


Note: 3-month moving averages. The market shares for lending to and deposits from domestic counterparties are calculated in relation to all banks in Denmark.

Source: Danmarks Nationalbank and own calculations.

The higher market share of foreign banks for the corporate than the household sector presumably reflects a deliberate marketing strategy whereby foreign banks primarily offer services to large business custom-

MARKET SHARES OF FOREIGN BANKS' LENDING TO AND DEPOSITS FROM HOUSEHOLDS AND THE CORPORATE SECTOR Chart 5



Note: 3-month moving averages. Data covers transactions with Danish counterparties.

Source: Danmarks Nationalbank and own calculations.

MARKET SHARES OF FOREIGN BANKS, PER CENT, END-2005		Table 3
	Nordic	Non-Nordic
Lending – corporate sector	36.1	3.9
Lending – households	18.9	0.7
Deposits – corporate sector	32.4	2.1
Deposits – households	24.0	0.1

Note: Data covers deposits with and lending by domestic counterparties.
Source: Danmarks Nationalbank and own calculations.

ers rather than to households or small business enterprises. Households are generally perceived to be less inclined to switch banks and typically attach great importance to having a branch close to their home or workplace. In addition, households typically have a smaller volume of banking transactions than companies. These factors contribute to making the business segment more attractive and accessible for foreign banks. On the other hand, the interest margin is normally wider for households than for the corporate sector.¹

Foreign banks have primarily gained access to the Danish retail market by acquiring local banks with existing branch networks, which are subsequently operated as subsidiaries or branches. Foreign Internet-only banks (i.e. without branch networks) have expanded strongly in several countries², but do not appear to be a significant phenomenon in Denmark.

A geographical breakdown of foreign banks by Nordic and non-Nordic banks shows that the Nordic banks control by far the largest share of the retail market, while non-Nordic banks have a very small market share – especially of the household sector, cf. Table 3.

As previously noted, the balance-sheet data used in this article comprises the balance sheets booked by banks in Denmark, cf. Chart 1, and may therefore for several reasons underestimate the transaction volumes of foreign banks in Denmark. The volume of cross-border banking activities – Danish customers using a foreign bank without a branch or subsidiary in Denmark – is large, cf. Box 2. Presumably, cross-border banking activities are addressed mainly at the corporate sector and banks. Even if Danish customers use a foreign bank that has a physical entity in Denmark, the bank may choose to book the transactions to another unit outside Denmark.³ Furthermore, financial transactions may

¹ For further analysis of interest margins, see Persson (2005).

² For example, the Dutch Internet bank ING Direct claims to have 14 million customers in nine countries.

³ At the beginning of 2006, Danmarks Nationalbank entered into cooperation with the other Nordic central banks to monitor the cross-border activities of the largest Nordic banks. The objective is to investigate whether the information content of the national balance-sheet statistics is diluted as a consequence of balance-sheet items moving across national borders. For more details, see www.nationalbanken.dk under Rules - Statistics - Reporting regulations.

have a far greater financial value than reflected in the booked balance sheet, e.g. in the event of capital-market activities.

CAPITAL-MARKET ACTIVITIES

In Denmark, foreign banks have a far larger share of capital-market activities than of traditional deposit and lending activities. Denmark's Nationalbank's securities statistics comprise issuers and owners, but not the banks' role as financial intermediaries, e.g. as lead managers for securities issues and as securities dealers/market makers in the secondary market for existing securities. These financial services are often undertaken by banks and are therefore discussed in this article on foreign banks in Denmark.¹

In the absence of official statistics for these types of financial intermediation in the capital markets, illustrative market shares² can be calculated on the basis of various private data sources, cf. Chart 6. Market shares for lead management of share and bond issues and syndicated loans are calculated on the basis of Bloomberg's database, covering more than 400 bond issues by Danish non-financial enterprises within the last 5 years, for a total value exceeding kr. 300 billion. For market-maker and stock-exchange-trading activities in the secondary market, market shares are shown for turnover in large markets for Danish securities – MTSDenmark and the Copenhagen Stock Exchange – with the caveat that these marketplaces cover only a part of the overall market, since many transactions take place outside the organised marketplaces.

Non-Nordic foreign banks have significantly larger market shares as lead managers for issuance of shares (75 per cent) and bonds (82 per cent). These market shares have been achieved even though only two of the world's 15 most important investment banks³ have a branch or subsidiary in Denmark. Most international investment banks handle Danish transactions from international financial centres (e.g. London) and service Danish customers by telephone, e-mail and short visits. With less than 100 international bond issues annually by Danish issuers on average, the market volume is probably not sufficient for a large number of investment banks to have offices in Denmark. In the competition to be the lead manager for Danish issuers it is presumably impor-

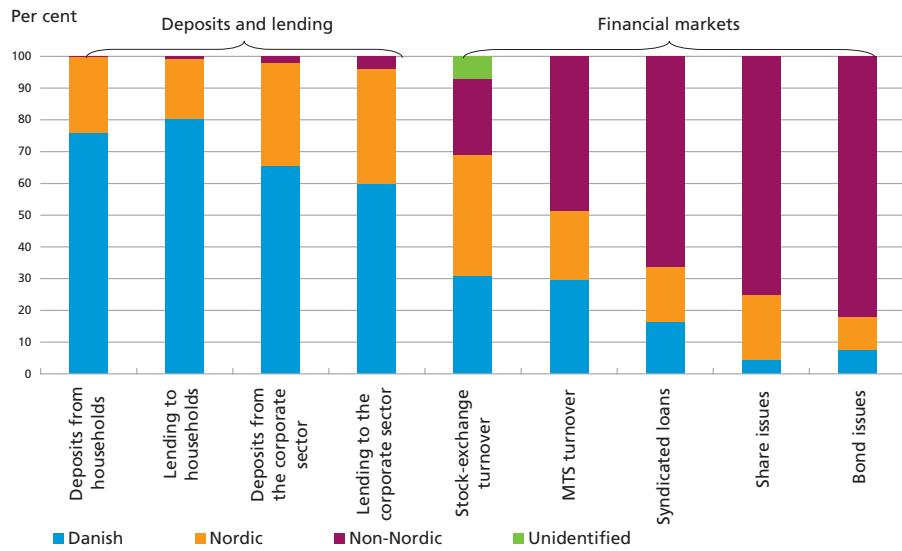
¹ Other financial product segments such as leasing, insurance and portfolio management are assessed to be outside the scope of this article.

² The market-share columns for financial-market activities should only be regarded as illustrative since they describe different market segments and do not fully cover all capital-market activities.

³ The Bank of England (2001) identified a group of 15 LCFIs (Large Complex Financial Institutions), which had top-10 rankings for market shares of at least two of the key product segments in the global financial markets. This LCFI group of 15 major investment banks has subsequently constituted an analytical focus in the stability reports of the Bank of England, the IMF and the ECB.

MARKET SHARES OF DANISH, NORDIC AND NON-NORDIC BANKS IN THE DANISH MARKET

Chart 6



Note: Deposits and lending at end-2005. Turnover on the Copenhagen Stock Exchange and MTS in 2005. Syndicated loans, share and bond issues 2001-05.

Source: Danmarks Nationalbank, OMX, MTSDenmark, Bloomberg and own calculations.

tant to have a good international customer base in order to be able to distribute the securities issued and provide the Danish customer with financing on favourable terms. Large international banks can also be expected to have a comparative advantage when it comes to large transactions compared to smaller Danish banks since they can make more capital available via their parent enterprises. Easier access to the parent bank’s balance sheet (and lines from counterparties) may also be the reason that investment banks often operate as branches or directly from e.g. London.

Syndicated loans are large loans redistributed by one or more organising banks, typically to other banks. Unlike distribution of bonds and shares to institutional investors, which requires a large international customer base and sales resources, syndicated loans can more easily be placed among banks they already know that wish to diversify their lending portfolios. It is therefore not surprising that Danish banks have larger market shares for syndicated loans than for other capital market issuances.

The relative market shares are somewhat different in the secondary market for Danish securities – e.g. the stock exchange and MTS. In 2005, the market share of Danish banks was approximately 30 per cent in both markets, while Nordic banks achieved a greater stock-exchange market

share (38 per cent) than non-Nordic banks (24 per cent). The larger relative market shares for Danish and Nordic banks may reflect the high degree of integration between the Nordic stock markets, where the Copenhagen Stock Exchange is moreover owned by OMX in Sweden.

CONCLUSION

Compared with the other EU member states, the Danish banking sector appears to have a relatively high degree of concentration, as well as relatively large market shares for foreign banks, particularly for corporate customers. Foreign banks have increased their total balance sheet in Denmark in recent years, but have seen slightly declining market shares in a market with even stronger balance-sheet growth. The market shares of foreign banks vary greatly between customer groups and product segments. Market shares are larger for corporate than private customers, larger for lending than for deposits, and even larger for cross-border lending and international capital-market activities. Balance-sheet data indicates that cross-border integration primarily takes place within the Nordic region. Other data shows that non-Nordic banks account for a far greater market share when it comes to capital-market issuance by Danish companies. The identified differences in market shares may reflect several factors:

- differences in customer requirements and preferences between large, internationally active corporations, smaller business enterprises and private households,
- deliberate strategic focus by foreign banks on providing services for large business customers,
- varying degrees of international market integration and standardisation in the various product segments,
- differences in access to customers abroad, e.g. for distribution of international capital-market issuance.

Danmarks Nationalbank will monitor future developments and as from mid-2006 will regularly publish statistics on the balance sheets of foreign banks in Denmark.

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Financial Groups and Conglomerates

Birgitte Bundgaard Madsen, Financial Markets

Until the mid-1980s, financial institutions in Denmark were sector-specific. The establishment of Hafnia Invest A/S in 1984, and subsequently Baltica Holding A/S and TopDanmark A/S, marked the beginning of a new era. Legislation in Denmark was liberalised in 1989-90, giving wider scope to conduct other types of financial activities via subsidiaries. Among other things, this meant that banks could own subsidiaries operating in other financial sectors.

Within the EU, the term financial group is used to describe financial undertakings that are affiliated by ownership and which comprise at least one other financial company besides the parent company. Traditional financial groups typically operate within one sector, e.g. a parent bank and a number of subsidiary banks in a banking group. A financial conglomerate is a group with activities in at least two financial sectors, including at least one insurance company.

Mergers between financial enterprises across financial sectors and national borders, leading to the establishment of financial groups and conglomerates with activities in several countries, is a natural element of the development of the single financial market in the EU. This development makes new demands of the boards and managements of financial enterprises, but also of regulation and supervision, since there is a risk of transferring potential problems between companies in the same group.

The regulation and supervision of financial enterprises take the individual company as their point of departure. In contrast to this approach, there is an increasing tendency to form international financial groups and conglomerates where decisions are taken across the legal corporate structures. This development presents a challenge in relation to supervision of the individual company, but also in relation to cooperation between national and international supervisory authorities in order to conduct supervision of the entire group.

This article investigates the extent to which the formation of national and cross-border financial conglomerates changes the risk scenarios for the individual companies that are subject to supervision, and whether the regulation and supervision of these cross-border conglomerates can

keep up with developments, the ultimate objective being to ensure financial stability.

A CHANGING FINANCIAL LANDSCAPE WITHIN THE EU/EEA

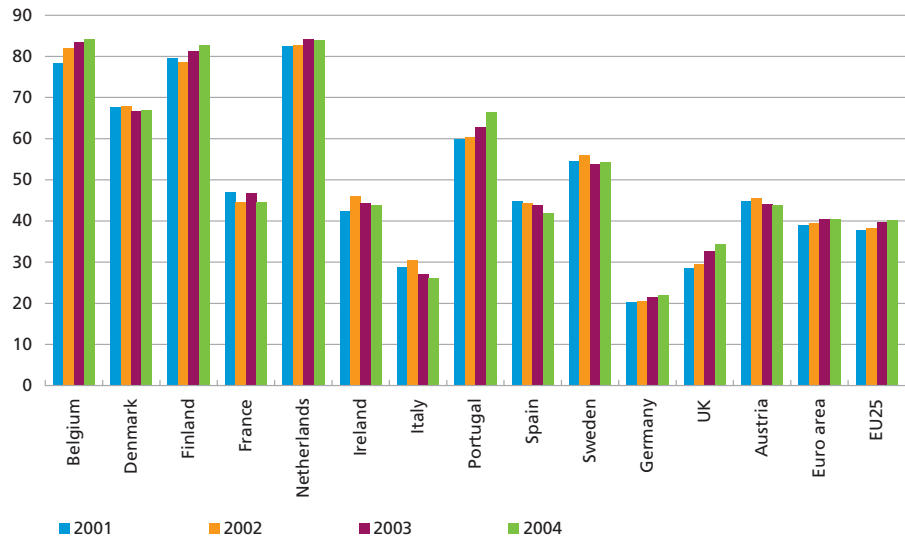
Many of the mergers that have taken place in the financial sector in Denmark and within the EU/EEA in the last 15-20 years have led to the formation of financial groups and conglomerates. Previously, mergers mainly took place within one country, but in recent years cross-border mergers have also been seen.

To some extent the opportunities to achieve economies of scale via domestic mergers seem to have been exhausted. This applies particularly to the high concentration of the largest banks in the small EU member states, cf. Chart 1. On the other hand, national competition considerations can make it more difficult for small member states to establish large financial groups in an international context.

For some years, Nordic banks and insurance companies have focused on the entire Nordic region, rather than just their home country. The formation of Nordea and Danske Bank's acquisitions of Östgöta Enskilda Bank in Sweden and Fokus Bank in Norway are examples of this. Danske Bank's acquisitions of National Irish Bank and Northern Bank in 2004 show that

CR5 INDEX, SELECTED EU MEMBER STATES, PERCENTAGE OF TOTAL ASSETS

Chart 1



Note: CR5 is the market share of the largest 5 credit institutions on an institution basis. For Denmark, mortgage-credit institutes are included.

Source: ECB.

the financial groups are expanding into new regions. To varying degrees the development in the rest of the EU/EEA shows the same tendency, e.g. Spanish Santander's acquisition of Abbey National in the UK, Italian Unicredito's acquisition of HVB in Germany, and ABN Amro's acquisition of Banca Antonveneta in Italy.

This development is an element of the financial integration and the creation of the single market for financial services in the EU. The "second generation" of financial directives¹ has given the opportunity and the right to conduct cross-border business activities within the EU/EEA.

SPECIAL RISKS RELATING TO CONGLOMERATES

A financial enterprise that is part of a financial group or conglomerate may, in addition to the ordinary risks in financial enterprises, e.g. credit risk, market risk and insurance risk, also be exposed to risks resulting from the group affiliation. The common denominator of these risks is the risk of contamination, i.e. the risk that problems within one company are transferred to other companies within the same group, even though they are independent legal units. The contamination risk may relate to internal issues within the group. For instance, the individual company may trade with other companies within the same group (intra-group transactions) on non-market terms. There may also be a capital deficit in the group and in the individual company due to multiple gearing, i.e. simultaneous use of the same capital to meet statutory capital requirements in several companies within the group. In addition, complex group structures can make it difficult to assess the finances of the group. A company that is part of a group may also incur risks that it would not otherwise have taken on if the board and management had acted independently in the interests of that company alone.

External factors can also contribute to transferring problems from one company to another. These may be direct or more indirect factors, collectively known as reputational risk. More specifically, if one part of a group acquires a poor reputation, this may rub off on the rest of the group, so that the whole group experiences problems in one or several areas.

Group risks for a conglomerate can be amplified as a consequence of different legislation, supervisory practice and culture within the various financial sectors.

¹ Insurance directives 92/49/EEC and 92/96/EEC and the second banking directive, 89/646/EEC.

Risks relating to cross-border groups and conglomerates are fundamentally the same. However, the fact that activities expand across national borders may complicate matters. Risks may be augmented as a result of different jurisdictions, and particular supervisory risks may arise as a consequence of different rules and supervisory practices, as well as the need to coordinate supervisory activities.

REGULATION OF GROUPS AND CONGLOMERATES IN THE EU

In principle, the issues relate to all companies in a group, but often legislation is aimed at protecting subsidiaries and affiliates.

Within the EU, the regulation of financial enterprises seeks to take the various types of risk into account. Financial enterprises are regulated individually by directives covering the individual sectors, e.g. insurance¹ and banking². This regulation takes the individual company as its point of departure. The supervisory authority of the home country issues the licence to operate and supervises the individual company. In addition, banking groups are regulated by the Directive on the supervision of credit institutions on a consolidated basis.³ The directive concerns supervision of groups comprising several credit institutions, including cross-border groups. If the parent company is a credit institution, the supervisory authority of the parent company is responsible for exercising supervision on a consolidated basis, and for this purpose it must require full consolidation of the group in terms of solvency, market risks and control of large exposures. In addition, there must be adequate internal control mechanisms for the production of any data and information which would be relevant for the purposes of supervision on a consolidated basis.

For insurance groups, the insurance directive⁴ enables the supervisory authority to conduct supplementary supervision if a company is part of a group, e.g. a cross-border group. Supplementary supervision primarily consists of calculating an "adjusted solvency situation", among other things to prevent multiple gearing, as well as receiving information from other companies in the group.

As regards mixed groups, conglomerates, the conglomerates directive was adopted in 2002⁵. It aims at ensuring uniform terms of competition for different types of financial group by imposing a number of obligations which transcend sector divides and national borders. It is not an

¹ Directives 92/49/EEC and 92/96/EEC.

² Directive 89/646/EEC (2000/12/EC).

³ Directive 92/30/EEC.

⁴ Directive 98/78/EC.

⁵ Directive 2002/87/EC.

actual consolidation directive in the same way as the credit institution directive, since the institution responsible for the consolidated supervision is not defined. Instead, the directive operates with a coordinator who is to coordinate supervisory activities between the authorities involved. The coordination primarily involves compiling information from the entire conglomerate. The directive aims to take group risks into account, since simultaneous use of the same capital in several entities of the conglomerate (multiple gearing) is not possible. In addition, the solvency position must be calculated at the level of the conglomerate, and intra-group transactions and risk concentration are regulated. To counteract lack of transparency in the conglomerate there are requirements of risk management, assessment of the fit and proper character of the management, and a requirement of close collaboration between the supervisory authorities. However, the directive does not require harmonisation of the actual supervisory provisions, or convergence of supervisory activities. It seeks solely to take account of the "extra" risks that may arise as a result of the formation of the conglomerate. The starting point is thus still the individual company.

The Danish rules

The Danish regulation of financial enterprises is based on European regulation. However, Denmark addressed some of the consequences of the formation of groups earlier than the EU. For instance, since 1994 the Act on Danish Commercial Banks and Savings Banks has contained provisions on intra-group transactions, and previously intra-group lending was prohibited. Since 2001, the various Danish supervisory acts¹ have been consolidated into one act, the Financial Business Act. The objective is, *inter alia*, to strengthen supervision of financial conglomerates, and the basic principle is that uniform financial services should be regulated in the same way, irrespective of which financial institution they are offered by.

The individual company subject to supervision

The legal regulation by the EU, and thus by Denmark, of groups and conglomerates is in principle secondary to regulation of the individual company. The regulation of conglomerates is based on legal structures and the autonomy of the individual company, since the licence to conduct financial activities is given to a legal unit that must independently comply with all supervisory provisions. This also applies to com-

¹ The Act on Danish Commercial Banks and Savings Banks, the Act on Insurance Companies, parts of the Mortgage Credit Act and the Act on Investment Companies.

panies within a group or conglomerate. Consequently, the board and management of each individual subsidiary within a group are responsible for the subsidiary's activities. This responsibility cannot be transferred to the parent company or other companies within the group, e.g. via outsourcing or similar. The supplementary group regulation must take into account any contamination or misuse on the part of the other companies in the group, so it is important that the board and management of the individual company are able to make decisions independently of the group management, to the benefit of the individual company. These issues are particularly relevant in connection with cross-border conglomerates.

BUSINESS LINES

Financial groups and conglomerates are often managed on the basis of business lines that extend across legal structures within the group, in order to achieve economies of scale and rationalisation gains. There is a tendency¹ for conglomerates, including particularly internationally active conglomerates, to centralise key management functions, e.g. risk management, internal control, treasury operations (including liquidity management and funding), compliance and audit. This centralisation can entail the transfer of strategic decisions from the individual company to the group. In addition, there is a tendency to outsource² a number of functions that are key to the operation of the individual company, e.g. IT functions, within the group or to external providers. Outsourcing mainly takes place in order to achieve cost savings.

These development trends can lead to increasing divergence between the legal and operational structures of a conglomerate. Consequently, it can be difficult to attribute functions and activities to the individual legal units within the conglomerate as assumed in the regulation of the individual legal entity. Major differences between the legal and operational structures might complicate the supervision of the individual company.

LEGAL FIREWALLS

Several of the provisions of financial legislation that aim to prevent or minimise contamination between companies within a group or con-

¹ See the Joint Forum's report from 2003, Trends in risk integration and aggregation, and Dirk Schoenmaker and Sander Oosterloo, Cross-Border Issues in European Financial Supervision, October 2004.

² See the Joint Forum's report from 2005, Outsourcing in Financial Services.

glomerate are based on a legal firewall principle. This means that in the event of a crisis it must be possible to shield the individual company subject to supervision from other units within the group/conglomerate. It is a precondition that the company is able to continue its activities independently. In other words, the supervisory authorities must ensure that the core functions required for it to operate as an independent company are present within a short time horizon.

This issue has been analysed by a Dutch working party¹, which has investigated whether groups/conglomerates can establish effective legal firewalls that reduce the risk of contamination between the companies and support the individual company's business continuity, irrespective of any problems within the group.

The working party proposes that effective legal firewalls constitute part of the framework for monitoring and control of risks in the supervisory process under the future capital-adequacy rules (Basel II for banks and Solvency II for insurance companies). As part of the supervisory process, the conglomerates themselves will have to consider which measures should be taken to establish adequate legal firewalls between the companies. These measures would be subject to evaluation by the supervisory authorities, which must be empowered to impose extra capital requirements if the measures are found to be insufficient. Moreover, it is proposed that each individual enterprise that is subject to regulation within a conglomerate must publish "Legal firewall procedures", including whether support can be expected from other group companies in the event of problems. As a minimum, the working party proposes that the following issues be taken into account:

- Good corporate governance: each individual company has its own independent board and management, so that decisions are made in the interests of the company. This means that there are limits to the number of board members from other companies within the group. There should be a majority of non-group board members. This applies particularly if the group is managed according to a business principle. The board and management must have adequate tools to be able to assess the risks for the individual company.
- The company must be able to continue to operate alone, and consequently key functions cannot be outsourced.
- There must be rules for intra-group transactions based on market prices. There should be a clear policy for the terms on which intra-group outsourcing can take place.

¹ Council of Financial Supervisors in the Netherlands, The Netherlands Bankers' Association and The Dutch Association of Insurers, Study on Financial Conglomerates and Legal Firewalls, prepared by Freshfields Bruckhaus Deringer, October 2003.

- The use of shared company names in marketing activities must be regulated; it must be stated that companies on different sides of the legal firewall will not offer financial support to each other, e.g. via disclaimers.
- The actual structure of the company must enable separation of functions.

Denmark already has legislation governing intra-group transactions. On the other hand, there are no specific provisions concerning good corporate governance, outsourcing and shared company names. Danish credit institutions also tend to centralise functions via business lines extending across legal structures.

SUPERVISORY COLLABORATION WITHIN THE EU

International financial groups that are operationally integrated and looking for synergies and savings on the one hand, and supervisory authorities that are restricted by legislation and national borders on the other hand, constitute a challenge to financial stability, nationally and internationally. In addition, the fact that the financial groups are subject to different supervisory regimes in the various member states where they operate can in itself constitute a barrier to financial integration within the EU. Against this background there may be a need to increase collaboration between supervisory authorities within the EU, partly to improve the efficiency of supervision, and partly to ease the regulatory burden on financial groups.

Within the EU, three supervisory committees have been established. They are CESR¹ (securities), CEBS² (banking) and CEIOPS³ (insurance), with representatives from the supervisory authorities of all EU member states. The purpose of setting up these committees is to work for uniform implementation of EU regulation, but also to promote uniform supervisory practices within these sectors. Issues of particular interest to the committees are cross-border operations, collaboration in relation to supervision of groups, and multilateral collaboration.

No conglomerates committee has been set up, but it has been discussed how the conglomerate issues can be addressed under the new structure.

The supervisory committees are not supranational supervisory authorities, and supervision of financial enterprises is still based on national

¹ Committee of European Securities Regulators.

² Committee of European Banking Supervisors.

³ Committee of European Insurance and Occupational Pensions Supervisors.

supervision of the individual enterprise. In 2004, CESR published a report¹, in which it, among other things, proposed that the Committee should be a type of supervisor of the national supervisory authorities in the securities area, so that disputes between the supervisory authorities of different member states in relation to specific cases can be addressed on a non-legally binding basis. Similar ideas have been launched in relation to banking and insurance. The present structure of supervision of financial enterprises imposes very high requirements in terms of willingness and ability to work together and to coordinate supervisory activities in order to meet the needs that arise. There can thus be no doubt that the supervisory structure within the EU will continue to develop so as to fulfil the requirements of the market players for effective supervision, but also the need for adjustments in order to ensure financial stability.

¹ Which supervisory tools for the EU Securities markets? Preliminary progress report, 28 October 2004.

The Foreign-Exchange Market for Danish Kroner

Kim Abildgren, Economics

INTRODUCTION AND SUMMARY

In terms of turnover, the foreign-exchange market is one of the world's largest markets. Global trade in foreign exchange amounts to around 2 trillion dollars per banking day. Trade in foreign exchange is essential to a well-functioning international economy. This not only applies to foreign-exchange transactions derived from trade in goods across national borders since pension funds' investments in foreign securities, direct investments in business enterprises across national borders and corporate borrowing in the international financial markets all entail trade in foreign exchange. Many foreign-exchange transactions are the result of financial and non-financial enterprises' need to manage foreign-exchange exposures on assets and debt, as well as revenue and expenditure denominated in foreign exchange. In addition, market participants take foreign-exchange positions in the expectation of gains on the future development in exchange rates (speculation). Finally, market participants buy and sell foreign exchange in order to eliminate price differences between the same currency pair in different market-places (arbitrage). This contributes to liquidity¹ and efficient price formation in the foreign-exchange market.

The foreign-exchange market for Danish kroner is the market for purchase and sale of foreign exchange against Danish kroner. The krone market is fundamental to Danish monetary and foreign-exchange policy. This is where the exchange rate of the krone is formed, and where Danmarks Nationalbank intervenes by purchasing and selling foreign exchange in order to stabilise the krone. This article describes the institutional structure of the krone market and the development trends in recent years.² The turnover of foreign exchange against kroner in the

¹ In this context, liquidity should be understood as the possibility of purchasing or selling a given amount of foreign exchange without significantly affecting the exchange rate.

² Previous descriptions of the krone-denominated foreign-exchange market can be found in Chapter 2 of Danmarks Nationalbank (2003a) and in Krabbe and Pedersen (1998). Sarno and Taylor (2002) includes an overview of the last 10-15 years' development in the academic literature on foreign-exchange markets and exchange-rate formation.

global foreign-exchange markets is more than kr. 100 billion per banking day. Denmark's fixed-exchange-rate policy entails that the fluctuations in the exchange rate of the krone vis-à-vis the euro are very small. Consequently, the spreads between the largest participants' bid and ask prices are narrower in the krone market than in a number of other foreign-exchange markets.

DEFINITION OF FOREIGN EXCHANGE

Foreign exchange is money denominated in the currency of another country, and the exchange rate is normally calculated as the price of a unit of the other country's currency expressed in the domestic currency.

Defining the foreign-exchange market requires the same considerations as when defining the terms "money" and "money supply". In principle, only the exchange rates for banknotes and coins of different countries are "pure" exchange rates. However, this type of foreign exchange is only traded in the market for foreign exchange for travel purposes, etc. In monetary terms, it is by and large equivalent to M0.¹

The majority of foreign-exchange transactions relate to trade in bank deposits denominated in different currencies, since foreign-exchange transactions are settled by transferring demand deposits from one account to another. Consequently, a definition of foreign exchange comprises not only cash foreign exchange, but also the assets used to settle foreign-exchange transactions, i.e. bank deposits on demand denominated in foreign exchange. In monetary terms this is roughly equivalent to M1.

However, the definition of foreign exchange always depends on the specific context. Besides demand deposits with banks, Danmarks Nationalbank's foreign-exchange reserve thus also includes liquid bonds that can quickly be sold or collateralised if Danmarks Nationalbank needs foreign exchange for intervention purposes.² This is foreign exchange in a broader sense, equivalent to broader monetary aggregates than M0 and M1.

¹ There are no general standard definitions of the various monetary aggregates. M0 (base money) is traditionally used for liquidity created by the central bank vis-à-vis households, business enterprises, local government and banks, i.e. primarily banknotes and coins and deposits with the central bank. M1 is normally defined as the non-banking sector's holdings of banknotes and coins, as well as residents' bank deposits on demand. M2 is typically defined as M1 plus residents' short-term time deposits. M3 is normally defined as M2 plus certain other deposits by residents and their holdings of short-term debt instruments. The precise definitions in a Danish context can be found in Danmarks Nationalbank's statistical publications.

² Danmarks Nationalbank's foreign-exchange reserve is described in more detail in Jensen (1999) and Danmarks Nationalbank (2004a).

THE FOREIGN-EXCHANGE MARKET FOR DANISH KRONER – DEFINITION, SIZE AND PRODUCTS

The foreign-exchange market for Danish kroner is the market for purchase and sale of foreign exchange against Danish kroner. All transactions entailing transfer of a position in Danish kroner against foreign exchange from one player to another are in principle part of the foreign-exchange market for Danish kroner.

The krone market has no geographical or physical limits. Purchase and sale of foreign exchange against Danish kroner between two non-residents (e.g. a krone transaction between a German bank and a German investor in Danish bonds, or a krone transaction between a German bank and a Germany company importing goods from Denmark) is also part of the foreign-exchange market for Danish kroner. On the other hand, purchase and sale of dollars against euro between two Danish banks is not part of the foreign-exchange market for Danish kroner.

Every three years, the Bank for International Settlements, BIS, coordinates the compilation of international statistics on turnover in the global foreign-exchange markets, cf. Box 1. The most recent survey relates to April 2004. Using data from this survey, a distinction can be drawn between the "Danish foreign-exchange market for Danish kroner" and the "global foreign-exchange market for Danish kroner". The former comprises foreign-exchange transactions in Danish kroner involving a bank located in Denmark. The "global" market, on the other hand, comprises foreign-exchange transactions in Danish kroner involving a bank located either in Denmark or abroad.

The average daily turnover in the Danish foreign-exchange market for Danish kroner was kr. 72 billion in April 2004, while turnover in the global foreign-exchange market for Danish kroner was kr. 104 billion per banking day, cf. Table 1. This means that around 30 per cent of the turnover of kroner in the foreign-exchange market does not pass through banks located in Denmark. Part of the global turnover of kroner takes place between the foreign units of, respectively, Danish banks and Danish business enterprises. However, it is also customary for large Danish enterprises and institutional investors to trade foreign exchange against kroner with large international banks with which they already conduct other financial transactions, e.g. trade in foreign securities.

The foreign-exchange market for Danish kroner primarily comprises spot and forward contracts. In addition, FX swaps, currency swaps and foreign-exchange options are traded. The products in the foreign-exchange market for Danish kroner are outlined in Box 1.

TURNOVER STATISTICS FOR FOREIGN-EXCHANGE-MARKET PRODUCTS

Box 1

The only official statistics of turnover in the foreign-exchange markets are the surveys of the foreign-exchange and derivatives market that are conducted triennially under the auspices of BIS, cf. BIS (2005), Danmarks Nationalbank (2004b) and Drejer and Hove (2004). In connection with the BIS surveys, Danmarks Nationalbank is responsible for collecting turnover statistics from the Danish foreign-exchange market, i.e. foreign-exchange transactions involving a bank located in Denmark.

The first survey in Denmark was conducted in 1989. In total, around 50 central banks and 1,200 banks participated in the global BIS survey for April 2004, including 7 banks located in Denmark.

The BIS survey comprises trading in the following products in the foreign-exchange market for Danish kroner:

- *Spot transactions*, i.e. transactions involving purchase or sale of foreign exchange against Danish kroner for settlement within two banking days of the trade date.
- *Forward contracts*, i.e. transactions involving purchase or sale of foreign exchange against Danish kroner for settlement more than two banking days after the conclusion of the contract.
- *FX swaps*, i.e. foreign-exchange transactions comprising a spot trade combined with an opposite forward contract.
- *Currency swaps*, i.e. contracts entailing ongoing swap of interest payments and exchange of principals in different currencies (one being kroner) at the start and termination of the contract.
- *Foreign-exchange options*, i.e. contracts giving one party the right, but not the obligation, at a fixed time in the future to purchase or sell an amount in another currency against kroner at an agreed exchange rate.

Only foreign-exchange transactions outside the stock exchanges, i.e. over-the-counter (OTC) transactions, are included in the BIS survey. However, this is of no consequence in relation to the krone market, since no krone-denominated foreign-exchange-market products are traded via stock exchanges.

The turnover data states all foreign-exchange transactions at the nominal value of the contracts or the nominal value of the underlying asset, i.e. the notional value. Transactions in the BIS statistics are registered at the time of transaction, i.e. the trade date. The figures include intra-group transactions on market terms. Unless otherwise stated, all data from the BIS survey in this article is adjusted for the fact that transactions between two reporting banks are reported by both parties.

The BIS statistics relate solely to foreign-exchange turnover in April. Consequently, the overall trading volume may to some extent be influenced by random factors. For example, foreign-exchange transactions in connection with mergers and acquisitions may substantially influence turnover in a single month. Intervention by Danmarks Nationalbank also affects turnover. When Danmarks Nationalbank intervenes in the foreign-exchange market, this tends to increase turnover when the intervention currency is subsequently traded among market participants.

Turnover in the individual products in the foreign-exchange market for Danish kroner is also shown in Table 1. Foreign-exchange swaps (FX swaps) account for around 70-75 per cent of turnover. However, FX

AVERAGE DAILY TURNOVER OF KRONER IN THE FOREIGN-EXCHANGE MARKET, APRIL 2004

Table 1

	Denmark		Global	
	Kr. billion per banking day	Per cent	Kr. billion per banking day	Per cent
Spot transactions	11.1	15	21.4	20
Forward transactions	5.4	7	8.4	8
FX swaps	54.8	76	72.4	69
Currency swaps	0.2	0	0.5	1
Foreign-exchange options	0.5	1	1.6	2
Total	72.0	100	104.3	100

Source: Danmarks Nationalbank and BIS.

swaps with one leg in kroner should be seen as a money-market product rather than a foreign-exchange-market product since the purpose is often to raise or lend krone-denominated liquidity for a short period against foreign exchange, typically dollars, as collateral. The rest of the turnover primarily comprises spot transactions (around 15-20 per cent) and to a lesser extent forward contracts (around 5-10 per cent). The krone-denominated turnover in currency swaps and foreign-exchange options is very modest in view of the small fluctuations in the krone vis-à-vis the euro.

Table 2 shows the distribution by maturities of forward contracts and FX swaps in the foreign-exchange market for Danish kroner. Many FX swaps have maturities of less than 7 days, while forward contracts mainly have maturities exceeding 7 days. This reflects that FX swaps are often used as a short-term money-market product, while forward contracts are used to hedge exchange-rate exposure over longer periods.

For the Danish section of the foreign-exchange market for Danish kroner, trading in the individual products can be broken down by cur-

MATURITIES OF FORWARD TRANSACTIONS AND FX SWAPS AND THE FOREIGN-EXCHANGE MARKET FOR DANISH KRONER, APRIL 2004

Table 2

Per cent	Forward transactions		FX swaps	
	Denmark	Global	Denmark	Global
7 days or less	20	31	69	78
8 days to 1 year	79	68	30	22
More than 1 year	1	1	1	0
Total	100	100	100	100

Note: It has not been possible to adjust the figures in this Table for duplicate reporting, cf. Box 1.
Source: Danmarks Nationalbank and BIS.

**TURNOVER IN THE DANISH FOREIGN-EXCHANGE MARKET FOR DANISH
KRONER IN APRIL 2004, BY CURRENCY PAIRS**

Table 3

Per cent	Kroner against dollars	Kroner against euro	Kroner against other cur- rencies	Total
Spot transactions	8	82	10	100
Forward transactions	39	33	28	100
FX swaps	91	6	3	100
Currency swaps	0	37	63	100
Foreign-exchange options	23	8	69	100
Total	74	19	7	100

Source: Danmarks Nationalbank.

rencies, cf. Table 3. Around 80 per cent of the spot trades are kroner against euro. This reflects the extensive trade with the euro area, and that interbank spot trading takes place via euro. When a bank e.g. trades kroner for dollars with a customer, the bank often hedges the exchange-rate risk on the transaction via, respectively, euro-dollar and krone-euro trades in the interbank market.

For forward contracts, euro account for only around one third of turnover. In view of Denmark's fixed-exchange-rate policy, forward contracts are primarily used to hedge the development in the exchange rates of other currencies than the euro. The high proportion of dollar transactions, around 40 per cent, furthermore reflects that banks trade kroner forward against other currencies via dollars.

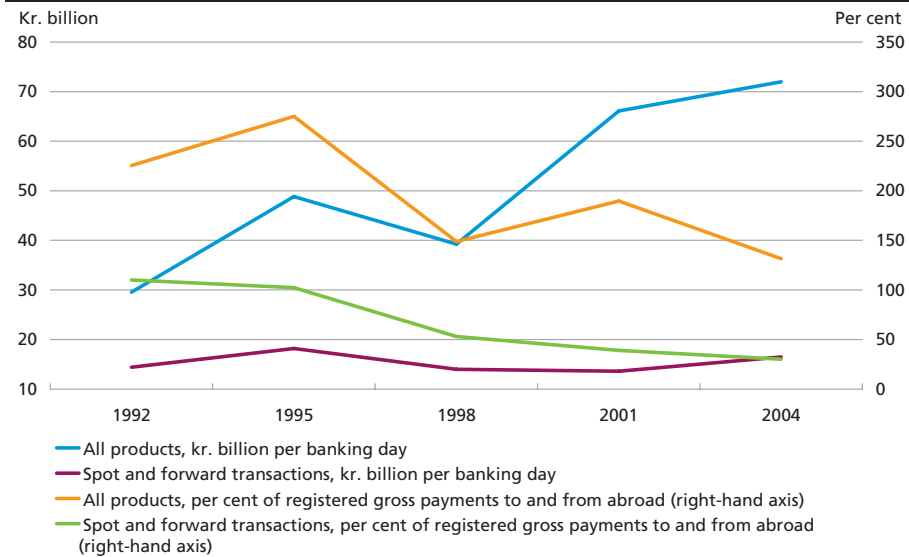
**DEVELOPMENT IN TURNOVER IN THE FOREIGN-EXCHANGE MARKET FOR
DANISH KRONER SINCE 1992**

It is possible to illustrate the development in turnover in the Danish section of the foreign-exchange market for Danish kroner since 1992, cf. Chart 1. In absolute terms, turnover has risen from kr. 30 billion per banking day in 1992 to kr. 72 billion per banking day in 2004. In terms of "classic foreign-exchange turnover" alone, i.e. spot and forward contracts, turnover in the last 10 years has fluctuated around a level of kr. 14-18 billion per banking day. When assessing the development in turnover over time, it is important to bear in mind that payment transactions between Denmark and abroad have increased substantially in the last decade.¹ The krone-denominated turnover in Denmark in relation to the total volume of goods and capital payments between

¹ Since 1988, all payments to and from Denmark have been fully liberalised. Today there are no restrictions on transactions with abroad, including loans from and deposits in foreign banks, as well as portfolio investments and direct investments.

**TURNOVER IN THE FOREIGN-EXCHANGE MARKET FOR DANISH KRONER
1992-2004**

Chart 1



Note: Average daily turnover in April 1992, April 1995, April 1998, April 2001 and April 2004. The registered payments do not comprise Danish interbank foreign-exchange transactions or foreign-exchange transactions between Danish and foreign banks. This is why the aggregate turnover of Danish kroner constitutes more than 100 per cent of the registered gross payments to and from abroad.

Source: Danmarks Nationalbank.

Denmark and abroad shows a declining trend. The relatively stable daily turnover volume in spot and forward contracts in billion kroner since 1992, even though the volume of payments is rising, should be viewed against the background of the reduced fluctuation of the krone vis-à-vis the euro and, prior to 1999, the D-mark.

Data for the global turnover in the foreign-exchange market for Danish kroner is only available from 2001 onwards. Turnover fell from kr. 123 billion per banking day in April 2001 to kr. 104 billion in April 2004. Once again, most of the development is attributable to FX swaps. Only a slight decline was seen in the turnover in spot and forward contracts, which fell from kr. 32.4 billion per banking day in April 2001 to kr. 29.7 billion in April 2004.¹

As stated in Box 1, the data for turnover of kroner relates only to April of the years in question and may therefore to some extent be influenced

¹ In this article, turnover in the foreign-exchange market for Danish kroner is stated in Danish kroner. Consequently, exchange-rate changes do not affect the figures. In BIS (2005), global krone-denominated turnover is stated in dollars to allow comparisons with turnover of other currencies. If turnover in the global foreign-exchange market for Danish kroner is stated in dollars, there was an increase in total turnover from 14.8 to 16.8 billion dollars per banking day from April 2001 to April 2004. For spot and forward transactions alone there was an increase from 3.9 to 4.8 billion dollars. In order to compare developments over time, BIS also compiles data adjusted for exchange-rate changes. BIS (2005) thus includes data for foreign-exchange turnover in April 2001 and April 2004, where both figures are stated at the dollar exchange rate of April 2004.

by random factors, e.g. large foreign-exchange transactions in connection with mergers and acquisitions. The high global turnover in the foreign-exchange market for Danish kroner in April 2001 compared to April 2004 should also be viewed against the background of a somewhat higher yield spread between Denmark and the euro area in 2001 compared with 2004. Viewed in isolation, the volume of intervention by Danmarks Nationalbank, which also influences turnover, has the opposite effect. Intervention in April 2004 totalled around kr. 7.5 billion, while there was no intervention in April 2001.

THE PARTICIPANTS IN THE FOREIGN-EXCHANGE MARKET FOR DANISH KRONER

The participants in the foreign-exchange market for Danish kroner can generally be divided into customers, foreign-exchange dealers and brokers – and Danmarks Nationalbank.

Customers are typically private enterprises that need to buy and sell foreign exchange in connection with payments to and from abroad, or institutional investors purchasing and selling securities across national borders. Local authorities and public enterprises may also have a number of large payments to and from abroad. Private individuals normally only use the foreign-exchange market in connection with the purchase and sale of foreign exchange for travel purposes, card payments via the Internet, or direct purchase and sale of foreign securities.

Foreign-exchange dealers are banks that either purchase and sell foreign exchange for their customers, hedge their own positions or participate in currency arbitrage¹. A number of banks have concluded agreements to act as market makers in the foreign-exchange market for Danish kroner. Market makers have an obligation to quote binding two-way prices vis-à-vis each other within fixed maximum bid/ask spreads and for certain amounts.

Foreign-exchange dealers normally have relatively large transactions in the foreign-exchange market for Danish kroner, e.g. in the range of 10-30 million euro per transaction. In recent years, foreign-exchange dealers have mutually traded kroner against euro with a bid/ask spread for spot transactions of kr. 0.03-0.05 per 100 euro, i.e. "3-5 pips" – equivalent to 0.004-0.007 per cent, cf. Table 4. In the Swedish and Norwegian professional foreign-exchange markets, the bid/ask spreads are around 5-10 times as wide as in the foreign-exchange market for Danish

¹ E.g. simultaneous purchase and sale of kroner against euro with a view to utilising price differentials in order to achieve a risk-free gain – after taking transaction costs into account.

ESTIMATED SPREADS BETWEEN BID AND ASK PRICES FOR KRONER AGAINST EURO IN THE INTERBANK MARKET, SELECTED PERIODS

Table 4

	Actual dealing spreads, per cent
1992	Around ¼
1994	0.013-0.026
1998-1999	0.004-0.013
2000-2005	0.004-0.007

Note: Kroner against D-mark prior to 1999.

Source: Danmarks Nationalbank.

kroner. This especially reflects the greater volatility of the Norwegian krone and the Swedish krona vis-à-vis the euro, but there may also be variations in liquidity in the three markets. Trading spreads in the foreign-exchange market for Danish kroner have narrowed in the last 10-15 years. In connection with the currency crises in the 1st half of the 1990s, considerable bid/ask spreads could be seen for kroner against D-mark.

Besides the direct participants in the foreign-exchange market there are also brokers who act as intermediaries between buyers and sellers without themselves being a party to the transactions. Intermediation is subject to a product-specific fee, which may be negotiable. There is one local broker in the Danish foreign-exchange market for Danish kroner, but Danish kroner can also be traded with foreign brokers in e.g. Frankfurt, London and Luxembourg.

Danmarks Nationalbank's key function in the foreign-exchange market for Danish kroner is purchase and sale of foreign exchange in connection with intervention to stabilise the krone vis-à-vis the euro, cf. Box 2. Danmarks Nationalbank also purchases and sells kroner against foreign exchange since it is banker to the central government and in this capacity undertakes payments relating to government debt and other central-government transactions in foreign exchange. Finally, Danmarks Nationalbank on a daily basis publishes information on the exchange rate of the krone against a number of other currencies. These exchange rates are for information purposes only.¹ Currency cannot be bought from or sold to Danmarks Nationalbank at the published exchange rates. Danmarks Nationalbank's exchange rates are used in numerous contexts, e.g. in many contracts, and in the banks' cash foreign-exchange transactions with customers, etc. where there is a wish to use an independent source.

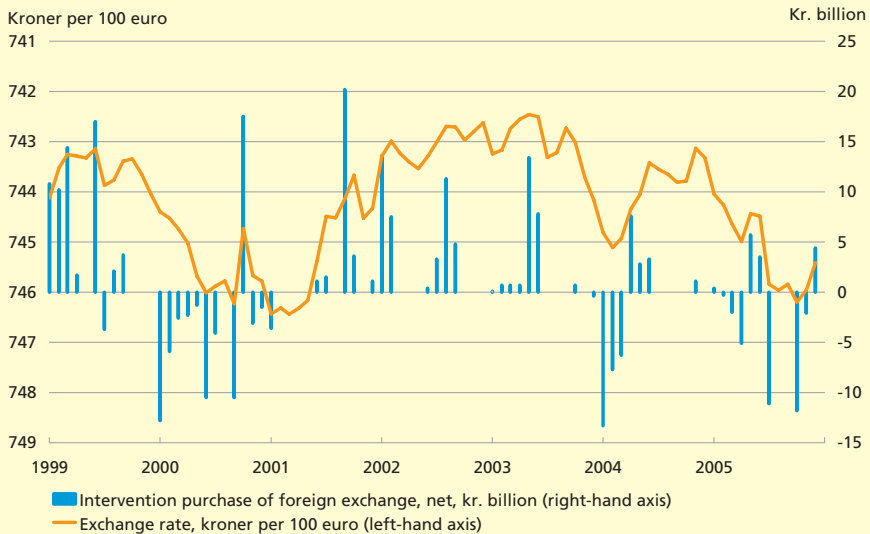
¹ The exchange rates can be seen at www.nationalbanken.dk under "Market info", "Exchange Rates". Danmarks Nationalbank's exchange rates are normally fixed at 2.15 p.m. on the basis of information from a number of central banks and are usually available at the website by 2.45 p.m.

DANMARKS NATIONALBANK'S INTERVENTION IN THE FOREIGN-EXCHANGE MARKET FOR DANISH KRONER

Box 2

In the short term, Danmarks Nationalbank can stabilise the exchange rate of the krone against the euro by intervention purchase or sale of foreign exchange against kroner. When Danmarks Nationalbank sells foreign exchange and purchases kroner, the krone tends to strengthen. When Danmarks Nationalbank purchases foreign exchange and sells kroner, the krone tends to weaken, cf. the Chart.

INTERVENTION 1999-2005



Source: Danmarks Nationalbank.

If Danmarks Nationalbank has regularly sold foreign exchange and purchased kroner for a prolonged period, this indicates that the interest-rate spread between Denmark and the euro area is too low. In that case Danmarks Nationalbank must raise its interest rates relative to those of the ECB. On the other hand, Danmarks Nationalbank lowers its interest rates relative to the ECB if foreign exchange has been purchased and kroner sold for a prolonged period.

When management of interest rates is used as a monetary-policy instrument, as is the case in Denmark, intervention is normally said to be sterilised if the transaction does not in itself affect the short-term interest rate. If the short-term interest rate is affected, the intervention is non-sterilised. In periods when the foreign-exchange market is stable, Danmarks Nationalbank's intervention is best described as sterilised, while it is non-sterilised in periods of turbulence in the foreign-exchange market, cf. Abildgren (2005).

A survey of Danmarks Nationalbank's intervention in the foreign-exchange market for Danish kroner in 1999-2004 shows that intervention is a suitable instrument for stabilising the exchange rate in the short term. Based on experience from this period, average purchase or sale of foreign exchange for around kr. 7.5 billion was required to adjust the exchange rate by kr. 0.10 per 100 euro, cf. Andersen (2005). In the same period, capital flows related to portfolio investments have had an impact of the same magnitude on the exchange rate of the krone, cf. Hansen and Storgaard (2005).

TRADING IN THE FOREIGN-EXCHANGE MARKET FOR DANISH KRONER						Form 1
	Traded on a stock exchange	Traded outside the stock exchanges (OTC)				
		Interbank market		Customer market		
		Bilaterally	Centrally	Bilaterally	Centrally	
Electronic trading	Does not take place	Trade-supporting facility (Chat Room, e.g. Reuters Conversation)	Electronic broker (e.g. Reuters Match, EBS)	Foreign-exchange trading via banks' single-dealer platforms	Foreign-exchange trading via multi-dealer platforms (e.g. FXAll)	
Non-electronic trading	Does not take place	Telephone	Voice broker	Telephone	Does not take place	

TRADING IN THE FOREIGN-EXCHANGE MARKET FOR DANISH KRONER¹

Trading in the foreign-exchange market for Danish kroner takes place in several ways, cf. the overview in Form 1. The overview draws a broad distinction between stock-exchange trading and OTC trading outside stock exchanges. In contrast to certain large US stock exchanges, foreign-exchange-market products are not traded on the stock exchange in Denmark. Trading in the foreign-exchange market for Danish kroner solely takes place OTC, either in the interbank or the customer market. The interbank market comprises internal trading among foreign-exchange dealers, while the customer market comprises the foreign-exchange dealers' transactions with customers, i.e. business enterprises, institutional investors, etc.

Part of the interbank trading in the foreign-exchange market for Danish kroner is bilateral. The background may be a need to fully identify the counterparty to a transaction. This facilitates management of settlement and credit risks against each individual counterparty. Other factors include saving brokerage commission or trading costs in connection with centralised electronic trading systems. In view of the modest number of participants in large parts of the foreign-exchange market for Danish kroner, it is also relatively easy for buyers and sellers to make contact, even without a centralised marketplace. Bilateral interbank trading takes place directly by telephone, but also via trade-supporting systems that give direct access to conclude electronic agreements on foreign-exchange transactions between counterparties.

¹ Rime (2003) includes an overview of the various types of electronic trading in the global foreign-exchange markets.

Centralised interbank trading takes place via voice brokers and electronic brokers. In connection with centralised trading it is not possible, or only to some extent possible, to decide who the other party to the transaction should be.

In practice, trading via a voice broker entails that the market participants supply a broker with prices and amounts. On an ongoing basis, the broker states the best bid/ask prices and amounts in the market via a voice system. A market participant can accept a trade by submitting a reply to the broker, who will then establish contact between the parties.

Trading via an electronic broker is a fully automated transaction which merely requires a click on the screen to execute a trade. The transaction takes place at the best price quoted in the system among the banks accepted as potential counterparties.

Bilateral customer trading takes place by telephone, but also via electronic single-dealer platforms. In the latter case, a single bank has a platform where its customers can electronically trade foreign exchange with the bank as the counterparty.

Some customer trading takes place on a centralised basis via electronic multi-dealer trading platforms. In this case, the customer can request bid and ask prices from 2-5 banks simultaneously and can then execute a fully automated transaction by clicking the preferred price.

In April 2004, trading via electronic systems in the Danish interbank market constituted 47 per cent of all spot transactions, cf. Drejer and Hove (2004). This figure covers all foreign-exchange transactions, not only those where one leg is in Danish kroner. No statistical data is available concerning the percentage of the turnover in the foreign-exchange market for Danish kroner that is electronic.

SETTLEMENT OF FOREIGN-EXCHANGE TRANSACTIONS IN DANISH KRONER

As a main rule, settlement of transactions in the foreign-exchange market for Danish kroner takes place two banking days after the trade date.¹ Settlement in the foreign-exchange market takes place via correspondent banks or via CLS² (Continuous Linked Settlement), an international settlement system for foreign-exchange transactions.

On settlement via a correspondent bank, the foreign exchange traded is normally transferred via a bank in the home country of the currencies in question. For example, krone-euro transactions are settled via banks

¹ This is known as "T+2" settlement. One or several bank holidays in a country means that settlement of all currency pairs including the currency of that country is postponed for one or more days.

² For a description of CLS, see Danmarks Nationalbank (2003b).

in Denmark and the euro area. All foreign-exchange dealers have a network of correspondent banks with foreign-exchange accounts in various countries. In practice, the parties independently submit payment instructions to their correspondent banks, requesting them to transfer the amount in question to the counterparty's account with its correspondent bank.

In recent years there has been focus on correspondent bank settlement, which entails certain risks since a party cannot be completely sure that the counterparty submits its payment instruction and executes payment.¹ In September 2002, CLS was established. In this system, foreign-exchange transactions are settled on a payment-versus-payment basis, whereby it is ensured that both parties to a transaction have effected payment to CLS before the payments are exchanged. At present 15 different currencies are traded via CLS, including Danish kroner, which joined CLS in September 2003. The use of CLS reduces the settlement risk in international foreign-exchange trading.²

In March 2005, the volume of foreign-exchange transactions in Danish kroner via CLS was equivalent to around two thirds of the global turnover of Danish kroner in April 2004, cf. CLS (2005). The high percentage of krone transactions settled via CLS reflects that a large share of the foreign-exchange market for Danish kroner is concentrated on a small number of banks, which are all linked to CLS. Large "market shares" for settlement via CLS are also seen for other small currencies, e.g. New Zealand dollars, while the percentage is somewhat lower for large currencies such as the pound sterling.

¹ This is known as "Herstatt risk", cf. Chapter 1 of Danmarks Nationalbank (2005).

² The concentration of global foreign-exchange settlement in CLS has, however, led to a concentration of operational risk, cf. Chapter 8 of Danmarks Nationalbank (2005).

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Demographics, Growth and Financial Markets

Erik Haller Pedersen, Economics

INTRODUCTION AND CONCLUSIONS

In the coming decades, demographic structures will change, both globally and in Denmark, with steadily more elderly people and fewer people of working age. So far, the debate in Denmark has focused mainly on the consequences of the ageing trend for government finances and the future financing of the existing welfare schemes¹. This article takes a slightly different approach by considering the potential consequences of ageing for the financial markets and the economy in general. To examine this topic, it is necessary to look beyond Denmark's borders and view the issue in a global perspective.

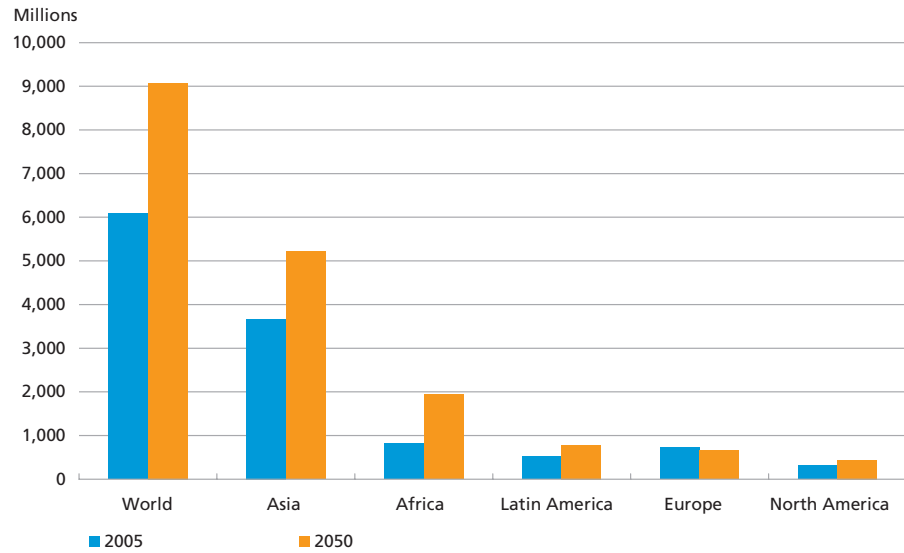
The conclusion is that the coming decades will see a radical shift in the global population and the economic power balance between countries and regions, e.g. as a consequence of diverging population growth. The global economic importance of Europe will decline. Ageing populations are a global phenomenon, but the process is more pronounced and further advanced in Europe and Japan than in other parts of the world.

The analysis shows that we are at a demographic turning point. Where demographic trends in recent decades have supported lower interest rates and higher share prices and cash prices for owner-occupied homes, the demographic development in the next 50 years is likely to exert upward pressure on both nominal and real interest rates, and downward pressure on share prices and housing prices. However, it is by no means certain that this will actually result in rising interest rates and falling share prices and housing prices, since the demographic effect will in all cases be dominated by other factors, which may have the opposite effect. It is difficult to find robust historical correlations as the basis for projections.

¹ The issue has been discussed in Denmark by e.g. the Welfare Commission, the Economic Council, the Ministry of Finance and the DREAM (Danish Rational Economic Agents Model) Group.

THE GLOBAL POPULATION IN 2005 AND 2050

Chart 1



Note: UN population forecast 2004, medium scenario.

Source: UN World Population Prospects: The 2004 Revision Population Database, <http://esa.un.org/unpp/>.

THE GLOBAL DEMOGRAPHIC DEVELOPMENT UNTIL 2050

According to the UN's medium scenario¹, the global population will grow from just over 6 billion today to more than 9 billion in 2050², cf. Chart 1. Most of this growth will be seen in Asia and Africa, but the populations of the Americas will also be on the increase. In all regions, the rate of population growth will decline towards 2050, but it will only be negative in Europe, Japan and China, cf. Table 1.

Viewed in isolation, the declining fertility rate means that over a protracted period the average age of the population will increase. The average life expectancy is also increasing globally, which further amplifies this process. Different regions are at different stages of the ageing process, cf. Chart 2. In the fastest-ageing countries, i.e. the high-income countries, ageing typically entails that the large generations from the 1940s reach retirement age³, and the population of working age declines. For low- and medium-income countries, on the other hand, large

¹ In this scenario it is assumed that the fertility rate continues to decline globally to reach the reproduction level in 2050, but with regional differences. The global population will continue to grow long after this level has been reached. The mortality rate is also assumed to continue to fall.

² The UN population forecast has historically been relatively accurate. For instance, in 1958, when the global population was 2.5 billion, the UN forecast that the population in 2000 would be 6.3 billion. The actual figure was 6.1 billion. Needless to say, this is no guarantee that the current projection will be equally precise.

³ The "baby boom generation" from around World War II is not a purely Danish phenomenon. It is seen in practically all industrialised countries.

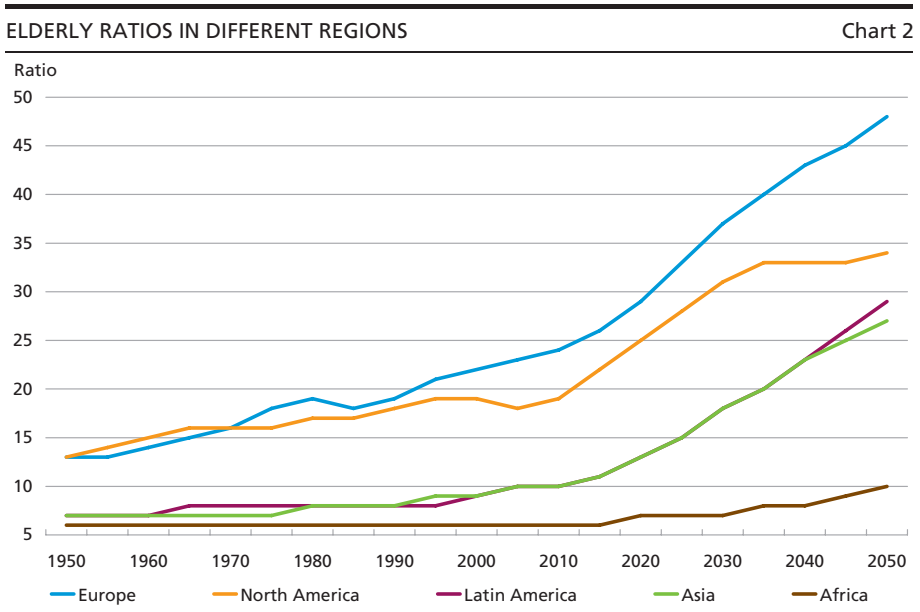
POPULATION GROWTH (MEDIAN AGE, YEARS)		Table 1		
Per cent p.a.	1950-1955	2000-2005	2045-2050	
World	1.8 (24)	1.3 (27)	0.4 (38)	
Europe	1.0 (30)	0.0 (38)	-0.3 (47)	
North America	1.7 (30)	1.0 (35)	0.4 (42)	
Latin America	2.7 (20)	1.6 (24)	0.2 (40)	
Asia	2.0 (22)	1.4 (26)	0.2 (40)	
Africa	2.2 (19)	2.3 (18)	1.2 (27)	

Note: The median age is the age for which half the population is older and the other half younger than the age stated.
 Source: UN World Population Prospects: The 2004 Revision Population Database.

generations reach working age and are replaced by smaller generations as a result of decreasing fertility rates, i.e. initially the percentage of the population that is of working age increases in these countries.

In Europe, the median age in 2050 will be close to 50 years, i.e. half the population will be above this age, cf. Table 1. In southern European countries such as Spain and Italy the median age will be as high as 55 years. The traditional age pyramid will simply be turned upside down.

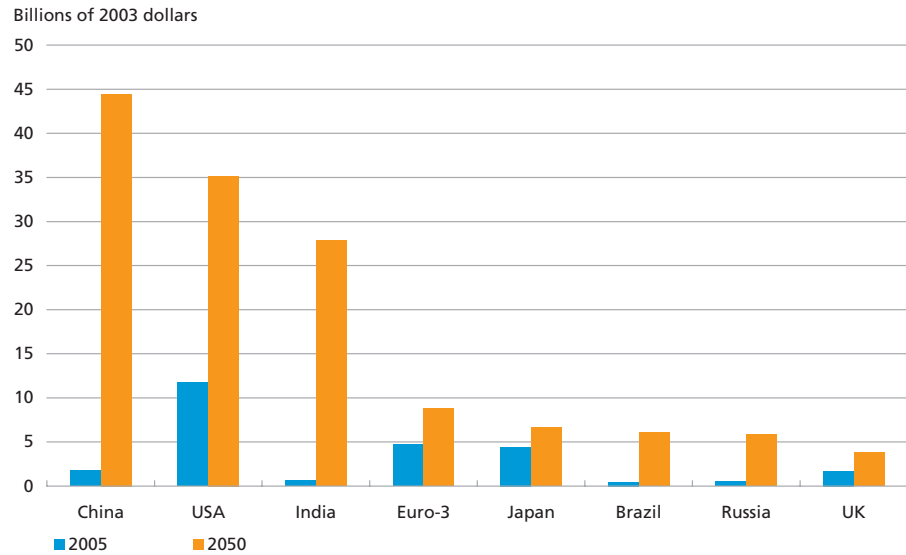
The ageing of the population will be inevitable in the decades to come, and we must come to terms with it. If the ageing process in Europe were to be resolved purely via immigration from regions with



Note.: Percentage of the population aged 60 or more.
 Source: As Chart 1.

DISTRIBUTION OF GLOBAL GDP IN 2005 AND 2050

Chart 3



Note: Euro-3 comprises the three largest euro area members states: Germany, France and Italy. They accounted for approximately half of the EU's GDP in 2005.

Source: Goldman Sachs (2003).

younger populations, this would require immigration on a much larger scale than today.¹

THE DEVELOPMENT IN THE GLOBAL ECONOMIC POWER BALANCE

Declining populations in Europe, combined with ageing, will lead to significantly fewer people of working age, which will affect the growth potential of the economy. The EU estimates that its annual potential growth will decline from 2.5 per cent today to only 1.5 per cent in 40 years' time. The reverse situation is seen in regions with growing populations of working age. Consequently, the distribution of global GDP by regions will change drastically over the next few decades. This is not only attributable to demographics, but also to the catching-up effect, whereby GDP per capita in the poorer countries approaches that of the wealthier nations. The exception is Africa, where growth is still slow in many countries.

Chart 3 shows GDP by regions in 2005 and 2050, cf. a projection by Goldman Sachs (2003). Other projections give slightly different figures,

¹ If the old-age ratio in the EU is to be maintained at the current level until 2050, almost 6 million immigrants per year are required. Taking into account that these immigrants also grow older, the required immigration rate in order to maintain the current old-age ratio rises to more than 10 million per year, cf. Deutsche Bank Research, *The Demographic Challenge*, September 2002, www.dbresearch.com.

GDP PER CAPITA AND DEMOGRAPHICS

Box 1

GDP per capita can be decomposed as follows:

$$Y/N = Y/L * L/WA * WA/N \quad \text{where}$$

Y = real GDP

N = total population

L = number of people in employment

WA = population of working age

The identity shows that real GDP per capita (Y/N) can be decomposed into real income per person in employment (Y/L) multiplied by the employment rate (L/WA) multiplied by the population of working age as a ratio of the entire population (WA/N).

In some countries, it will be possible to increase the employment rate somewhat to counter the decline in the population of working age. In Denmark this option is limited due to the already high employment rate, but even in countries where the employment rate is relatively low today it will typically not be possible to solve, but merely to mitigate, the consequences of ageing by increasing the employment rate.

If the employment rate is assumed to be constant, ageing in the industrialised countries, viewed in isolation, will reduce GDP per capita (WA/N declines) since there will be fewer people to produce and relatively more to share the value added in society. However, this will presumably be set off by further productivity increases, e.g. as a result of technological advances, which will make Y/L increase. Assessed on the basis of historical developments, it is most likely that productivity growth will dominate the demographically determined fall in the population of working age as a ratio of the entire population (WA/N), so that real GDP per capita will continue to increase, even in the fastest-ageing populations, cf. the projection behind Chart 4. The conclusion is that the demographic impact on GDP per capita is likely to be secondary in relation to the increase in productivity.

If we consider the industrialised countries alone, the fact that the USA has demographics on its side, while Europe and Japan have demographics against them, implies an ever larger lead to the USA in terms of GDP per capita.

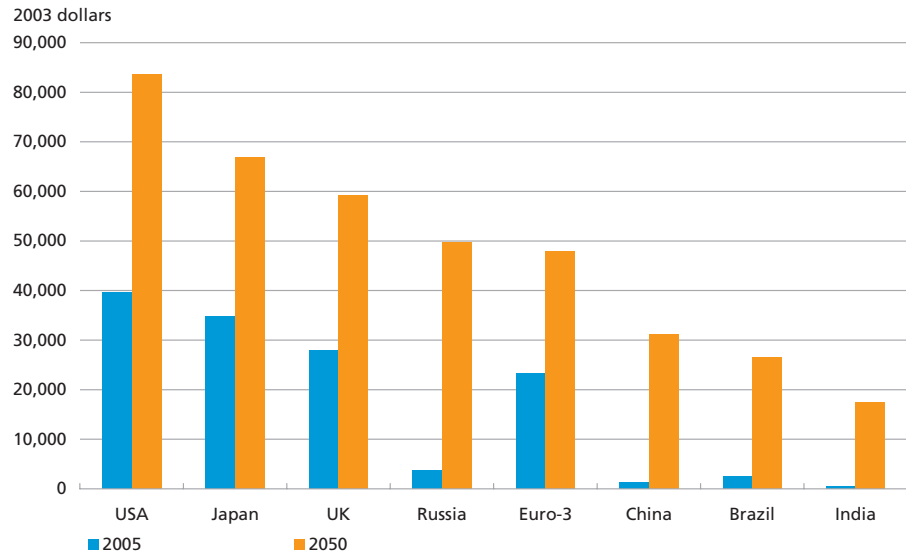
An open question is whether there is a link between ageing and productivity. The literature does not agree on this point.

but the overall pattern appears to be the same. China and India will in all probability develop into economic superpowers, while the relative size of Europe in particular will decline. This development is natural in a way since it will ensure greater balance between the geographical location of the global population, and thus the workforce, and value creation.

The welfare consequences of the demographic development are, however, linked to GDP per capita rather than to the absolute levels, cf. Box 1. According to the above projection by Goldman Sachs, the "old" industrialised countries will still have the highest GDP per capita in 2050, cf. Chart 4.

GDP PER CAPITA IN DIFFERENT COUNTRIES AND REGIONS

Chart 4



Note: Euro-3: Germany, France and Italy.
Source: Goldman Sachs (2003).

DEMOGRAPHICS AND THE FINANCIAL MARKETS

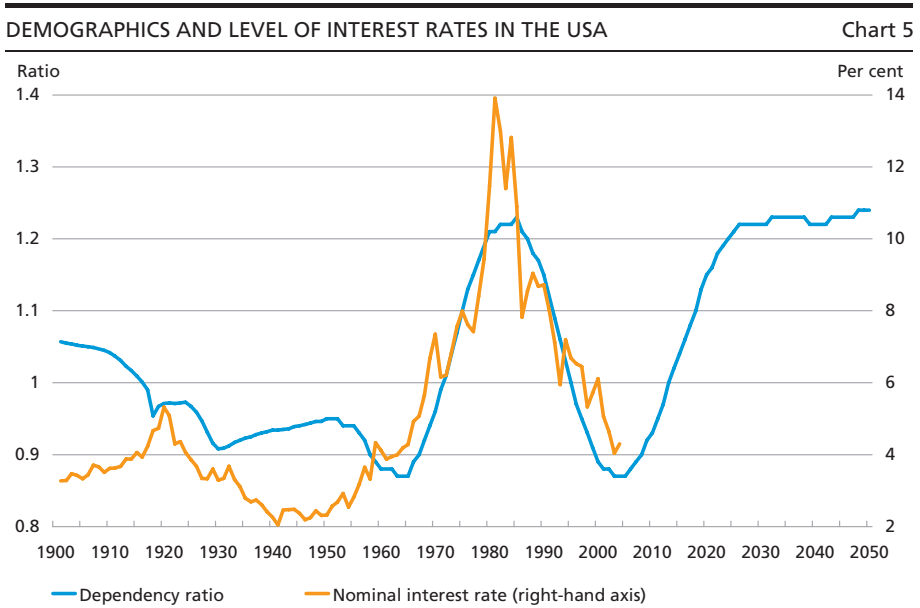
In the economic literature it is typically assumed that people's financial behaviour is determined by a wish to balance consumption over their lifetimes, i.e. consumption and savings decisions are a function of the individual's age, cf. Appendix 1. Young people between the ages of e.g. 20 and 34 are typically borrowers, the middle-aged between 35 and 59 are net savers, while the over 60s are running down their savings (dis-savers). Continuing along this line of thought, the dependency ratio can be calculated as borrowers (20-34 years) and those who live off their savings (dis-savers) (60+ years) as a ratio of savers (35-59 years), i.e. wealth consumers as a ratio of wealth builders, cf. Barclays (2004). Children and teenagers are omitted since they typically do not make independent savings and investment decisions on any substantial scale. As discussed in Appendix 1, the empirical evidence to support the hypothesis that the over 60s spend their savings is not very strong.

For society as such, the demographic development will thus influence savings and consumption, which in turn affect the level of interest rates and returns on shares. If, as is currently the case, a population is dominated by people aged between 35 and 59, the savings ratio will be relatively high, and thereby also the demand for financial assets. This exerts upward pressure on share and bond prices, i.e. interest rates are low. On the other hand, the level of interest rates influences the savings

volume, since a real interest rate can be interpreted as the cost of intertemporal reallocation of consumption.

The opposite applies if the population is dominated by borrowers and spenders of savings. As the baby boomers reach retirement age in the coming decades, they will to some extent seek to realise their assets, which will push share and bond prices down and interest rates up, since the generations that are to take up the assets are smaller. This effect is mitigated if the smaller generations save relatively more than previous generations, which is presumably the case, e.g. in view of the international trend for increased funding of pension savings.

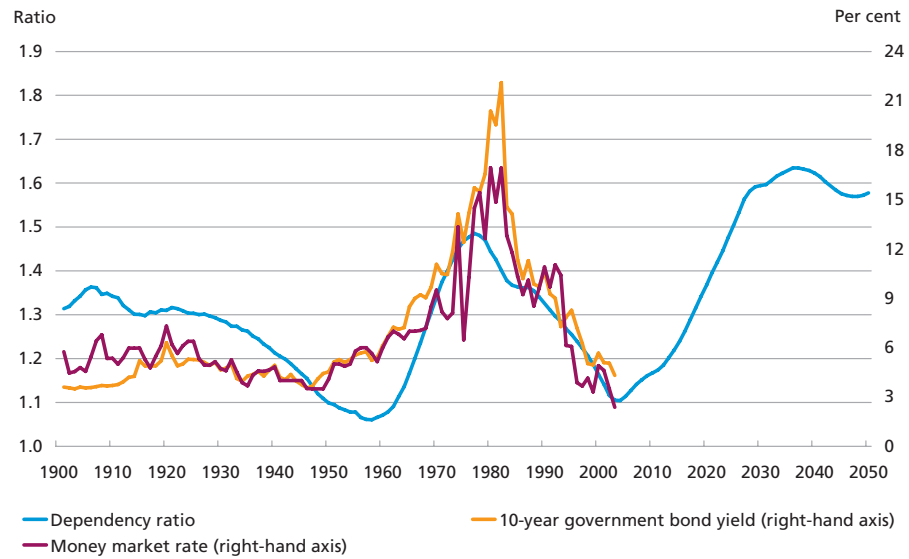
On the face of it, the correlation between the dependency ratio and the nominal interest rate is surprisingly strong, cf. Charts 5 and 6. The high level of interest rates in the 1970s coincided with a relatively small population aged 35-59. As the baby boomers have reached the age where they save up, the level of interest rates has declined, and in recent years it has reached a low, while the group of savers is back at the level seen in the 1st half of the 20th century. Looking ahead, the proportion of the population that are savers will decline significantly, and the dependency ratio will therefore increase. This correlation is seen in virtually all industrialised countries and indicates downward pressure on bond prices and thereby a trend for rising interest-rate levels in the coming decades.



Note: The dependency ratio is defined as the population aged 20-34 (borrowers) and over 60 (spenders of savings) as a ratio of the population aged 35-59 (savers), i.e. wealth consumers as a ratio of wealth builders.
 Source: Bureau of Census and Abildgren (2005).

DEMOGRAPHICS AND LEVEL OF INTEREST RATES IN DENMARK

Chart 6



Note: The dependency ratio is defined as the population aged 20-34 (borrowers) and over 60 (spenders of savings) as a ratio of the population aged 35-59 (savers).

Source: Statistics Denmark, population projection 2005 and Abildgren (2005).

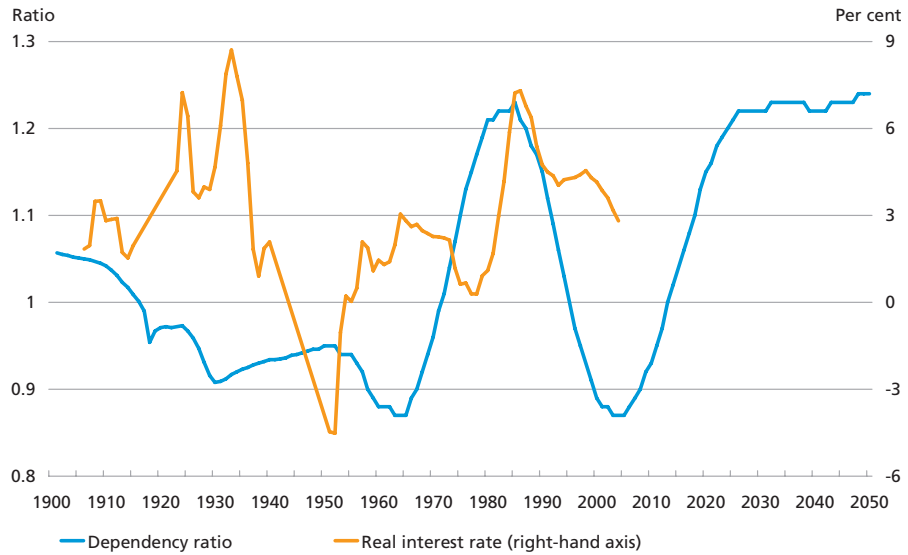
Demographic factors are not the classical explanation for the period of high interest rates in the 1970s, nor for the current low level of interest rates. Indeed, interest-rate levels are determined by many other, potentially more important, factors such as monetary and fiscal policy, and furthermore the impact of demographics on interest rates is indirect via savings and investment decisions, which in turn are influenced by many other factors.

As Charts 5 and 6 show, interest-rate levels in recent decades have been in line with demographic developments. However, in theory a shift in the savings-investment balance should primarily be reflected in real, rather than nominal, interest rates, and in this respect the correlation with demographic variables is less apparent, cf. Chart 7. In the 1st half of the 20th century, prices were strongly influenced by World Wars I and II, as well as the deflation in the 1930s. This resulted in highly volatile real interest rates¹.

As regards the stock market, the dependency ratio and a real share price index should fluctuate in opposite directions. A faint relationship of this kind is seen in Danish figures for the 2nd half of the 20th century, but the real returns on share investments are highly volatile, cf. Chart 8.

¹ Calculating a real interest rate is not trivial, since the expected development in inflation must be projected and is not necessarily identical to the current inflation applied here. For further discussion of this issue, see Pedersen (2001).

DEMOGRAPHICS AND REAL INTEREST RATES IN THE USA Chart 7

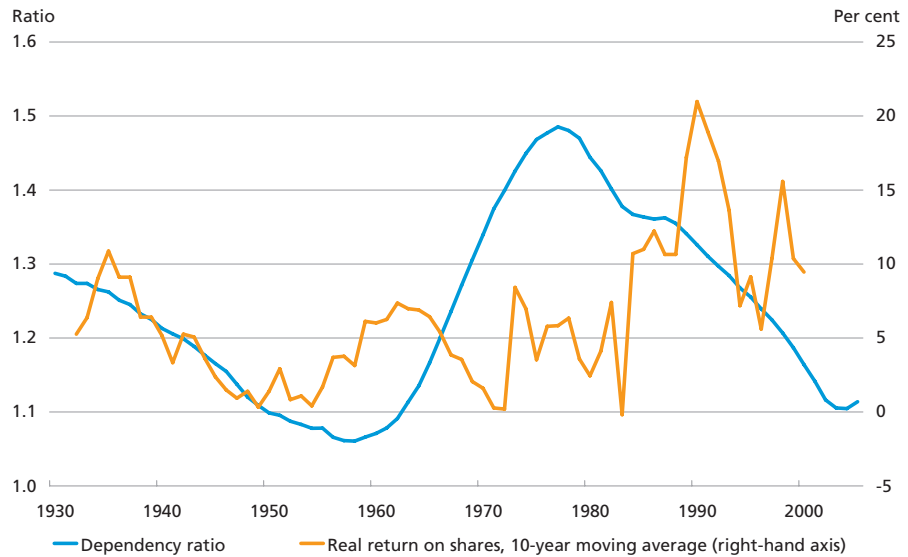


Note: The dependency ratio is defined in the note in Chart 5. The real interest rate is calculated by deducting the current increase in consumer prices from the nominal 10-year government bond yield.

Source: Bureau of Census and Abildgren (2005).

Potaba (2001) analyses relations between demographics and financial returns using US data and concludes that it is difficult to find a robust correlation between demographics and real returns, including on shares.

DEMOGRAPHICS AND REAL RETURN ON SHARES IN DENMARK Chart 8



Note: The dependency ratio is defined in the note in Chart 5.

Source: Statistics Denmark, Risager (2003) and own projections.

The demographic variable is overshadowed by other factors, even in the long term. Consequently, interest rates and share prices cannot be projected solely on the basis of demographic variables. It does not seem realistic that the level of interest rates towards the middle of this century will reach the level from the 1970s, even though the dependency ratio does, but demographics are likely to have a qualitative impact in supporting rising interest rates.

Even if the correlation between demographics and real returns is weak, the question remains of whether there is a link between demographics and inflation. The argument would be that the demographic development can be more or less favourable in relation to inflation. For instance, when inflation became endemic in the 1970s, one of the reasons was, according to this argument, a small population of working age. A demand shock such as the oil price hikes thus triggered a price and wage spiral¹. Again, this is not the traditional explanation, which typically attributes high inflation to accommodating monetary policy combined with unsuccessful fiscal policy. In Denmark's case, foreign-exchange policy was also a factor, since repeated devaluation stimulated the wage/price spiral.

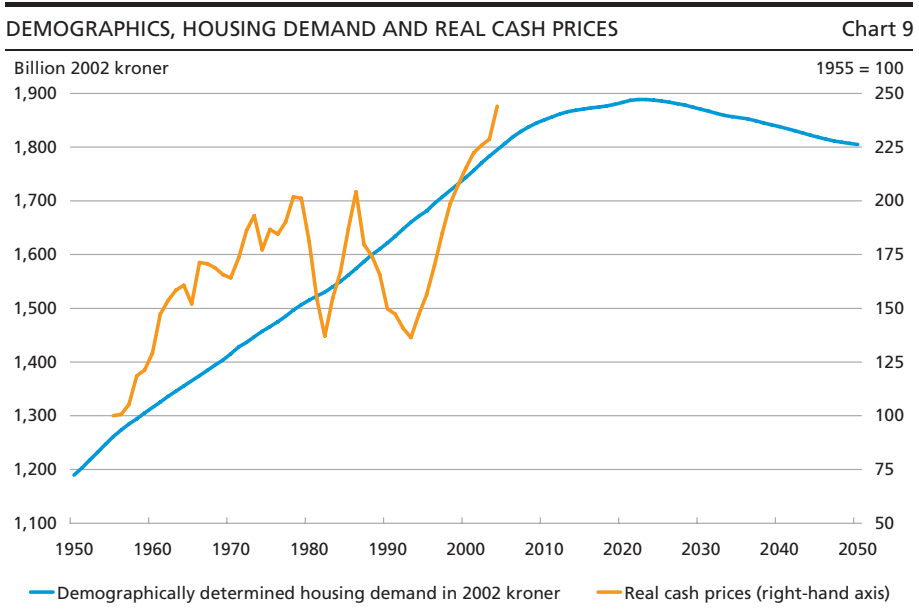
That demographic factors play a role in price development is evident today, where a large labour reserve in e.g. Asia exerts downward pressure on global consumer prices. Looking forward, we might take a more politological approach. As the electorate ages, economic preferences for low inflation will become stronger. Based on this argument, the demographic development over the next 50 years will point to low inflation. All things considered, it is, however, problematic to view demographic fluctuations as the decisive factor behind variations in inflation.

A fundamental weakness of correlating demographic variables with financial variables, inflation, etc. is that the demographic variable is very sluggish. Even with figures dating back to the early 20th century, the degrees of freedom are in fact very limited. This makes it difficult to perform convincing econometrics on the data for use as a basis for projections, cf. Potaba (2001).

DEMOGRAPHICS AND THE HOUSING MARKET

Homes are traded internationally to a far lesser extent than financial assets. Consequently, purely national factors are more likely to influence price formation. Chart 9 shows demographically determined demand for

¹ Cf. Barclays Capital Research (2004).



Note: For a calculation of the demographically determined housing demand, see Appendix 2.
 Source: ADAM database, Statistics Denmark, consumption survey and own calculations.

owner-occupied homes, determined on the basis of a breakdown of Danish cash prices for owner-occupied homes in 2002 by age groups, cf. Appendix 2. The demographically determined housing demand shows the isolated impact of demographics on housing demand, all other things being equal. On the basis of a demographic projection, the resulting housing demand in constant prices can be projected up to 2050 and compared with the historical development in real cash prices¹.

As the Chart shows, the demographic development over the last 50 years has led to higher demand for owner-occupied homes and, viewed in isolation, this has supported the increase in cash prices. This will change in the coming decades as the demographically determined demand flattens and then falls a little. On the other hand, there does not seem to be any basis for fearing a demographically determined collapse of cash prices in the coming decades, but unlike at present the demographic development will dampen the increases.

The above should not be viewed as an estimate of the future development in real cash prices, since they are influenced by many other factors besides demographics. Firstly, real incomes will presumably continue to rise, which in itself will increase the housing demand – in terms of more homes, but also in terms of the quality of existing homes. Secondly, interest rates and economic development are also important,

¹ For an equivalent analysis of US data, see Mankiw and Weil (1989).

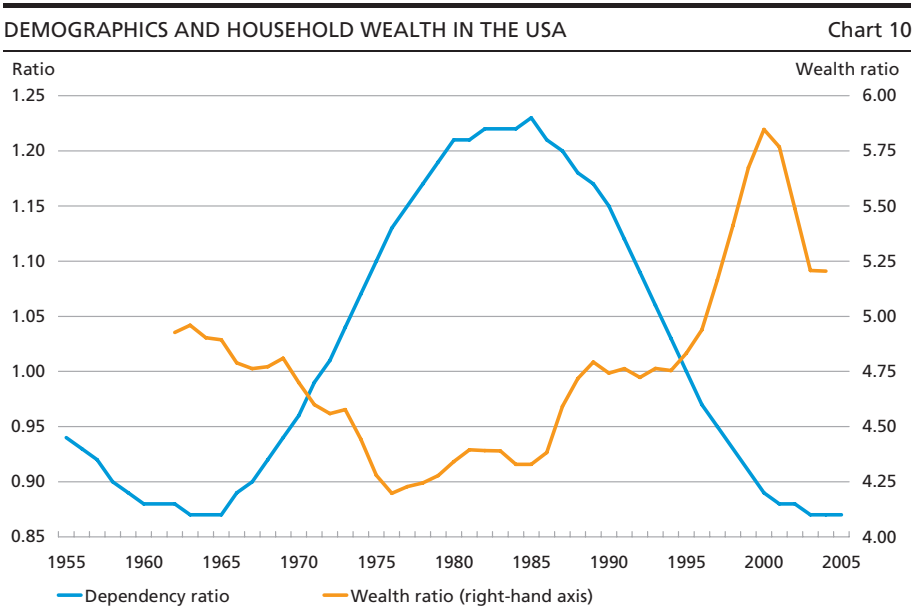
especially in the short and medium term. For instance, the real cash price in Chart 9 is strongly influenced by the economic stop-go policies of the 1980s, as can be seen. Housing demand is also affected by a steady fall in the size of the average household, as the number of singles increases. This boosts the demand for housing from a particular population group. Finally, the supply side is naturally also of paramount importance in the long term.

What remains, however, is that a significant factor underlying housing demand, viz. population growth, will decline in the coming decades, while at the same time the age structure will change. Viewed in isolation, this will dampen the growth in cash prices. On the other hand, there are no indications of a demographically determined collapse of the housing market. Large regional differences are, however, to be expected.

APPENDIX 1

As expected, US data shows a clear negative correlation between the dependency ratio and the households' wealth, cf. Chart 10. When the 34-59-year age group is large, as is currently the case, the savings ratio – and thus the wealth ratio – is high, and vice versa. It is significant to the result that wealth gains are included. Applying the savings ratio from national accounts, which does not include capital gains, the correlation is positive, not negative. In this article, the USA is used as a proxy for the rest of the world.

In the life-cycle hypothesis, the theory is that people save while they are active in the labour market and then spend their savings when they grow older. The question is, however, whether the theory of older people as wealth consumers holds water. Potaba (2001) shows that it is doubtful for US data, and Danish data do not seem to support the theory either, cf. Table 3. It is true that the net wealth of the over 85s is considerably lower than for other retired people, but the main explanation is that relatively few in this group own their homes. However, it might be significant that pension wealth is omitted. If it is included, the conclusion may be less clear.



Note: The dependency ratio is wealth consumers as a ratio of wealth builders. For a more detailed definition, see the note in Chart 5. The wealth ratio is the households' wealth as a ratio of their annual income.
 Source: Bureau of Census and Federal Reserve.

WEALTH AMONG DIFFERENT AGE GROUPS

Table 3

Kr.	Net wealth	Mortgage debt
Under 65 years	253,000	513,000
65-69 years	691,000	215,000
70-74 years	592,000	119,000
75-79 years	615,000	84,000
80-84 years	758,000	61,000
85-89 years	466,000	54,000

Note: Figures at end-2000 excluding pension wealth.

Source: Statistics Denmark, StatBank Denmark, Income, consumption and prices 2003:20, Consumption survey.

APPENDIX 2

On the basis of cash values broken down by age groups, the total demand of each age group is calculated, defined as the cash value multiplied by the number of households in the age group. This figure is multiplied by an index of the development in the population from 1955 to 2050, with index 2002 = 1. This gives the demographically determined demand for owner-occupied housing within the age interval in question. The aggregate housing demand is found by adding the age groups. This calculation implicitly assumes that the relative housing demand across age groups is constant over time. For a further discussion of the method, see Mankiw and Weil (1989).

CASH VALUE OF OWNER-OCCUPIED HOUSING BY AGE GROUPS Table 2

	Cash value per household in 2002 kroner	Number of households, thousands
Under 20 years	35,000	13
20-24 years	90,000	174
25-29 years	260,000	216
30-34 years	585,000	225
35-39 years	651,000	234
40-44 years	880,000	232
45-49 years	1,024,000	243
50-54 years	892,000	224
55-59 years	1,050,000	231
60-64 years	989,000	177
65-69 years	740,000	158
70-74 years	698,000	125
75-79 years	601,000	127
80-84 years	502,000	88
Over 85 years	333,000	58

Source: Statistics Denmark, Consumption survey 2002, special extract.

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Speech by Governor Nils Bernstein at the Annual Meeting of the Danish Bankers Association on 30 November 2005

I appreciate the friendly welcome that I have been given by the banking industry and thank you for this invitation to speak today.

Let me start by stating that I intend to continue the line set by my predecessor in relation to monetary and foreign-exchange policy. This policy has served Denmark well.

I have been around for so long that I remember the time when we used exchange-rate adjustments actively to solve our structural problems. As we know, this led to double-digit inflation rates and interest rates exceeding 20 per cent. In the end, it became plain to all that this policy was not sustainable.

Today, there is only seldom focus on the fixed-exchange-rate policy. Outside Denmark, it is in a way viewed as outdated. Nevertheless, this policy has been important for Denmark. It has had broad political support and contributed to very low inflation; in practice so low that ordinary people hardly think about it any longer. In the last 15 years annual price increases have been kept at around 2 per cent on average, and retail prices have remained completely stable in recent years. This safeguard of real wages is to everyone's benefit each and every day.

For the corporate sector it is easier to plan ahead when the exchange rate vis-à-vis the euro is stable. The foundation for their investments does not suddenly change due to changes in the exchange rate. Companies know that it is primarily up to them to meet future demands by developing products and human resources.

The lower rate of inflation is not an isolated Danish phenomenon – it is seen worldwide. The increasing integration of Asian countries into the global economy dampens prices and wages in the rest of the world. This is also reflected in long-term yields. Since the global propensity to invest is lower than is normally the case, and since both central banks and pension funds are currently buying large portfolios of long-term bonds, long-term yields are at the lowest level in the post-war era.

These effects will diminish at some point – we do not know when – but when that does happen, interest rates will rise.

Denmark's economic policy has had broad political support for a number of years. In fact, the Danish "model" is increasingly seen as a role model for other countries.

Our labour market is particularly interesting, and the way we make flexibility go hand in hand with social security. What we see now is the result of many years' development of the Danish model. This is a never-ending process. Good reforms require careful preparation and considerable time. Ideas need to mature to ensure support for the reforms. The process is important to achieving a good result.

The fixed-exchange-rate policy means that the level of Danish interest rates is generally determined abroad. This also implies that it does not always match Danish needs. In practice, this has not constituted a problem. Fiscal policy has been designed so as to avoid both overheating and high unemployment. A forward-looking and reform-oriented policy usually means that only minor adjustments are required in connection with the annual Finance Act. Therefore, it is important to keep sights on long-term objectives all the time.

In this context, experience from other countries can be useful. The Netherlands is currently struggling to get out of a recession that is self-inflicted. A favourable economic climate in the late 1990s led to large government surpluses. Some of the surplus was used to finance e.g. tax cuts, and the economy overheated. However, the consequences were not evident until a late stage. Wages soared, and so did unemployment, and suddenly government finances showed a large deficit. It was necessary to tighten policy in the throes of a recession that only now seems to be receding. The lesson is: do not spend the surplus when the economy is good – particularly if there is the slightest risk that competitiveness will suffer.

The Danish economy has developed favourably in recent years. This is naturally very satisfactory. Unemployment has declined and is now at a low level, private consumption is increasing by leaps and bounds, and yet we have a current-account surplus and cash is flowing into the government coffers. It is almost too good to be true – and there is indeed reason to exert some caution.

Demand is still strong – and perhaps a little too strong. We do not know for certain. But the day, we do know that things are going too fast, we will have some unpleasant years ahead. At that point it will be too late to make adjustments without considerable costs. The challenge we face today is to ensure a balance that will enable us to reduce unemployment even further. We need to bring more of the weakest in society permanently into the labour market – and that will not be possible if the economy overheats.

Speed limits should therefore not only be observed on the roads, but also in economic policy. Economic speeding has far more serious implications than an endorsement on a driving licence. Currently, this means that there is no scope for any relaxation on either the revenue or expenditure sides – on the contrary in fact. Central and local government must observe the expenditure targets, and the cyclical position does not warrant unfinanced tax cuts.

The lesson to be learned from the Netherlands is clear: in an upswing the economic policy must not contribute to further accelerating developments.

Many of the large euro area member states are struggling with economic difficulties. Large-scale unemployment leads to uncertainty. There is increasing awareness of the need for greater labour market flexibility. Yet so far the reforms have been small.

A key problem in Italy, France and Germany is that companies are not investing sufficiently in their home countries, and since households are reluctant to spend, the only option is to wait for an export-driven upswing.

A consumption-driven upswing in Europe would be desirable. To this end households must be willing and able to spend more. However, in many member states the financial sector is not geared to financing the households' consumption or housing requirements. The banking structure is based on household savings financing corporate investments, not on lending to households.

In Denmark, lending by banks and mortgage-credit institutes to households matches the level of output. At the other extremity within the EU, Italian households have only borrowed one quarter via these market channels, but the figure is presumably higher if loans from relatives are included. Yet market channels are important if family relations are not to be the central factor when young people buy a home or a car, or spread consumption rationally over their lifetimes.

The very high level of borrowing by Danish households reflects especially that homeowners can borrow from the capital market via the mortgage credit system. This is an advantage, but also has its drawbacks. New loan types, also from the banks, have probably contributed to the very strong increases in house prices. However, most of the increases must be attributed to the low interest rates, growth in real incomes and the freeze on property taxes. This is therefore not an inexplicable price bubble, yet prices may fall when interest rates go up.

Times are good for the banks, and lending is growing. Good times are also when losses are seen as a thing of the past, and credit quality may deteriorate. Not in one's own bank, but among competitors.

The banks face the major task of incorporating the new international accounting standards and the forthcoming capital-adequacy rules – Basel II. This requires considerable resources. It is also an important task requiring each bank to assess its need for buffers against bad times. Other parts of the financial sector have also devoted many resources to new legislation and its implementation. The European Commission has now indicated that all major legislation is in place in the financial area. Now we need to make the single market for financial services work.

The IMF is assessing the entire financial system in Denmark as part of its Financial Sector Assessment Program – FSAP. Let us take this as a good opportunity for a service check. It is good to take a fresh look at whether we have an optimum structure in relation to international standards. The IMF has just concluded a two-week visit to Denmark. I would like to thank the members of the Danish Bankers Association and a large number of the other players in the financial system for their efforts in connection with this visit. FSAP is a long process and there is still considerable work ahead in the coming months. The IMF's final assessment of Denmark and its recommendations are expected to be presented in mid-2006.

Bodil (Nyboe Andersen) has asked me to extend her gratitude for your fine cooperation – not only over the past year, but over many years. I hope this fine cooperation will continue in the years to come.

Issued Working Papers

- An alternative measure of core inflation
by Michael Pedersen 2005 • 33
- Perspectives on bond lending and specialness
by Lars Jul Hansen, Stig Hesselberg and Louise C. Mogensen 2005 • 32
- The monetary-policy regime and the development in central
macroeconomic variables in the OECD countries 1970-2003
by Anders Møller Christensen and Niels Lynggård Hansen 2005 • 31
- Skøn over den offentlige budgetsaldo siden 1875
by Kim Abildgren 2005 • 30
- Contagion Risk in the Danish Interbank Market
by Elin Amundsen and Henrik Arnt 2005 • 29
- Testing the Assumptions of Credit-scoring Models
by Anne Dyrberg Rommer 2005 • 28
- Assessing the consequences of Basel II: Are there incentives
for cherry-picking when banks pool data across countries?
by Lisbeth Borup, Dorte Kurek and Anne Dyrberg Rommer 2005 • 27
- A Comparative Analysis of the Determinants of Financial
Distress in French, Italian and Spanish firms
by Anne Dyrberg Rommer 2005 • 26
- Samvariation i danske konjunkturcykler
by Frank Øland Hansen 2005 • 25

Press releases

28 NOVEMBER 2005: SLOVAKIA JOINS ERM II

With effect from 28 November 2005, Slovakia joined the EU's exchange rate mechanism, ERM II.

Danmarks Nationalbank welcomes the new participant in ERM II.

The central rate and fluctuation bands of the new currency has been fixed vis-à-vis the euro and are stated in press releases from the EU and the ECB. The press releases from the ECB are available at www.Nationalbanken.dk under Monetary Policy/Exchange Rate Mechanism/ERM II. The entry of the new member state will not entail any changes in the central rate, fluctuation band and other terms and conditions for the Danish krone in ERM II.

1 DECEMBER 2005: INTEREST-RATE INCREASE

The discount rate and the interest-rate on the banks' current accounts with the Nationalbank are raised by 0.25 per cent to 2.25 per cent. The Nationalbank's lending rate and the rate of interest on certificates of deposit are raised by 0.25 per cent to 2.40 per cent. The increase will have effect as from 2 December 2005.

The interest-rate increase is a consequence of the raising by the European Central Bank of the minimum bid rate on the main refinancing operations by 0.25 per cent to 2.25 per cent.

1 FEBRUARY 2006: NEW TOWER COIN WITH GRÅSTEN PALACE

On 15 February 2006, Danmarks Nationalbank issues a new tower coin with the Bell Tower of Gråsten Palace as its motif. This is the eighth in the series of tower coins, of which the first was issued in 2002.

The motif for the new tower coin is designed by the sculptor and graphic artist Sys Hindsbo.

Can be used as an ordinary 20-krone coin

The Gråsten Palace coin is issued in an edition of 1.2 million. The tower coin, which bears a portrait of the Queen on the obverse, can be used as an ordinary 20-krone coin.

Different parts of Denmark

On selecting the towers for the coin series, importance has been attached to choosing towers with different functions from different regions of Denmark. This is evident from the list of towers, which – besides the Bell Tower of Gråsten Palace – includes Nólsoy Lighthouse in the Faroe Islands, Landet Church on the island of Tåsinge, Svaneke Water Tower on Bornholm, the Goose Tower in Vordingborg, Christiansborg Palace Tower, the Old Copenhagen Stock Exchange (Børsen) and Aarhus City Hall Tower.

Series to be completed in 2007

The next tower coin is expected to be issued in the autumn of 2006, and the last of the 10 coins in 2007.

Photo gallery

Pictures of this and earlier tower coins can be downloaded from www.nationalbanken.dk – Press room, Photogallery.

16 FEBRUARY 2006: COIN SET FOR CHILDREN

On 28 February 2006, Danmarks Nationalbank for the first time issues a coin set especially for children.

The coin set unfolds like a picture book, from the stag on the front cover to the medal's happy little beetle with antlers and a crown. The motifs are inspired by animals of the forest and drawn in an imaginative style by the illustrator Cato Thau-Jensen.

Silver medal with space for a child's name

On the inside of the coin set, there is space for such information as a child's name, date of birth and christening date. A child's name can be engraved on the silver medal. It is up to the buyer of the coin set to arrange this, as Danmarks Nationalbank does not provide this service.

Besides the medal, the coin set comprises Denmark's coin series, i.e. 25- and 50-øre coins and 1-, 2-, 5-, 10- and 20-krone coins minted in 2006. This year's coin set for children is issued in a maximum edition of 10,000.

The coin set is on sale from 28 February 2006

The recommended retail price is kr. 250.00. The coin set can be purchased from banks, coin dealers, gold and silver smiths, and from Danmarks Nationalbank, Banking Services, Havnegade 5, DK-1093 Copenhagen K. The opening hours are Monday-Friday from 10.00 a.m. to 1.00 p.m.

Information and pictures, etc.

Pictures of the coin set can be downloaded from www.nationalbanken.dk under Press room, Photogallery, and details are available under Notes and coins, Coin set.

17 FEBRUARY 2006: INTEREST-RATE INCREASE

With effect from 17 February 2006 the lending rate and the rate of interest for certificates of deposit are raised from 2.40 per cent to 2.50 per cent. The discount rate and the rate of interest on banks' current accounts with Danmarks Nationalbank are unchanged at 2.25 per cent.

The increase by 10 basis points is due to an outflow of foreign exchange in February, among other things as a result of Danish institutional investors' purchase of foreign shares and other securities. In accordance with the fixed-exchange-rate policy Danmarks Nationalbank has intervened to support the krone. The interest-rate increase is intended to make placements in kroner more advantageous. Danmarks Nationalbank emphasises that the outflow of capital does not reflect a weakening of the Danish economy.

Tables

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

Danmarks Nationalbank's Statistical Publications

Symbols and Sources

0 Magnitude nil or less than one half of unit employed.

... Data not available or of negligible interest.

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

Date of going to press: 20 March 2006.

The Tables section of this publication is 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 Copenhagen Stock 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	The Nationalbank's interest rates			The ECB's minimum bid rate	End of period	Inter-bank interest rate, 3-months uncollat- eralized	Bond yields		Share- price index OMXC20 (prev.KFX) 3.7.89 =100	
	Discount rate	Lending and certifi- cates of deposit	Per cent per annum				Per cent per annum	10-year central- government bond		30-year mort- gage- credit bond
2001	3.25	3.60	3.25	2001	3.54	5.15	6.55	272.45		
2002	2.75	2.95	2.75	2002	3.00	4.45	5.47	199.49		
2003	2.00	2.15	2.00	2003	2.16	4.46	5.45	244.35		
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		
2005 2 Dec	2.25	2.40	2.25	Aug 05	2.13	3.08	4.18	365.65		
				Sep 05	2.14	3.09	4.24	370.60		
2006 17 Feb	2.25	2.50	2.25	Oct 05	2.22	3.39	4.46	356.82		
3 Mar ...	2.50	2.75	2.50	Nov 05	2.40	3.43	4.50	368.37		
	|	|	|	Dec 05	2.46	3.30	4.39	393.52		
	|	|	|	Jan 06	2.46	3.45	4.48	389.06		
2006 20 Mar ...	2.50	2.75	2.50	Feb 06	2.74	3.54	4.54	390.64		

SELECTED ITEMS FROM THE 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 the Nationalbank	The banks' and the mortgage-credit institutes' net position with the Nationalbank			
				Certificates of deposit	Deposits (current account)	Loans	Total net position
	Kr. billion						
2001	148.4	47.3	43.5	113.6	3.7	63.4	53.9
2002	193.2	47.7	50.3	160.7	10.1	81.2	89.6
2003	224.2	49.7	44.0	157.3	12.9	48.0	122.2
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
Sep 05	225.5	52.8	42.1	218.5	8.4	111.5	115.4
Oct 05	209.9	53.1	42.1	195.5	13.7	105.6	103.6
Nov 05	205.0	53.8	40.5	201.6	20.3	124.9	97.0
Dec 05	208.5	56.2	53.5	207.6	12.8	135.3	85.1
Jan 06	213.1	54.3	60.2	189.2	10.3	122.0	77.5
Feb 06	182.1	54.1	37.1	184.7	18.9	133.5	70.1

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

Table 3

	Central-government finance			Net purchase of foreign exchange by the National- bank	The National- bank's net bond purchases	Other factors	The banks' and the mortgage-credit institutes' net position with the Nationalbank	
	Domestic gross financing require- ment	Sales of domestic central- govern- ment securities	Liquidity effect				Change in net position	End of period
2001	81.2	87.7	-6.5	28.4	1.0	-3.6	19.3	53.9
2002	115.5	121.9	-6.4	45.4	-0.9	-2.4	35.7	89.6
2003	99.7	94.1	5.6	31.0	-1.0	-3.1	32.5	122.2
2004	75.5	92.6	-17.1	-6.4	-2.6	-1.2	-27.3	94.6
2005	39.5	30.9	8.6	-15.4	-2.2	-0.5	-9.5	85.1
Sep 05	-0.6	3.0	-3.6	3.9	0.9	-4.6	-3.5	115.4
Oct 05	4.8	3.5	1.3	-17.3	0.0	4.2	-11.8	103.6
Nov 05	-11.6	-12.0	0.3	-3.7	-2.2	-1.1	-6.6	97.0
Dec 05	-11.6	1.7	-13.3	3.4	-1.7	-0.3	-11.9	85.1
Jan 06	2.6	9.3	-6.8	0.8	-2.3	0.6	-7.6	77.5
Feb 06	7.7	-14.8	22.5	-30.4	0.7	-0.2	-7.4	70.1

SELECTED ITEMS FROM THE CONSOLIDATED
 BALANCE SHEET OF THE MFI SECTOR

Table 4

End of period	Total balance	Assets				Liabilities		Foreign assets, net ¹
		Domestic lending		Domestic securities		Domestic deposits	Bonds, etc. issued	
		Public sector	Private sector	Bonds, etc.	Shares, etc.			
Kr. billion								
2001	2,932.1	75.0	1,850.9	133.1	37.0	686.3	1,048.7	-57.0
2002	3,198.5	79.9	1,944.6	142.8	36.5	723.3	1,125.9	-66.8
2003	3,359.0	89.6	2,062.0	123.3	43.3	754.7	1,157.9	-70.7
2004	3,683.4	97.5	2,246.2	100.8	46.3	848.9	1,222.1	-66.9
2005	4,228.1	107.8	2,584.2	75.8	53.5	971.3	1,318.2	-172.9
Aug 05	4,083.5	101.4	2,486.1	87.4	49.6	950.7	1,270.8	-188.5
Sep 05	4,109.1	102.4	2,513.0	81.7	51.7	937.6	1,279.5	-188.2
Oct 05	4,099.6	103.5	2,521.1	77.4	51.7	949.8	1,237.4	-217.7
Nov 05	4,198.1	102.9	2,551.4	57.8	51.8	955.6	1,239.1	-222.5
Dec 05	4,228.1	107.8	2,584.2	75.8	53.5	971.3	1,318.2	-172.9
Jan 06	4,165.3	109.9	2,594.0	81.1	54.1	1,062.8	1,293.1	-122.9
Change compared with previous year, per cent								
2001 .....	...	10.2	9.5	16.6	-14.0	5.7	2.9	...
2002 .....	...	6.6	5.1	7.3	-1.4	5.4	7.4	...
2003 .....	...	12.1	6.0	-13.7	18.6	4.3	2.8	...
2004 .....	...	8.8	8.9	-18.2	7.0	12.5	5.5	...
2005 .....	...	10.6	15.0	-24.8	15.4	14.4	7.9	...
Aug 05 .....	...	10.9	14.0	-30.5	9.1	4.2	9.0	...
Sep 05 .....	...	10.8	14.1	-38.8	12.8	4.0	8.1	...
Oct 05 .....	...	10.8	14.0	-41.1	12.7	2.9	5.2	...
Nov 05 .....	...	10.3	14.4	-46.4	12.0	6.7	4.8	...
Dec 05 .....	...	10.6	15.0	-24.8	15.4	14.4	7.9	...
Jan 06 .....	...	10.5	14.0	-21.2	10.2	19.5	5.7	...

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	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								
2001	39.2	375.6	414.9	102.7	9.9	527.4	4.0	15.0	546.4
2002	39.0	399.1	438.1	102.7	18.5	559.3	6.6	45.2	611.2
2003	41.0	428.2	469.2	112.2	19.2	600.5	2.7	77.3	680.6
2004	43.7	492.8	536.6	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	8.2	798.5
Aug 05	44.7	581.8	626.5	146.7	18.8	792.0	3.7	3.9	799.6
Sep 05	45.5	576.6	622.1	138.9	19.0	780.0	3.4	0.1	783.7
Oct 05	45.4	584.2	629.6	142.4	18.5	790.6	3.8	0.6	795.0
Nov 05	46.1	597.1	643.2	129.3	20.3	792.8	4.2	2.1	799.2
Dec 05	47.3	596.3	643.5	114.1	18.4	776.0	14.2	8.2	798.5
Jan 06	46.2	658.1	704.3	147.7	18.1	870.0	3.0	2.7	875.9
Change compared with previous year, per cent									
2001 .....	...	...	7.3	...	...	6.5	...	...	7.7
2002 .....	...	...	3.9	...	...	4.6	...	...	11.8
2003 .....	...	...	8.8	...	...	8.8	...	...	11.4
2004 .....	...	...	14.4	...	...	12.7	...	...	2.7
2005 .....	...	...	19.9	...	...	14.7	...	...	14.2
Aug 05 .....	...	...	20.7	...	...	14.8	...	...	0.5
Sep 05 .....	...	...	22.8	...	...	16.4	...	...	1.2
Oct 05 .....	...	...	19.0	...	...	14.1	...	...	1.1
Nov 05 .....	...	...	19.2	...	...	12.2	...	...	1.5
Dec 05 .....	...	...	19.9	...	...	14.7	...	...	14.2
Jan 06 .....	...	...	29.2	...	...	24.0	...	...	22.8

SELECTED ITEMS FROM THE BALANCE SHEET OF THE BANKS

Table 6

End of period	Assets								Liabilities	
	Total balance	Lending to MFIs	Domestic lending			Holdings of securities	Loans from MFIs	Deposits		
			Total	of which:						
				Households, etc.	Non-financial companies					
Kr. billion										
2001	1,798.8	353.0	588.0	253.3	228.8	579.3	627.5	718.0		
2002	2,040.1	419.8	599.2	253.5	231.3	620.9	685.6	764.7		
2003	2,204.4	468.7	663.0	271.6	285.7	764.4	823.8	795.2		
2004	2,418.3	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		
Aug 05	2,838.5	521.2	856.7	357.8	336.4	995.8	996.6	1,049.4		
Sep 05	2,903.2	551.0	879.5	372.4	341.2	1,014.7	1,082.8	1,020.5		
Oct 05	2,820.5	556.7	882.1	372.5	345.3	951.1	962.9	1,038.4		
Nov 05	2,904.6	602.9	894.3	375.9	359.7	939.3	1,011.8	1,035.0		
Dec 05	2,867.3	652.0	920.1	396.6	370.0	862.1	975.7	1,065.6		
Jan 06	2,847.2	598.5	919.8	389.0	372.8	910.3	934.4	1,104.1		
Change compared with previous year, per cent										
2001 .....	...	-17.5	11.7	6.0	22.8	27.0	8.2	4.9		
2002 .....	...	18.9	1.9	0.1	1.1	7.2	9.3	6.5		
2003 .....	...	10.7	2.5	7.1	3.1	21.8	18.8	3.9		
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		
Aug 05 .....	...	11.7	20.9	22.4	14.0	23.0	23.9	18.3		
Sep 05 .....	...	9.7	21.5	23.0	13.0	22.1	23.0	16.7		
Oct 05 .....	...	9.0	21.5	22.1	14.4	19.6	13.3	14.9		
Nov 05 .....	...	18.0	21.1	22.8	15.7	19.0	26.2	9.2		
Dec 05 .....	...	31.7	21.9	22.1	19.5	10.5	18.5	17.3		
Jan 06 .....	...	17.3	18.8	20.9	18.0	9.6	7.8	18.0		

Note: Excluding Danish banks' units abroad. As from 2003 the lending is affected by an addition to the group of banks. The calculation of the rate of increase has been amended accordingly.

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

Table 7

End of period	Assets						Liabilities	
	Total balance	Lending to MFIs	Domestic lending			Holdings of securities	Loans from MFIs	Bonds, etc. issued
			Total	of which:				
				Households, etc.	Non-financial companies			
Kr. billion								
2001	1,579.5	88.3	1,191.8	907.6	246.8	280.7	55.3	1,421.3
2002	1,721.8	77.3	1,285.1	988.0	259.2	338.5	58.9	1,584.2
2003	1,863.8	100.9	1,394.6	1,072.1	284.4	342.6	32.6	1,729.0
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
Aug 05	1,915.1	103.5	1,624.9	1,248.3	328.1	149.3	18.2	1,800.2
Sep 05	1,983.9	142.8	1,629.9	1,249.1	332.0	172.9	28.6	1,845.2
Oct 05	1,910.1	57.9	1,635.5	1,254.3	333.4	170.2	30.1	1,765.8
Nov 05	2,002.8	67.8	1,653.0	1,269.7	335.1	220.7	72.0	1,806.7
Dec 05	2,519.9	101.4	1,664.4	1,281.5	334.2	645.0	151.7	2,237.0
Jan 06	1,958.5	111.7	1,677.0	1,290.0	337.6	134.5	100.5	1,756.0
Change compared with previous year, per cent								
2001 .....	...	64.6	8.8	9.3	9.4	71.5	52.6	17.2
2002 .....	...	-12.5	7.8	8.9	5.0	20.6	6.7	11.5
2003 .....	...	30.6	8.5	8.5	9.7	1.2	-44.8	9.1
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
Aug 05 .....	...	156.7	10.8	10.9	8.8	10.4	-10.4	15.1
Sep 05 .....	...	78.9	10.7	11.0	8.6	22.3	2.7	16.1
Oct 05 .....	...	2.2	10.6	10.9	8.2	11.5	-19.8	11.0
Nov 05 .....	...	17.9	11.2	11.6	8.4	25.3	68.8	11.3
Dec 05 .....	...	11.1	11.7	12.3	8.5	34.0	481.5	14.6
Jan 06 .....	...	62.2	11.8	12.4	8.5	14.6	482.4	8.5

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

End of period	Total lending			The banks' lending			The mortgage-credit institutes' lending		
	Total	Households, etc.	Business	Total	Households, etc.	Business	Total	Households, etc.	Business
	Kr. billion								
2001	1,814.4	1,161.0	594.7	622.6	253.3	342.3	1,191.8	907.6	252.4
2002	1,917.0	1,241.6	619.2	631.8	253.5	353.0	1,285.1	988.0	266.2
2003	2,087.7	1,343.7	683.1	693.2	271.6	392.3	1,394.6	1,072.1	290.9
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
Aug 05	2,511.5	1,606.2	827.1	886.5	357.8	491.5	1,624.9	1,248.3	335.6
Sep 05	2,539.2	1,621.5	837.4	909.3	372.4	497.9	1,629.9	1,249.1	339.6
Oct 05	2,547.7	1,626.9	841.1	912.2	372.5	500.2	1,635.5	1,254.3	340.9
Nov 05	2,577.4	1,645.6	851.6	924.3	375.9	509.0	1,653.0	1,269.7	342.6
Dec 05	2,614.5	1,678.0	852.2	950.2	396.6	510.4	1,664.4	1,281.5	341.7
Jan 06	2,626.9	1,678.9	859.6	949.9	389.0	514.5	1,677.0	1,290.0	345.0
Change compared with previous year, per cent									
2001	7.5	8.6	6.0	5.1	6.0	3.8	8.8	9.3	9.1
2002	5.7	6.9	4.1	1.5	0.1	3.1	7.8	8.9	5.5
2003	6.1	8.2	2.7	1.5	7.1	-1.7	8.5	8.5	9.3
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
Aug 05	13.9	13.3	13.8	19.9	22.4	17.2	10.8	10.9	9.1
Sep 05	14.1	13.5	14.0	20.6	23.0	17.7	10.7	11.0	8.9
Oct 05	13.9	13.3	14.1	20.5	22.1	18.3	10.6	10.9	8.5
Nov 05	14.2	14.0	13.7	20.1	22.8	17.4	11.2	11.6	8.7
Dec 05	14.9	14.5	15.0	20.9	22.1	19.6	11.7	12.3	8.8
Jan 06	14.0	14.3	12.4	18.0	20.9	15.0	11.8	12.4	8.7

Note: Including lending in Danish banks' units abroad. As from 2003 the banks' lending is affected by an addition to the group of banks. The calculation of the rate of increase has been amended accordingly.

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

End of period	Index-linked lending	Fixed-rate lending	Adjustable-rate lending		Total	of which:	
			Total	of which =<1 year		Lending in foreign currency	Instalment-free lending ¹
2001	109.6	836.5	245.7	151.5	1,191.8	54.5	...
2002	103.6	816.0	365.0	200.4	1,284.6	82.5	...
2003	99.5	795.0	499.0	250.0	1,393.5	85.7	44.4
2004	94.6	737.6	656.1	378.4	1,488.4	84.9	170.5
2005	88.6	760.1	814.1	576.2	1,662.8	80.5	315.5
Aug 05	92.2	734.2	796.9	541.8	1,623.4	86.9	267.4
Sep 05	92.1	728.8	807.6	567.3	1,628.5	87.0	276.9
Oct 05	91.9	729.6	812.7	569.5	1,634.2	86.9	286.1
Nov 05	91.3	739.3	821.4	566.7	1,652.0	86.7	298.0
Dec 05	88.6	760.1	814.1	576.2	1,662.8	80.5	315.5
Jan 06	88.8	763.0	823.5	615.0	1,675.3	80.9	323.5

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				Deposits			
	All sectors	Households, etc.	Non-financial companies	Financial companies	All sectors	Households, etc.	Non-financial companies	Financial companies
Q1 04	5.3	7.3	5.0	2.9	1.6	1.1	1.7	2.1
Q2 04	5.2	7.2	4.8	2.9	1.6	1.1	1.7	2.1
Q3 04	5.2	7.1	4.8	2.9	1.6	1.2	1.7	2.1
Q4 04	5.1	6.9	4.8	2.8	1.6	1.2	1.7	2.1
Q1 05	5.1	6.7	4.8	2.8	1.7	1.3	1.7	2.1
Q2 05	4.9	6.5	4.6	2.7	1.7	1.3	1.7	2.1
Q3 05	4.8	6.3	4.5	2.6	1.7	1.3	1.7	2.2
Q4 05	4.7	6.2	4.4	2.6	1.7	1.3	1.8	2.2
Aug 05	4.8	6.3	4.5	2.7	1.7	1.3	1.7	2.2
Sep 05	4.8	6.3	4.5	2.6	1.7	1.3	1.8	2.2
Oct 05	4.7	6.2	4.4	2.6	1.7	1.3	1.7	2.2
Nov 05	4.7	6.2	4.4	2.6	1.7	1.3	1.7	2.2
Dec 05	4.6	6.1	4.4	2.7	1.7	1.4	1.8	2.3
Jan 06	4.7	6.1	4.4	2.7	1.8	1.4	1.9	2.3

SELECTED ITEMS FROM THE BALANCE SHEET OF
 THE INVESTMENT ASSOCIATIONS

Table 11

End of period	Assets		Liabilities				
	Total balance	Holdings of securities		Certificates issued by investment associations by owner			
		Bonds, etc.	Shares, etc.	Households, etc.	Insurance companies and pension funds	Other residents	Abroad
Kr. billion							
2001	282.8	135.4	137.1	143.4	62.2	66.9	9.6
2002	288.9	180.8	89.5	153.6	68.9	52.7	8.9
2003	367.1	237.2	108.7	188.2	103.2	60.4	12.3
2004	574.2	326.5	164.6	213.1	163.4	180.1	15.3
2005	794.7	412.1	286.4	265.8	230.8	262.7	30.2
Q4 04	574.2	326.5	164.6	213.1	163.4	180.1	15.3
Q1 05	607.5	343.4	181.2	224.6	193.5	169.3	16.1
Q2 05	701.6	389.7	222.8	234.1	204.4	236.0	18.5
Q3 05	757.0	408.5	257.4	250.0	224.3	252.9	21.3
Q4 05	794.7	412.1	286.4	265.8	230.8	262.7	30.2
Quarterly transactions, kr. billion							
Q4 04 .....	...	36.3	19.2	3.1	31.1	24.6	1.5
Q1 05 .....	...	15.7	10.0	6.5	7.5	5.0	0.6
Q2 05 .....	...	32.7	26.0	7.5	1.7	59.1	2.7
Q3 05 .....	...	16.7	10.0	8.1	7.8	4.9	1.7
Q4 05 .....	...	5.0	12.6	11.6	3.6	4.4	2.9

SECURITIES ISSUED BY RESIDENTS BY OWNER'S HOME COUNTRY

Table 12

End of period	Bonds, etc.							
	Total		of which:				Shares	
			Central-government securities		Mortgage-credit bonds			
	Denmark	Abroad	Denmark	Abroad	Denmark	Abroad	Denmark	Abroad
Market value, kr. billion								
2001	1,787.7	414.6	443.7	217.1	1,231.8	194.5	480.5	231.1
2002	1,999.8	414.7	479.8	222.9	1,411.6	189.6	384.3	162.3
2003	2,124.2	419.6	488.2	210.0	1,523.9	207.9	488.1	208.6
2004	2,393.0	429.7	493.1	228.3	1,785.9	198.6	592.1	244.5
2005	2,560.1	461.2	435.2	205.1	2,002.9	252.5	827.1	298.2
Sep 05	2,182.8	464.5	480.8	211.7	1,575.6	249.9	741.6	298.8
Oct 05	2,106.9	449.3	472.4	211.2	1,508.6	235.2	717.1	292.9
Nov 05	2,138.5	426.6	438.7	206.3	1,576.5	216.6	733.4	297.6
Dec 05	2,560.1	461.2	435.2	205.1	2,002.9	252.5	827.1	298.2
Jan 06	2,041.6	460.4	433.2	210.2	1,490.4	246.7	836.0	296.8
Feb 06	2,052.0	452.4	426.0	197.3	1,504.0	251.5	881.8	270.8

HOUSEHOLDS' FINANCIAL ASSETS AND LIABILITIES

Table 13

End of period	Assets					Liabilities		
	Currency and bank deposits, etc.	Bonds, etc.	Shares and certificates issued by investment associations, etc.	Life-insurance and pension-scheme savings, etc.	Total	Loans, etc.	Net financial assets	Total
2000	531	214	372	1,115	2,232	1,209	1,023	2,232
2001	556	205	335	1,136	2,231	1,326	905	2,231
2002	583	196	319	1,172	2,271	1,443	827	2,270
2003	620	188	405	1,262	2,476	1,528	948	2,477
2004	671	190	476	1,419	2,755	1,681	1,074	2,755
Q3 04	670	181	456	1,348	2,655	1,608	1,047	2,655
Q4 04	671	190	476	1,419	2,755	1,681	1,074	2,755
Q1 05	682	179	517	1,468	2,847	1,722	1,125	2,847
Q2 05	727	174	555	1,559	3,015	1,791	1,223	3,014
Q3 05	753	173	595	1,567	3,088	1,850	1,238	3,088

COMPANIES' FINANCIAL ASSETS AND LIABILITIES

Table 14

End of period	Assets				Liabilities				
	Currency, bank deposits and granted credits, etc.	Bonds, etc.	Shares and certificates issued by investment associations, etc.	Total	Debt			Net financial assets	Total
					Loans, etc.	Bonds, etc. issued	Shares, etc. issued		
Kr. billion									
2000	476	152	675	1,303	1,043	79	1,160	-979	1,303
2001	520	145	713	1,377	1,163	97	1,069	-952	1,377
2002	523	144	634	1,302	1,138	117	949	-902	1,302
2003	633	149	640	1,423	1,150	128	1,121	-976	1,423
2004	644	186	700	1,530	1,243	186	1,203	-1,102	1,530
Q3 04	614	165	685	1,464	1,197	153	1,172	-1,058	1,463
Q4 04	644	186	700	1,530	1,243	186	1,203	-1,102	1,530
Q1 05	656	201	744	1,601	1,261	196	1,294	-1,151	1,601
Q2 05	688	201	811	1,700	1,311	226	1,397	-1,235	1,700
Q3 05	686	207	822	1,715	1,319	224	1,451	-1,278	1,715

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						
2001	63.3	25.1	88.4	-25.0	-21.6	41.8
2002	64.3	17.8	82.1	-24.7	-23.3	34.1
2003	64.1	23.1	87.2	-17.4	-24.0	45.8
2004	55.1	19.8	74.9	-13.9	-27.7	33.3
2005	51.0	25.7	76.8	-7.7	-24.7	44.3
Feb 04 - Jan 05	53.8	19.4	73.3	-12.6	-32.7	28.0
Feb 05 - Jan 06	50.9	25.3	76.2	-7.7	-23.6	44.9
Aug 05	4.0	3.8	7.8	-0.6	-1.9	5.3
Sep 05	6.4	3.5	9.9	-0.2	-2.3	7.4
Oct 05	3.7	1.0	4.6	0.0	-1.6	3.0
Nov 05	4.2	2.0	6.2	0.0	-2.0	4.2
Dec 05	1.7	1.6	3.3	-0.4	-1.8	1.2
Jan 06	2.2	0.1	2.3	-0.7	-2.1	-0.5

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

**PRINCIPAL ITEMS OF THE BALANCE OF PAYMENTS
(NET PAYMENTS FROM ABROAD)**

Table 16

	Current account	Capital import				Other ¹	Increase in the foreign-exchange reserve
		Direct investments		Portfolio investments	Other capital import		
		Danish abroad	Foreign in Denmark				
Kr. billion							
2001	41.8	-107.9	92.5	-35.3	7.8	28.5	27.5
2002	34.1	-44.9	52.3	1.2	21.3	-18.7	45.4
2003	45.8	-8.0	17.8	-98.3	72.5	0.9	30.8
2004	33.3	62.1	-62.6	-87.1	-22.5	70.6	-6.2
2005	44.3	-47.3	30.0	-65.5	9.8	19.6	-9.1
Feb 04 – Jan 05	28.0	59.9	-71.1	-107.9	28.1	72.1	9.1
Feb 05 – Jan 06	44.9	-51.0	47.9	-82.5	9.5	16.9	-14.3
Aug 05	5.3	-19.2	4.6	7.3	16.7	-14.4	0.3
Sep 05	7.4	-9.8	5.9	-15.6	-2.8	15.0	0.1
Oct 05	3.0	-1.0	7.1	3.1	-15.7	-12.1	-15.6
Nov 05	4.2	-14.3	4.2	-34.0	22.4	12.5	-5.0
Dec 05	1.2	8.6	11.9	45.5	-73.3	9.7	3.6
Jan 06	-0.5	-6.3	15.5	-40.9	17.7	15.3	0.8

¹ Including capital account, errors and omissions and until end-December 2004 unrecorded trade credits.

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

Table 17

	Danish securities			Foreign securities		Total
	Krone-denominated bonds, etc.	Foreign currency denominated bonds, etc.	Shares	Bonds, etc.	Shares	
				Kr. billion		
2001	-17.7	97.7	6.6	-86.2	-35.8	-35.3
2002	8.5	24.0	4.9	-34.8	-1.4	1.2
2003	-30.3	66.3	9.1	-121.5	-21.9	-98.3
2004	-6.2	56.9	9.7	-104.4	-43.0	-87.1
2005	23.2	125.7	-29.6	-105.3	-79.4	-65.5
Aug 05	14.3	1.5	2.2	-9.4	-1.3	7.3
Sep 05	8.1	-7.8	-0.2	-8.5	-7.3	-15.6
Oct 05	-10.3	28.2	1.1	-8.1	-7.8	3.1
Nov 05	-27.8	8.9	-1.2	-1.1	-12.8	-34.0
Dec 05	33.9	8.8	-24.8	34.4	-6.7	45.5
Jan 06	7.0	-8.3	-4.6	-9.8	-25.1	-40.9

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

DENMARK'S INTERNATIONAL INVESTMENT POSITION

Table 18

End of period	Direct investments		Portfolio investments		Other investment	The foreign-exchange reserve	Total
	Danish abroad	Foreign in Denmark	Shares, etc.	Bonds, etc.			
	Kr. billion						
Assets							
2000	557	29	454	229	667	121	2,056
2001	624	35	403	317	598	152	2,130
2002	584	30	254	359	758	197	2,180
2003	579	32	310	446	747	228	2,342
2004	592	44	371	537	855	219	2,618
Q3 04	573	41	352	523	790	228	2,506
Q4 04	592	44	371	537	855	219	2,618
Q1 05	609	44	403	592	903	238	2,789
Q2 05	600	44	449	662	988	240	2,983
Q3 05	632	44	489	678	972	231	3,045
Liabilities							
2000	26	564	218	646	816	3	2,274
2001	33	602	201	746	766	4	2,350
2002	34	553	146	756	913	4	2,406
2003	42	555	186	762	964	3	2,512
2004	63	537	247	836	1,059	2	2,742
Q3 04	57	516	236	823	1,012	2	2,647
Q4 04	63	537	247	836	1,059	2	2,742
Q1 05	63	538	264	903	1,149	1	2,917
Q2 05	63	533	275	944	1,258	1	3,073
Q3 05	63	545	308	963	1,238	2	3,119
Net assets							
2000	531	-535	236	-418	-150	117	-218
2001	591	-567	203	-428	-167	148	-220
2002	550	-523	107	-398	-155	193	-225
2003	537	-524	124	-316	-217	224	-170
2004	529	-493	125	-298	-204	217	-124
Q3 04	516	-475	115	-301	-223	226	-141
Q4 04	529	-493	125	-298	-204	217	-124
Q1 05	547	-494	139	-311	-247	237	-128
Q2 05	538	-489	173	-282	-270	239	-90
Q3 05	570	-501	181	-285	-267	229	-73

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

GDP BY TYPE OF EXPENDITURE

Table 19

	Final domestic demand						Exports of goods and services	Imports of goods and services
	GDP	Private consumption	General-government consumption	Gross fixed capital formation	Change in inventories	Total		
2001	1,335.6	631.7	343.3	265.8	6.1	1,246.9	630.9	542.2
2002	1,372.7	652.3	360.2	270.8	9.3	1,292.6	648.3	568.2
2003	1,409.2	675.6	371.1	276.1	0.7	1,323.5	634.2	548.5
2004	1,467.3	710.6	388.3	292.6	3.8	1,395.3	663.1	591.1
2005	1,555.1	749.3	401.8	321.0	1.4	1,473.5	755.5	673.9
Q4 04	387.1	191.0	100.0	81.1	-1.6	370.5	172.5	155.9
Q1 05	361.4	179.2	96.9	69.9	0.7	346.7	166.6	151.9
Q2 05	395.2	185.1	101.4	82.9	2.0	371.4	188.9	165.1
Q3 05	390.5	185.9	100.5	77.2	1.0	364.6	198.7	172.8
Q4 05	408.0	199.2	103.0	91.0	-2.3	390.8	201.2	184.0
Real growth compared with previous year, per cent								
2001	0.7	0.1	2.2	-1.4	...	0.0	3.1	1.9
2002	0.5	1.5	2.1	0.1	...	1.7	4.1	7.5
2003	0.7	1.6	0.2	2.0	...	0.4	-1.2	-1.7
2004	1.9	3.4	1.5	4.5	...	3.4	2.7	6.4
2005	3.4	3.5	1.3	8.0	...	4.0	7.9	10.0
Q4 04	1.9	4.3	1.1	5.5	...	4.2	0.8	4.8
Q1 05	0.3	3.0	0.3	3.5	...	2.3	1.4	6.8
Q2 05	4.7	4.3	1.8	11.6	...	5.8	6.5	9.8
Q3 05	4.8	4.7	1.7	4.8	...	3.6	12.2	9.6
Q4 05	3.7	2.2	1.6	11.5	...	4.4	11.0	13.6
Real growth compared with previous quarter (seasonally adjusted), per cent								
Q4 04	1.0	2.3	0.4	-0.6	...	1.2	0.1	-1.5
Q1 05	0.3	-0.3	0.3	-1.5	...	-0.4	3.6	2.7
Q2 05	2.2	1.2	0.9	8.4	...	2.7	4.3	4.9
Q3 05	1.2	1.4	0.1	-1.4	...	0.4	3.7	3.1
Q4 05	0.1	-0.1	0.3	5.7	...	1.3	-0.5	2.4

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

Table 20

	HICP							Index of net retail prices ¹		
	Subcomponents:									
	Total	Energy	Food	Core inflation ²	Administered prices		HICP excl. energy, food and administered prices ³	Index of net retail prices excl. energy, food and administered prices ³	Split into ⁴ :	
					Rent	Public services			Import content ⁵	IMI ⁶
	Weights, per cent									
	100	10.6	20.7	68.7	7.7	4.2	56.9	51.0	16.2	34.8
Year-on-year growth, per cent										
2001	2.3	1.5	3.5	2.0	2.7	3.7	1.8	2.1	1.9	2.2
2002	2.4	2.1	1.8	2.7	2.5	5.0	2.5	2.5	0.1	3.6
2003	2.0	0.9	0.7	2.5	2.7	8.2	2.1	1.9	0.4	2.6
2004	0.9	2.7	-2.0	1.6	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
Q1 03	2.8	5.8	1.2	2.8	2.5	8.6	2.5	2.1	1.7	2.3
Q2 03	2.2	-0.2	1.3	2.9	2.8	8.8	2.4	2.3	0.6	3.1
Q3 03	1.6	-0.5	1.2	2.1	2.8	8.1	1.6	1.6	-0.1	2.4
Q4 03	1.3	-1.4	-0.8	2.3	2.8	7.1	1.9	1.7	-0.6	2.7
Q1 04	0.7	-3.2	-2.0	2.1	2.8	4.9	1.8	1.4	-0.6	2.3
Q2 04	0.8	2.6	-2.5	1.6	2.8	4.9	1.2	0.8	0.3	1.1
Q3 04	1.0	4.8	-2.6	1.4	2.8	4.7	1.0	0.7	1.7	0.2
Q4 04	1.2	6.3	-1.1	1.1	2.8	4.9	0.5	0.3	3.2	-1.0
Q1 05	1.0	4.7	0.3	0.7	2.4	4.1	0.2	0.3	2.8	-0.9
Q2 05	1.6	6.7	0.6	1.1	2.3	3.2	0.7	0.7	3.5	-0.6
Q3 05	2.2	10.2	1.5	1.2	2.4	2.9	0.8	0.8	3.9	-0.6
Q4 05	2.0	8.9	1.5	1.0	2.4	2.6	0.7	0.9	3.5	-0.2

Note: The weights reflect the weighting basis as of January 2003.

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 56.9 per cent of HICP's weight basis and 51.0 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

	Unemployment Per cent of labour force	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 2000=100	Retail trade 2000=100				Manu- facturing industry	Building and construc- tion	Service
2001	5.2	101.9	100.6	2,682	96,114	0	-3	-11	5
2002	5.2	102.9	103.6	3,041	111,598	1	-4	-14	5
2003	6.2	102.5	107.8	3,039	96,501	1	-6	-18	-2
2004	6.4	102.1	113.4	2,640	122,543	7	3	-5	13
2005	5.7	103.6	120.1	1,874	148,631	9	1	7	20
Seasonally adjusted									
Sep 05	5.5	107.4	121.4	152	12,862	10	1	5	20
Oct 05	5.4	104.6	122.2	104	12,790	11	3	16	21
Nov 05	5.2	104.1	122.4	150	12,499	12	6	16	27
Dec 05	5.1	108.7	125.3	141	12,568	10	3	18	26
Jan 06	5.0	105.7	124.3	134	13,000	13	6	21	21
Feb 06 .....	...	...	...	98	11,452	13	9	20	18

¹ Excluding shipbuilding.

SELECTED QUARTERLY ECONOMIC INDICATORS

Table 22

	Employment		Hourly earnings			Property prices (purchase sum, one-family dwellings) As a percentage of property value 1995
	Total	Private	All sectors in Denmark, total	Manufacturing industry in Denmark	Manufacturing industry abroad	
	1,000 persons		1996=100			
2001	2,785	1,941	123.7	123.5	117.1	162.0
2002	2,784	1,932	128.5	128.5	120.5	168.0
2003	2,750	1,909	133.3	133.8	124.1	173.2
2004	2,751	1,915	137.4	138.0	127.5	188.6
2005	2,768	1,936	141.4	141.8	130.8	...
Seasonally adjusted						
Q4 04	2,755	1,921	139.0	139.2	128.7	195.7
Q1 05	2,761	1,930	140.2	140.3	130.4	203.5
Q2 05	2,767	1,934	140.4	141.1	130.1	215.1
Q3 05	2,769	1,937	142.1	142.2	131.1	226.0
Q4 05	2,776	1,946	143.0	143.2	131.6	...
Change compared with previous year, per cent						
2001	0.8	1.0	4.2	4.3	3.0	5.8
2002	-0.1	-0.4	3.9	4.0	2.9	3.7
2003	-1.2	-1.2	3.7	4.2	3.0	3.1
2004	0.0	0.3	3.1	3.1	2.7	8.9
2005	0.6	1.1	2.9	2.7	2.6	...
Q4 04	0.5	1.1	2.9	2.6	2.7	11.8
Q1 05	0.4	1.0	3.1	2.8	3.3	13.1
Q2 05	0.7	1.1	2.9	2.6	2.3	15.1
Q3 05	0.6	1.0	2.8	2.7	2.6	17.7
Q4 05	0.8	1.3	2.9	2.9	2.3	...

EXCHANGE RATES

Table 23

	EUR	GBP	SEK	NOK	USD	JPY	CHF
	Kroner per 100 units						
	Average						
2001	745.21	1,197.74	80.58	92.60	831.88	6.8522	493.47
2002	743.04	1,182.10	81.12	99.03	788.12	6.2969	506.47
2003	743.07	1,074.99	81.45	93.03	658.99	5.6840	488.88
2004	743.98	1,096.69	81.54	88.90	598.93	5.5366	481.96
2005	745.19	1,090.02	80.29	93.11	600.34	5.4473	481.30
Sep 05	745.84	1,100.74	79.91	95.52	608.65	5.4818	481.32
Oct 05	746.20	1,095.18	79.20	95.24	621.10	5.4055	481.74
Nov 05	745.96	1,098.13	78.02	95.28	632.99	5.3441	482.87
Dec 05	745.41	1,097.49	79.03	93.49	628.76	5.3033	481.58
Jan 06	746.13	1,087.68	80.13	92.85	616.52	5.3370	481.55
Feb 06	746.41	1,092.90	79.91	92.62	625.24	5.3030	479.08

EFFECTIVE KRONE RATE

Table 24

	Nominal effective krone rate	Consumer-price indices		Real effective krone rate based on consumer prices	Real effective krone rate based on hourly earnings	Consumer-price index in the euro area
		Denmark	Abroad			
Average		1980=100				2005=100
2001	96.9	224.4	209.8	103.6	101.4	91.8
2002	97.7	229.9	213.4	105.3	103.5	93.8
2003	101.2	234.7	217.1	109.5	108.3	95.8
2004	102.2	237.4	220.8	109.9	109.8	97.9
2005	101.6	241.7	224.9	109.2	109.3	100.0
Sep 05	101.0	243.8	226.5	108.8	109.4	100.8
Oct 05	100.9	243.6	226.7	108.6	...	101.0
Nov 05	100.7	242.9	226.5	108.4	...	100.8
Dec 05	100.8	242.9	226.7	108.3	109.2	101.1
Jan 06	100.9	242.1	226.4	108.1	...	100.7
Feb 06	100.6	244.5	...	...	...	...
Change compared with previous year, per cent						
2001	1.3	2.4	2.3	1.3	2.6	2.3
2002	0.9	2.4	1.7	1.6	2.0	2.2
2003	3.6	2.1	1.7	3.9	4.7	2.1
2004	1.0	1.2	1.7	0.4	1.3	2.2
2005	-0.6	1.8	1.9	-0.6	-0.4	2.2
Sep 05	-1.0	2.4	2.2	-0.7	-0.4	2.6
Oct 05	-1.4	2.0	2.0	-1.1	...	2.5
Nov 05	-2.0	2.0	2.0	-1.5	...	2.3
Dec 05	-2.4	2.2	1.9	-1.5	-0.9	2.2
Jan 06	-1.8	2.1	2.0	-1.2	...	2.4
Feb 06	-1.8	2.1	...	...	...	...

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

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.

Danmarks Nationalbank's Statistical Publications

Periodical publications (electronic publications)

Upon compilation of financial statistics, Danmarks Nationalbank releases these to the public in electronic publications. The publication of new statistics on a specific topic comprises 3 elements:

- **E-mail** with a brief summary, including selected key figures and links to the below-mentioned publications on the Nationalbank's website.
- **"Nyt" (News)** with text and charts to illustrate key development trends, as well as a 1-2 page tables section. The contents of the "Nyt" publications will also include in-depth commentary in order to give users greater scope to interpret and apply the statistics.
- **Tabeltillæg (Tables Supplement)** containing tables with detailed specifications and descriptions of the sources and methodologies applied in the compilation of the statistics.

The text of all tables and charts as well as the descriptions of the sources and methodologies are translated into English.

Statistics database

A statistics database supplements the above statistical publications, and comprises all time series included in the financial statistics. When a topic is published the corresponding time series are updated, and they include data as far back in time as possible.

Special Reports

In Special Reports are published statistics of a thematic character that are not prepared on a regular basis.

Release calendar

A release calendar for the statistical publications, covering the current month and the following quarter, is shown on the website.