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Macroeconomic Imbalances – Denmark 2013

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Results of in-depth reviews under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances

DENMARK is *experiencing macroeconomic imbalances, which deserve monitoring and policy action*. In particular, the continuing adjustment in the housing market and the high level of indebtedness in the household and private sector as well as drivers of external competitiveness, deserve continued attention.

More specifically, there has been a weak export performance linked to a rise in unit labour costs due to high wage growth and, in particular, weak productivity growth. Furthermore, the weak export performance is partially due to an unfavourable export market mix. In recent years there have been some improvements in this regard, but at the current juncture it is difficult to assess their sustainability and durability. Taking into account that Denmark has been experiencing high and rising current account surpluses, these trends do not point to short term risks. Low interest rates and an acceleration of house prices in the years prior to the financial crisis contributed to a surge of household debt to unsustainable levels. While a reversal of this trend has been set in motion and risks are also attenuated by high net asset positions of households, the correction process will have to stretch over a significant period of time. This poses potential risks to economic and financial stability.

Excerpt of country-specific findings on Denmark, COM(2013) 199 final, 10.4.2013.

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EXECUTIVE SUMMARY AND CONCLUSIONS

In May 2012, the Commission concluded that Denmark was experiencing macroeconomic imbalances, in particular as regards developments related to external competitiveness and household indebtedness. In the Alert Mechanism Report (AMR) published on 28 November 2012, the Commission found it useful, also taking into account the identification of an imbalance in May, to examine further the persistence of imbalances or their unwinding. To this end this In-Depth Review (IDR) takes a broad view of the Danish economy in line with the scope of the surveillance under the Macroeconomic Imbalance Procedure (MIP). The main observations and findings from this analysis are:

- **The continued losses in export market shares in goods seem to be linked to the deterioration of Denmark's cost competitiveness over the last decade.** Denmark is a country with a significant current account surplus, which is forecast to persist. At the same time, Denmark experienced sustained losses in export market shares in goods over the period 2000-2010. These losses were larger than both the weighted average losses of other EU Member States and the corresponding losses of neighbouring countries such as Germany or Sweden. The losses appear to be linked to a deterioration in Denmark's cost competitiveness and recent improvements in this regard have not yet been sufficient to compensate for the cumulative losses over the past decade.
- **Denmark's losses in export market shares relative to its main competitors are also due to an unfavourable geographical destination of its exports.** Continued losses of market shares in the face of the recent improvements in cost competitiveness suggest that non-cost-related factors may also play a role. One of these factors is the geographical destination of Danish exports, which do not seem to be sufficiently represented in high-growth emerging markets. On the other hand, the product composition of Danish exports has partly counterbalanced the impact of the unfavourable geographical destination.
- **The deterioration in Denmark's cost competitiveness over the past decade reflects both relatively high wage growth and weak productivity growth compared with its trading partners.** Furthermore, nominal effective exchange rate movements have been unfavourable for Danish competitiveness. While the effect of wage growth has been attenuated to some extent by favourable terms of trade developments, the low productivity growth has been a cause for concern. The factors underlying the sustained weak performance of productivity are not yet fully understood.
- **Unit labour costs have fallen in more recent years, partly reflecting moderating wage growth but also a cyclical catch-up in productivity growth.** In the coming years, wage growth in Denmark is expected to remain below that of its competitors, thereby contributing positively to cost competitiveness. At the same time, the government has taken initiatives to address the problem of weak productivity growth. Continued focus on wage moderation and raising productivity growth, resulting in further improvements in cost competitiveness, should help limit the losses in export market shares in goods in the future.
- **High household gross debt is a structural feature of the Danish economy but concerns have arisen due to developments in the housing market, which caused the debt to move beyond levels that can be explained by structural factors.** Furthermore, the composition of mortgage loans has changed since 2003, with deferred-installment (i.e. instalment-free in the initial years of the loan) and adjustable-rate loans gaining in popularity over fixed-rate loans with instalment. Thus, for a given debt level, households are now more exposed to interest rates hikes and fluctuations in property prices than they were a decade ago. Consequently, the 2012 In-Depth Review concluded that the household debt level in the aftermath of the house price correction represented an imbalance that posed increased economic risks, in particular through potential effects on the financial sector and on private consumption. This conclusion remains valid even though the analysis in the present review notes certain improvements.

- **In the current fragile financial and macro-economic environment the high level and the composition of mortgage debt have increased the exposure of the financial system to adverse developments.** Yet recent research on Danish household debt indicates that risks to financial stability from household indebtedness are relatively contained. This is due, in particular, to the large proportion of overall household debt held by high income households which are better equipped to service their debt in the event of rising interest rates. Consequently, even if interest rates were to increase quite substantially, the potential amount of loans that households would not be able to service does not seem to pose a threat to the financial stability of the economy. Nevertheless, the simultaneous materialisation of risk factors such as rising interest rates, a further fall in house prices and continued low growth and rising unemployment, while of low probability, could provide a testing background for the mortgage system in Denmark.
- **Housing market developments and high debt also have affected the economy's macroeconomic performance.** A consequence of excessive swings in house prices and high debt has been large fluctuations in private consumption, which are currently constraining the economy's capacity to recover as households are deleveraging. However, since the household debt imbalance appears to be in the process of unwinding and the impact of the deleveraging process on the economy has remained relatively contained the existence of imbalances does not seem to be a cause for significant concerns at this juncture.

This In-Depth Review also discusses the policy challenges stemming from these developments and possible policy responses. A number of elements can be considered:

- Concerning the challenge of improving external competitiveness a number of different issues can be considered in relation to price-cost competitiveness factors and non-price cost competitiveness elements. The key aspect to safeguarding competitiveness is to ensure that wage cost developments do not contribute to a deterioration of the external price/cost competitiveness position and that Danish exports show flexibility and adaptability in order to be able to adjust to future global demand developments, in terms of both product composition and geographical destination. Improving productivity growth by, for instance, removing obstacles to competition, in particular in the services sector, and by removing barriers for firms' use of knowledge and education, will also be of importance.
- Concerning the challenge linked to the high level of household debt and the implications for the real economy, a number of measures can be considered to strengthen the stability of the housing market and financial system in the medium term. This In-Depth Review investigates the recent and planned measures that Danish authorities and the mortgage credit institutes have taken to improve the robustness of the mortgage credit system, to limit policy incentives to take up debt and to reduce the risk of an unsustainable build-up of household debts. While these measures go in the right direction, close monitoring will be required in order to judge whether they have the desired impact.

1. INTRODUCTION

On 28 November 2012, the European Commission presented its second Alert Mechanism Report (AMR), prepared in accordance with Article 3 of Regulation (EU) No. 1176/2011 on the prevention and correction of macroeconomic imbalances. The AMR serves as an initial screening device, which helps to identify Member States that warrant further in depth analysis to determine whether imbalances exist or risk emerging. According to Article 5 of Regulation No. 1176/2011, these country-specific “In-Depth Reviews” (IDR) should examine the nature, origin and severity of macroeconomic developments in the Member State concerned, which constitute, or could lead to, imbalances. On the basis of this analysis, the Commission will establish whether it considers that an imbalance exists and what type of follow-up it will recommend to the Council.

This is the second IDR for Denmark. Based on the previous IDR, which was published on 30 May 2012, the Commission concluded that Denmark was experiencing macroeconomic imbalances, in particular as regards developments related to external competitiveness and indebtedness. Overall, in the AMR the Commission found it useful, also taking into account the identification of an imbalance in May, to examine further the persistence of imbalances or their unwinding. To this end, this IDR takes a broad view of the Danish economy in line with the scope of surveillance under the Macroeconomic Imbalance Procedure (MIP).

Against this background, Section 2 of this In-Depth Review looks more in detail into these developments covering both the external and internal dimensions, followed by a specific focus on external competitiveness and household debt in Section 3. Section 4 discusses policy considerations.

2. MACROECONOMIC SITUATION AND POTENTIAL IMBALANCES

2.1. MACROECONOMIC SCENE SETTER

The Danish economy recorded almost uninterrupted growth between 1995 and 2008, with an annual average growth rate of around 2%. The economy experienced a period of overheating in 2006-2007, caused by accelerating investment and private consumption on the back of credit expansion and surging house prices. Labour market bottlenecks and tight labour market conditions in general led to high wage growth while productivity growth fell. Since the mid-1990s, slow productivity growth and relatively high wage growth have contributed to a deterioration in cost competitiveness as measured by relative unit labour costs. This, in turn, is likely to be an important factor behind the sustained losses in export market shares over the last decade.

The Danish economy was already slowing down before the onset of the financial crisis, amidst a correction in the real estate market. As a result, output fell by almost 7½% between mid-2008 and mid-2009 as investment and exports collapsed, while private consumption contracted along with an increase in the unemployment rate and a sharp fall in house prices. House prices fell by around 20% in real terms between 2007 and 2009 and, after stabilising in 2010, dropped by an additional 6% in 2011, reaching levels last seen in 2004.

The improvement of the Danish economy in 2010 was due mainly to fiscal-stimulus measures, export growth on the back of a rebound of external demand and a turnaround in the inventory cycle. In 2011, despite solid exports, the overall performance of the Danish economy was subdued due to deleveraging efforts among households and firms, with GDP growth reaching only 1%. The sovereign debt crisis has, however, led to strong international demand for highly-rated mortgage bonds and government securities from Denmark, resulting in low interest rates, which currently underpin a still very fragile housing market.

Following the downturn in 2012, real GDP is expected to accelerate in 2013 and 2014 on the back of the projected recovery of the global economy. Export growth is expected to pick up

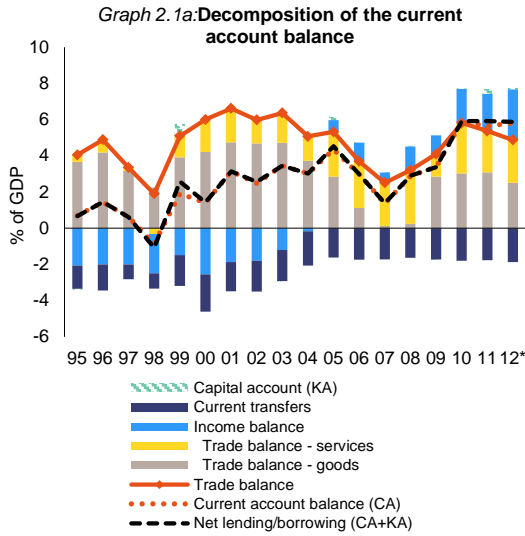
slowly in 2013 and to grow more substantially in 2014. Tight credit conditions are likely to continue to affect private investment, while public investment is dragged down by consolidation efforts. Private consumption is projected to accelerate in the course of 2013, driven mostly by an increase in household liquidity (due to repayment of contributions from the voluntary early retirement pension scheme as well as the tax reform and lower interest payments). Nevertheless, it is foreseen that the stagnating labour market will continue to weigh on consumer spending. Furthermore, due the housing market situation households are expected to keep on deleveraging and increase savings.

2.2. SUSTAINABILITY OF EXTERNAL POSITIONS

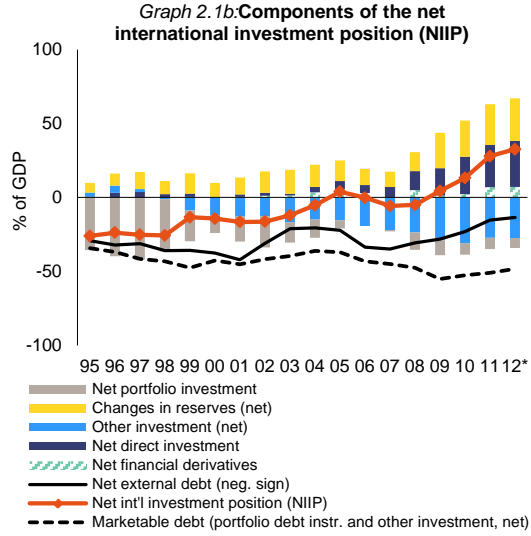
Denmark's current account surplus, which has persisted for more than a decade, experienced a significant widening from the start of the crisis in 2008 and peaked at 5.9% of GDP in 2010. This was due to the performance of both the balance of goods and services and the balance of primary income (Graph 2.1a).

The high and rising current account surpluses registered in recent years contrast somewhat with the observed pronounced losses in export market shares (EMS) over the last decade. These losses therefore have to be qualified in several respects. First, the EMS losses that have occurred for goods were partly compensated by gains in EMS for services. Second, while the volume of goods exports did not develop very dynamically, this was partly offset by favourable export prices, as Denmark was able to charge relatively high prices for its goods exports. Third, since 2008, the losses in EMS have been accompanied by relatively moderate import growth, reflecting a sharp rise in private sector savings, which more than offset the deterioration in the general government balance.

Under the impact of the high current account surpluses since 2008, the net international investment position (NIIP) has seen a strong improvement. Measured as percentage of GDP, the NIIP increased from -5.1% in 2008 to +27.8% in 2011. The improvement in the NIIP has primarily



Source: Commission services



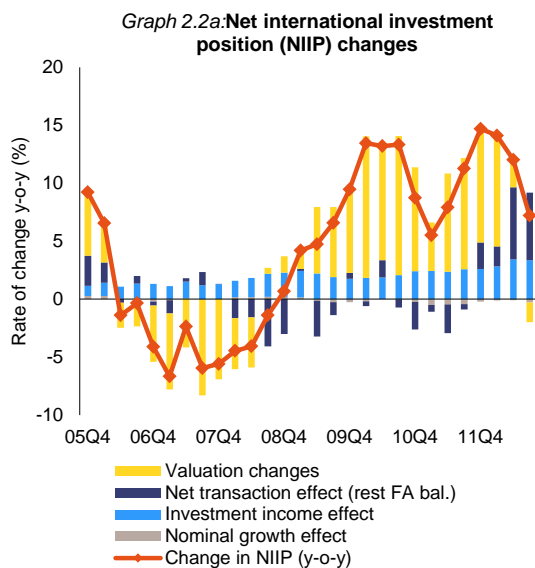
occurred through a rise in net direct investments and changes in reserves (Graph 2.1b). The changes in the NIIP mainly reflect valuation changes and, to a lesser extent, changes in net interests and dividends (investment income effect) and net transactions (Graph 2.2a).

domestic demand recovers and the private sector's propensity to spend increases, import growth will accelerate, leading to lower current account surpluses.

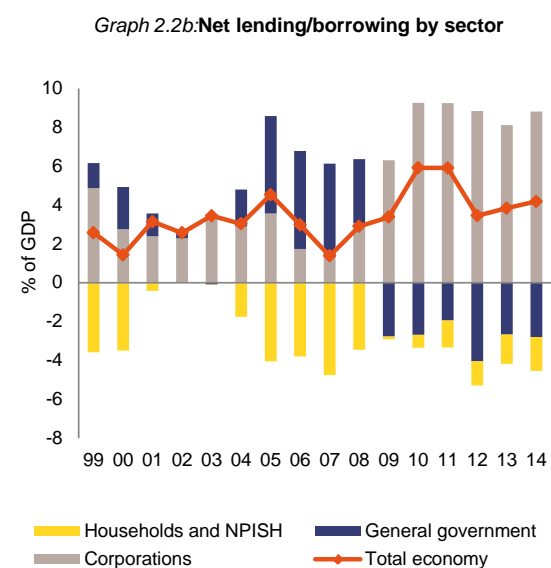
Overall, the improvement in the current account balance over the last few years reflects increased savings in the private sector, which more than offset the deterioration in the general government balance (Graph 2.2b), rather than a stronger competitive performance. This suggests that, as

2.3. COMPETITIVENESS AND TRADE PERFORMANCE

According to the MIP scoreboard, the loss in EMS over the five -year period 2007-11 was of the same order of magnitude as over 2006-10, thus remaining well above the threshold of 6 percentage points. However, although still declining, the pace



Source: Commission services

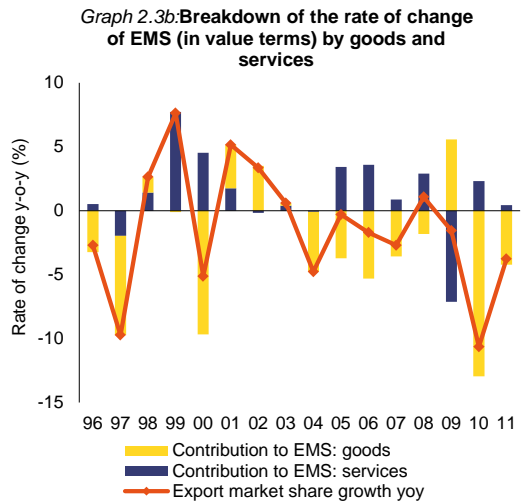
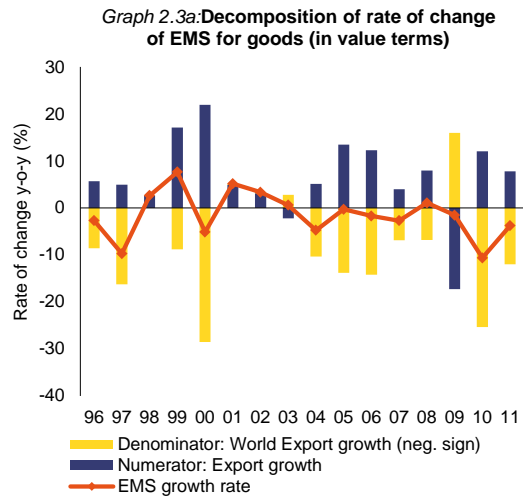


of the contraction slowed substantially between 2010 and 2011, with the annual rate of change improving from -10.6% in 2010 to -4.0% in 2011 (Graph 2.3a). Both goods and services contributed to this improvement (Graph 2.3b). The relatively good performance of merchandise exports was due partly to the large share of non-cyclical goods such as pharmaceuticals, food and food-related products in Denmark's overall merchandise exports.

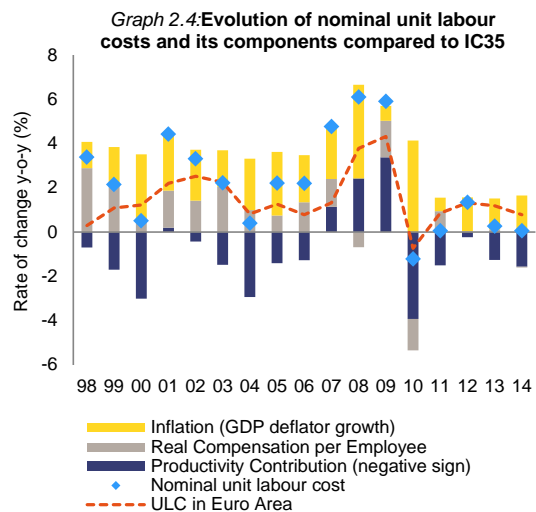
As identified in the In-Depth Review of May 2012, Denmark's problem of competitiveness and weak performance in exports of goods during the last decade are linked to the pronounced rise in unit labour costs (ULC). Between the end of the 1990's and 2009, the rise in ULC in Denmark exceeded that of its main competitor countries⁽¹⁾. Recently, however, Danish cost competitiveness has been improving. Nominal ULC decreased in 2010 and increased only slightly in 2011 and the indicator in the MIP scoreboard, i.e. the percentage change over the past three years, fell from 11.0% in 2010 to 4.7% in 2011, which is well below the indicative scoreboard threshold (Graph 2.4).

To understand the drivers affecting competitiveness of Denmark, non-cost factors need to be examined in addition to cost components. A more comprehensive view of the evolution of export market shares can be provided by analysing the product market composition and the geographic destination of Danish exports, as presented in section 3.

⁽¹⁾ In this review, Germany, the Netherlands, Sweden and Finland are chosen as the main competitor countries of Denmark.



Source: Commission services



Source: Commission services

2.4. PRIVATE SECTOR INDEBTEDNESS

As a result of the strong rise in house prices and the accompanying upsurge in residential investment, the debt level of Denmark's households increased markedly, by 52%, between 2001 and 2009. The debt level of non-financial corporations also rose over the same period, but at a more moderate pace of 29%. On the whole, gross private sector debt ⁽²⁾ increased by 42% between 2001 and 2009, compared with an average rise of 31% for the EU as a whole.

Although gross private sector debt diminished in both 2010 and 2011, reaching 238% of GDP in 2011 (from 251% of GDP in 2009), this still exceeds significantly the indicative threshold of the MIP scoreboard. Moreover, the drop was mainly due to the decline in the indebtedness of non-financial corporations, which fell from 104.3% of GDP in 2009 to 96.1% of GDP in 2011 (Graph 2.5a). Similar trend may be observed for the household debt ratio, which started to decrease slowly from a peak in 2009.

As mentioned in the previous In-Depth Review, high household debt is to a significant extent a structural feature of the Danish economy, with household assets exceeding liabilities. Although the net financial asset position of households remains comfortable, real estate and pension savings are highly illiquid assets while further corrections in the housing market pose downside risks for household balance sheets (Graph 2.5b). In addition, the composition of mortgage loans has changed since the beginning of the 2000s, with deferred-installment and adjustable-rate loans gaining in popularity, thus leaving households more exposed to interest rate hikes and fluctuations in property prices.

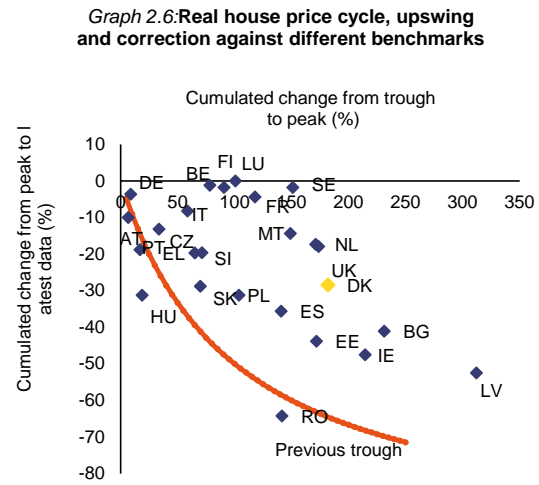
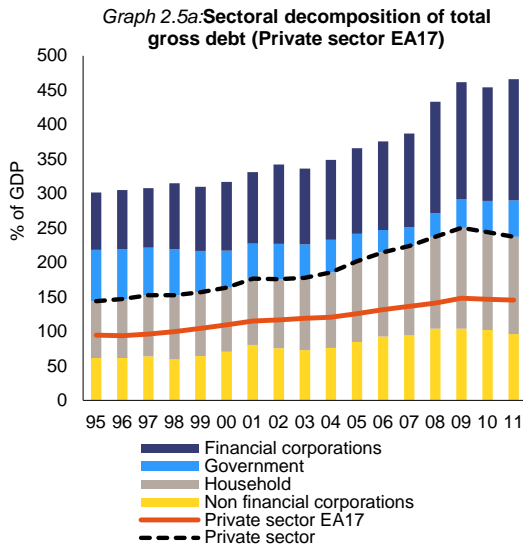
The recent report '*Gældsudgifter i husholdninger med realkreditlån*' by the Danish Ministry of Business and Growth on household indebtedness in Denmark finds that the total mortgage debt of Danish households represents about 1,364 billion Danish Kroner, which equals approximately 78% of Danish GDP. The report notes that mortgage

debt is primarily concentrated among households with the highest incomes. Loans with adjustable interest rates are also more likely to be chosen by households with the highest incomes but also by households with the lowest incomes. However, only approximately 1% of the total mortgage debt has been issued to the 10% of households with the lowest income. In addition to that, the share of lower income households who report having to draw on their savings or having to run into debt to keep up current expenditures fell over the year to spring 2012. ⁽³⁾ The report concludes that the distribution of mortgage loans mitigates the risks of non-repayment.

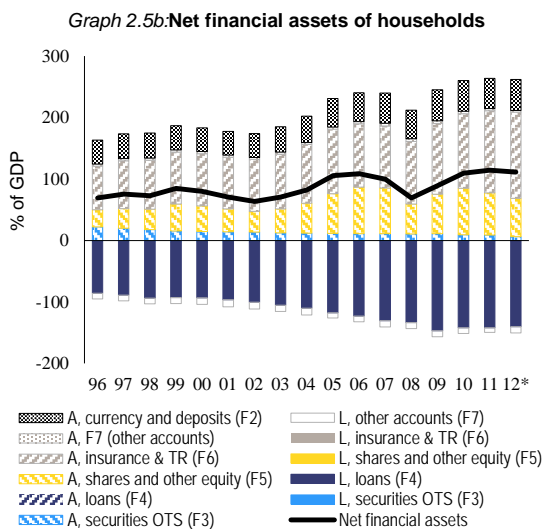
The 2012 In-Depth Review concluded that the household debt level in the aftermath of the house price correction represented an imbalance posing increased economic risks, in particular through potential effects operating via the financial sector (potential increases in non-performing loans) and private consumption (e.g. the need for deleveraging due to erosion of asset values or a high debt-service burden). Section 3 of this review investigates whether this imbalance is unwinding by examining the results of recent research that allows for a better assessment of the related potential risks.

⁽³⁾ For more information on the financial stress indicator see chapter "Key features of the current European employment and social situation" in the Commission report *Employment and Social Developments in Europe 2012*.

⁽²⁾ Private sector's debt is defined as the sum of loans and securities other than shares, non-consolidated. The private sector includes non-financial corporations (private and public corporations), households, and non-profit institutions serving households.



Source: ECB, OECD, BIS, Eurostat, Commission services



Source: Commission services

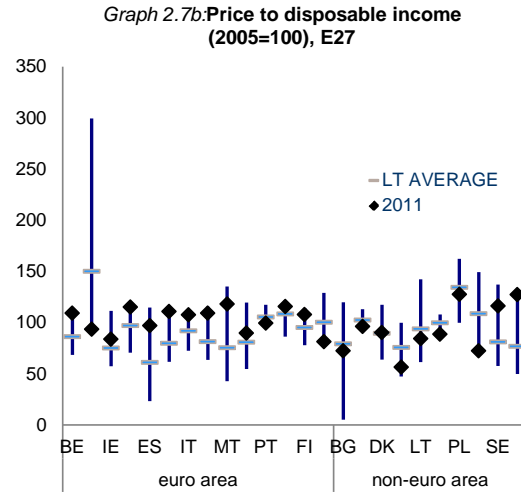
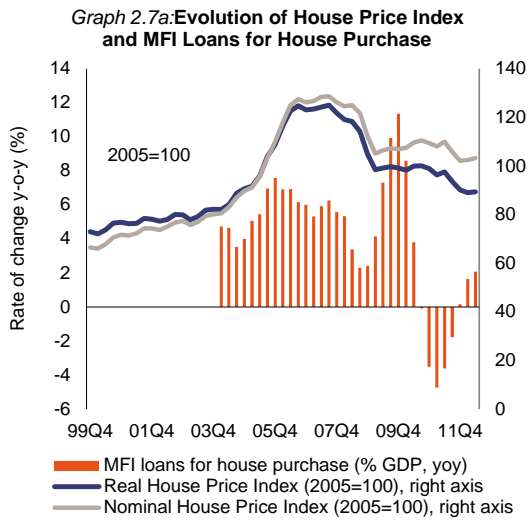
2.5. ASSET MARKET DEVELOPMENTS

Due to easy credit conditions, house prices in Denmark experienced a sustained increase in the ten years up to 2007, with a considerable acceleration between 2003 and 2007, when the increase in real house prices amounted to 54%. The property tax freeze since 2002 and the introduction of deferred-installment mortgages in 2003 are among the factors that contributed to this development⁽⁴⁾.

The housing market in Denmark turned around in 2007, already before the onset of the global financial and economic crisis, and, since then, real house prices have declined by more than 27%. Following a sharp fall in 2008, house prices stabilised between 2009 and 2010, before continuing their descent in 2011 (-0.1%) and 2012 (-4.9%) (Graph 2.7a). As a consequence, the ratio of affordability (price-to-income) is currently close to its long-term average (Graph 2.7b). On the other hand, measured against past experience, a further downward adjustment cannot be excluded (see Graph 2.6)⁽⁵⁾.

⁽⁵⁾ Note: Graph 2.6 refers to a scatterplot of inflation-adjusted house price developments in EU Member States. Past peaks are identified and troughs and plot the total growth from latest trough to latest peak against the growth from latest peak to the current level. The House price series are staff calculations obtained by backward linking ESTAT data with data from other sources (ECB, OECD, BIS). The curve representing the previous trough is not intended to be interpreted as a benchmark. Rather it helps visualise that the reference points used for the calculation of the two growth rates are different: trough-to-peak increases are calculated taking the trough as base year while peak-to-latest data considers the peak as base year. Moreover, in order to take into account the different cycle durations the latest trough and peak information for each country is reported under the chart

⁽⁴⁾ Danmarks Nationalbank (2011).



Source: ECB, Commission services (Graph 2.7a); AMECO, OECD, ESTAT, ECB, BIS (Graph 2.7b)

Following the bursting of the housing bubble, household indebtedness became a prime risk for the financial sector and the near-to-medium-term outlook for private consumption. In Section 3, private indebtedness is analysed within the scope of developments in mortgage foreclosures, real estate revaluation and wealth, taking into account recent information on possible household insolvency and the stability of the household debt.

3. IN-DEPTH ANALYSIS OF SELECTED TOPICS

3.1. COMPETITIVENESS AND EXPORT PERFORMANCE

Denmark's current account has recorded significant and rising surpluses over several years and it is likely that the surplus will be sustained in the next few years, though at more moderate levels. Nevertheless, when looking at Denmark's export performance the loss in EMS remains well above the threshold for the corresponding indicator in the MIP scoreboard. The sustained decline in EMS in spite of recent improvements in cost competitiveness suggests that non-cost factors may be playing a role.

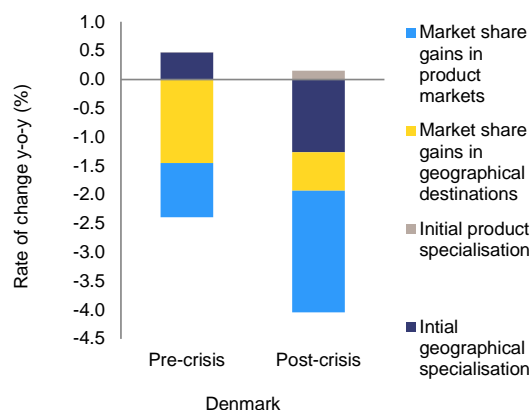
The 2012 In-Depth Review concluded that the product composition of Danish goods exports is rather favourable, while their geographical specialisation acts as a drag on export growth. A more refined analysis that breaks down Denmark's export performance, defined as a country's export growth minus global export growth, into geographical destinations and product categories before and after 2008 shows that Denmark's geographical specialisation was a positive factor before the crisis while it became a negative factor in its aftermath (Graph 3.1a). The strong orientation of Danish exports towards the slow-growing European market is likely to be a main

explanation for this. However, holding export destinations constant Danish export performance also deteriorated both before and after the crisis, although this deterioration was less pronounced during the later period.

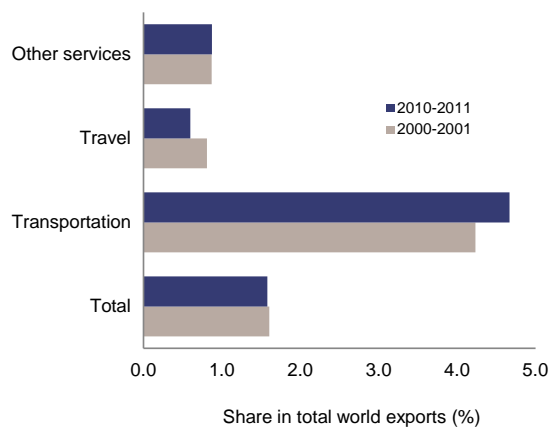
The contribution of Denmark's initial product specialisation to export growth, which was close to neutral before the crisis, became mildly positive afterwards. This seems to be due to the share of cyclically less sensitive goods such as pharmaceuticals, food and food related products in Denmark's overall exports. In other words, Denmark's product specialisation becomes a positive factor during downturns or periods of slow growth, like 2008-2012. This may again reverse once the recovery becomes more entrenched. Furthermore, the analysis of market share developments within individual product categories suggests again a strong deterioration in competitiveness as shown by the negative contribution before the crisis which even worsened later.

Denmark's exports of services seem to perform better than those of goods, with their share in total world exports having remained rather stable since 2000 (Graph 3.1b). The positive contribution of services to the evolution of market shares reflects, to a significant extent, the large representation of

Graph 3.1a: Growth in nominal exports relative to global growth in exports (Shift-share analysis)



Graph 3.1b: Share of Danish exports of services in total world exports



Source: Commission services. Note: Decomposition of total (worldwide) nominal export growth (net of the global trade growth) into four components: i) growth due to the growth of destination markets, ii) growth due to the growth in product markets, iii) export growth to destination markets above their growth, iv) export growth in product markets above their growth. The decomposition tells whether a country was initially (in the beginning of a period) specialised in geographical destinations and/or sectors with dynamic or sluggish demand as well as whether a country has increased or decreased its share in these geographical or product markets. The pre-crisis period is defined as 2000-2007, the post-crisis period is defined as 2007-2010

sea transport in Danish services exports.

The following analysis elaborates the developments in the potential explanatory factors behind Denmark's losses in export market shares, focusing on both cost and non-cost related aspects (ULC, product composition and geographical destination).

3.1.1. Cost competitiveness and changes in unit labour cost

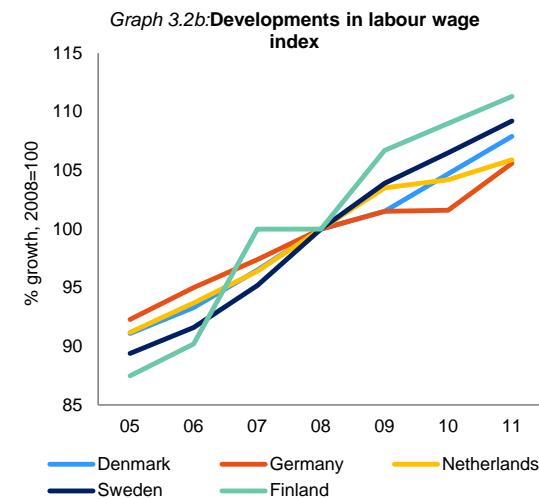
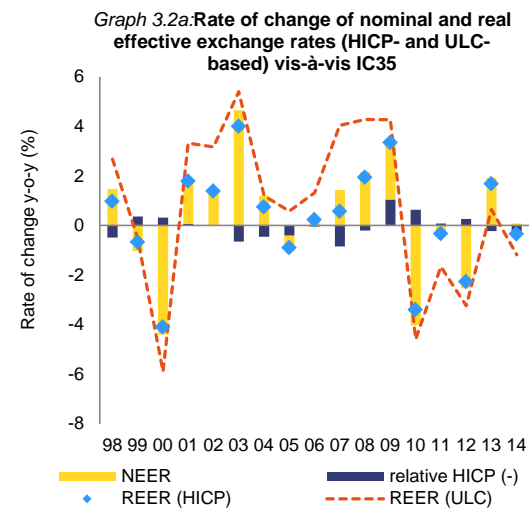
The problem of Danish competitiveness and the weak performance of export of goods can be partly attributed to a rise in relative unit labour cost (ULC) resulting from high nominal wage growth coupled with weak productivity growth. A negative relationship between EMS and wage competitiveness was revealed in the In-Depth Review of 2012. While a relatively high share of up-market products to some extent allowed Danish exporters to pass on rising costs to prices, high ULC contributed to the decrease in export market shares in volume terms.

External cost competitiveness is also related to fluctuations in nominal exchange rates. Denmark is part of the Exchange Rate Mechanism II and the exchange rate is set at a fixed value plus or minus 2.25% vis-à-vis the euro. As a consequence, since 1998, the nominal krone-euro exchange rate has remained almost unchanged. However, in effective terms, i.e. taking into account the fluctuation of the euro vis-à-vis the currencies of Denmark's trading partners, the Danish krone appreciated between 2000 and 2009 and depreciated afterwards (Graph 3.2a).

This trend of deteriorating competitiveness in the earlier period and an improvement in the latter has been reinforced by developments in Denmark's relative unit labour costs. In particular, productivity growth has been low as compared with main competitors over the past decade. On the other hand, productivity growth has picked up over the last three years, but there is uncertainty about whether this reflects a structural shift or a cyclical acceleration at the start of a recovery when employment growth tends to lag output growth.

Economic analyses have been focussing on the issue of low productivity growth for some time and a number of possible sources have been identified

such as insufficient competition in some sectors (construction, retail trade, health care, and public sector services) and inefficiencies in the education system. In order to address this issue in a comprehensive manner the Danish authorities have set up the Productivity Commission which is mandated to come up with policy recommendations by the end of 2013.

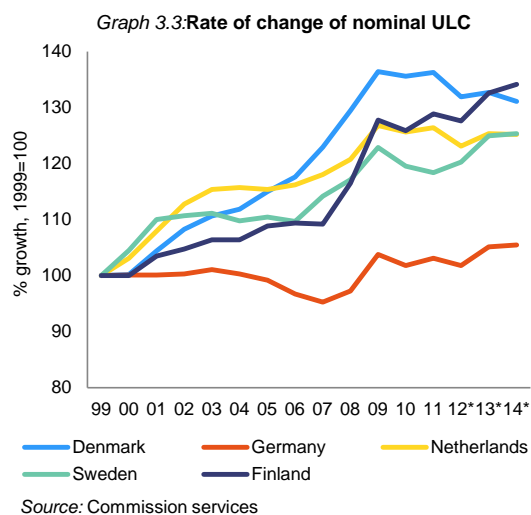


Source: Commission services

Despite sluggish productivity growth, wage growth in Denmark has developed broadly in step with that of its main competitors Sweden, Finland and the Netherlands while exceeding by far that of Germany. Wage growth accelerated particularly in the period before the crisis when the economy showed signs of overheating, but started to slow down from 2009 on and fell below that of main

competitor countries between 2010 and 2012 (Graph 3.2b).

As a result of these developments, the rise in ULC exceeded that of the country's main competitors for most of the 2000s (Graph 3.3). The resulting cost competitiveness gap started to reverse only from 2009 onwards when wage growth started to slow down and productivity growth to pick up. However, despite these recent improvements, the cost competitiveness gap remains large and a further sustained improvement is necessary to correct for the losses that accumulated during the past decade. On current projections, the gap should narrow further in coming years as a result of continued moderate wage developments and productivity growth returning to its longer-term average.

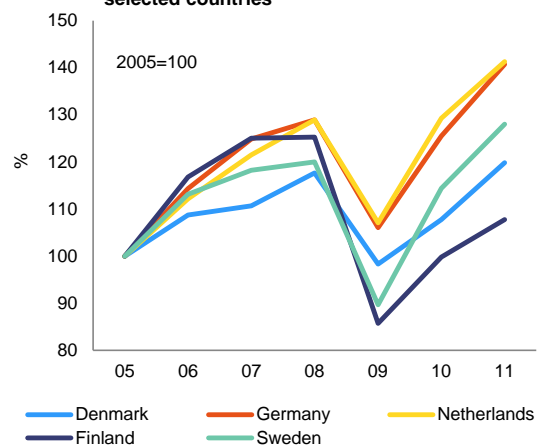


3.1.2. Export market shares and geographical specialisation of exports

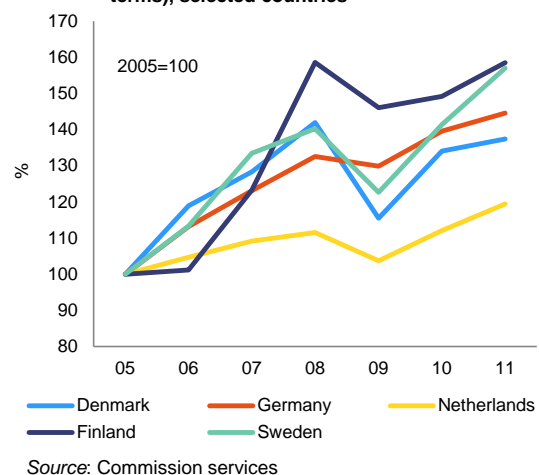
Denmark is a small and open economy in which trade in goods and services constitute a significant share of GDP. Danish export growth in both volume and value terms was characterised by steady growth over the last decade, with the exception of 2009, when the global crisis triggered a contraction. In relative terms, however, Denmark's export performance was moderate. Indeed, over the period 2005-2011 Denmark had the second lowest rate of growth in exports for both goods and services when compared with its competitors (Graph 3.4a and Graph 3.4b).

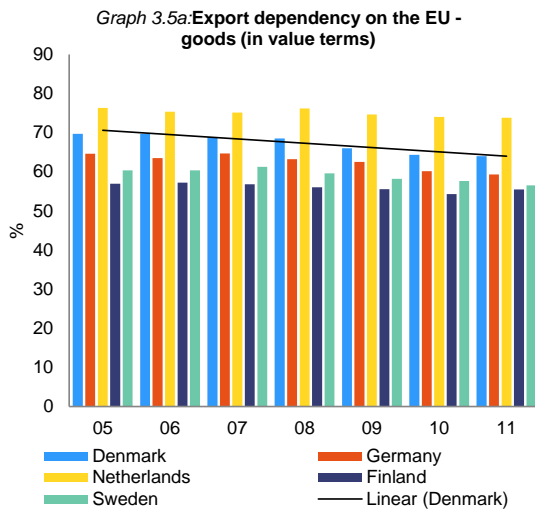
Developments in the global economic environment, in particular the growing participation of high-growth emerging economies in international trade, pose new challenges for Danish exporters. Last year's In-Depth Review found that the mix of geographic destinations of Danish exports did not contribute to growth of export market shares between 2000 and 2005 and that, as a consequence, Denmark would benefit from greater representation in high-growth emerging markets.

Graph 3.4a: Goods: Rate of change of exports to the rest of the world (in value terms), selected countries

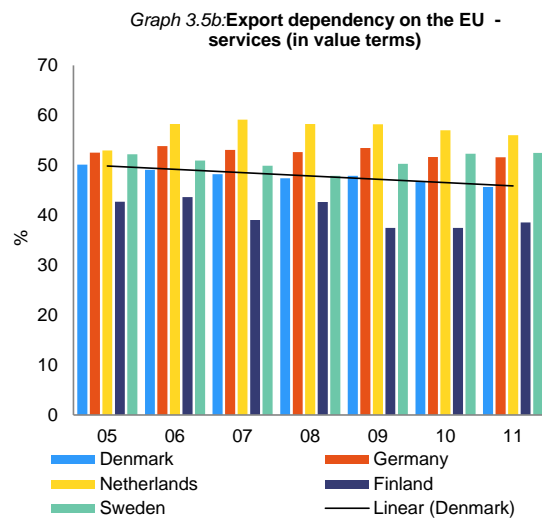


Graph 3.4b: Services: Rate of change of exports to the rest of the world (in value terms), selected countries





Source: Commission services



In geographical terms, Denmark's exports reveal a strong dependency⁽⁶⁾ on the EU: compared with its competitors, Denmark is the second most dependent on the EU for goods exports and the third for services exports. However, Denmark's export shares to the EU have been falling since 2005, implying that its exports have become less dependent on EU demand. While this reflects a more general development across EU countries, the trend has been slightly more pronounced than for its main competitors (Graph 3.5a and Graph 3.5b).

But the future performance of Denmark's exports will hinge to a considerable extent on its capacity to penetrate high-growth emerging markets, such as the BRICS (Brazil, Russia, India, China and South Africa). In this respect, Denmark is lagging behind its main competitors, with its share of goods exported to these countries being the second lowest after the Netherlands. Since 2005, a positive trend has been apparent which however has not been more pronounced than for its main competitors (Graph 3.6).

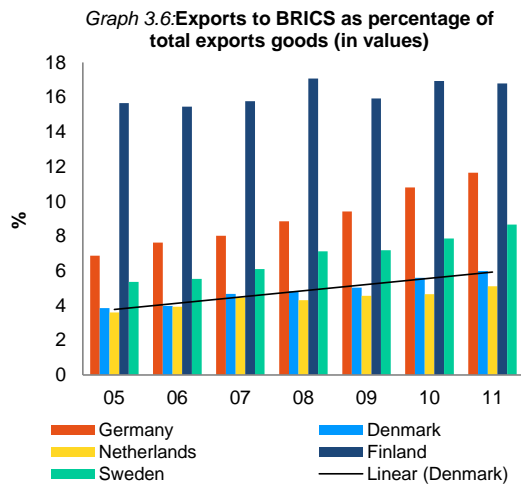
Denmark's limited presence in the BRICS could be due to its large share of small and medium-sized firms in value-added, as these firms typically face greater difficulties in venturing into new markets. Furthermore, according to a study by Danmark

Nationalbank⁽⁷⁾, firms in small countries display a greater tendency to export to their neighbouring countries, especially if these are large, leaving a smaller export share to distant markets in comparison to larger countries. However, this does not explain why Sweden and Finland perform significantly better than Denmark in this regard.

One reason for Denmark's low presence in these markets could also be the product composition of its exports, which is concentrated in relatively expensive high-quality consumer products. While the demand for such products is currently relatively low in emerging economies, the high income elasticity of demand for such products and the rapidly-growing incomes in these countries may impact positively on Denmark's exports to these markets in the future.

⁽⁷⁾ Danmarks Nationalbank (2012b).

⁽⁶⁾ Export dependency on the rest of the EU is understood as a relation of EU-directed exports to the total exports of a country.



3.1.3. Product market composition and developments in exports of goods

Denmark continued to lose EMS in the past few years despite improvements in cost competitiveness and the fact that the product composition of exports has been relatively favourable to export growth. To better understand the relationship between the market share losses and developments in exports of goods, it is helpful to look in greater detail at the product composition of Danish exports.

Denmark is relatively specialised in low-tech products. Although low tech products as percentage of overall exports have declined considerably over past decades⁽⁸⁾ they still account for the largest share of Denmark's manufacturing exports in terms of values (Graph 3.7a and Graph 3.7b-c). However, Danish low-tech exports have a relatively high value density which has further increased between 2005 and 2011.

Interestingly, when compared with its main competitors, between 2005 and 2011 Danish low-tech products performed better in volume terms than in value terms (Graph 3.8a and Graph 3.8b). This points to an improvement in cost competitiveness and/or a compression of profit margins in recent years which allowed Danish exporters in this product segment to maintain relatively high sales in volume terms.

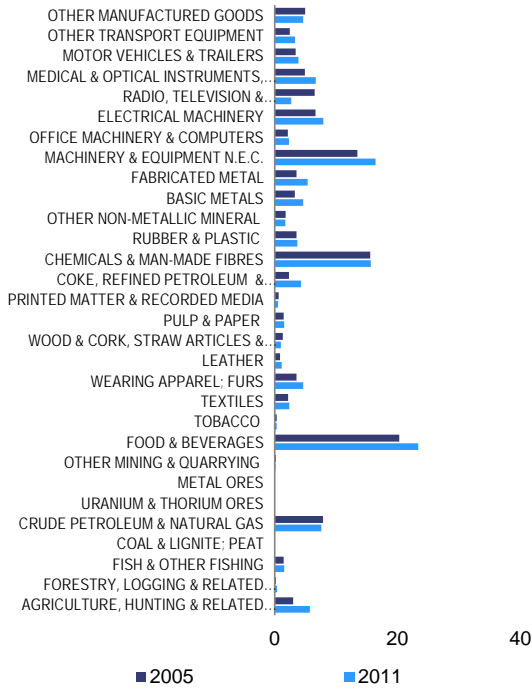
⁽⁸⁾ Danmarks Nationalbank (2012b).

Denmark's exports are relatively less concentrated in high-tech products. High-tech products are assumed to have the highest export growth potential, as they represent the cutting edge of new products that are manufactured with the use of the highest and newest technology available. The high level of knowledge gained by the specialisation in high-tech products could potentially benefit Denmark and would allow a significant improvement in productivity. As is to be expected, for high-tech products the volume component plays a subordinate role. In terms of values, the composition of Danish exports has seen a favourable development between 2005 and 2011, with the share of high-tech products in overall exports of manufactures having increased noticeably.

Compared to its competitors, however, the relative performance of Danish high-tech exports appears less favourable. Between 2005 and 2011, only Finnish exports reveal lower growth for this type of products (Graph 3.9a). On the positive side, extra-EU exports of high-tech products did relatively well (Graph 3.9b). Given that extra-EU markets are expected to grow faster in coming years this bodes overall well.

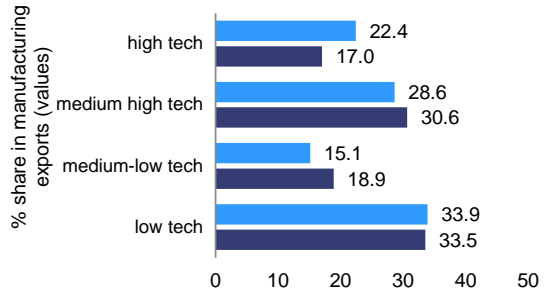
The above analysis broadly confirms the conclusion of the previous In-Depth Review. While Denmark seems to be relatively specialised in low-tech products, within this product category its exports are concentrated in the higher-value segment and there has been a further accentuation of this trend in recent years. High-tech products are still somewhat underrepresented in overall exports but changes over past years go in the right direction even though this development is somewhat less pronounced than for its main competitors. Overall, it can be concluded that product market composition does not seem to be a risk factor to Denmark's export performance.

Graph 3.7a: Composition of goods exported, 2005 and 2011 (values)

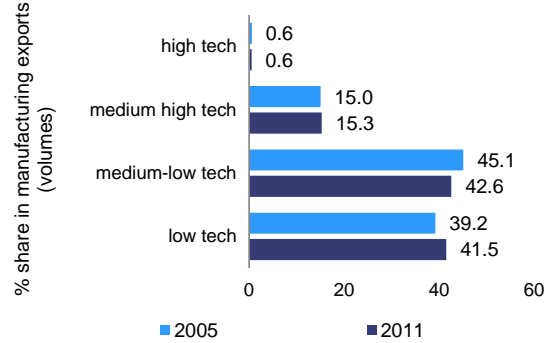


Source: Commission services

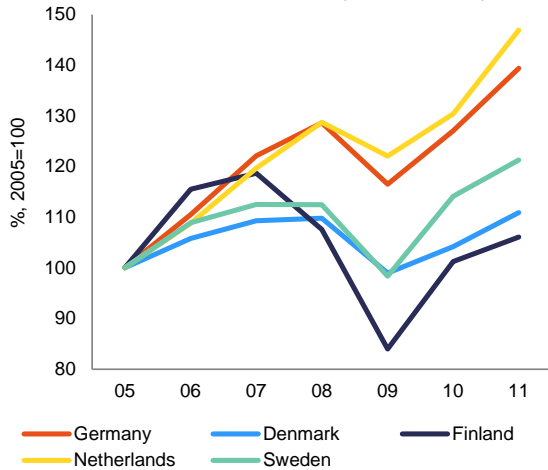
Graph 3.7b: Share of high- and low-tech products in manufacturing exports (values)



Graph 3.7c: Share of high- and low-tech products in manufacturing exports (volumes)

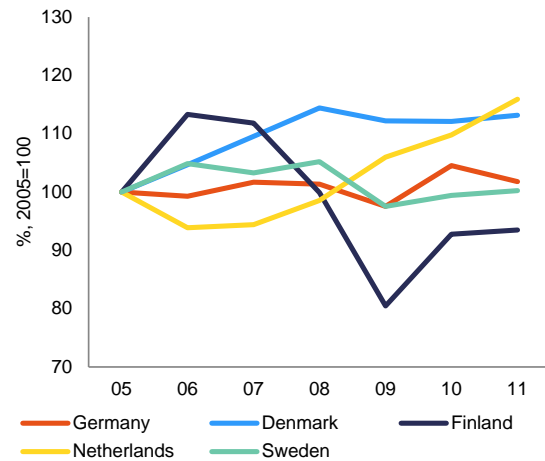


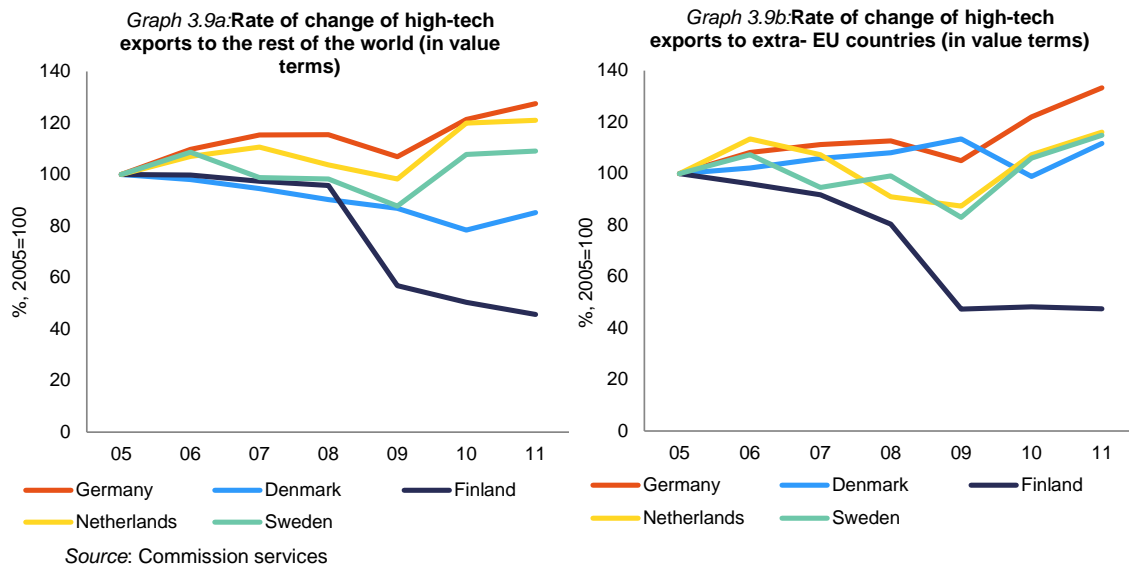
Graph 3.8a: Rate of change of low-tech exports to the rest of the world (in value terms)



Source: Commission services

Graph 3.8b: Rate of change of low-tech exports to the rest of the world (in volume terms)





3.2. HOUSEHOLD DEBT

3.2.1. Risks to financial stability

In terms of financial stability, the consequences of the rise in household debt have been contained so far. This is visible, for instance, in the number of foreclosures which, although having risen in the aftermath of the crisis, has remained at a moderate level in a historical perspective (Graph 3.10a). Admittedly, the consequences of the larger share of adjustable-rate mortgage loans among households have so far been mitigated by the drop in interest rates on Danish mortgage bonds, leading to a fall in the interest rate burden of households from 2010 to 2011 (Graph 3.10b). As the increase in the share of adjustable-rate loans leaves households more exposed to interest rate hikes in the future, it is pertinent to investigate the vulnerability of Denmark in this respect.

Recent research on the distribution of household debt provides some comfort in this regard. In particular, a study by the Ministry of Business and Growth⁽⁹⁾ on the loan distribution among households shows that, in general, mortgage debt is concentrated among households with high incomes. Almost 90% of the mortgage debt is held by households in the upper half of the income distribution and one third of all mortgage debt is held by households in the 10th decile of the income

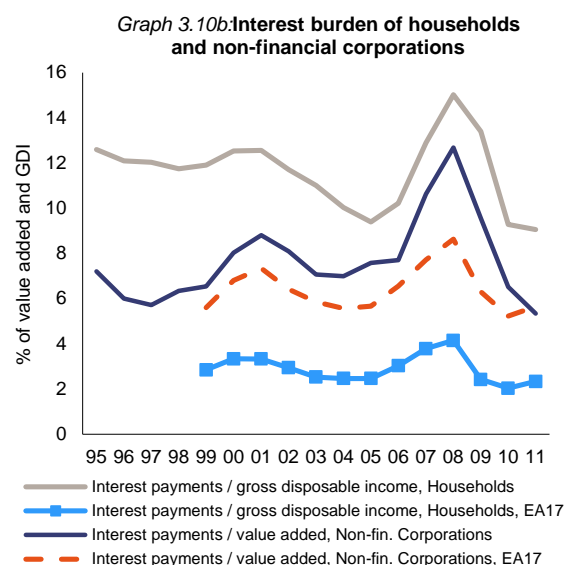
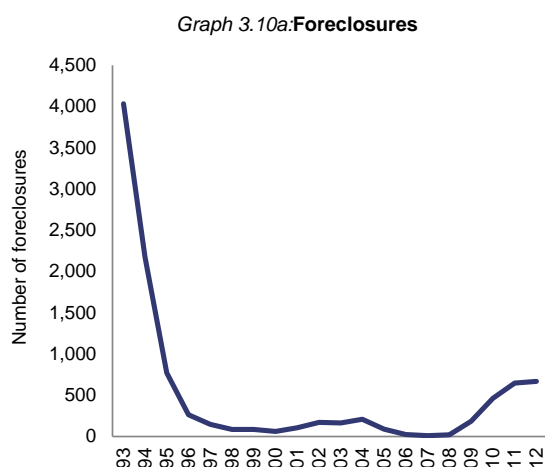
distribution. Similarly, a study by Danmarks Nationalbank (DNB)⁽¹⁰⁾ shows that the largest part of household gross debt is concentrated in the hands of those with the highest incomes. Specifically, more than one half of total family gross debt is held by the 20% of families with the highest after-tax incomes. Conversely, families that belong to the lower half of the income distribution accounted for a mere 14% of total gross debt. The conclusion emerging from these studies is that most of the debt is held by households, who are likely to find it easier to service their loans also in a situation of rising interest rates.

Nevertheless, variable-interest and deferred-installment loans do pose some risks to the financial system. According to the latest Danmarks Nationalbank report⁽¹¹⁾, the share of variable-rate loans out of total lending by mortgage banks rose from 46% to 68% from the beginning of 2005 until the third quarter of 2012. Over the same period, share of deferred-amortisation loans rose from 20% to 56% of total mortgage lending. Variable rate loans are particularly prevalent among families in the top 10% and the bottom 10% of the income distribution. For the latter income class, which is considered to be the most vulnerable one, loans with variable rates represent almost 70% of the total. Also, deferred-installment loans with variable rates are more widespread among

⁽⁹⁾ Ministry of Business and Growth (2013).

⁽¹⁰⁾ Danmarks Nationalbank (2012b).

⁽¹¹⁾ Danmarks Nationalbank (2012d).



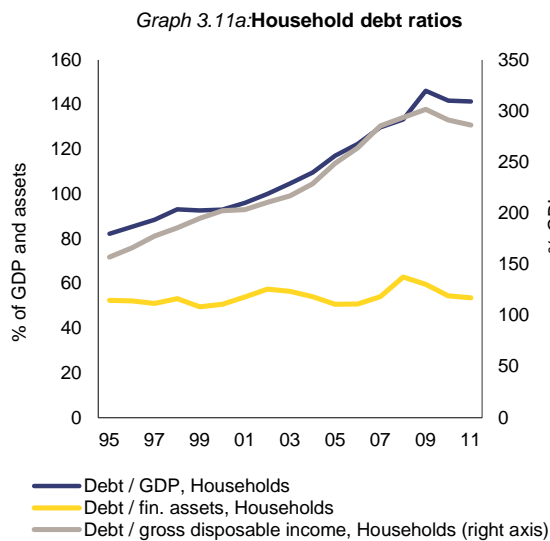
Source: Association of Danish Mortgage Banks (Graph 3.10a), Commission services (Graph 3.10b)

households in the lower part of the income distribution. This also reflects the fact that such households used the possibilities in the mortgage credit system to move to these types of mortgage loans, when their incomes fell as a result of the crisis, possibly to avoid foreclosure.

Ultimately, what counts is the capacity of households to service their debt. According to the study by the Ministry of Business and Growth, the large majority of households (95%) spend less than half of their disposable income on servicing their total debt. The study shows that a one-percentage-point increase in interest rates would raise the share of households that spend more than half of their income on debt service from 5% to 6%. In a 'stress test' scenario with interest rates rising by 5 percentage points, the corresponding share would rise to 13%. The amount of debt held by this group would then correspond to DKK 280bn or 21% of all mortgage loans. However, as some households will be able to react before such an interest rate hike occurs – e.g. by changing to other loan types (for instance, to fixed rate loans if the rates on these loans do not increase correspondingly) or by selling their house or other assets – the calculated share of households with a debt service burden above 50% should be considered an upper limit. Furthermore, part of these households would still be able to continue servicing their debt even if their debt service burden rose above 50% and, in case of default their loans, would be backed by

guarantees in property. The potential DKK 280bn (37 bn EUR) of debt held by households, which would have to spend more than 50% of their disposable income on debt service, would thus not fully burden the financial sector and is therefore unlikely to pose a serious threat to Denmark's financial stability.

Overall, the financial sector's losses on household exposures have been modest so far in the face of rising gross debt. Against this background and given recent research on the distribution of household debt, it appears that the debt-to-income ratio does not constitute a threat to the economy's financial stability at the current juncture. Nevertheless, in the current fragile financial and macro-economic environment, the high level and the composition of mortgage debt have increased the exposure of the financial system to adverse developments. Under the tail risk of a simultaneous materialisation of factors such as rising interest rates, a further fall in house prices and continued low growth and rising unemployment, pressure points in the Danish mortgage system may show up.



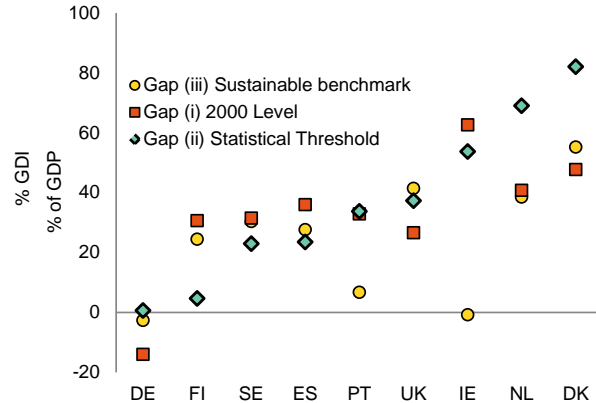
Source: Commission services

3.2.2. Risks to economic stability

Some consolidation efforts among households have been observed in recent years, with the debt-to-gross disposable income ratio being reduced from an historical high of 302% in 2009 to 286% in 2011 (Graph 3.11a). A similar downward adjustment is also apparent when debt is measured in terms of debt-to-GDP or debt-to-assets. Nevertheless, indicators of over-indebtedness of households show a level of the debt-to-GDP ratio in Denmark that is one of the highest in the EU (Graph 3.11b). However, as the high debt level and the changes to it also reflect structural factors such as lower structural unemployment, this does not necessarily imply that risks in terms of deleveraging are high or have increased. Accordingly, it is necessary to look at the deleveraging pressures from a broader perspective in order to have a better appreciation of the gravity of the situation.

To this end, a stress map of credit supply and demand conditions has been constructed which puts Denmark's situation into the EU context (Graph 3.12a and Graph 3.12c). Such a relative analysis, complemented by an assessment of the overall trend for individual indicators (see below), provides a useful first approximation of deleveraging pressures faced by an individual Member State. For Denmark, it appears that

Graph 3.11b: Indicators of over-indebtedness, selected countries



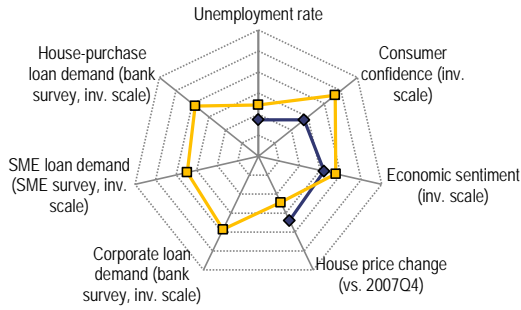
Debt-to-GDP levels in 2011 are compared against three benchmarks: (i) their 2000 level; (ii) The third quartile of the 1994-2007 distribution for the EU27 and (iii) a sustainable benchmark that takes into accounts valuations effects in financial as well as non-financial assets

neither demand-side nor supply-side lending pressures seem to be of particular concern ⁽¹²⁾.

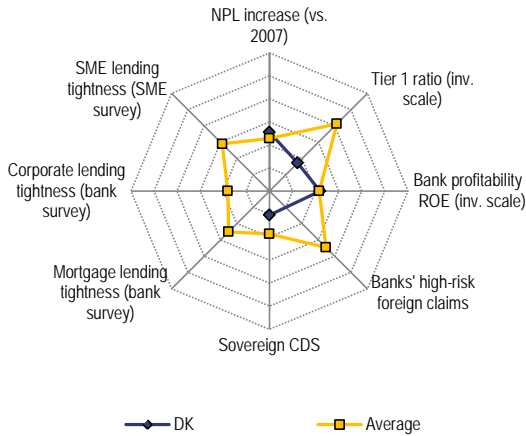
Synthesising the information on individual items indicating credit demand and supply pressures (see Tables 3.1 and 3.2), Graph 3.12b shows that Denmark belongs to EU Member States with relatively low demand pressures, particularly due to low unemployment and high consumer confidence, and with relatively low supply pressures, mainly because of its performance in terms of bank profitability and low sovereign CDS spreads.

⁽¹²⁾ Indeed, all indicators of lending supply and demand pressures for Denmark are close to or below the EU average. In addition, these indicators, respectively, were constructed from the individual indicators above in order to gauge the likely effect on the short-term deleveraging dynamics. The overall indicator is based on the average rank of a Member State on each variable. Specifically, for each Member State the rank (percentile) along all variables is calculated. The average rank is then calculated separately for supply and demand variables and scaled to be between 0 and 10. Tables 3.1 and 3.2 present the individual variables and the overall pressure indicator for all Member States.

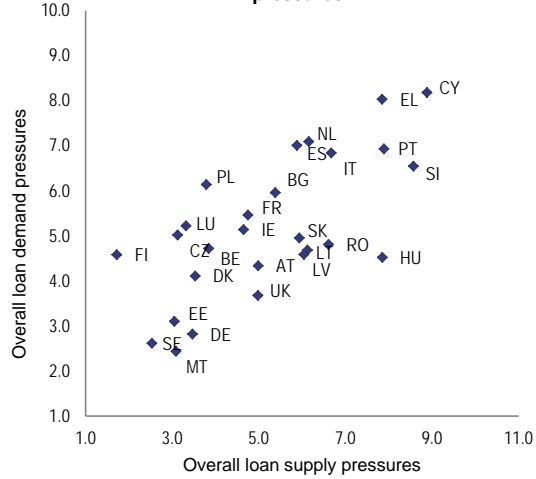
Graph 3.12a: Stress map of credit demand conditions



Graph 3.12c: Stress map of credit supply conditions



Graph 3.12b: Lending demand and supply pressures



Source: Commission services.

Note: (i) Graphs 3.12a and c present stress maps of credit supply (up) and demand (down) conditions. For each variable the range of the graph is given by the maximum and minimum observation among all Member States (MS) with available data. A weighted average of all available EU27 Member States is provided as a visual reference. Variables are plotted on a regular or inverted scale ensuring that a larger map corresponds to more adverse conditions. Credit supply-related indicators include the change in overall non-performing loans relative to 2007, the banks' Tier 1 capital ratio, banks' return on equity, banks' exposure to high risk foreign claims as % of GDP, the sovereign CDS spread, the Bank Lending Survey (BLS) tightening of credit standards for (i) loans to enterprises and (ii) house purchase loans (trailing 4-quarter average), and the Survey on the access to finance of SMEs (SAFE) loan request failure rate (percentage of requests that did not receive all or most of the amount requested). Credit demand-related data include the EC Consumer Confidence Indicator, the Economic Sentiment Indicator, the unemployment rate, the house price evolution relative to 2007Q4, the BLS changes in demand for (i) enterprises and (ii) house purchase loans, and the SAFE variable on External financing needs. Most recent available data are presented (2012 Q2, Q3 or Q4). (ii) Graph 3.12b The overall supply and demand pressures indicators are based on the average rank of a Member State (MS) on each supply or demand variable (see the stress map explanation for details). Specifically, for each MS we calculate its rank (percentile) in all supply/demand variables. We then calculate, separately for supply and demand variables, the average rank of a MS and we scale it between 0 and 10.

Table 3.1:

Credit demand conditions, selected countries and EU average

	Unemployment rate		Consumer confidence		Economic sentiment		House price change (vs. 2007Q4)		Corporate loan demand (bank survey)		SME loan demand (SME survey)		House-purchase loan demand (bank survey)		Overall demand pressures
	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	
CY	12.5	8.1	-2.3	-1.0	77.8	85.0	-19.7	-15.1	-25.0				-65.0	-50.0	8.2
PT	16.2	12.7	-2.2	-2.2	79.2	79.0	-5.3	2.6	-15.0		10.9	5.9	-85.0	-100.0	6.9
NL	5.3	4.4	-1.9	-2.0	86.3	90.5	-15.6	-7.5	-35.7		-4.3	-4.1	-66.7	-33.3	7.1
ES	25.5	22.0	-1.8	-0.6	88.2	93.0	-30.2	-17.7	-22.5		5.6	5.7	-16.7	-38.9	7.0
UK	7.8	8.3	-0.8	-1.5	97.6	94.0	-2.5	-4.3							3.7
BE	7.4	7.3	-1.6	-1.0	90.4	94.6	11.3	9.4			2.0	-1.0			4.7
DK	7.5	7.6	-0.1	-0.6	93.9	92.3	-17.2	-16.2							4.1
PL	10.3	9.7	-0.9	-0.6	85.4	92.0	-13.4	-4.8							6.1
SE	7.7	7.3	-0.7	-0.3	95.1	97.1	15.5	14.5							2.6
FI	7.8	7.7	-1.4	-1.7	92.8	94.0	14.2	11.9			0.5	-3.1			4.6
Average	10.5	9.7	-1.5	-1.3	90.6	93.6	-4.2	-2.3	-27.0		6.5	5.6	-25.0	-16.0	

Source: ECB, BIS, IMF, Datastream, Eurostat and Commission services

Finally, deleveraging needs may be assessed by a comparison of the actual debt level to an equilibrium/sustainable debt level. Differences related to institutional characteristics and structural supply-side factors play a key role in determining the stability of financial conditions. Hence, the sustainability of a debt level should be assessed against the equilibrium level of household debt as a benchmark. For instance, the fall in structural unemployment prior to the crisis, financial developments and changes to the pension system may have led to a rise in the equilibrium level of debt in Denmark by easing credit rationing without incurring increased risk. Therefore, one should assess the extent to which an increase in the debt to income ratio of households constitutes a movement towards a new equilibrium or is related to a riskier financial position to the sector.

Graph 3.13a shows the household debt-to-GDP

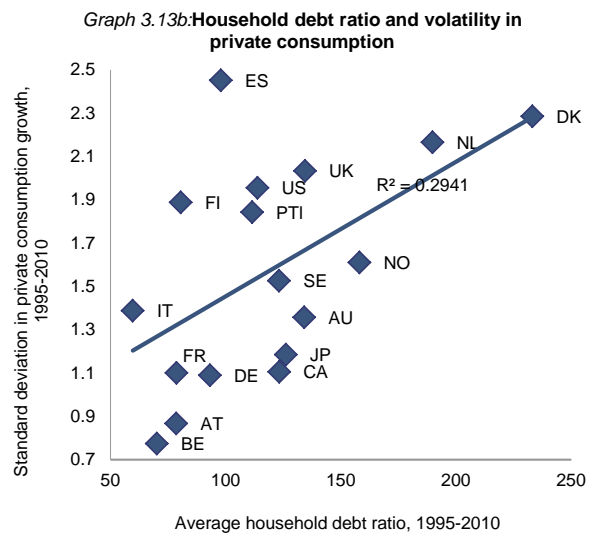
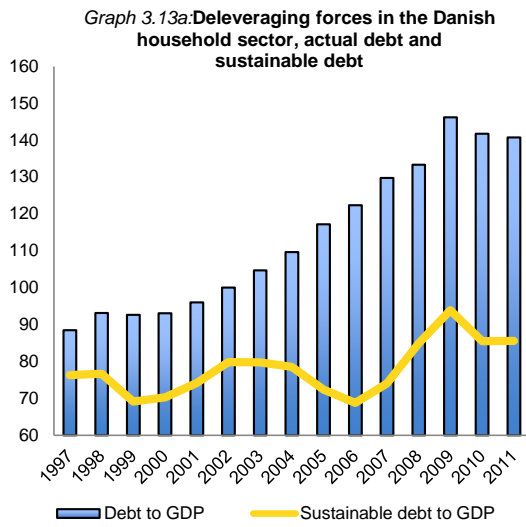
ratio together with its estimated sustainable path. A build-up of pressures can be identified between 2003 and 2007, when the gap between the actual debt and its sustainable path increased rapidly. During this period, the cumulated difference rose by 35.5 pps in Denmark, which is very high in a comparative perspective. After a downward correction in 2008, the increase in the annual differences continued, but at a more moderate pace, in 2009 and 2010. According to the latest data, in 2011 further moderate rebalancing took place. The closure of the gap between the actual and the sustainable debt ratios has to take place through a rebalancing of household sector balance sheets. The pace of this adjustment depends, on the one hand, on how much the actual ratio of debt to GDP diminishes (deleveraging efforts by households, thus reducing their liabilities) and, on the other hand, on how much the benchmark rises (through corrections or negative valuation effects

Table 3.2:

Credit supply conditions, selected countries and EU average

	NPL increase (vs. 2007)		Tier 1 ratio		Bank profitability (ROE)		Banks' high-risk foreign claims (% GDP)		Sovereign CDS		Mortgage lending tightness (bank survey)		Corporate lending tightness (bank survey)		SME lending tightness (SME survey)		Overall supply pressures
	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	Last	Prev. year	
CY	10.1	8.6	11.9	7.0	-40.4	-86.0			1007	1187	50.0	30.0	60.0	35.0			8.9
PT	5.3	4.1	8.5	8.6	0.9	-4.1	16.7	17.6	342.8	1026.4	25.0	90.0	15.0	95.0	56.1	47.0	7.9
NL	1.3	1.1	11.8	11.8	5.7	6.2	16.2	16.5	53.1	96.2	29.2	28.0	17.9	-3.6	70.1	48.1	6.2
ES	5.1	4.4	9.8	10.6	-5.2	0.1	8.5	8.4	231	275	8.3	13.9	2.5	2.5	46.6	37.5	5.9
UK	0.9	1.0	11.1	10.7	3.6	4.2	12.7	13.3	45	70							5.0
BE	1.9	1.4	16.3	15.1	3.2	1.4	12.0	13.4	42	145					24.7	16.8	3.8
DK	2.9	2.2	15.1	14.9	2.8	0.6			21.0	105.8							3.5
SE	0.6	0.6	10.9	10.9	11.8	10.7	1.4	1.3	12	42							2.5
FI	0.2	0.2	13.9	13.7	9.5	8.1	0.9	1.0	30	64					9.1	6.6	1.7
Average	1.8	1.7	11.4	11.4	3.2	1.7	12.2	12.9	184	184	15.0	17.0	11.8	14.3	32.1	28.9	

Source: ECB, BIS, IMF, Datastream, Eurostat, European Commission, staff calculations



Source: Commission services (Graph 3.13a), Statistics Denmark (Graph 3.13b)

in asset prices which would allow for an increase in the sustainable level of debt). The adjustment towards a more sustainable level of indebtedness will depend crucially on the interaction of these two forces.

As households in Denmark are in the process of reducing their debt ratios, while the housing market is simultaneously stabilising, the household debt imbalance is in the process of unwinding. In general, bringing the debt down to a sustainable level before potential debt distress occurs is highly desirable, but it can also be costly in terms of growth and employment. In the case of Denmark, however, the process is happening at a relatively slow pace. This may be appropriate since the risk of debt distress is rather low, especially the risks to financial stability. In conclusion, the impact of the deleveraging process on the economy appears to be relatively moderate and is unlikely to be a significant cause for concern in the coming years.

Although the risks from deleveraging needs to economic stability are low, the level of household debt and its links to real estate make the economic position of Danish households sensitive to changes in interest rates and fluctuations in house prices. Denmark recorded some of the largest swings in private consumption among a range of countries over the period 1995-2010 (Graph 3.13b). Such large fluctuations can have an impact on the speed with which the economy can recover. Hence, in order to avoid such harmful fluctuations in the future, it would be prudent to address potential

pro-cyclicalities in the housing market and, thus, the build-up of unsustainable debt levels. Lowering incentives to take up debt would also contribute in this respect.

3.2.3. Measures taken to reduce risks in the coming years

The Danish authorities and the mortgage credit institutes have taken a number of measures to improve the robustness of the mortgage credit system and to limit the incentives to take up debt. In particular, until now all the refinancing auctions have been taking place once a year, in December. This posed a particular challenge related to the larger share of adjustable-rate loans, in particular regarding interest rate hikes. Consequently, adverse developments in the market could lead to an increased risk at the time of refinancing of adjustable-rate loans, which would have undesirable effects on house owners and mortgage institutes. To counter this possibility, the mortgage institutes have taken measures to spread auctions to refinance adjustable-rate loans over the year so as to reduce the refinancing risk. Denmark's Nationalbank and the industry agreed on this already in 2009. From 2010 to 2017, the refinancing auctions are taking place three times per year, in December, April and October. In 2012, almost half of the loans were refinanced in April and October. From 2018 onwards, they will take place also in July. As a result, refinancing auctions will be spread over the year and therefore the above mentioned potential risks will be limited.

The EU's capital requirement directive, which was implemented in Danish law in July 2007, also poses a potential challenge for the Danish mortgage institutes since it requires that loan-to-value (LTV) ratios of 80% are respected for the entire life-span of the so-called '*Særligt dækkede obligationer*' (SDOs). These new bond types, which were introduced in 2007 alongside the traditional mortgage bonds ('*Realkreditobligationer*' – ROs), now constitute more than 60% of all covered bonds. In the current environment of low inflation and very moderate house price increases the automatic downward pressure on the LTV ratio, as observed prior to the crisis, is no longer as strong and it is therefore relevant to investigate the mortgage institutes' need for additional collateral in case of a negative shock to house prices.

The mortgage credit institutes themselves have been undertaking measures to ensure the provision of additional collateral. For instance, Nykredit, the biggest Danish mortgage credit institute, introduced a so-called two-layer system in 2012, whereby the LTV ratio of deferred-installment and/or adjustable-rate loans is limited to 60%. The remaining 20% has to be covered by loans with instalments, which are either fixed-rate loans or variable rate loans⁽¹³⁾ with an interest rate fixed for a minimum period of five years. Furthermore, another big mortgage credit institute, Realkredit Danmark, has increased the contribution rates/fees ('*bidragssats*') for the variable rate and deferred-installment loans significantly, making fixed rate loans and loans with instalments relatively more attractive. Such measures will effectively limit the share of deferred-installment and adjustable-rate loans. Developments in the shares of variable rate loans and deferred-installment loans have indeed shown signs of a stabilisation in recent years.

The government has announced new rules to discourage mortgage lenders from providing variable rate and deferred-installment mortgages to financially weak borrowers. All borrowers have to be eligible for a loan with a fixed rate with instalment in order to receive a variable-rate and/or deferred-installment loan. While mortgage institutes already apply such rules in practice the

measures will provide a common formal framework. Furthermore, to give borrowers better information about the riskiness of their loans, the government is about to implement a risk-labelling scheme (a so-called traffic light system as individual loans will be labelled using the three colours of a traffic light) for housing mortgage loans. The traffic light is meant to be a supplement to the usual guidance to borrowers from the credit institutions.

On the other hand, although cadastral values continue to be updated every two years to reflect market values, the property value tax has been fixed in nominal terms since 2002. Despite the fact that the property tax freeze is judged to be one of the factors that contributed to the emergence of the housing bubble, the government has not signalled any intention to review the property value tax system.

Finally, as a result of the 2009 tax reform, interest rate deductibility is being lowered over the coming years. This is expected to attenuate the incentives to hold debt and thereby gradually bring down the household debt level, at least compared with what it would have been otherwise. Indeed, as pension saving schemes are expected to continue to be expanded over the coming years, this should create an upward pressure on the gross debt level without necessarily affecting the net financial assets of households. Such a build-up of gross household debt should be sustainable and not harmful to the economy.

⁽¹³⁾ Note that these loans are called variable-rate loans although the interest rate is fixed for 5 years before it is necessary to refinance.

4. POLICY CHALLENGES

The analysis in the previous sections has shown that, whereas there are no severe imbalances in Denmark, some unbalanced macroeconomic developments can be detected in relation to Denmark's competitiveness and household debt.

It should be recalled that these challenges were identified under the MIP in the first IDR and relevant policy responses were reflected and integrated in the country-specific recommendations issued for Denmark in July. The assessment of progress in the implementation of those recommendations will take place in the context of the assessment of the Danish National Reform Programme and Convergence programme under the European Semester. Against this background, this section discusses remedial actions that could be followed to address the challenges discussed in this In-Depth Review.

Concerning the challenge of improving external competitiveness a number of different avenues can be considered:

Price-cost competitiveness and wages/labour costs: The analysis in this IDR has highlighted the importance of price competitiveness for Denmark's export performance. The problem of competitiveness and weak performance of exports of goods in Denmark is linked to a rise in relative unit labour costs as a result of relatively high nominal wage growth and poor productivity growth over the last decade. The key aspect of a strategy to regain price competitiveness in the short term is to ensure that wage developments evolve along a moderate path. In the medium to longer term implementing measures to boost productivity growth such as removing obstacles to competition, in particular in the services sector, and removing barriers for firms' use of knowledge and education will be essential.

Recently, wages and productivity have been developing in the right direction. Looking forward, nominal ULC are forecast to grow at a moderate pace, while real ULC are set to decline further, as productivity growth is expected to catch up to the pre-crisis trend. Nevertheless, the accumulated competitiveness gap will take time to correct and this process will require relatively low wage growth and/or higher productivity growth for some time to come.

Non-price cost competitiveness: the analysis also revealed the importance of non-price cost competitiveness in explaining the performance of exports. With regard to geographical specialisation, Danish goods exports are still mainly oriented towards the slow-growing European market. A reorientation towards more dynamic regions would therefore allow a faster growth in the volume of goods exported and a more diversified export portfolio. Conditions in emerging markets are often more challenging for doing business. Hence, Danish companies may need customised support from public authorities to facilitate entry into new markets. In light of the dynamically changing global trade environment and related challenges, it is important that Danish exporters show flexibility and adaptability in order to be able to adjust to future global demand developments.

The external competitiveness of Denmark is expected to improve with the measures taken by Danish government to improve the educational outcome and by removing obstacles to competition. The current government has appointed a Productivity Commission to get to the heart of the problem and come up with proposals for productivity-promoting measures. Continued focus on wage moderation and productivity growth, resulting in continued further improvements in cost competitiveness, should limit and eventually reverse the trend of declining export market shares of goods.

Concerning the challenge linked to the high level of household debt and the implications for the real economy, there is a number of issues that can be considered:

High level of household debt: the analysis above revealed that the risks posed by high household debt for financial stability are low and that the consequences of the rise in household debt have been contained so far. It should be recalled that a country-specific recommendation from 2012 called for considering further preventive measures to strengthen the stability of the housing market and the financial system in the medium term, including by taking into account the results of the study by the Ministry of Business and Growth on the distribution of assets and liabilities across households. According to this study, the total

mortgage debt is concentrated amongst households with the highest incomes which are expected to be better equipped to resist any likely increase in interest rates.

context of slow growth and a fragile housing market. Given the current situation in the housing market, a gradual approach could be warranted.

Moreover, the Danish authorities and the mortgage credit institutes have taken a number of measures to improve the robustness of the mortgage credit system and to limit the incentives to take up debt, as described above. In addition, regarding financial stability, the framework for financial supervision has been generally strengthened, in particular by the introduction of tools for enhanced monitoring of individual banks⁽¹⁴⁾, the creation of a bank resolution regime and the establishment of new institutions responsible for macro-prudential oversight⁽¹⁵⁾ of the financial sector and the economy.

Economic risks related to the build-up of household debt levels: these risks have been addressed in conjunction with the housing boom. More specifically, changes to interest deductibility rules over the coming years are expected to reduce the incentives to hold debt, thereby gradually reducing the household debt level, at least compared with what it would have been otherwise. However, to reduce the risk of an unsustainable build-up of household debt and prevent future house price bubbles further measures in the areas of taxation could be useful. First, the pro-cyclical effects of and the debt bias in housing taxation could be corrected by realigning the property value tax to actual market values or, as a second best option, by further phasing out the tax deductibility of interest payments. This would not only restore neutrality among investment alternatives, but would also free up fiscal space to reduce taxes that are more harmful to growth, such as labour income taxes and corporate taxes. In addition, removing the ceiling on the annual increase of the municipal land value tax could prevent future pro-cyclical effects of lagged tax increases.

The timing and composition of any measures in the housing sector could be considered so as to avoid unnecessary pro-cyclical effects by depressing house prices and household consumption in a

⁽¹⁴⁾ The so called "supervisory diamond" phased in in the period 2010-2012.

⁽¹⁵⁾ The Systemic Risk Council and the interagency committee to develop prudential arrangements for systemically-important financial institutions (SIFIs).

REFERENCES

- Danish Economic Council, "Danish Economy", Autumn 2009.
- Danish Economic Council, "Danish Economy", Autumn 2010.
- Danish Economic Council, "Danish Economy", Autumn 2011.
- Danish Economic Council, "Danish Economy", Spring 2008.
- Danish Ministry for Economic Affairs and the Interior, "Economic Survey", December 2012.
- Danish Ministry of Finance, "Budget Outlook 3", December 2012.
- Danmarks Nationalbank, "Financial Stability Review", 2011.
- Danmarks Nationalbank, "Financial Stability Review", 2012.
- Danmarks Nationalbank, "Monetary Review 1st Quarter" Part 1 and 2, 2012a.
- Danmarks Nationalbank, "Monetary Review 2nd Quarter" Part 1 and 2, 2012b.
- Danmarks Nationalbank, "Monetary Review 3rd Quarter" Part 1 and 2, 2012c.
- Danmarks Nationalbank, "Monetary Review 4th Quarter" Part 1 and 2, 2012d.
- Danske Bank, "Nordic Outlook; Economic and Financial Trends", December 2012.
- Economic and Financial Affairs, "European Economy; Macroeconomic Imbalances-Denmark", *European Commission*, 2012.
- Economic and Financial Affairs, "European Economy; Scoreboard of the surveillance of macroeconomic imbalances", *European Commission*, February 2012.
- European Commission, "Assessment of the 2011 national reform programme and convergence programme for Denmark", Commission Staff Working Paper, 2011.
- European Commission, "Alert Mechanism Report – 2013", European Commission, 2012.
- European Parliament and Council, "Regulation (EU) No 1176/2011 of the European Parliament and of the Council on the prevention and correction of macroeconomic imbalances", *Official Journal of the European Union*, 2011.
- International Monetary Fund, "Euro Area Policies; 2012 Article IV Consultation", 2012.
- Ministry of Business and Growth, "Gældsudgifter i husholdninger med realkreditlån", 2013.
- Realkreditrådet Association of Danish Mortgage Banks, "Prognose for spredning af refinansieringsauktioner", August 2012.

