Nils Bernstein: The Danish economy in an international perspective

Speech by Mr Nils Bernstein, Governor of the National Bank of Denmark, at the Annual General Meeting of the Association of DLR Kredit, Copenhagen, 25 April 2007.

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Thank you for the invitation to speak here today.

My subject today is the Danish economy in an international perspective. I will first present some views on globalisation, and then turn to the internationalisation of the financial markets. Finally, I will consider some of the financial products that have come to us from abroad and today are offered to private Danish investors.

The Danish economy has traditionally been internationally oriented, with considerable external trade. Agriculture became globalised more than 100 years ago. Much of our prosperity is a consequence of the international division of labour. The current development has made this international perspective even more relevant. Globally, there is an ever-increasing international exchange of goods and services, investments, information, people, culinary habits, culture, etc. The economic changes have been extensive and help to explain why globalisation is currently a major topic of debate.

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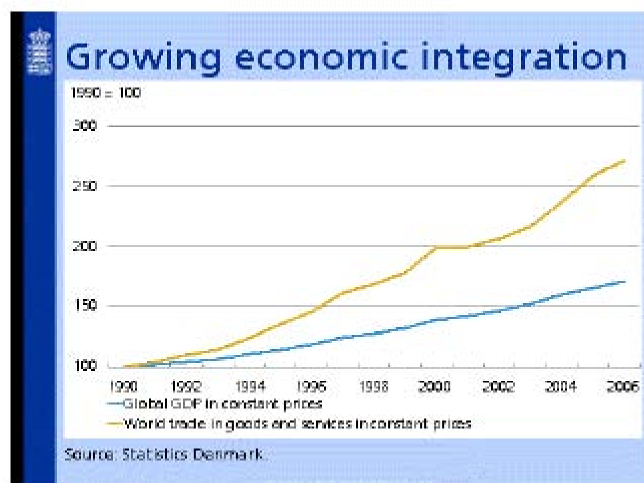
Globalisation has developed in waves of shorter or longer duration over the last few centuries. Especially in the golden eras, there was major technological progress within transport and communication. These eras were also characterised by an international political environment that stimulated free trade and the unrestricted mobility of capital and people.

In current years, globalisation seems to have even more wind in its sails. Populous nations such as China and India have become part of the global market economy. Technological progress in e.g. the IT area has fundamentally changed how companies organise their production set-ups. The free movement of capital has probably never enjoyed better conditions than those prevailing today.

These changes have increased the benefits from the international division of labour. Low-technological production has moved to the countries whose labour-intensive production gives them a comparative advantage. Production in more developed countries has become further concentrated around high-tech products. At the same time, the outsourcing of services, rather than just the production of goods, has been increasing rapidly. Today, cross-border trade in services accounts for 20 per cent of world trade.

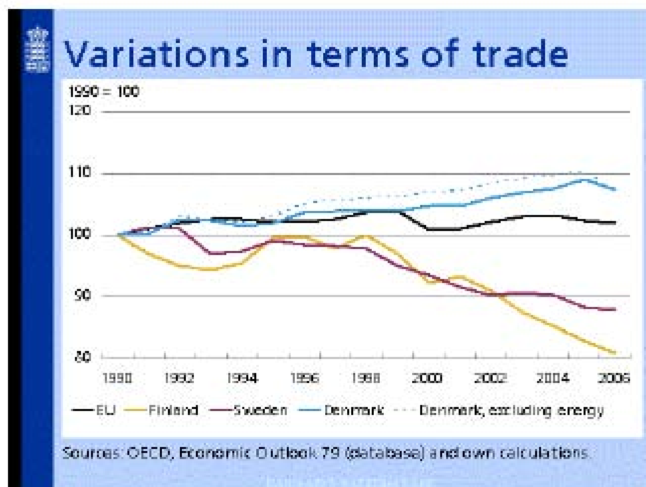
One indicator of the growing economic integration between different countries is that world trade is expanding faster than global output measured by GDP (*slide 2*). This has been the case without any interruption since the Second World War.



Compared to other industrial countries, the Danish economy has enjoyed double globalisation gains. Denmark's export-oriented economy has profited from the general expansion of international trade,

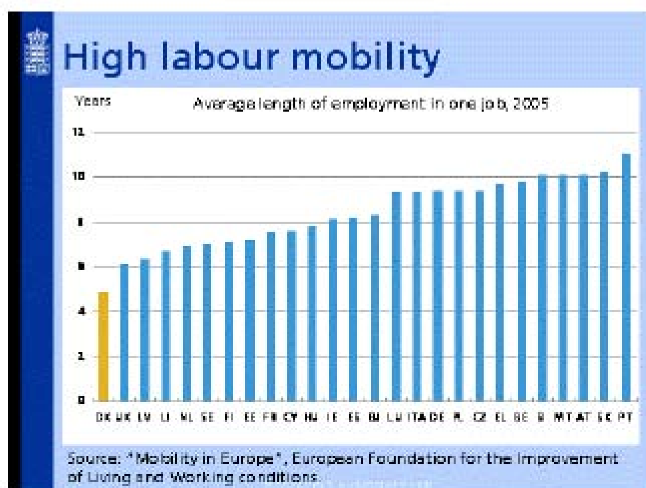
and Denmark has also benefited from its improved terms of trade. Many Danish companies have succeeded in selling their products at ever-higher prices, while import prices have stagnated.

Denmark's terms of trade have been improving for the past 15 years, even when energy is excluded (*slide 3*). On the other hand, the terms of trade of the EU taken as one have been unchanged since 1990. Sweden and Finland's terms of trade have deteriorated over the period, while the two countries' economic development has been characterised by high growth. One contributing factor is a strong productivity improvement for some of the products for which these countries have a comparative advantage, in areas such as telecommunications.



Denmark's terms of trade have improved in view of such factors as the ongoing adjustment of its business structure. Since there is considerable readiness for change in Denmark, the Danish economy has managed to stay competitive. Readiness for change will also be a key economic factor in the future since, even more than today, we may be challenged on the production of high-technology and other "knowledge-intensive" products.

There are several factors behind the flexibility of the Danish economy. It has been important not to take political measures to keep struggling sectors and individual business enterprises alive. Furthermore, Denmark's flexible labour market and opportunities for supplementary training have made it possible to redeploy labour resources. In Denmark, the average length of employment in one job is approximately 4.8 years, which is low in a European context *(slide 4)*. With a labour force totalling around 2.9 million, this corresponds to approximately 600,000 job changes in Denmark per year.



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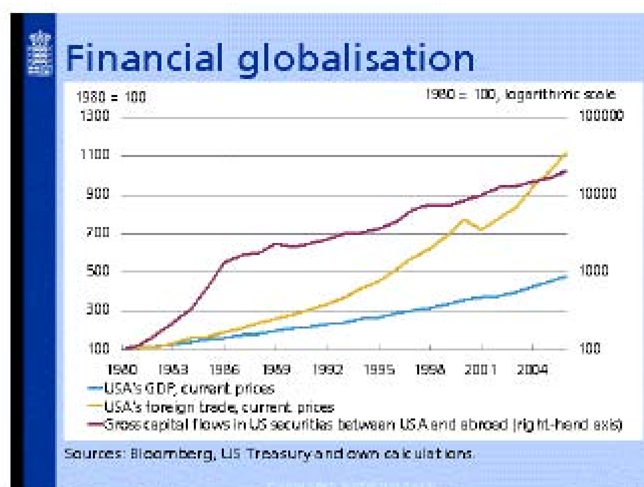
One particular aspect of globalisation is financial integration across national borders. Not only the international trade in goods and services has expanded strongly. There has also been exponential

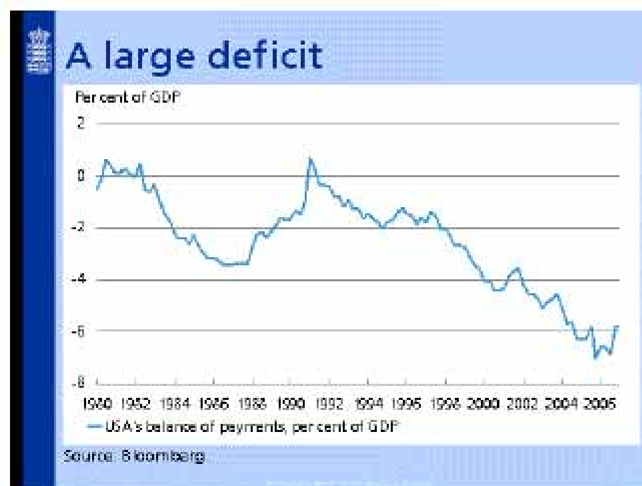
development in international capital flows. For example, the volume of trading in US securities between the USA and the rest of the world increased by a factor of 200 in the period from 1980 to 2006. In that same period, US foreign trade increased by a factor of 11, and nominal US GDP by a factor of 5 (*slide 5*).



The increasing liberalisation of global capital flows has been decisive to this expansion. This has been a gradual process that picked up momentum especially in the 1980s. Within the framework of the EU much has been done to promote the free movement of capital. The elimination of exchange-rate uncertainty on the introduction of the euro has contributed further to the increasing financial integration of the euro area member states. In recent years, new joint framework conditions for the European securities markets have also been drawn up.

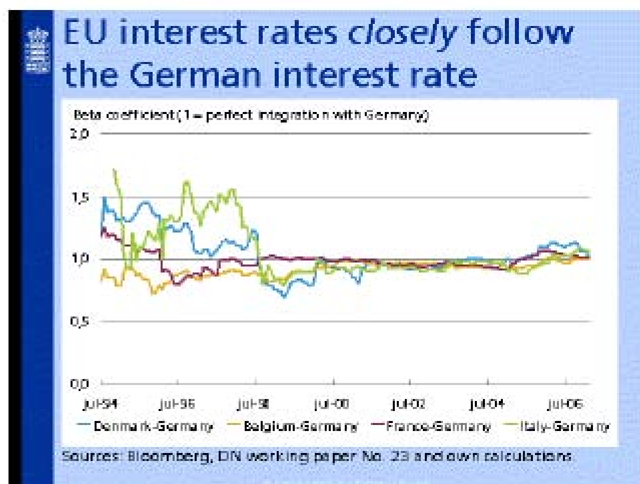
The globalisation of the financial markets provides for more efficient use of capital, with potential substantial gains for the global economy. For investors, the greater integration of the financial markets augments opportunities for investment. Capital can seek out new markets yielding higher returns, and a larger financial market increases opportunities to spread risk. In addition, borrowers gain access to raise capital from a wider and deeper pool of investors. The overall effect is the more efficient use of capital, such that the capital is utilised where it has the greatest effect.

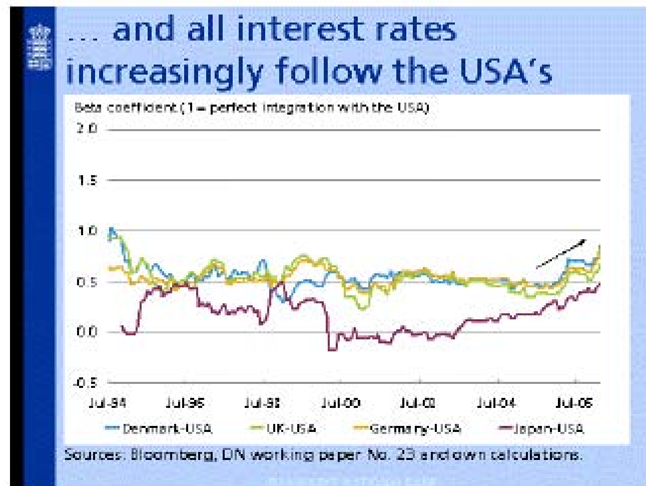
But financial integration has also brought new risks. Substantial financial imbalances across countries can be financed for as long as the financial markets have confidence in developments, but once this confidence has gone, things can change very quickly. Since 2002, and without interruption, the USA has been able to finance a current-account deficit of around 4-7 per cent of GDP (*Slide 6*). During this period the USA's consumption and investment demand has persistently and significantly exceeded its income. Considerable capital inflows from abroad have made this possible. But what will happen if these capital inflows suddenly cease? This will push up US interest rates and weaken the dollar significantly. In this scenario there is a risk that the necessary adjustment will be very cost-intensive for large parts of the global economy. The prices of a number of financial assets will adjust rapidly, leading to economic adjustments. Fortunately, it is widely believed that the risk of an abrupt adjustment is diminishing, but it still exists.



Denmark has also been part of the global financial integration. Danish companies frequently acquire companies abroad, and foreign companies buy Danish companies. Even in international terms, the sale of TDC to an international capital fund in 2006 was one of the largest ever transactions of its kind.

The development in the Danish securities markets reflects increasing financial integration, especially with the euro area. Statistical analyses show that yield changes in Danish 10-year government bonds closely follow equivalent German yield changes (*slide 7*). There is also relatively close covariation between Danish, German, British and Japanese interest-rate changes and interest-rate changes in the world's most important bond market – the market for US government bonds (*slide 8*). The convergence has increased significantly in recent years. Investors apparently increasingly consider the world's large bond markets as one single market.





Compared to bonds, equities are more heterogeneously structured, and the integration of equities markets across countries is less far advanced. It is clear, however, that share indices in the USA, the euro area and in Denmark are influenced by the same factors (*slide 9*).

Denmark's integration into the global financial markets is indisputable. And this development is of great benefit to us. However, it is also obvious that we cannot isolate ourselves from external events to the same extent as before. I have already mentioned the risk that it suddenly becomes more difficult to finance the US current-account deficit. An abrupt adjustment of this nature would naturally also have certain consequences in Denmark, e.g. via a decline in exports.

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The yen carry trade is another example of a global financial phenomenon that some consider a threat to global financial stability. The yen carry trade is an investment strategy whereby an investor borrows in Japanese yen at a low interest rate and then places the funds in e.g. US securities at a higher interest rate. Even though it is impossible to precisely assess the scale of the yen carry trade strategy, it undoubtedly attracts many investors. This is due to a significant yield spread, in the range of 3 percentage points, between yen- and dollar-denominated instruments (*slide 10*).

The yen carry strategy is pursued by a diverse group of investors ranging from Japanese housewives investing in mutual funds with placements in New Zealand and Australian dollar bonds, to hedge funds, and to farmers in eastern Europe who raise capital denominated in yen.

Whether the yen carry strategy presents a global risk is highly dependent on the strategy's popularity. If there are sudden changes in the basis for the strategy, causing investors to rush to get out, this could lead to strong fluctuations in interest and exchange rates, if the figures involved are large enough. These fluctuations would reverberate through the global financial system and ultimately also require economic adjustments.

According to economic theory, the yen trade ought not to pay off over longer periods. Adjustments of the economies entail that over time interest-rate spreads are set off by exchange-rate changes – in this case by a strengthening of the yen.

However, the fact is that for long periods the yen carry strategy has actually paid off. Exchange rates that are not anchored in fixed-exchange-rate regimes are notoriously difficult to predict. This also applies to the yen, which for long periods has continuously *weakened* against the dollar, perhaps for the very reason that more and more investors have been attracted by the yen carry trade, which requires yen to be sold on an ongoing basis.

However, there is much to indicate that one should be careful with this type of speculation, even though for long periods the strategy has paid off. The yen carry strategy is risky. The problem arises when/if the yen suddenly strengthens considerably, so that investors sustain substantial losses. Attempts by a large number of investors to extricate themselves from the same type of position will only cause the yen to appreciate more, leading to further losses. This was the case in 1998, when the yield spread between the yen and the dollar also attracted many investors to the yen carry trade. So in the course of just 3 days the yen strengthened by 13 per cent. This among other things imposed heavy losses on a number of hedge funds (*slide 11*). Compared to the yen's normal price fluctuations, its strengthening in this period was virtually impossible according to the probability distributions normally applied. This is what can happen, however, and this is why the strategy is compared to picking up nickels in front of a steam roller (*slide 12*).

Economists use a concept called "fat tails" to describe the statistical phenomenon that extreme events occur more frequently than the most used probability distribution would indicate. Fat tails can sting investors when they strike.

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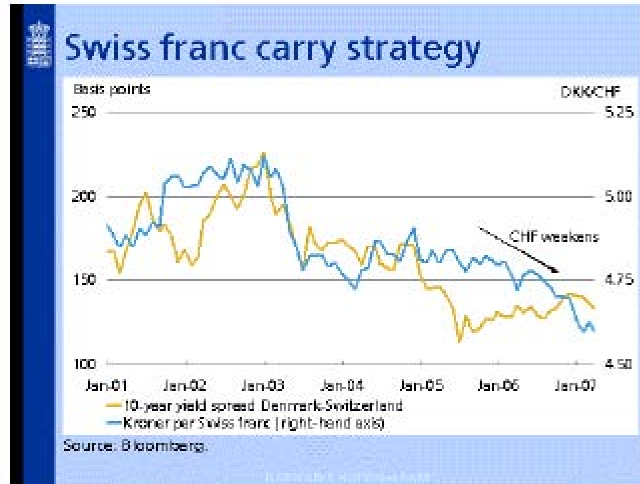
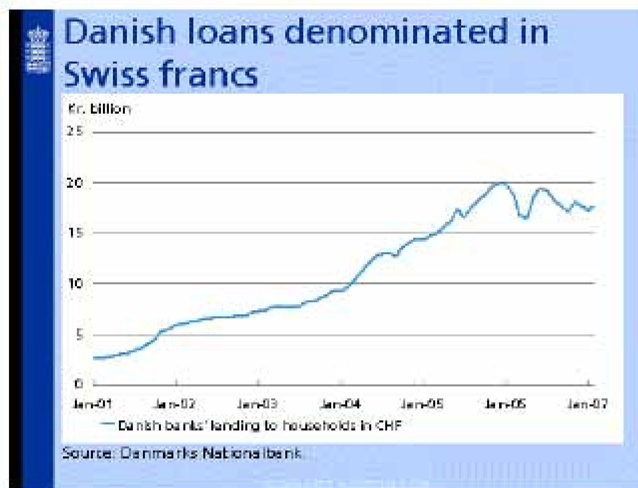
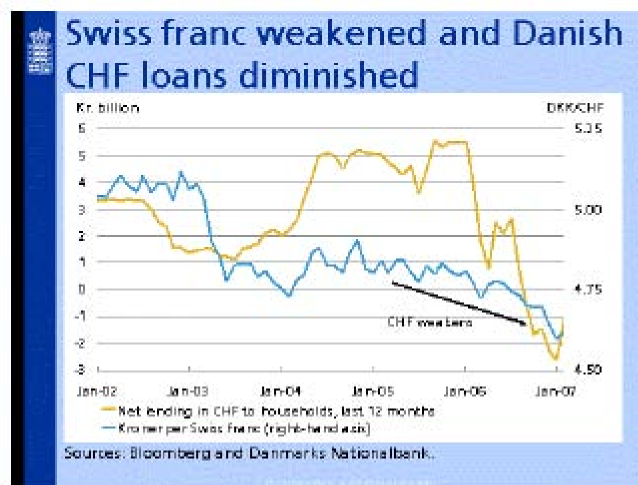
Financial integration has not only led to global systemic changes and new opportunities for professional investors. It has also instigated rapid financial innovation, with completely new opportunities for private investors.

I am sure that a number of those present here today will be familiar with the principles of the carry investment strategy I have just described. We have our own little version of this strategy. In our case, the strategy is pursued by private borrowers, often farmers it is said, who raise loans in Swiss francs rather than in Danish kroner. A lower level of interest rates for Swiss than for Danish instruments makes this advantageous, at any rate for as long as the Swiss franc does not strengthen excessively against the krone (*slide 13*).



The banks' lending to households in Swiss francs has risen steadily since 2001 and today totals almost kr. 20 billion (*slide 14*). During 2006 the increase in Swiss franc lending flattened out, however, and by the end of the year the net lending was negative (*slide 15*). At the same time, the Swiss franc had weakened to its lowest level against the Danish krone for 8-9 years. The decline in net lending may be due to expectations that the Swiss franc would rally. This is confirmed by statistical analyses of data for a large number of years. The analyses find significant correlation between a weaker Swiss franc and diminishing net lending.

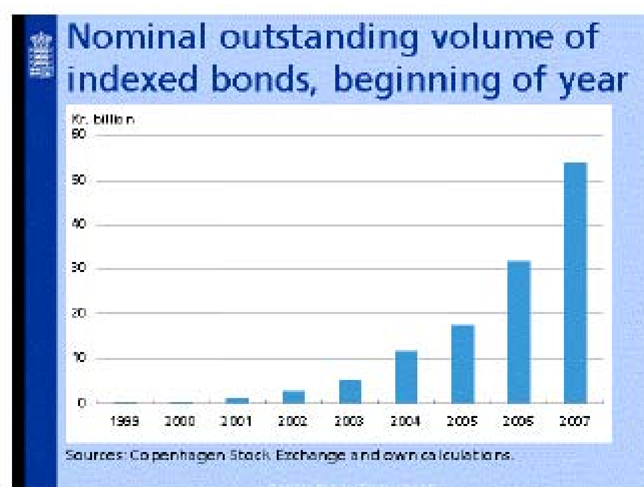




It is interesting that the Danish carry speculators show a different reaction pattern to the yen carry speculators. The yen carry speculators leave their positions when the yen strengthens, apparently fearing that the strengthening forewarns an imminent stronger adjustment of the exchange rate. Our domestic Swiss franc speculators increase their positions when the franc strengthens, apparently believing the strengthening to be temporary.

The Danish Swiss franc carry loan strategy is naturally far too small and insignificant to present a threat to the global financial system. The risk is rather related to the economic situation of the individual borrowers if the Swiss franc strengthens against the krone. In this case too, the fat tails will sting investors if they strike.

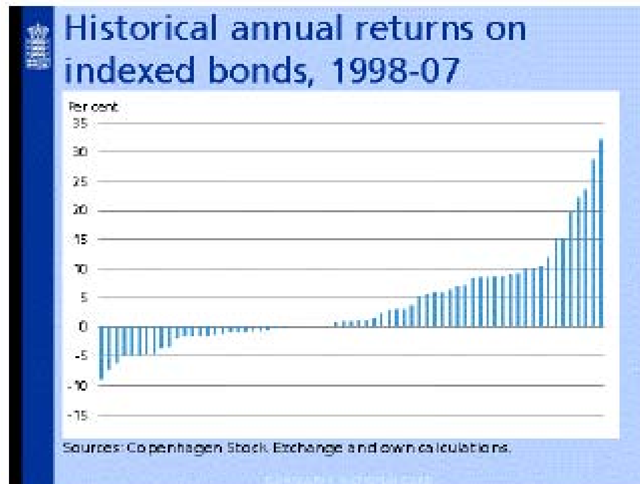
Another new type of financial product that has appeared in Denmark in recent years is indexed bonds. The banks' sales of this type of bonds have increased strongly since the start in 1998. At the beginning of April 2007 the outstanding volume listed on the Copenhagen Stock Exchange was kr. 52 billion (*slide 16*). In the next Monetary Review from Danmarks Nationalbank we will present an analysis of this product. I can already describe some of the results here.



The product comprises both a relatively safe investment in bonds and an investment in options. The option investment is pegged to the development in e.g. equities, exchange rates or commodities. The product has expanded the investment universe open to private investors. We can now all speculate in whether the price of copper or of Australian dollars is on its way up.

One positive characteristic of indexed bonds is that any loss is often limited to a relatively small proportion of the invested amount. However, this is not sufficient to make the investment sound. Indexed bonds are illiquid instruments and often have a complex structure that many can find hard to grasp.

So what is the pay-off from this complexity? A high yield? Not necessarily. At Danmarks Nationalbank we have reviewed 67 indexed bonds for a nominal value of approximately kr. 18 billion. The bonds were all listed on the Copenhagen Stock Exchange, but have now been redeemed. The average annual yield on these bonds was around 2.5 per cent, weighted in relation to the maturity of the bonds and the nominal outstanding volume. Almost half of the bonds yielded a negative return, or no return at all, while approximately 15 per cent of the bonds gave an annual yield of 10 per cent or more (*slide 17*).



The 67 indexed bonds have given an average additional annual yield, when compared to Danish government bonds with the same duration, of around 0.1 percentage point. An investor in a Danish government bond acquires a liquid, risk-free and very uncomplicated bond, of which the nominal yield is furthermore known at the time of purchase. In comparison, the indexed bonds have *a little more* credit risk, *much less* liquidity, and a *lot more* fluctuation in yields. Compared to the risks assumed, a historical average additional annual yield of 0.1 percentage point must be considered small.

Like most other investment decisions, borrowing in Swiss francs and investing in indexed bonds entail financial risk. I would like to stress that investment decisions should be based on careful consideration of the risks involved.

Globalisation is a positive phenomenon, especially for Denmark, because we have been able to adjust rapidly. The financial markets are an area where the consequences of globalisation are most apparent. Today, the financial markets react like dominoes. It is important to remember that can also have detrimental consequences for any private investor or borrower who ventures into these markets.