

Eesti Pank

# FINANCIAL STABILITY REVIEW

**1/2013**

The Eesti Pank Financial Stability Review is published twice a year. Each issue of the Review refers to the time the analysis was completed, not to the period it covered. The Review uses the latest available data at the time of preparation of each issue.

The Review is available to read at: <http://www.eestipank.ee>.

Copies can be ordered by telephone on +372 668 0998, or by fax on +372 668 0954 or by email from [trykis@eestipank.ee](mailto:trykis@eestipank.ee).

ISSN 1736-1184  
Editor Kaja Kell  
Layout and design Urmas Raidma  
Printed by Folger Art

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# FINANCIAL STABILITY ASSESSMENT

## The financial environment

After the tensions that arose in the financial markets in summer 2012, the international financial environment started gradually to improve from the autumn. Several decisions taken by the European Union and its member states have gained the trust of markets and the measures taken by the Eurosystem have increased confidence. These steps resulted in an increase in the appetite for risk among financial market participants, which in turn led to a fall in risk premiums for the countries most affected by the debt crisis and to upturns in stock and bond markets. The ability of both governments and banks to raise funds from the markets improved. Despite these positive signs however, the functioning of financial markets remains very vulnerable to possible setbacks. Market confidence has partly recovered, but could rapidly deteriorate if not all Member States contribute enough to implementing the agreed reform agendas and if some do not improve their public finances sufficiently.

The financial condition of European banks is affected by the continuing weakness of the macroeconomic environment. Although the outlook for global economic growth has started to improve, the forecasts that were published in spring 2013 were still for delayed recovery of the euro area economy and for development in different countries to be uneven. Weakened economic activity, coupled with a deteriorating labour market, increases the risks to loan repayment ability and may have a negative impact on the profitability and capitalisation of European banks. This in turn could again cause tensions in financial markets and in public finances, and it could make the financing of the economy more difficult.

## The Real Economy and Loan Quality

Although the economic indicators for the euro area as a whole were weak, the sales turnover and profit growth of Estonian companies con-

tinued relatively strongly in the second half of 2012, with financial buffers increasing and ability to pay improving. The corporate debt to equity ratio has dropped significantly over the past few years with support from the accumulation of profits, so it can be assumed that companies aiming to increase their return on capital will leverage more in the future to finance the growth. The financial situation of households has also improved thanks to the positive developments in the labour market, and this has given them confidence to take new loans. Loan growth will remain quite moderate for the next two years, at about 3–5% according to the Eesti Pank forecast of winter 2012, which implies that lending activity is appropriate for balanced growth of the economy and does not indicate that loan growth is at all excessive in the short term.

While the continuing low interest rates and improved financial situation of borrowers support lending activity, modest external demand continues to affect the risks to loan portfolio. If a fragile and uncertain external environment slows the expected growth in Estonia and its partners to a longer and greater extent than forecast, this could have a negative effect on the ability of companies and households to pay their debts. However, the baseline forecast does not see any deterioration in loan quality, and even in the negative scenario the level of loan repayment problems is limited as the riskier part of the loan portfolio has already been taken into account in the loan losses of earlier years and the total debt of the real sector has shrunk.

The risks associated with the Estonian housing market have decreased as the market has picked up. Housing prices have risen moderately from a low base and the increase in activity has increased the liquidity of the market. However, property prices are still nearly 40% below their peak of 2007, so more than a tenth of borrowers have a loan balance that exceeds the value of the underlying property. The reduced value of

real estate has a particularly negative effect on borrowers who are looking to change their place of residence. It is also a problem for those borrowers whose repayment ability is weak.

Loan quality has improved at a faster speed than forecast and although the fall in loans that were more than 60 days overdue was largely due to banks writing off uncollectible loans from their balance sheets, the credit risk assessments of a large proportion of loan clients also improved. Under the Eesti Pank forecast, the possible new overdue loans in 2013 will not lead to an increase in the stock of long-term overdue loans, which will remain at around 3.3% of the loan portfolio. This share may, however, fall if problem loans are written off.

### **The Strength of Financial Institutions**

The improved loan quality meant that the banking sector was able to maintain high profitability during 2012. The positive impact on the net profits of banks of the sometimes very conservative provisions made in earlier years can not however be expected to remain at a comparable level in the near future. This means that traditional factors like the ability of banks to earn net interest income and service fees will regain their core roles in profitability. Despite the forecast increase in lending activity, profitability is more likely to weaken in 2013 due to the low key interest rates.

The funding available from parent banks, which had declined steadily since 2009, stabilised at the end of 2012, and the fall in the loan to deposit ratio also slowed, indicating a gradual recovery of the loan market and a deceleration in deposit growth. Cash flows from the repayment of earlier loans and from deposits should be sufficient in 2013 to cover the issuing of new loans. The role played by the parent banks in the liquidity of some banks remains very important, although most subsidiaries and branches of foreign banks hold sufficient liquidity buffers in Estonia too.

The level and quality of capitalisation in the Estonian banking sector remain very good. At the end of 2012 all the banks were able to meet the 10% minimum capital adequacy requirement for risk-weighted assets with only Tier 1 own funds. The biggest banks are adequately capitalised even in the negative scenario for the economy.

The capitalisation of insurance companies in Estonia remained high during 2012 and their profitability good. Life insurance companies remain open to financial risks however, and unfavourable developments in the financial markets could weaken their prospects for profitability.

### **Payment and Settlement Systems**

The key settlement systems TARGET2-Eesti and ESTA functioned smoothly and without major disruptions and banks had sufficient liquidity buffers for the settlement of payments. The collateral pooling system was used for short-term liquidity problems to a very small extent, and banks did not need intraday liquidity credit.

In the coming years the Estonian payment market will change as the requirements of the Single Euro Payments Area (SEPA) are introduced. This means that from 1 February 2014 Estonia will start using the harmonised pan-European payment schemes that aim to make payments in euros more effective, faster and cheaper for consumers and companies. The current payment habits may be affected by the arrival in the market of the new payment services, e-invoice standing orders and SEPA direct debits

There were no major changes in the structure of cashless payments in 2012 with card payments continuing to account for more than half of the payments, credit transfers for one third, and direct debits for a negligible share.

## Conclusions

Although tensions in the international financial markets lessened considerably in the last half year, the main source of stress – the euro area's debt crisis – has not yet been resolved completely. Further uncertainty has been caused lately above all by the recession that is forecast in the euro area for this year, which will make it harder for both the private sector and governments to repay their debts, increasing the loan losses for European banks and jeopardising their capitalisation. The assessments by banks of the quality of their own assets should be conservative and transparent for uncertainty to be reduced and the economy to be stably financed in the euro area. Estonia's experience from four or five years ago shows that rapid reaction to problems and larger write-downs of loans help make recovery faster.

As the Estonian banking sector is dominated by Nordic banking groups, the impact that the developments in the euro area economy and financial markets have on the parent banks is of great importance for the stability of our financial system, as is the question of which additional region-specific risks should be taken into account. The improved market confidence has allowed the parent banks of banks operating in Estonia to receive funds on better terms than several other big banks in Europe. However, it should be noted that the funding model of Swedish banks continues to be based in large part on short-term funding from the financial markets. The Swedish central bank and financial supervision authority have brought in new liquidity requirements for the largest banks from the start of this year in order to increase resilience and ensure market confidence. Eesti Pank considers this to be appropriate given the risks related to private sector indebtedness and the real estate market, and the relatively large and concentrated banking sector in Sweden.

The short-term risks to financial stability arising from the Estonian economy remain small. Although the loan portfolio started to increase again in 2012 and the real estate market picked up, it is too early to speak of excessive loan growth. Against the output growth of recent years, loan demand has been moderate. However, the risks posed by the volatility of the external environment need to be taken into account when new financial obligations are taken. Great attention should also be paid to the continually low interest rates and their impact on the behaviour of borrowers and banks. Most loans in Estonia are taken with a floating interest rate, so borrowers need to bear in mind that very low interest rates will at some point start to rise, and they need to be able to adjust their spending levels to cope with that happening. Flexible financial behaviour is only possible without causing loan repayment problems if the borrower has sufficient financial buffers.

However, the low interest rate environment can lead to changes in the behaviour of the banks. As the options for banks to maintain their current return on assets and equity are quite limited in such an environment, the desire to increase loan margins is likely to strengthen. The larger banks have so far avoided the temptation to increase their revenues by entering into significantly riskier loan projects or other high-yield investments as lessons from the last cycle of loan losses serve as a base for the quality-assessment in their lending policies. Should loan clients be prepared to accept a somewhat higher loan margin during a time of low base interest rates, then in the context of financial stability this can be considered as a way to maintain the profitability of banks that reduces long-term risks more than other possible alternatives. However, if the lending margin remains high for too long, it could start to hinder the financing of viable projects that support the long-term development of the economy.

The operating environment for banks will be strongly affected by new European Union regulations that will come into force in 2014 and impose stricter capital and liquidity requirements on them. In parallel with this, the euro area is building up single bank supervision. Given the structure of the Estonian banking sector, it is important that the current financial stability cooperation between the Nordic and Baltic countries continue, even if the non-euro area countries decide not to participate in the Single Supervisory Mechanism.

# I. FINANCIAL MARKETS

## 1.1. INTERNATIONAL FINANCIAL MARKETS<sup>1</sup>

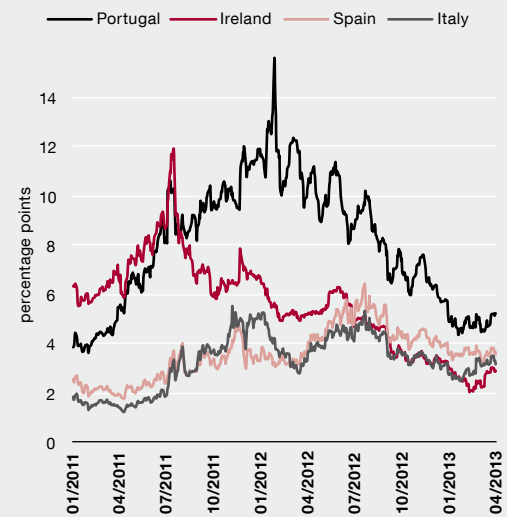
The sovereign debt market was affected by an increase in the risk appetite among investors, reflecting among other things the steps taken to strengthen the euro area financial framework and the measures of the European Central Bank. However, it has not yet proved possible to resolve the debt crisis and in the autumn there were problems with both the Spanish banking sector and the review of the Greek programme. In October, the credit rating agency Standard & Poor's downgraded Spain's credit rating by two notches with a negative outlook, due to the deepening recession, which has made it difficult for the Spanish government to improve the budget balance. The consequence was that the interest rate on Spanish ten-year bonds approached the psychologically important 6% level and there was speculation about whether Spain would need assistance. In November, Moody's lowered its rating for France by one notch to Aa1, though this did not lead to any major movements in the markets. At the end of the year the markets were affected by the European Central Bank lowering its expectations for growth and by the arguments around the US budget cuts.

The economic data at the start of 2013 for US activity indices and corporate results and China's economic growth were better than expected. Furthermore the messages from the President of the ECB were received positively, lowering market expectations of further interest rate reductions. Investors showed a greater willingness to invest in bonds issued by euro-area peripheral countries but despite this, market participants are still vulnerable to adverse developments.

The positive sentiment was dampened in the second half of the first quarter of 2013 by political problems in Spain and election results in

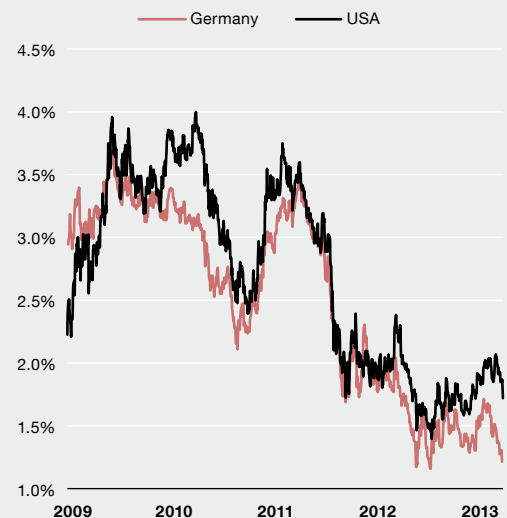
<sup>1</sup> The review covers market developments from the end of September 2012 to the end of March 2013.

Figure 1.1.1. Spread between ten-year bonds of Portugal, Ireland, Italy and Spain with Germany



Source: EcoWin

Figure 1.1.2. Interest rates on ten-year government bonds of Germany and the USA



Source: EcoWin



Italy, which increased the uncertainty about the course the country would follow. In March Fitch cut Italy's credit rating to BBB+. Also in March, the banking crisis in Cyprus and discussions about the steps needed to resolve it rose rapidly up the agenda. Interest rates on German government bonds did not change significantly and for the period as a whole lower acute risks were reflected in the narrowing of spreads between the interest rates on ten-year bonds from Germany and from the peripheral countries (see Figures 1.1.1-1.1.2).

The money market interest rates changed relatively moderately during the period and both the EONIA and the three-month EURIBOR dropped minimally (see Figure 1.1.3). In October the ECB announced the end of the second covered bond purchase programme, but this had only a minor impact on the markets. As economic activity declined at the end of the year, the ECB announced that it would continue conducting fixed rate tender procedures with full allotment. The banks used the first opportunity to pay back their non-standard liquidity loans, VLTROs<sup>2</sup>, before the maturity date, in larger volumes than expected (see Figure 1.1.4). Subsequent payments were smaller though, and this increased the fear that the situation for banks was still difficult. It is generally expected that the reduction of excess liquidity through the continued repayments of the VLTRO loans could lead to a rise in the money market interest rates.

The monetary policy of the USA and Japan continued to be stimulative and the US Federal Reserve announced plans in December to buy Treasury securities at a rate of 45 billion dollars per month. The interest rates in the US will remain low as long as the unemployment rate is above 6.5% and inflation expectations are not under control. The Japanese central bank decided to raise its inflation target from 1% to 2% and at

<sup>2</sup> VLTROs – very long-term refinancing operations.

Figure 1.1.3. Three-month interbank money market rates in the euro area and the USA

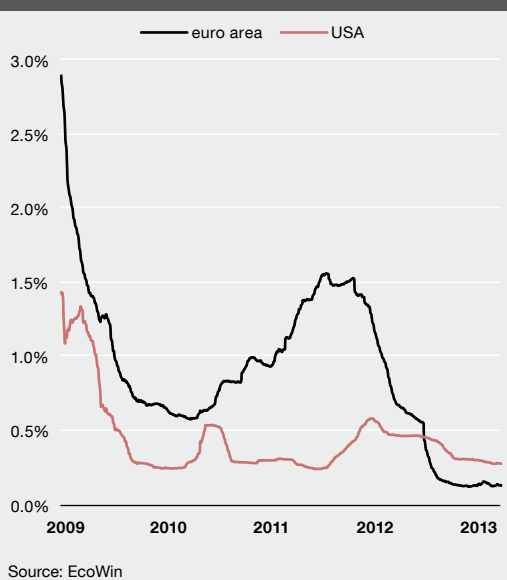
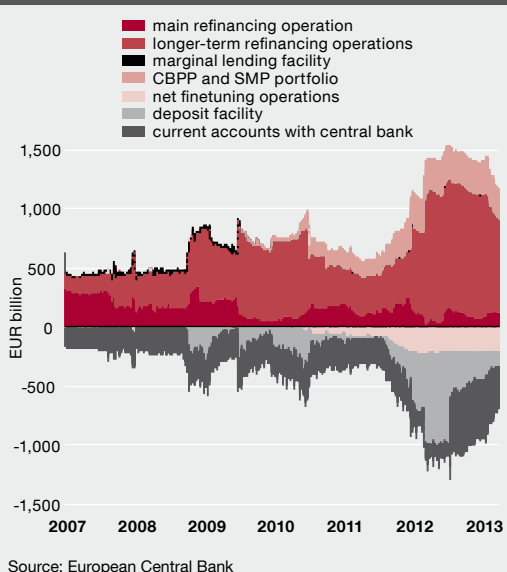


Figure 1.1.4. Eurosystem's monetary policy operations and current accounts with the central bank

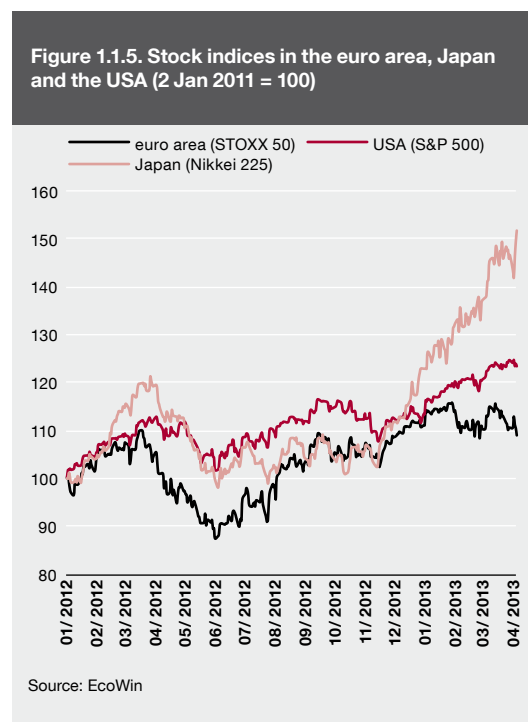


the start of April it announced new measures for easing monetary policy such as an acceleration in monetary growth and increased purchases of government bonds in order to enable it to reach its inflation target faster.

The main equity markets moved without any clear trend between the end of September and the middle of November 2012, but after that they started to rise. One cause of this was the agreement reached in the USA over the budget at the start of the new year. Stock markets rose in both the euro area and the USA while the rise in the Japanese stock index was significantly larger than those in the other major markets (see Figure 1.1.5).

The debt problems in the euro area remain a major source of risk. Various indicators of risk have declined over the year, but the debt burden of the peripheral countries remains high and their fiscal positions strained. The accompanying political uncertainty means that necessary reforms may not materialise, which could lead to negative developments. This makes it important that the necessary structural reforms are carried out and that the measures to strengthen the European financial sector, including bank supervision, are successful. A further risk factor is the delay in the recovery of growth. The outlook for growth in the euro area is quite weak in the short term and the European Commission's winter forecast expects GDP to shrink by 0.3% in 2013.

The capitalisation and funding of European banks have improved from a year earlier but as refinancing needs remain high, the banks are still vulnerable to market based financing. The slowing of economic growth complicates the attempts to improve the fiscal position of the sovereigns, and at the same time the ability of bank clients to service their loans may decline, increasing the credit risk to banks.



European banks have markedly strengthened their capital positions and reduced their risk assets, but this has been done unevenly. The share of problematic assets remains particularly high on the balance sheets of banks from the countries most hit by the crisis, and this means the banks are vulnerable to negative developments. This can be seen in the continued growth in the volume of bad loans in several countries and the continued decline in cross-border activity. The slowing growth and increasing loan losses are weighing on the profitability of banks and their resilience. The fragmentation of financial markets and doubts about the quality of the assets of the banks mean that some of them are still finding it hard to raise funding from the market. The persistent nature of the risks is shown by the fact that in many cases it has been necessary to take additional measures to restructure banks, most recently in Cyprus.

## 1.2. ESTONIA'S FINANCIAL MARKETS

### Bond and stock markets

Banks have a large share of the Estonian financial market and this means that the importance of the local bond market has been low. The Estonian bond market is smaller than those of other euro area countries (see Figure 1.2.1).

The primary market for local Estonian bonds continued to be passive in 2012 and only a few, mostly domestic, companies issued bonds during the year and one local authority. The volume of new bonds issued fell by almost half over the year to 34 million euros in 2012.

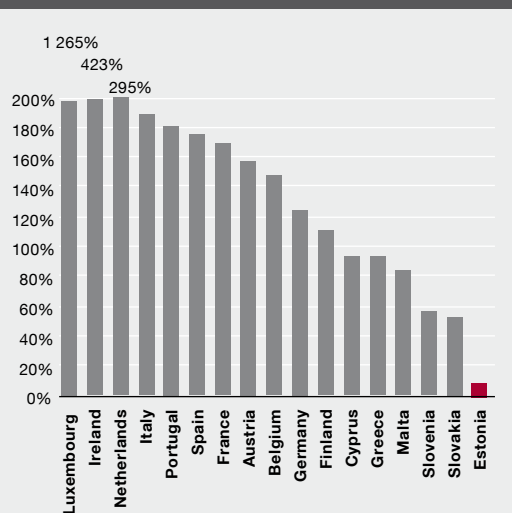
The secondary market also saw a fall in turnover in 2012 and on average, 3.6 million euros of transactions were executed each quarter in 2012, which is around 29% less than in 2011.

The volume of bonds on the local bond market fell in 2012 by 3.4% and at the end of December the value stood at 529 million euros, or 3.1% of GDP.

Like the bond market, the Estonian stock market is also small, and it is one of the smallest in the euro area (see Figure 1.2.2). At the end of 2012, the total value of the Tallinn Stock Exchange was 1.8 billion euros or 10.4% of GDP. The stock market capitalisation grew by 528 million euros over the year, with 114 million euros of this coming from the listing of the Pro Kapital Grupp on the exchange.

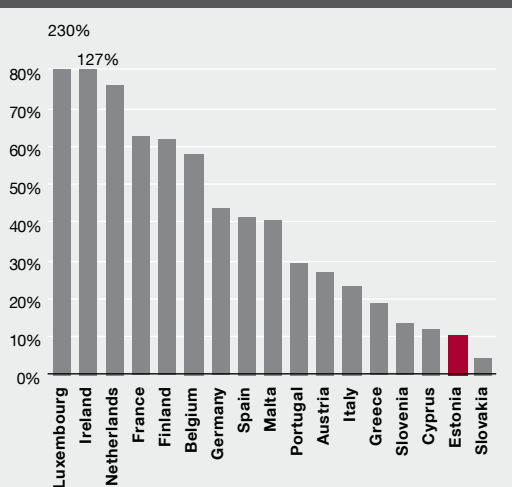
In 2012 the OMXT index of the Tallinn exchange saw a notable rise of almost 38%, which continued into January 2013. There was a slight fall in share prices in February, followed by a recovery in March.

Figure 1.2.1. Ratio of issued bonds to GDP (at the end of 2012)



Sources: ECB and Eurostat; Eesti Pank's calculations

Figure 1.2.2. Ratio of stock market capitalisation to GDP (at the end of 2012)



Sources: ECB and Eurostat; Eesti Pank's calculations

Historically, the annual yield of the OMXT has been among the best in the euro area, both before and after the financial crisis but the volatility of that yield has also been above the average of the euro area exchanges (see Figure 1.2.3).

While prices rose sharply in 2012, trading activity fell at the same time (see Figure 1.2.4). On average, 11.4 million euros of transactions were executed each month, which is more than a quarter less than in 2011.

The share of non-resident investors in the Tallinn stock exchange grew from 38% to 42% in 2012, mainly as a result of changes in the shareholder structure of the Tallink Grupp.

The local bond and stock markets are both expected to remain of low importance in the Estonian financial sector in future. No major increase in activity in the primary securities market is expected in the short term and the risks to financial stability from the local securities markets will remain small in the near future.

### Investment funds

The total value of investment and pension funds has increased since the start of 2009 (see Figure 1.2.5) and by the end of January 2013, the assets of investment and pension funds had returned to their level of the start of 2008 and exceeded 2.1 billion euros.

The increase in assets was particularly driven by the growth in pension fund assets, which made up 35% of total assets in 2008, but 76% by the end of January 2013. The total value of investment fund assets has fallen by almost two thirds from its level of the start of 2008. This fall was largely caused by the drop in value of securities, due to the financial crisis, the cash outflow, and to a lesser extent by the liquidation of some investment funds (see Figure 1.2.6).

Figure 1.2.3. OMXT index annual returns compared to other Euro area countries stock market indexes; left figure (2000-2007), right figure (2008-2012)

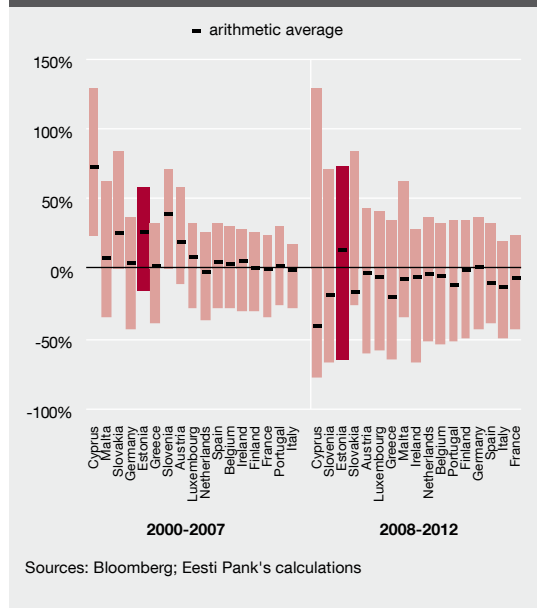
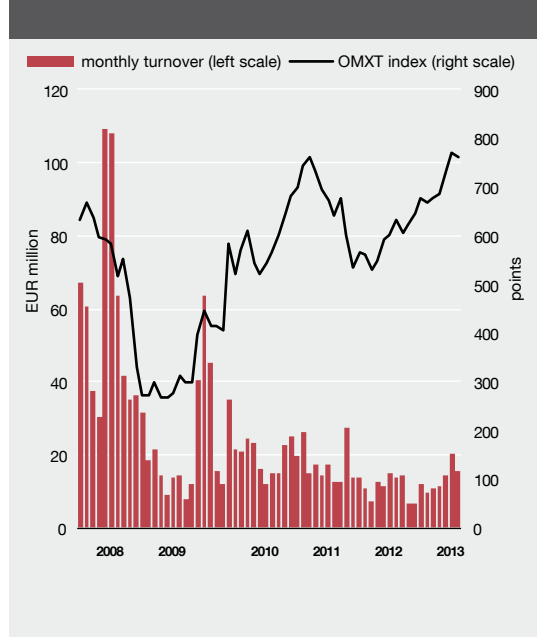
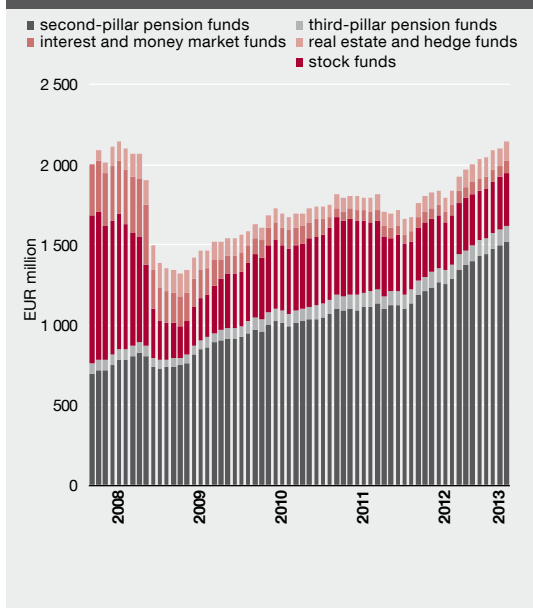


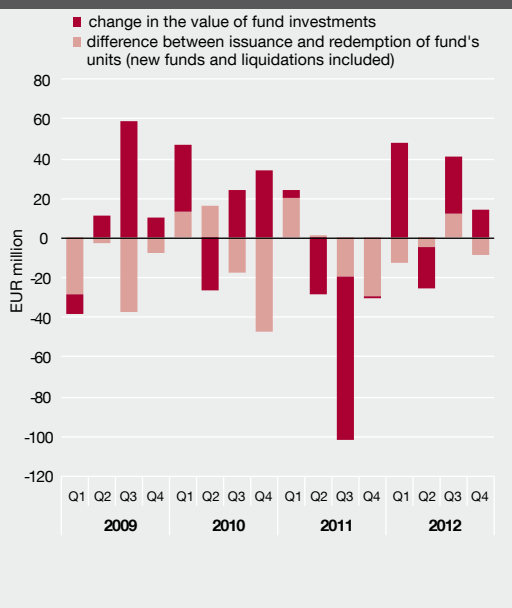
Figure 1.2.4. Monthly turnover of the Tallinn Stock Exchange and OMXT index



**Figure 1.2.5. Investment and pension fund assets (month-end)**



**Figure 1.2.6. Change in the value of fund assets**

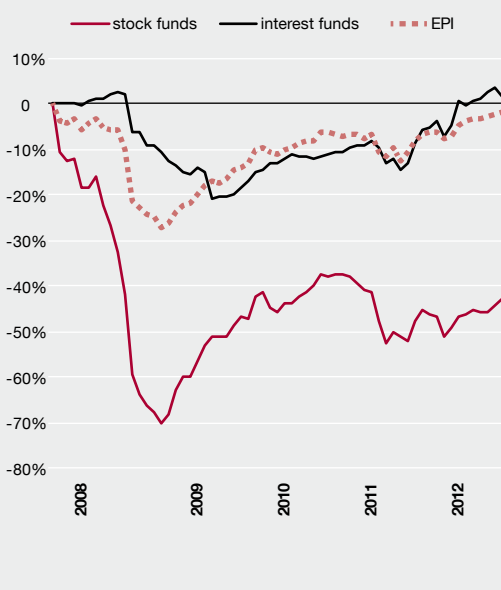


Although the net value of the units in most of the funds started to rise again in 2009, it has remained below its level of the start of 2008 in the majority of cases (see Figure 1.2.7). In the same way, the EPI general index for pension funds was 1.8% lower at the end of January 2013 than at the start of 2008. In contrast, the average net value of units in interest funds managed to pass its level of early 2008 in the second half of 2012.

The share of foreign assets in the investments of investment and pension funds has remained high, fluctuating between 70 and 87% in 2008–2012 (see Figure 1.2.8). The majority of foreign assets are securities registered in Europe, which made up 65% of the total value of funds at the end of 2012.

As the share of foreign assets in the investments of investment and pension funds is relatively high, the assets of funds are affected more by events outside Estonia, particularly events else-

**Figure 1.2.7. Changes in the net asset value of investment fund units and Estonian Pension Funds index EPI**



where in Europe. The high proportion of foreign assets is not only a consequence of the openness to other capital markets but of the small size and high volatility of the Estonian securities market. The value of pension fund assets was 1.6 billion euros at the end of January 2013, which is almost two thirds of the total capitalisation of the Tallinn stock exchange and the local bond market. This means that the share of foreign assets in the assets of both investment and pension funds is likely to stay relatively high in the future and foreign markets will continue to affect the yield of fund assets.

### 1.3. MARKET-BASED FUNDING OF BANKING GROUPS

#### Financial strength of the groups of parent banks

The operating results of the larger banking groups with affiliates in Estonia improved even further in 2012 despite the continuing uncertainty and low interest rates that prevail in the European macroeconomy and financial sector. Swedbank saw its net profit before loan losses grow by 26% from 2011, while Danske recorded growth of 21%, Nordea 18% and SEB 7%. Annual comparison of the net profits of the banking groups has been affected, among other things, by the different provisioning approaches, as in recent periods some groups have started to count again as profits the earlier conservative write-downs. The net profits of the groups have also been affected by a cut in the corporate income tax rate in Sweden.

The operating income varied between the banking groups in 2012, reflecting differences in the revenue earning and funding models they use. The low interest rates certainly had a negative impact on deposit margins, but the net interest income of the groups stabilised, or even increased, primarily due to the decrease in other

Figure 1.2.8. Structure of investment and pension fund assets and the share of foreign assets

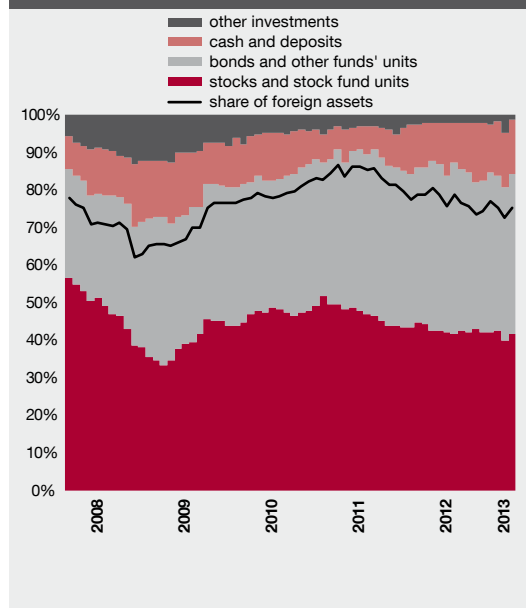
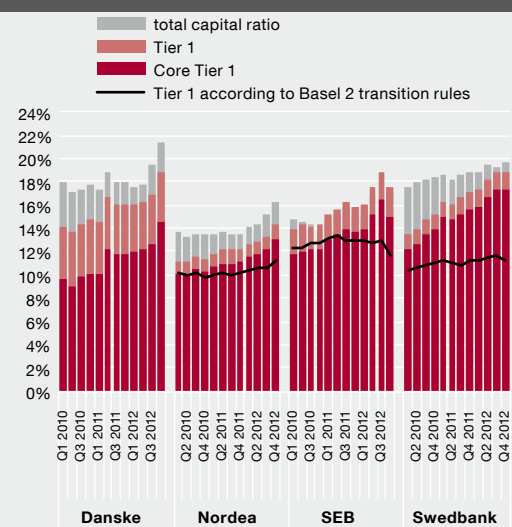


Figure 1.3.1. Capital adequacy of Nordic parent banking groups (based on Basel II)



Sources: public reports of banks

funding costs. The groups that are focused more on commission income felt that their clients were less active, which had an impact on service fees.

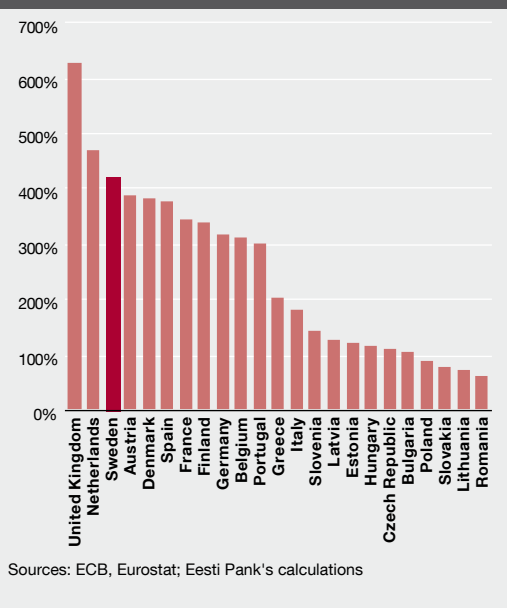
In 2012 the Nordic banking groups continued to focus their attention on operating costs. Operating models were reviewed and staffing costs were optimised.

The share of overdue loans in the assets of the groups remained generally stable in the second half of 2012, and in some cases even improved. Provisions have been set up for a large share of existing problem loans, or they have been removed from the balance sheet. In the Baltic States and Germany the addition of new problem loans has moderated since the crisis years. However, credit risk may also arise from sectors other than real estate, including bond holdings.

For banks using internal ratings to calculate capitalisation needs, the risks that have already been realised are also reflected to a large extent in their assessments for current capitalisation needs. Loans issued in the Baltic States are still considered much riskier than similar loans issued in the Nordic countries. Increased profitability has, at the same time, allowed the groups to increase their capitalisation (see Figure 1.3.1). The Tier 1 capital adequacy ratio for the SEB Group, calculated using the principles of the Basel II framework, exceeded 17%, and that of Swedbank Group exceeded 18%. However, if they are calculated using the transition rules, so that a minimum of 80% of the risk assets calculated under the Basel I methodology must be taken into account, the indicators for Swedbank Group and SEB Group remained below 12%.

At the same time, a tightening of the rules for bank capitalisation was discussed in Sweden, Norway and Denmark. The Swedish Financial Supervisory Authority has announced that it is considering both an increase in the general capi-

**Figure 1.3.2. The banks' assets in relation to GDP (June 2012)**



talisation requirements<sup>3</sup> and a review of the adequacy of the bank-based risk weights currently in use<sup>4</sup> (see Figure 1.3.2).

<sup>3</sup> <http://www.riksbank.se/en/Financial-stability/Council-for-cooperation-on-macroprudential-supervision/Minutes/Minutes-of-the-meeting-of-the-Council-for-Cooperation-on-Macroprudential-Policy-held-on-19-February-2013/>

<sup>4</sup> <http://www.fi.se/Folder-EN/Startpage/Supervision/Miscellaneous/Listan/Risk-weight-floor-for-mortgages/>

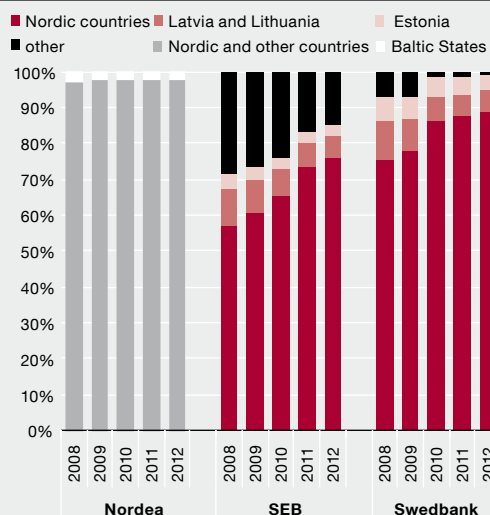
**Box 1. The lending and deposit-taking of Swedish banking groups in the Nordic and Baltic countries**

Loans issued in the Baltic States, including Estonia, have shrunk significantly since 2008 as a share of the loan portfolios of the biggest Swedish bank groups (see Figure 1B.1). The biggest relative fall was in the Swedbank Group, where loans issued in Estonia fell as a share of the group's loan portfolio by more than 2 percentage points to almost 4%. The loans issued by the SEB subsidiary in Estonia fell during the same period by 1 point to 3% while the loans issued by Nordea in the Baltic region made up 2.5% of the loan portfolio at the end of 2012, down from 2.9% at the end of 2008.

The regional division of the loan portfolio of the parent bank groups has been particularly affected by the different lending behaviour patterns in the Nordic and Baltic countries in the last five years. While the degree of financial leverage has declined in the Baltic States and the demand for loans has become more restrained, the relatively rapid loan growth in Sweden has continued. The loan portfolio in the Baltic States has also shrunk due to the write-offs of problem loans. However, the different banking groups in the Baltic States have been affected differently and the impact has been greater on those groups that issued loans more actively before the crisis.

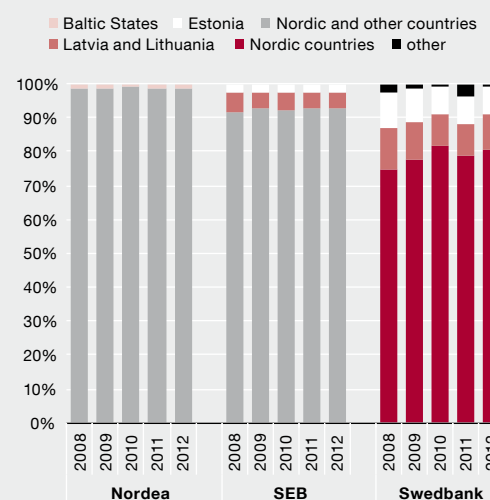
In contrast to the developments in the lending market, the share held by the Baltic States in the group deposit structures has remained relatively stable over the past five years (see Figure 1B.2). Although the volume of deposits in Estonia as a whole has increased significantly in recent years, the impact of this has been reduced for the banking groups by

**Figure 1B.1. Loan portfolio of Swedish banking groups by countries**



Sources: public reports of banks

**Figure 1B.2. Deposits\* of Swedish banking groups by countries**



Sources: public reports of banks  
\* Deposits from credit institutions excluded.



the strengthening of the Swedish krona. From the end of 2008 to the end of 2012, the krona appreciated against the euro by almost 21%. The deposits of the Estonian subsidiaries provided 8% of deposits of the Swedbank Group and 3% of the deposits of the SEB Group.

Assessment of the loan and deposit volumes of the groups should consider not only the differences in demand, but also that the interest rates and margins and other loan conditions have been quite different in these markets in recent years. This has been a consequence of the different monetary policies and credit risks of the different countries.

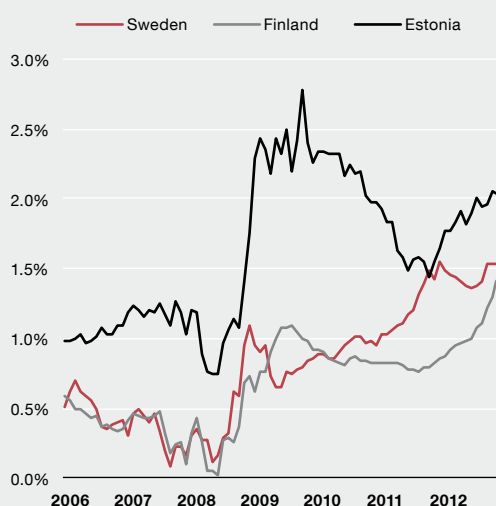
The data set collected by the European Central Bank shows that the difference between the interest rate for new housing loans<sup>5</sup> and the six-month money market interest rate has remained higher in Estonia than in Sweden and Finland (see Figure 1B.3).

The aggregate average interest rate paid out in Estonia for both household and corporate deposits, adjusted by the 12-month forward exchange rate, has been quite similar to the rate in Sweden. However, the average rate paid out for deposits in Estonia fell faster in the second half of 2012 than the rate in Sweden did (see Figure 1B.4). One probable reason is that the loans to deposits ratio in Estonian subsidiaries reached a level that reduced the incentives for price competition for deposits.

In the Baltic States, net interest income is higher in proportion to the loan portfolio than in the retail and corporate banking portfolio of the groups as a whole, thanks to the relatively higher level of the margins on loans (see Figure 1B.5). It should, however, be remem-

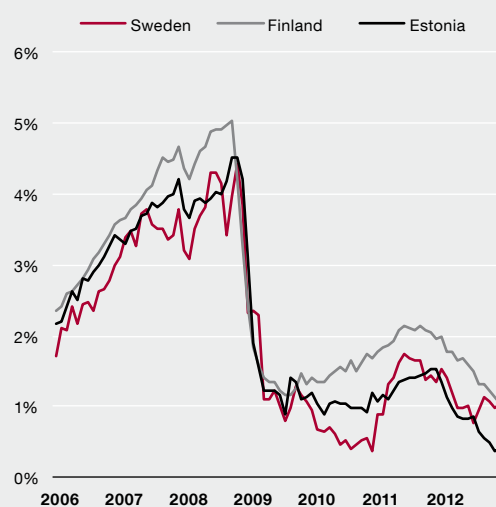
<sup>5</sup> Includes loans where the interest rate has been fixed for less than one year.

**Figure 1B.3. Difference between housing loan interest rates and 6-month money market interest rates on new loans**



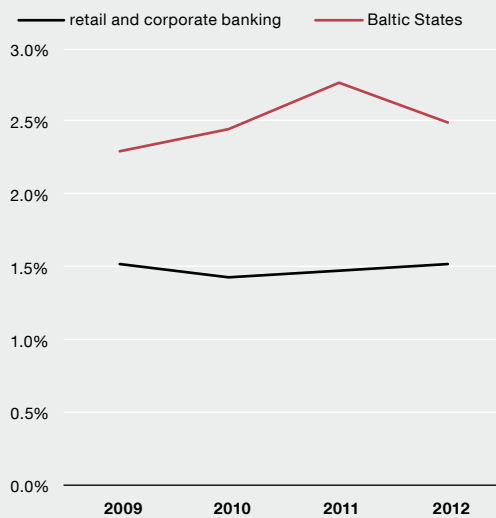
Sources: ECB, EcoWin; Eesti Pank's calculations

**Figure 1B.4. Interest rates\* on deposits with maturity up to 1 year**



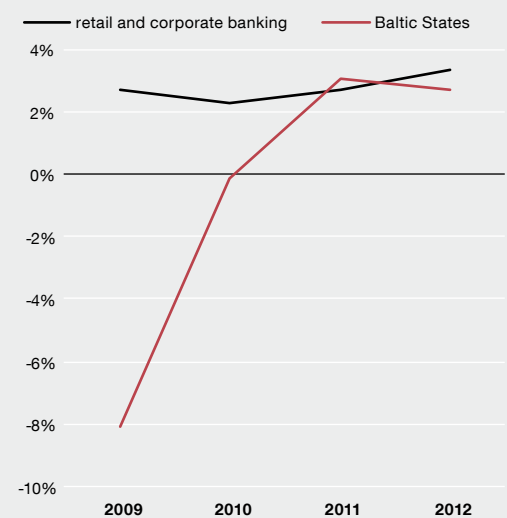
Sources: ECB, EcoWin; Eesti Pank's calculations  
\* Adjusted with 12-month forward rate.

**Figure 1B.5. Net interest income as a ratio of loan portfolio**



Sources: public reports of SEB and Swedbank groups

**Figure 1B.6. Operating income as a ratio of risk weighted assets**



Sources: public reports of SEB and Swedbank groups

bered that one important factor in calculating credit risk and assessing the need for capitalisation is the earlier loan losses of the portfolio. If the calculations of return are adjusted by risk weights for bank groups that use internal risk assessment models, then the return on risk-weighted assets has been quite similar for the Nordic and Baltic countries in the last two years (see Figure 1B.6).

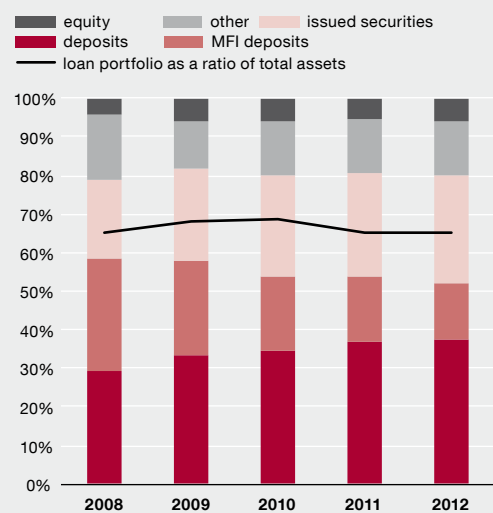
This leads to the conclusion that the lending principles of the banking groups operating in the Baltic States have been essentially the same throughout the Nordic and Baltic region. The differences in the loan and deposit volumes and the lending conditions are mainly caused by the differences in the lending cycles of those countries and their different credit histories. The recent loan losses mean that the extent to which capital needs are considered is different in the Nordic and Baltic countries.

### Funding and liquidity of parent banks

The funding of the Swedish parent bank groups is mostly based on financial markets. The relatively small share of deposits in the total funding of Swedish bank groups (see Figure 1.3.3) is a consequence of the popularity of investment and pension funds, which means that a smaller proportion of household savings reaches banks as deposits.

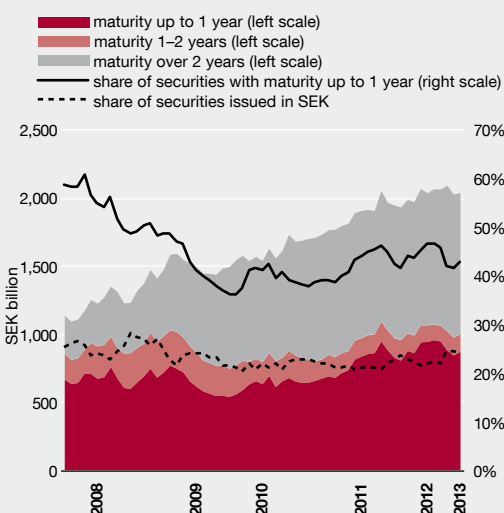
Within the funds raised on the financial markets, the share of short-term bonds with maturities of up to one year has fallen since the beginning of 2008, but has still remained relatively high at over 40% (see Figure 1.3.4). This means that the banks are still subject to structural liquidity risk as a result of the relatively large difference between the maturities of their liabilities and assets. Furthermore, the Swedish banks are vulnerable to the impact of negative developments

**Figure 1.3.3. Swedish banks' structure of liabilities and equity, and the share of total lending in total assets**



Source: Statistics Sweden

**Figure 1.3.4. Banks' securities issued in Sweden**



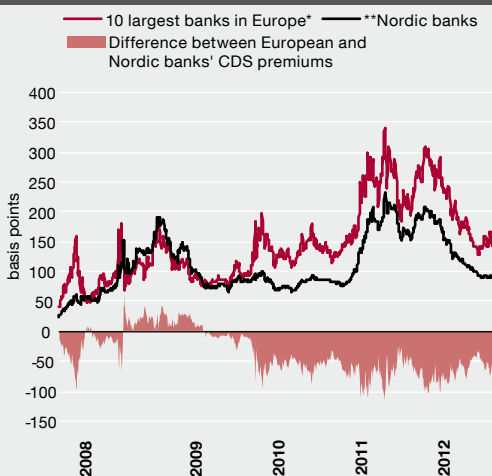
Source: Statistics Sweden

in international financial markets due to the large share of bonds issued in foreign currencies.

In the last three years the market participants have considered the Nordic banks to be less risky than banks from elsewhere in Europe. The difference in the credit default swap (CDS) spreads of banks from the rest of Europe and Nordic banks averaged 58 basis points in 2010–2012 (see Figure 1.3.5). The uncertainty in Europe at the start of 2013 increased to some extent, and this raised the CDS premiums of European banks so that at the end of February the difference between the CDS spreads of other European banks and Nordic banks had reached 70 basis points.

The relatively high regard in which Swedish banks are held by the market participants and the fall in the key interest rates led to a decline in the interest rate on covered bonds in 2012 (see Figure 1.3.6). The favourable market conditions allowed the bank groups to raise funds by issuing bonds.

**Figure 1.3.5. CDS premiums of Nordic and European banks**

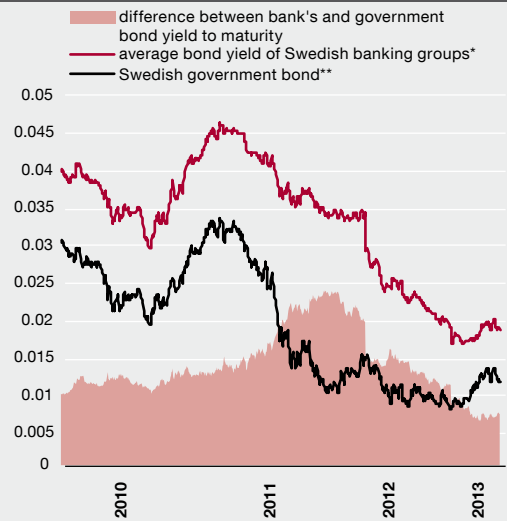


Source: Bloomberg  
 \*\* Ten largest banks in Europe: Banco Santander, Barclays Bank, BNP Paribas, Credit Agricole, Deutsche Bank, HSBC, Lloyds, Société Générale, Royal Bank of Scotland, ING; arithmetic mean.  
 \*\* Nordic banks: Swedbank, SEB, Nordea, Handelsbanken, Danske Bank; arithmetic mean.

To lower liquidity risk, a fixed minimum rate of the liquidity coverage ratio, LCR, was imposed on the eight largest banks in Sweden at 100% at the start of 2013, both in overall terms and for the euro and the dollar separately. This ratio is based on Basel III and shows the relationship between a bank's liquid assets and the net outflows of cash for 30 days. At the end of 2012 all the Swedish parent bank groups operating in Estonia exceeded the required minimum level.

The Swedish central bank has also recommended banks to make information on liquidity risk and asset encumbrance more available in their public accounts in order to improve the transparency of the banks and increase the confidence of markets in them.

**Figure 1.3.6. Swedish banking groups' covered bond's and Swedish government bond's yield to maturity**



Source: Bloomberg  
 \* Swedbank, Nordea and SEB covered bond, maturity in 2016.  
 \*\* Swedish government bond, maturity in 2016.

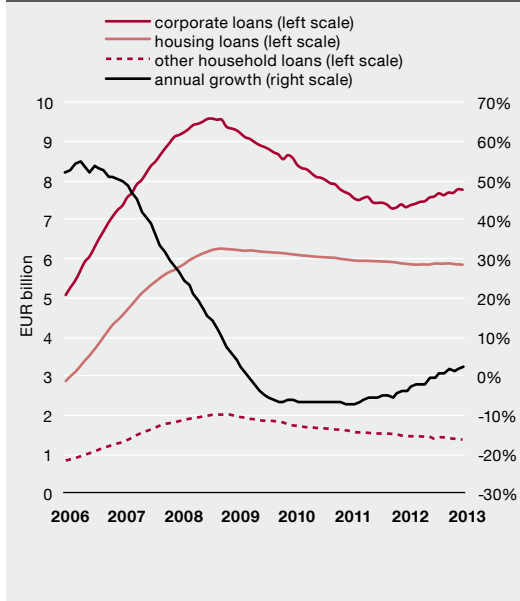
## II. THE REAL ECONOMY AND LOAN QUALITY

### 2.1. LOAN PORTFOLIO OF BANKS<sup>6</sup>

The growth in the loan portfolio that started in 2012 continued at a moderate speed. The total volume of loans and leases given by banks to the real sector stood at 14.9 billion euros<sup>7</sup> at the end of 2012, an increase of 1.5% over the year. The growth came mainly from the increased borrowing by companies (see Figure 2.1.1).

The corporate loan portfolio increased by 5% over the year. The growth was quite broad-based, covering many types of loan and various sectors with the portfolio in logistics increasing the most, especially due to long-term loans taken in the sector. Significant growth was also seen in the infrastructure, agriculture and manufacturing sectors (see Figure 2.1.2) while the loan portfolio of private individuals shrank by 2% at the same time. Housing loans fell by 0.6% and other household loans by 7% and the only

Figure 2.1.1. Banking sector loans and leases to businesses and households



<sup>6</sup> Includes loans, leases and factoring

<sup>7</sup> Also includes 0.3 billion euros of loans and leases to non-residents.

Figure 2.1.2. Annual growth in loans and leases to businesses and households 31/12/2012

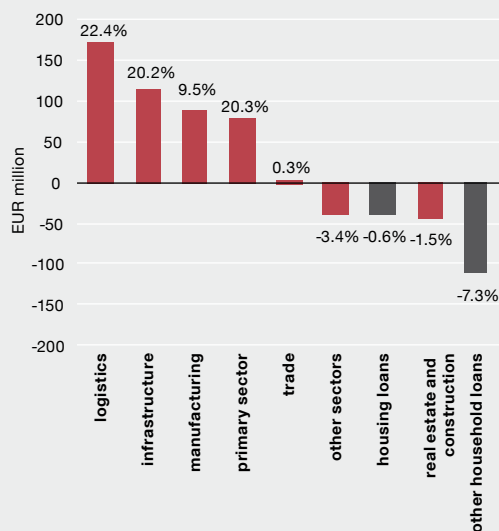
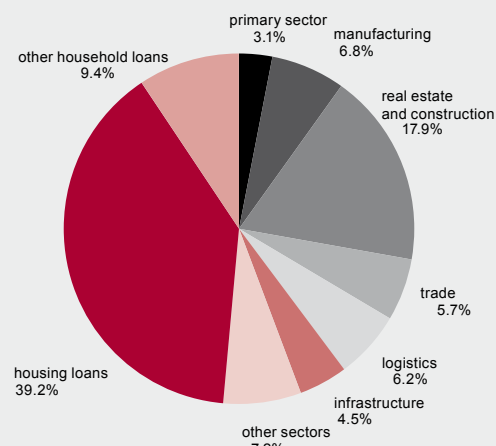


Figure 2.1.3. Structure of banks' credit portfolio 31/12/2012



growth was in car leases, which were up 5% over the year. The loan portfolio was again affected by the write-offs of uncollectible loans, which made up around 1% of the total real sector loan portfolio, having averaged 4% in 2008–2012.

The share of loans to companies in the total portfolio structure has increased due to their rapid loan growth and stood 2 percentage points higher than a year earlier at 51% (see Figure 2.1.3). The logistics sector in particular has increased its share.

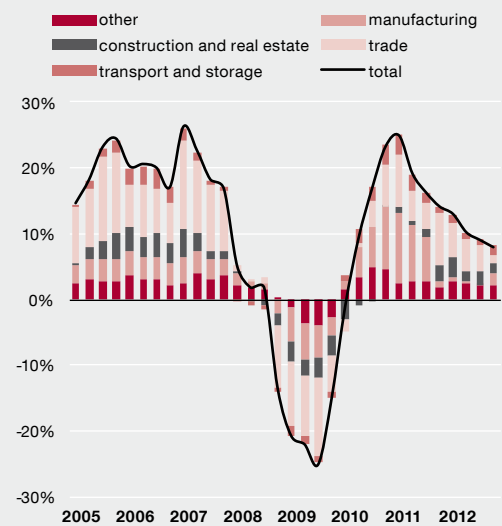
The Eesti Pank forecast published in December 2012 expects that the volume of loans to companies will grow by close to 5% in 2013. The fall in outstanding housing loans will probably stop during the first half of 2013 and moderate growth in other household loans is expected in the second half of the year. The loan portfolio for the whole real sector is forecast to grow in 2013 by around 3%.

## 2.2. LOAN REPAYMENT ABILITY OF COMPANIES

### Corporate financial results

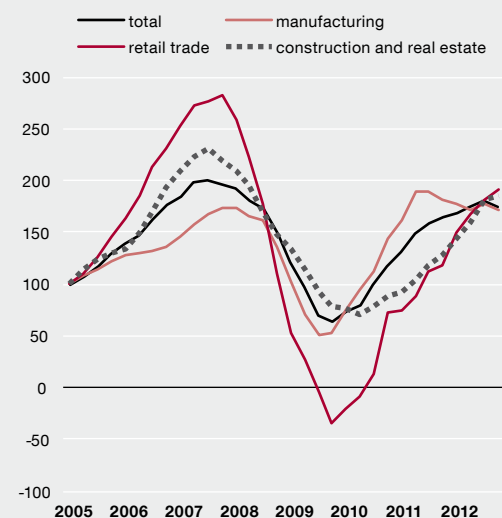
The sales turnover of companies continued to grow mainly on the back of domestic demand in the second half of 2012, but at a somewhat slower speed than before (see Figure 2.2.1). Although corporate profits were higher than in 2011 in most areas, the growth in profits slowed in the second half of the year. The main contributors to corporate profit growth were sectors that were primarily oriented to the domestic market, such as construction, real estate and retail while the energy and manufacturing sectors had a negative impact on corporate profit growth (see Figure 2.2.2). However, the output of manufacturing started to increase again in the last months of 2012 through increased production of electronic equipment, and in the first two months of 2013 it was almost 4% higher than a year earlier.

Figure 2.2.1. Sales revenue growth by sectors



Source: Statistics Estonia

Figure 2.2.2. Corporate profit by sectors (4-quarter moving average, 2005 = 100)



Source: Statistics Estonia

The future profitability of companies depends largely on how quickly external demand recovers and how far companies can control the growth of wage costs when turnover growth is lower. Although the barometer of the Estonian Institute of Economic Research shows that the expectations for demand in the export-oriented manufacturing sector have improved in recent months, they remain more pessimistic than those in sectors that are oriented towards domestic demand (see Figure 2.2.3). The Eesti Pank forecast of December 2012 expects growth in external demand to recover in the second half of 2013, and the resulting increase in exports to lead to some degree of acceleration in growth in Estonia.

### Payment behaviour of companies and bankruptcies

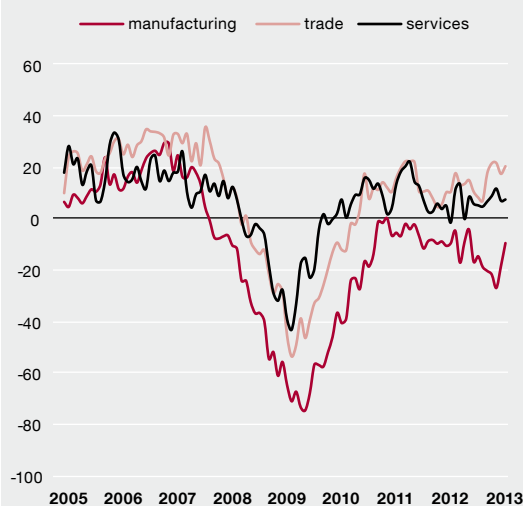
As the results for the corporate sector as a whole have been quite good in the last year, the payment behaviour of companies has continued to improve.

The first sign of a company getting into difficulty is often the emergence of payment defaults and tax arrears<sup>8</sup>. The payment defaults registry showed the number of companies with payment defaults in the second half of 2012 to be about the same as a year earlier, but the number of companies with tax debts fell in the second half of 2012 and at the start of 2013 (see Figure 2.2.4).

The number of companies going bankrupt and the number of bankruptcy petitions to the court fell in the second half of 2012 and at the start of 2013 to about the same level as before the boom (see Figure 2.2.5). As the total number of companies registered in Estonia has increased greatly since then, the share of Estonian companies going bankrupt is close to its historically lowest level. As in previous years, the highest percentages of bankruptcies in 2012 were observed in accommodation and catering, construction and manufacturing.

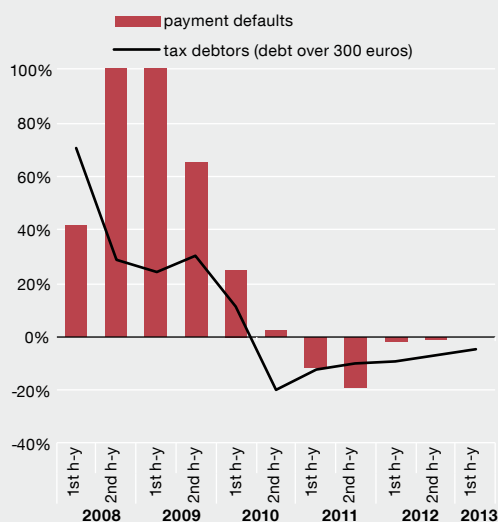
<sup>8</sup> A study of bankruptcies in Estonia in 2012 by Krediidinfo AS showed that two thirds of companies had had tax debts before they went bankrupt.

Figure 2.2.3. Demand expectations (seasonally adjusted)



Source: Estonian Institute of Economic Research

Figure 2.2.4. Annual growth in companies' payment defaults and tax debtors



Sources: Krediidinfo, Tax and Customs Board

## Financial assets and loan repayment ability of companies

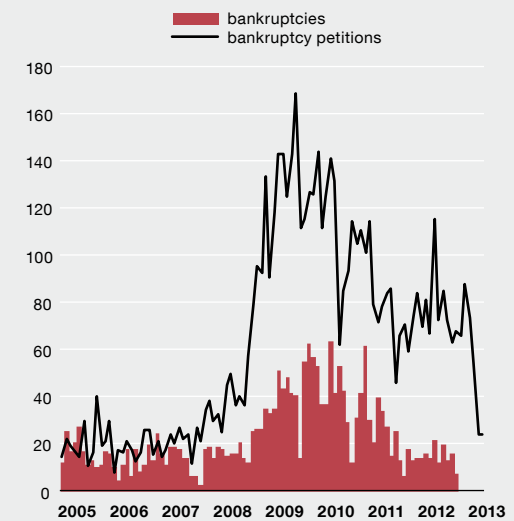
The growth in deposits by Estonian companies in domestic banks has stopped in the last half year and the volume of deposits has remained close to where it finished the summer of 2012, but year on year growth still reached 7% in February 2013. Time and savings deposits have continued to fall as a share of total deposits, while the ratio of deposits of companies in domestic banks to their liabilities has remained near to 50% throughout the past year, which is a high figure in historical terms (see Figure 2.2.6).

The loan repayment ability of companies is still aided by the very low base interest rates, as the interest burden on companies has lightened a lot (see Figure 2.2.7). Together with the increased profits of 2012, this means that companies find it ever easier to pay the interest on their loans, and they have more funds left over for investments or for building financial buffers.

Data from the financial account show that the Estonian corporate sector as a whole is well capitalised and liquid in international comparison. While the liquidity indicators for Estonian companies have been higher than the euro area average for all of the past eight years, financial leverage was at around the average for the euro area before the crisis (see Figures 2.2.8-2.2.9). Estonian companies lowered their debt levels during the recession years, and their equity has grown strongly in recent years. In most other countries however, indebtedness has not fallen so much and the slower economic growth has meant that the growth in equity has not been comparable to that in Estonia.

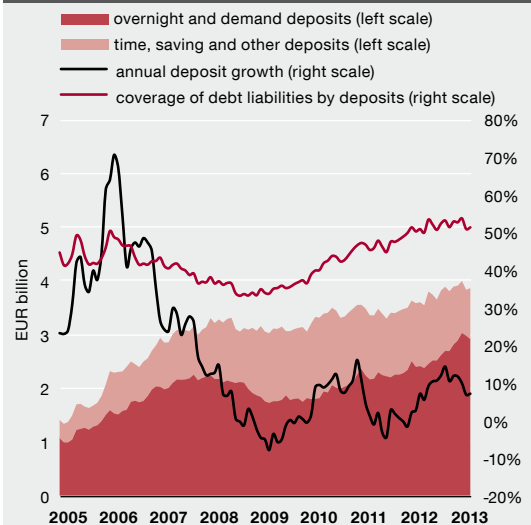
Given the somewhat increased borrowing activity, the slower profit growth and the fairly low level of leverage, the deleveraging of Estonian companies is likely to stop in the coming quarters and leverage will start to increase again after that.

Figure 2.2.5. Number of bankruptcies and bankruptcy petitions



Source: Central Commercial Register, Court Information System

Figure 2.2.6. Volume and growth of corporate deposits



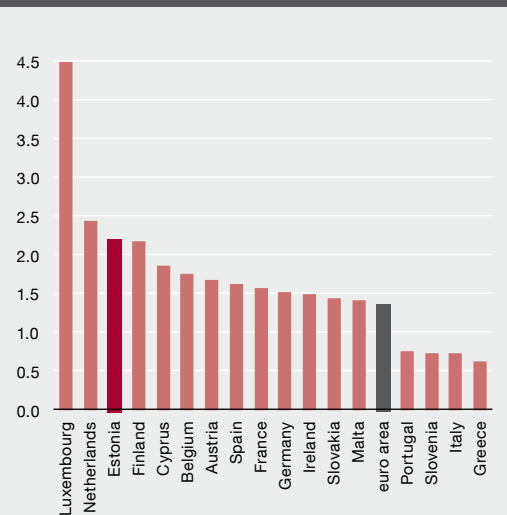


As no rapid growth in base interest rates is expected in the near future, the main risks to the ability of companies to pay their debts continue to come from the sovereign debt crisis in the euro area and the resulting drop in economic activity and fall in profitability. There are already signs of a slowdown in the growth in external demand in the manufacturing sector that is oriented to external markets. Domestic demand is not enough to support economic activity over the long term in a small and open economy. However, the capitalisation and financial buffers of the Estonian corporate sector are probably enough to handle the short-term problems.

### 2.3. LOAN REPAYMENT ABILITY OF HOUSEHOLDS

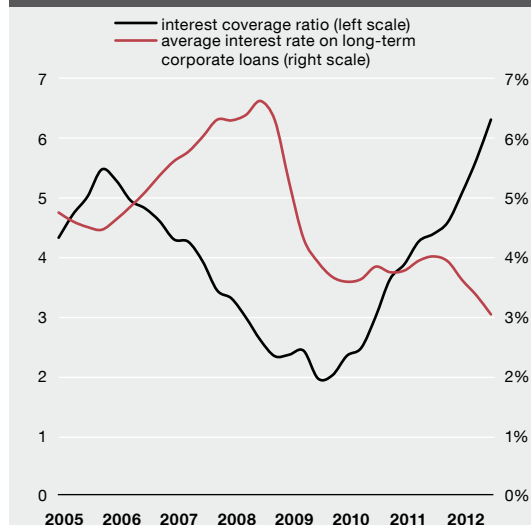
Consumer confidence started to pick up again after its temporary fall in autumn 2012, and by the start of this year it had even passed its long-term average (see Figure 2.3.1). The confidence of Estonian residents has picked up much faster than that of the population of the rest of the euro

Figure 2.2.8. Coverage of short-term debt by liquid financial assets (Q3 2012)



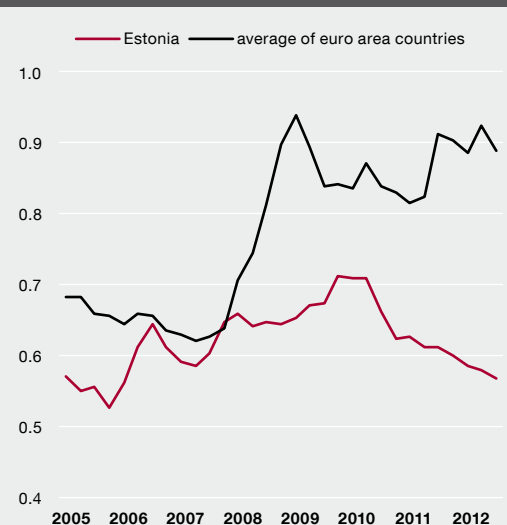
Source: European Central Bank

Figure 2.2.7. Interest burden



Sources: Statistics Estonia, Eesti Pank

Figure 2.2.9. Debt-to-equity ratio



Sources: European Central Bank, Eesti Pank

area and it has been particularly supported by the expectation that unemployment will fall over the next 12 months.

Labour market and wage developments have reduced the risks related to the income of households (see Figure 2.3.2) and 61% of the working age population were employed in the last quarter of 2012. Over the year, employment rates mainly grew due to the fall in unemployment, and the unemployment rate continued to decline. In the fourth quarter the unemployment rate stood at 9.3% and the average for the year was the lowest in four years. Youth unemployment and long-term unemployment also dropped. The acceleration in economic growth at the end of last year and the inertia shown by the labour market figures when adjusted for the real economy suggest that in the coming quarters the unemployment rate should fall and the employment rate rise further.

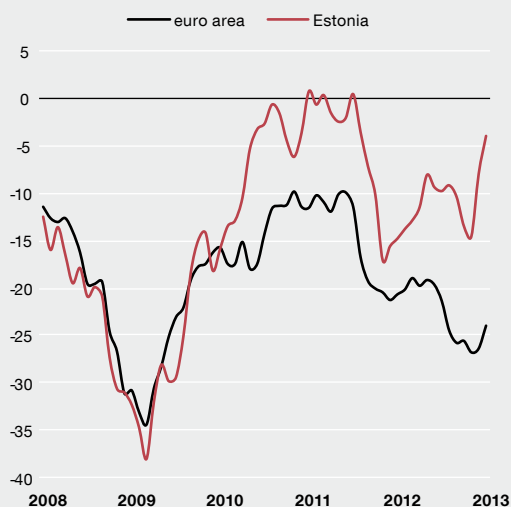
Average monthly gross wages were 5.9% higher in the last quarter of 2012 than a year earlier,

Figure 2.3.2. Unemployment rate and wage growth



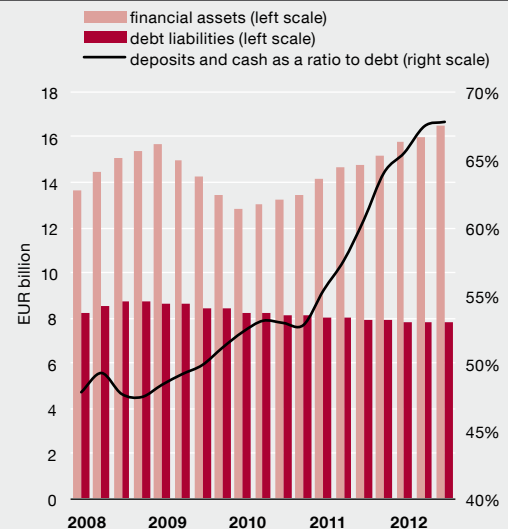
Source: Statistics Estonia

Figure 2.3.1. Consumer confidence indicator



Sources: Estonian Institute of Economic Research, European Commission

Figure 2.3.3. Financial position of households



at 916 euros while real wages, adjusted for the impact of consumer price changes on purchasing power, rose for the sixth consecutive quarter to stand 2.1% higher than a year before.

The more positive effects from the labour market and wage developments helped the financial position of households to improve even further in the third quarter of 2012 (see Figure 2.3.3). There was a rise in the value of household financial assets of 11% over the year, which was mainly caused by the rise in value of the equity holdings that households already had. This was largely a consequence of the growth in the profits of unlisted Estonian companies, as the shares of listed companies remain a small part of total household assets, making up less than 1% of financial assets.

The annual growth in household deposits has slowed since the fourth quarter of 2011, though it remains relatively fast even despite the record low interest rates (see Figure 2.3.4). The structure of household deposits has changed somewhat from the period before the crisis. Three years ago 56% of deposits were time deposits and 41% were overnight and demand deposits, but in 2013 this had reversed so that 43% were time deposits and 55% were overnight or demand deposits. The share of other deposits, including investment deposits that are connected to the yields on securities markets, remained at around 2%.

Household debt fell by 1.4% over the year but after falling for four years it started to rise again in the second half of 2012 due to borrowing from abroad. This indicates that the correction of balance sheets that began during the recession is nearly over. In the near term loan liabilities will probably grow more slowly than financial assets.

Household debt shrank again in the third quarter of 2012, at which point it was equivalent to 45% of GDP or 86% of disposable income (see

Figure 2.3.4. Household deposits

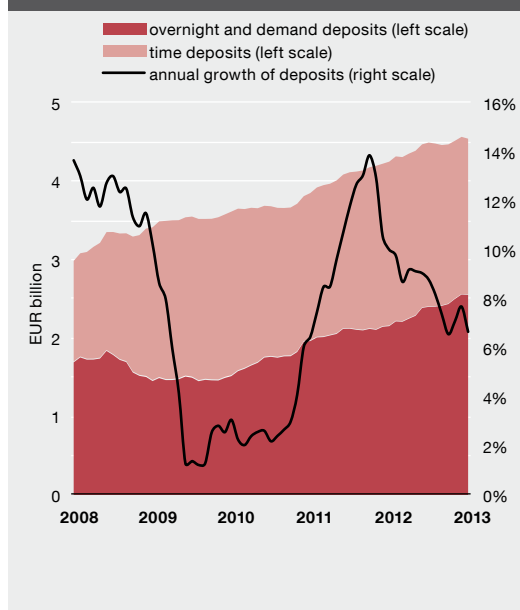


Figure 2.3.5. Household indebtedness

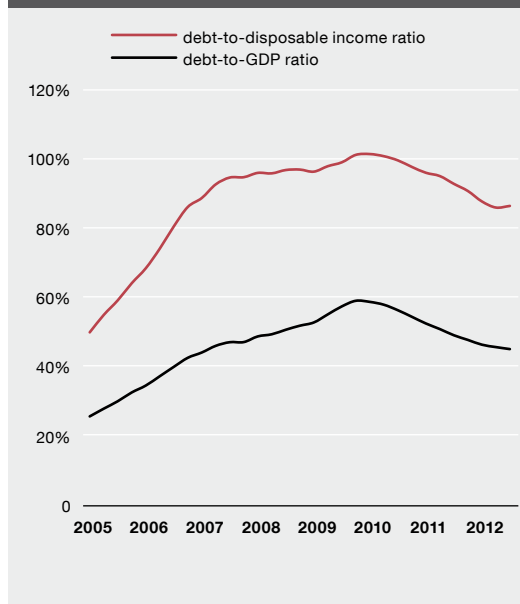


Figure 2.3.5). Indebtedness has fallen by around 15 percentage points from the peak it reached in the first half of 2010. Cash and deposits covered 68% of total household debt, which was 10 percentage points more than a year before.

The interest burden of households, which is the ratio between the annual loan interest payments and disposable income, was 2.9% in the third quarter of last year, which is less than half the level seen in the years of rapid economic growth (see Figure 2.3.6). The latest Eesti Pank forecast shows that outstanding household loans will increase slightly in 2013 by 0.8% and disposable income will grow at 6.4%, which is a similar rate to last year. Market expectations are for money market interest rates to remain low for the next few quarters, so no rise in the interest burden of households is really to be expected and this means that the risks to the repayment ability of households are lower.

As housing prices were 37% down at the end of 2012 from their peak in April 2007, there remained a relatively large number of households whose outstanding loan was larger than the value of the collateral (see Figure 2.3.7). At the end of the year, 13% of outstanding loan contracts had a loan to value (LTV) ratio of more than 100% and loans with a high LTV made up 18% of the total value of all housing loans.

High LTV is not necessarily a problem in itself if the borrower intends to use the property over the long term and can afford the monthly repayments to the bank without major difficulties, but loans with high LTV can present a problem to borrowers who wish to move house or whose ability to repay their loan is weak. At the end of 2012, the majority of households holding loans with high LTV of over 100% were able to meet their obligations, though 11% of high LTV loan contracts were either more than 60 days overdue or had been restructured following earlier repayment difficulties.

Figure 2.3.6. Household interest burden and disposable income

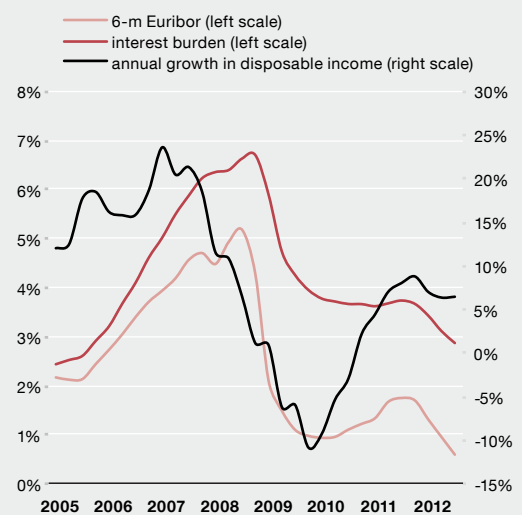
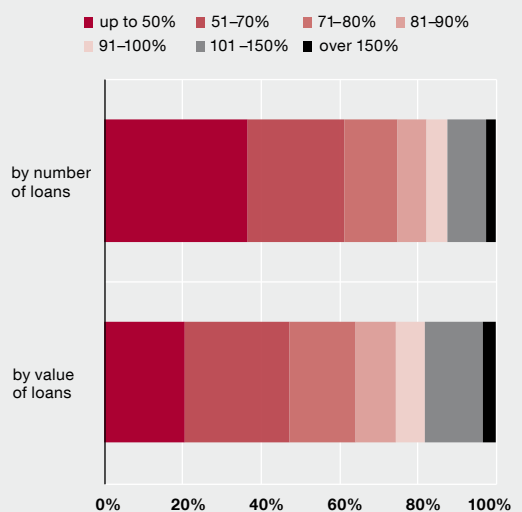


Figure 2.3.7. Housing loans by loan-to-value ratio (LTV) at the end of 2012



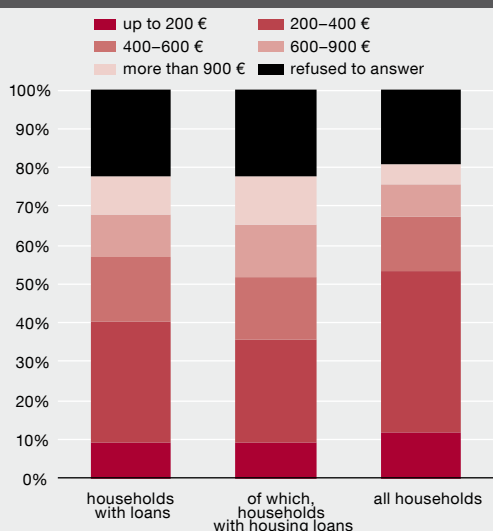
## Box 2. The economic situation of households with loan obligations

The economic situation of households with loan obligations and their ability to repay loans are significant for financial stability.

A survey of the financial behaviour of Estonian households carried out in autumn 2012 by TNS Emor showed that 41% of Estonian households have loan obligations<sup>9</sup>, and around 20% of all households have taken a housing loan. Taking a loan usually requires a household to have a sufficiently high and stable income, so the share of high income families among households with loans is above average, and they consider their economic situation to be better than the average (see Figure 2B.1-2B.2).

While most types of loan, such as housing loans, leases or credit card debts are more

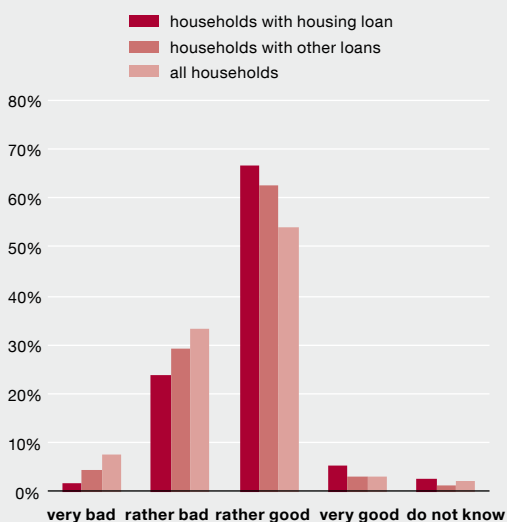
Figure 2B.1. Income per household member



Source: TNS Emor

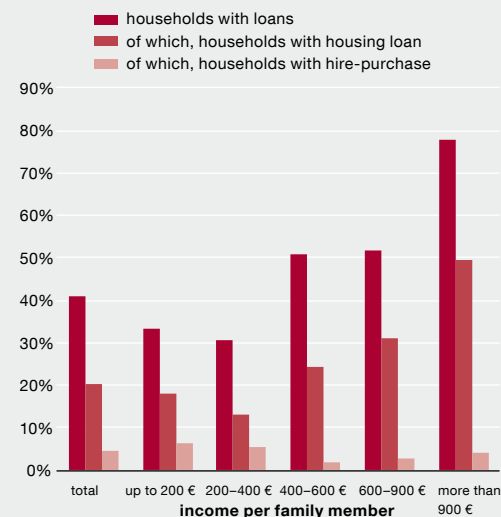
<sup>9</sup> Loans, car leases, hire purchase or credit card debts.

Figure 2B.2. Financial situation of households



Source: TNS Emor

Figure 2B.3. Share of households with loan obligations by income bracket



Source: TNS Emor

common in households with higher incomes, hire-purchase is mostly taken by households with low income<sup>10</sup>. However, the survey also found the share of households with hire-purchase agreements to be quite low (see Figure 2B.3).

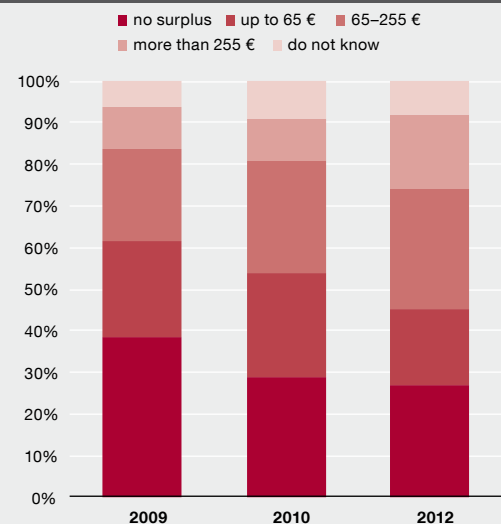
The improved economic situation of households with loans also means that they have more money left over after their unavoidable expenses on essential goods and loan repayments than they had before, and in the last three years the share of households with cash savings has increased. However, it is slightly worrying that almost 44% of families with loans say they do not have any cash savings (see Figure 2B.4-2B.5).

The improvement in the economic situation of households with loan obligations is probably a consequence of the higher incomes and the much lower interest payments that result from the reduced base interest rates. The share of income that goes on expenditure that is unavoidable, for example on energy and food, is smaller for higher wage earners, which includes most borrowers, than for low wage earners, and so the relatively rapid rise in the prices of such products has not significantly reduced their ability to save.

Despite the fall in interest rates and the generally improved situation, around 10% of households with loan obligations have monthly loan repayments of over 40% of net income, and the number of such households has not fallen during the last two years (see Figure 2B.6). Such households have had very many problems with repaying loans over the years.

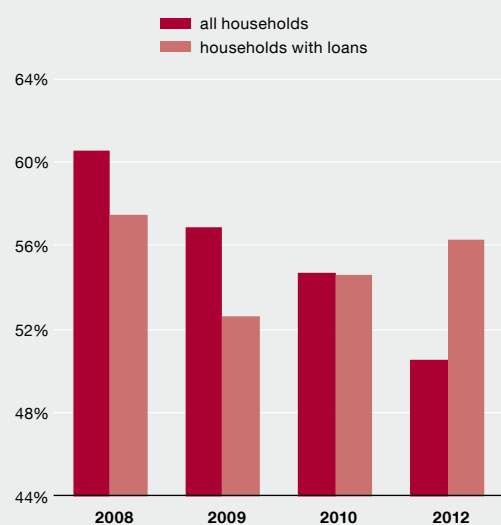
<sup>10</sup> The situation is similar for instant loans or payday loans, though the very small sample size means the results are not statistically reliable.

**Figure 2B.4. Surplus cash of households with loans after essential spending and loan repayments**



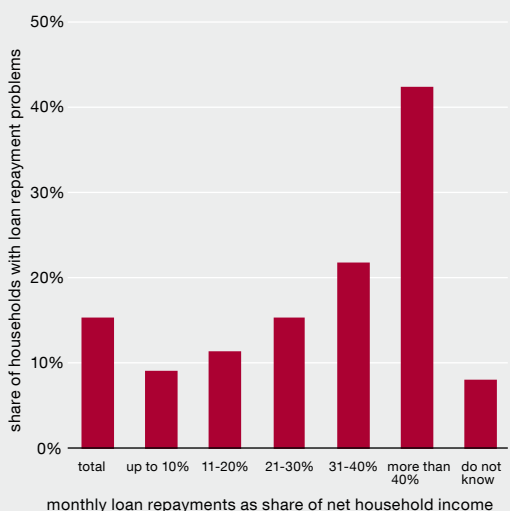
Source: TNS Emor

**Figure 2B.5. Share of households with savings**



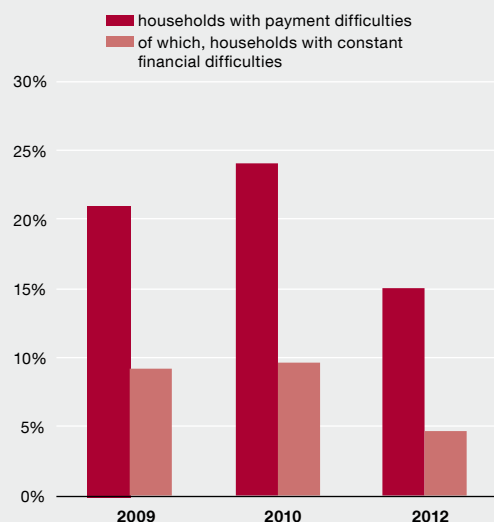
Source: TNS Emor

**Figure 2B.6. Distribution of households with loan repayment problems**



Source: TNS Emor

**Figure 2B.7. Households with loan repayment difficulties as a share of households with loans**



Source: TNS Emor

In total in 2012, around 35,000 households had difficulties with repayments, or 15% of all households with loan obligations. As the situation has improved for households with smaller loan repayment burdens in the last two years, the number of households with payment problems has dropped sharply during this time. The share of households with constant financial difficulties fell from around 10% in 2010 to a little under 5% at the end of 2012 (see Figure 2B.7). Banking statistics show that loans that were more than 60 days overdue made up a little less than 4% of all household loans at the end of 2012.

In summary, the fall in base interest rates and the rise in incomes have let the economic situation of households with loans improve and as it is mostly families with higher wages that take loans, their economic situation is better than the average. However, there are households that have very high debts in relation to their incomes and who still have problems repaying loans, and their situation has not particularly improved in recent years.

### Box 3. The real estate market

#### The residential property market

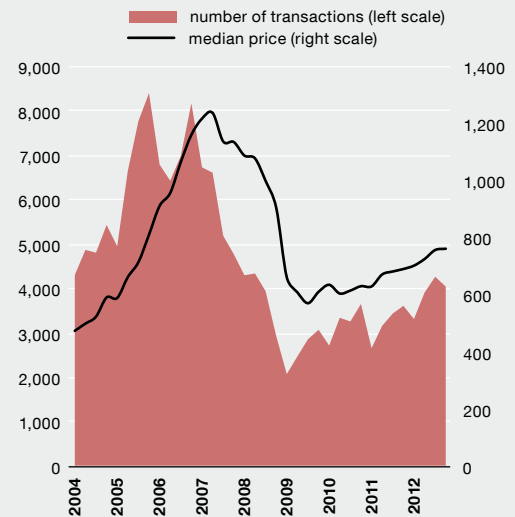
The residential real estate market in Estonia has recently picked up moderately, and the risks to financial stability from the real estate market have decreased. Both the number of transactions and property prices have risen stably, and in 2012 they were up 17% and 7% respectively from their levels of 2011. Despite the relatively fast growth, the volume of transactions in the real estate market remained at a similar level to that of the years before the boom, and was around one third lower than the maximum reached at that time.

The real estate market has moved quite differently in different regions and has been more lively in bigger towns, while the market in small towns has not recovered from the crisis. The biggest impact on the overall development of the market comes from the Tallinn residential market and in the first months of 2012 the median square metre price in apartment transactions in Tallinn and the number of transactions were both up 13% on the previous year (see Figure 3B.1).

In 2012 there was again an increase in the activity of non-residents in the local real estate market, which had been in steady decline during and particularly after the real estate boom (see Figure 3B.2). Non-residents put around 19% more by value into the Estonian real estate market during the year than they did in the preceding year, with the number of transactions increasing by 17%. Transactions by non-residents accounted for 11% of the total.

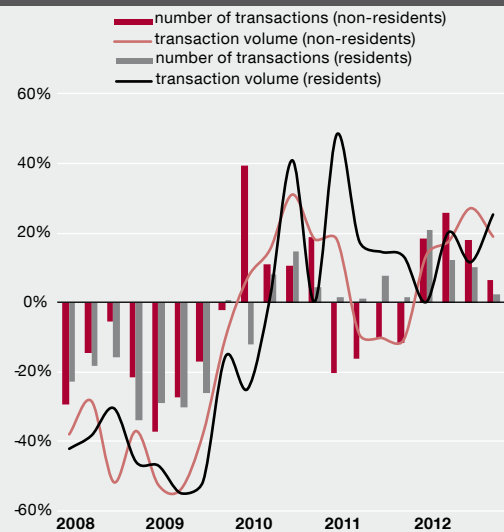
The purchasing power of households in the real estate market remains relatively strong,

Figure 3B.1. Number of transactions with apartments in Tallinn and median price



Source: Estonian Land Board

Figure 3B.2. Annual growth in number of transactions and transaction volume by buyer's residency



Source: Estonian Land Board



and the housing affordability index, which shows the relationship between the median price of apartment transactions and average monthly gross wages, has been below one for the past three years (see Figure 3B.3). The activity in the real estate market has also been encouraged by the very low interest rates.

An idea of the amount of new residential housing is given by the number of building and use permits issued (see Figure 3B.4) and in 2012 building permits were issued for 3035 living spaces, which is the highest number in the last four years and 7% higher than in the previous year. Last year, 1990 permits for using living spaces were issued, which is only 4% more than in 2011. The number of living spaces that have been completed in the last two years is also the lowest in the last decade. Real estate companies estimate that several developers are preparing projects that it has been difficult to bring to market because of the high costs of construction. It is probable that in the coming quarters these price limits will restrict the supply of residential space while demand increases moderately.

The real estate market is also affected to a small degree by forced sales caused mainly by difficulties in loan repayments, which were running at their highest level for several years last year<sup>11</sup>. Since the first signs of recession appeared in 2007, more than 4000 real estate properties belonging to indebted private individuals have been auctioned off, 1300 of them in 2012. As well as collateral for residential property, the collateral for loans given to companies has also been sold off. The banks estimate that 2012 was the peak in the forced sale of properties, as assets came to market whose owners had got into payment difficul-

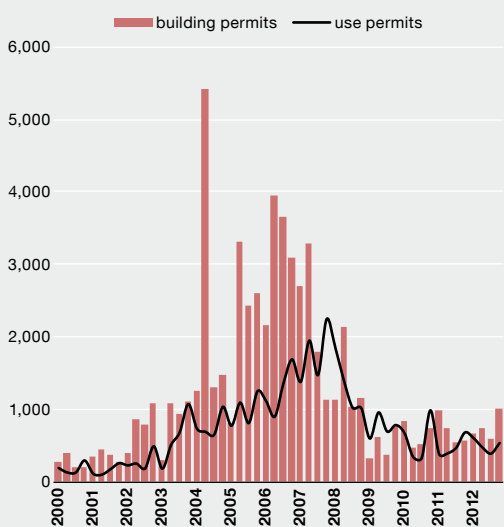
<sup>11</sup> Source: Postimees (07.02.2013).

Figure 3B.3. Real estate affordability



Sources: Land Board, Statistics Estonia

Figure 3B.4. Building and use permits issued for residential real estate



Source: Statistics Estonia

ties during the crisis and for which the other solutions proposed by the banks had produced no result. The effect of forced sales on the real estate market as a whole is estimated to be very small, as they account for less than 4% of all transactions.

### The commercial property market

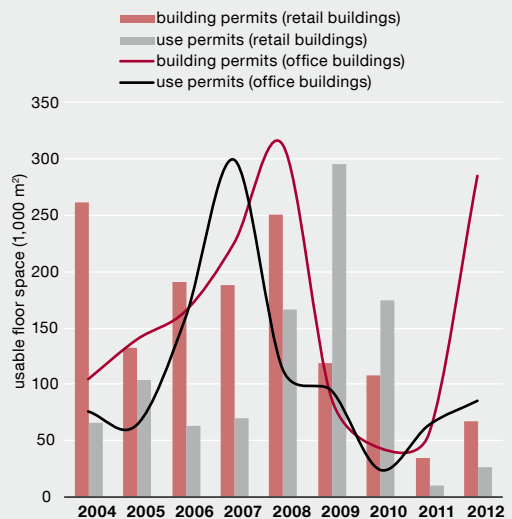
As the economy as a whole gains strength, there are signs of recovery in the commercial property market too. Construction volumes increased last year for the second year in a row and were up almost one fifth on the year, with most of that coming from orders from the public sector.

As the construction sector contracted during the recession, the number of building and use permits issued was very small afterwards. The crisis also blurred the relationship between building permits and permits for use that had previously been relatively well aligned. In 2008 the number of building permits issued for commercial property was not reflected in the number of permits for use that were issued in the following years, suggesting that buildings were left half-built or were abandoned. In 2012 the number of building permits issued increased significantly again, which could lead to an increase in activity in the sector (see Figure 3B.5).

Last year, 2415 building permits were issued for non-residential space, and 840 permits for use. These numbers were a clear increase on the numbers in the preceding years, but they remained a small fraction of the levels seen in the boom years.

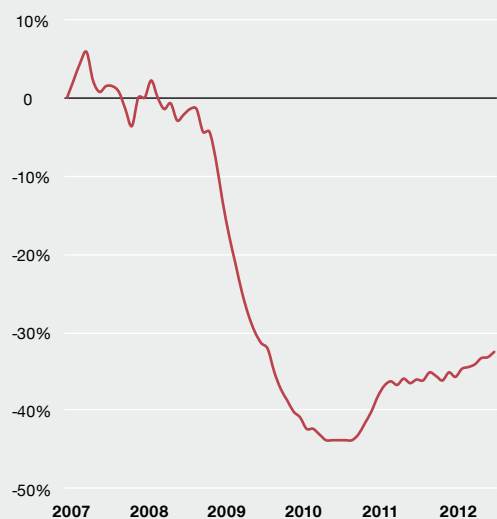
The increasing shortage of first-class commercial real estate has allowed the price of such property to rise slightly. However, the real

Figure 3B.5. Retail and office buildings with building and use permits in Tallinn



Source: register of construction works

Figure 3B.6. Change in tender price of commercial real estate in Tallinn



Sources: spot.city24.ee, Eesti Pank

ability of companies to pay, given the need for cost efficiency, and the uncertainty stemming from the economic environment mean that no rapid rise in rental prices should be expected in the near future (see Figure 3B.6). What is more, companies prefer more and more to use the new office space that is opening in the suburbs where the prices are similar in range

to those of B-class properties in the centre, but the costs are lower, parking space is more available, and in some cases the construction quality is better. For this reason, the emphasis in office space development in future will be away from the city centre.<sup>12</sup>

<sup>12</sup> Uus Maa real estate agency property market overview 2/2012.

## 2.4. ASSET QUALITY

By the end of 2012 the value of loans overdue for more than 60 days had fallen to 426 million euros, accounting for 3.2% of the loan portfolio (see Figure 2.4.1).

The quality of the loan portfolio of banks has been affected by the improved ability to pay of borrowers, write-offs, and, to a small extent, faster than expected loan growth. In 2012 the value of loans overdue for more than 60 days fell by 208 million euros, and their share of the total portfolio

dropped by 1.6 percentage points. Write-offs of loans accounted for 70% of this fall. At the end of the year, the largest part of the overdue loans was still accounted for by real estate loans<sup>13</sup>. The share of loans over 60 days overdue had fallen below 6% in all sectors (see Figure 2.4.2).

The fall in the volume of overdue loans was 23% smaller in 2012 than the fall in 2011, while the share of loans written off increased. This means that the overdue loans are more and more commonly uncollectible claims that have an increasingly small probability of turning into performing

Figure 2.4.1. Share of overdue loans and provisions in the loan stock

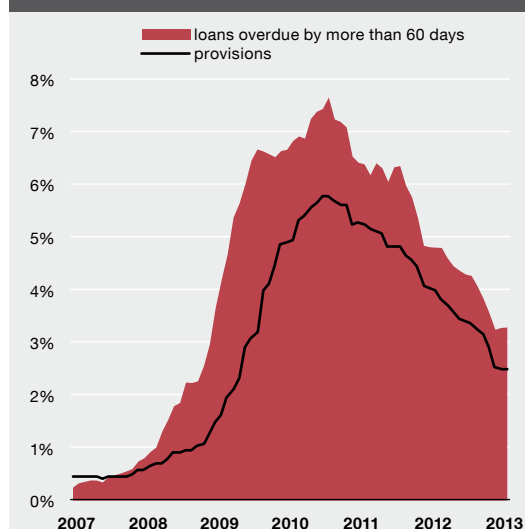
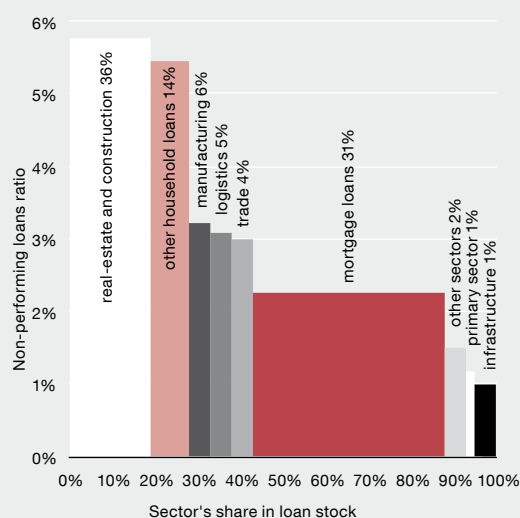


Figure 2.4.2. Structure of loans overdue by more than 60 days 31/12/2012

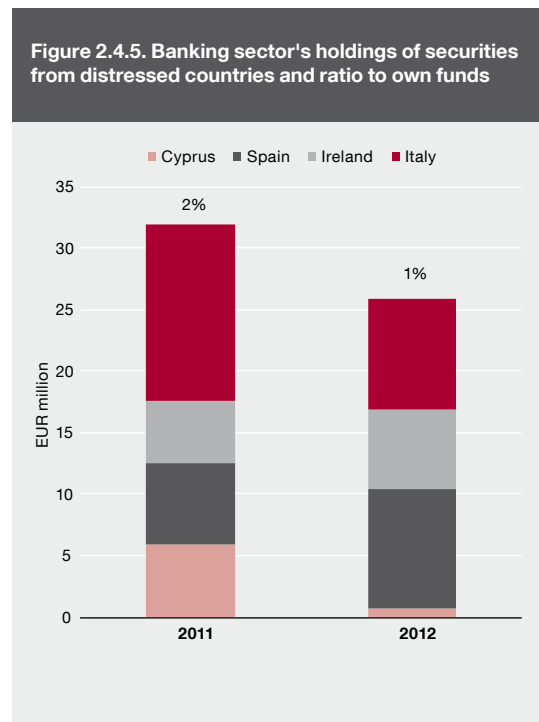
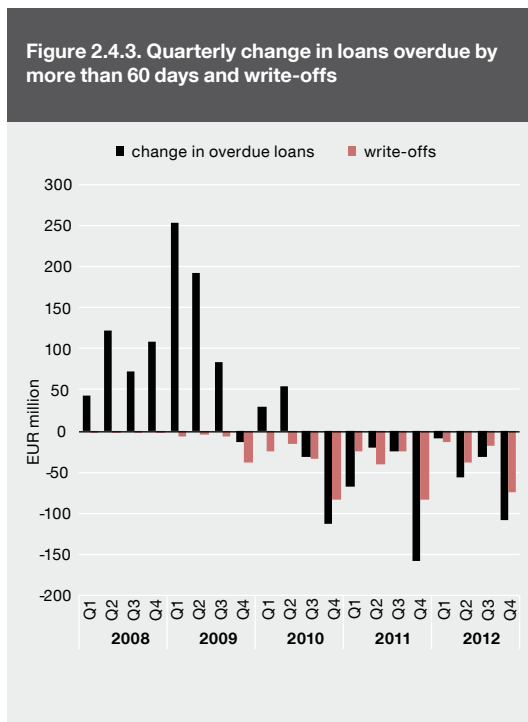
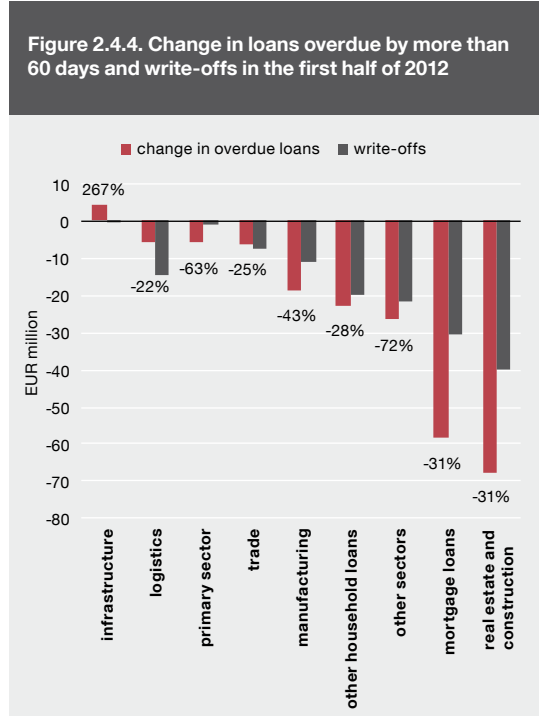


\* Area represents sector's share in loans overdue by more than 60 days.

loans again (see Figure 2.4.3). As write-offs play an increasingly important role in shrinking the stock of overdue loans, this factor also affects the future development of overdue loans to a large degree.

In 2012 the volume of overdue loans fell in all sectors except infrastructure by more than 20%. The fall was largest in sectors related to real estate, and in those sectors loans were written off relatively less than the portfolio average (see Figure 2.4.4).

The share of loans in the portfolio that had been restructured because of repayment problems was 3.4% at the end of 2012, with significant differences between banks. A relatively large share of these restructured loans, 30%, had been overdue for more than 60 days, but as the continuing performance of the other restructured loans is difficult to assess, the conservative approach is to class them all as problematic. The banks have also set up provisions for these loans. The total volume in the banking sector of problem loans (loans overdue for more than 60 days and restructured loans) was 5.6% of the portfolio at the end of the year.



In 2012 the provisions were reduced by about the same value as the overdue loans, meaning that the provisions were reduced as a proportion of overdue loans by 6 percentage points to 79%, which remains a quite conservative level. At the end of 2012 provisions covered 2.5% of the loan portfolio of the real sector.

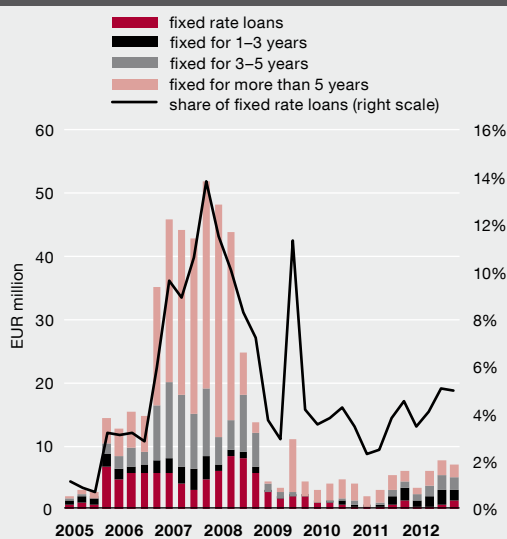
The securities portfolios of the banks operating in Estonia are quite small and at the end of 2012 they accounted for only 3.4% of assets, about the same level as a year earlier. The majority of securities were bonds issued by credit institutions and sovereigns, with government bonds from Germany, France and Luxembourg in particular held alongside Estonian bonds. The share of German bonds had increased over the year and the share of French bonds declined. A majority of the portfolio has quite long maturity and more than half of the bonds in the portfolio have a maturity of over five years.

Securities from the private and public sectors of the countries that have had problems in the sovereign debt crisis made up less than 4% of the securities portfolio of the entire banking sector. It is mainly small banks that have invested in the securities of troubled countries, and such securities accounted for up to 45% of the investment portfolios of those banks at the end of 2012. The ratio of those securities to the equity of some small banks was quite high, but their share has generally fallen over the year. As a ratio to the equity of the whole banking sector, the securities of troubled countries have fallen to 1% (see Figure 2.4.5). This poses no danger to the banking sector as a whole, though in the case of negative developments, such securities could be quite costly for some small banks.

**Box 4. Changes in the use of base interest rates for housing loans and their impact on the pricing of loans**

Although there have been no major changes in the long-term fixing of interest rates in recent years, it is notable that loan contracts with floating interest rates are more and more often using other base interest rates instead of the six-month EURIBOR. Borrowers need to be aware of the risk associated with different base rates if they are to maintain sufficient repayment capacity to cover their long-term loan obligations. The change in the structure of base interest rates also affects the interest rates and margins set in the lending market, which need to be looked at in assessments given as aggregates.

Figure 4B.1. New housing loans issued with fixed interest rate and their share in quarterly turnover of housing loans



### Housing loans with fixed interest rates

The great majority of housing loans to Estonian households are signed with floating interest rates and the share of loans in the housing portfolio that are signed with fixed rates has remained around only 1% since the beginning of 2005.

There have been times during the past decade when it was a little more common to fix the interest rate, but this has not led to any significant changes in the portfolio structure. Despite the relatively high base interest rates, loans with fixed interest rates were relatively popular in 2007-2008, when their share in new housing loans was at times over 10%. In the second half of 2012 some growth in the numbers of loans with fixed interest rates was detectable but their share of new housing loans issued to individuals was 5%, which is a notably low level (see Figure 4B.1).

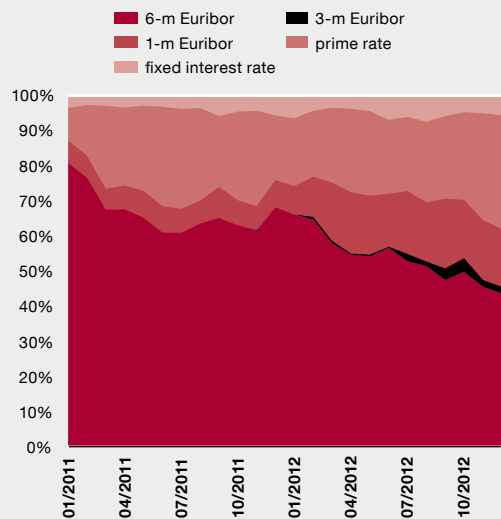
### Base interest rates used in loan contracts with floating rates

During the period of rapid growth in lending in 2005–2008, housing loans with floating interest rates were based on the six-month EURIBOR. Banks used their own calculations of base interest rates only for loans in Estonian kroons. In 2011-2012 the structure became much more varied, with the result that the share of new housing loans using the six-month EURIBOR fell to 43%<sup>14</sup> by the end of 2012 (see Figure 4B.2).

One factor driving the structural change has been the positive outlook for the Estonian economy, which has allowed banks to make loan contracts that depend on the Estonian

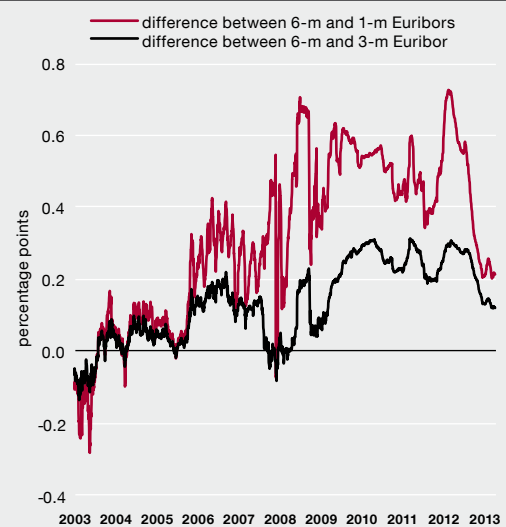
<sup>14</sup> This analysis uses data from the Swedbank, SEB and Nordea subsidiaries.

Figure 4B.2. Base interest rates in new housing loan contracts



Sources: Swedbank, SEB, Nordea branch; Eesti Pank's calculations

Figure 4B.3. Differences in Euribor quotations by maturities



Source: EcoWin

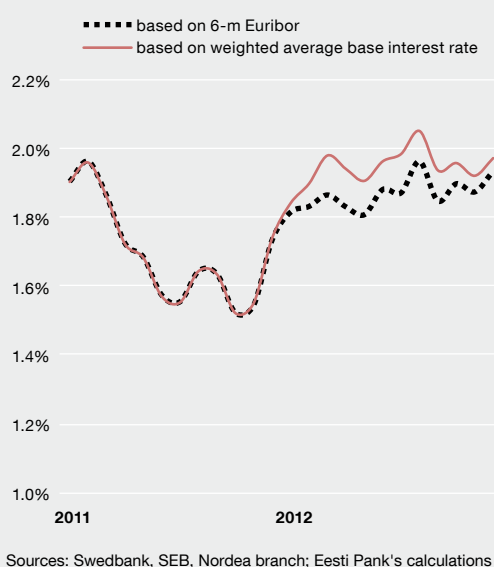
economic environment and the associated risks more attractive to clients. Another factor is the interest rate differential between the short and long-term EURIBOR rates, which has made it possible to use the very short-term one-month EURIBOR base rate. The differential was particularly big at the end of 2012 (see Figure 4B.3). The use of floating interest rates in housing loan contracts has also been encouraged by the growing realisation in the markets that interest rates will remain at their low levels for a long time.

#### **Impact on the average interest margin**

The average interest rates for housing loans provided by the biggest banks were fairly similar in 2012. Given the changes in the structure of base interest rates, this could imply that there were some differences in the interest margins. To find the average margin in the lending market from the aggregated data a reverse calculation is normally used that subtracts the average base interest rate for the period from the average interest rate on loans issued. This is generally done using the base interest rate that is most commonly used in the market, which in Estonia's case is the six-month EURIBOR.

As the share of loans using the very short-term EURIBOR has increased in recent years, and the interest differential with the six-month EURIBOR is on occasion fairly high, the weighted base interest rate was lower than the six-month EURIBOR that had previously been used in assumptions. This in turn means that the actual average margin in the middle of 2012 was some 0.1 percentage points higher than the estimate arrived at using the simplified method (see Figure 4B.4). In spring 2012 the average margin rose more steeply than had been expected, and after that it

**Figure 4B.4. Average interest margin on new housing loans issued by three largest banks**



remained relatively stable for the rest of the year. As the spread between the long and short-term EURIBOR rates narrowed at the end of 2012, the difference in the margin estimates also declined.

#### **Risks to borrowers from the choice of base interest rate**

Borrowers who take a loan with a short-term base interest rate need to remember that movements in the international money markets could very rapidly affect their interest payments. It is true that they will benefit more quickly from falls in interest rates, but they will also be exposed to rises faster. In terms of the risks related to the ability to repay loans, it is important to consider that if the repayments are fixed for longer than one month it gives the borrower a little more time to adjust to new market conditions, and allows any necessary

changes to consumption to be made. If interest rates change sharply, the risk to the ability to repay the loan is higher for those borrowers whose monthly principal and interest payments are relatively high in relation to net income and unavoidable expenses.

To avoid risks that threaten the ability to repay loans, it is important that borrowers are aware of the basis on which their base interest and risk margins are calculated and how this could make them change during the duration of the loan. The widely used EURIBOR is transparent for borrowers and possible changes in

interest payments have been readily observable and comprehensible. The advantage of the bank's own base interest rate is that it can use risk calculations that consider the long-term local or regional risks to help smooth the changes in the EURIBOR. A borrower with a good payment record and adequate financial buffers will be able to keep loan costs low in favourable economic and interest circumstances, but using this sort of interest rate can also make lending activity more pro-cyclical and amplify the changes in the economic environment.





### III. THE STRENGTH OF FINANCIAL INSTITUTIONS

#### 3.1. BANKS

##### Liquidity and funding

The liquid assets of banks have decreased somewhat since the end of the third quarter of 2012, and in February 2013 they stood at 4.4 billion euros. As the loan portfolio and the balance of other assets did not change much during this period, the share of liquid assets in the aggregated balance sheets of banks fell slightly and was 23% in February 2013 (see Figure 3.1.1).

There was a much bigger change however in the structure of liquid assets. In the Eurosystem, banks have been holding fewer liquid assets at the central bank than before because sentiment in the money markets has improved and monetary policy interest rates remain very low, but the banks operating in Estonia have, in contrast, increased their holdings at Eesti Pank many times over, to almost 1.4 billion euros (see Figure 3.1.2). The main contributor to this growth was a large bank that began to relocate part of its banking group's liquidity through Eesti Pank. As a consequence, the share of claims on other banks in the liquid assets dropped by 20 percentage points in the last half year to 59%.

Since July 2012, when the overnight deposit interest rate fell to zero, the banks have not used the deposit facility at the central bank and currently three banks are participating only in the weekly auctions of term deposits. The banks operating in Estonia have not taken any new monetary policy loans since spring 2012 as the increased deposits have ensured sufficient liquidity and a sufficient funding base at a relatively low cost.

The share of deposits has increased to 77% in the structure of banks' liabilities. In a year, the total deposits in the banks increased by 940 mil-

Figure 3.1.1. Banks' liquid assets and their share in total assets

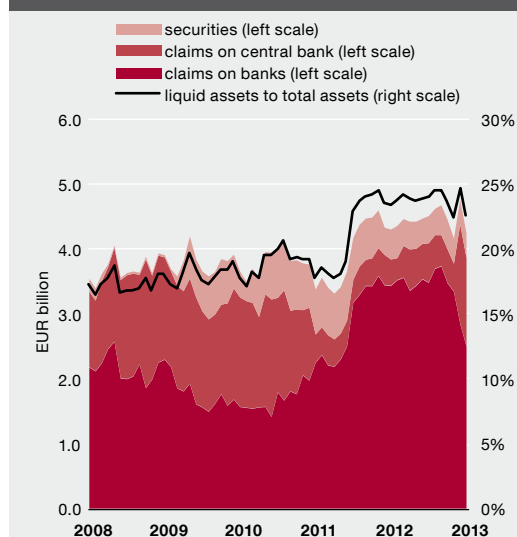
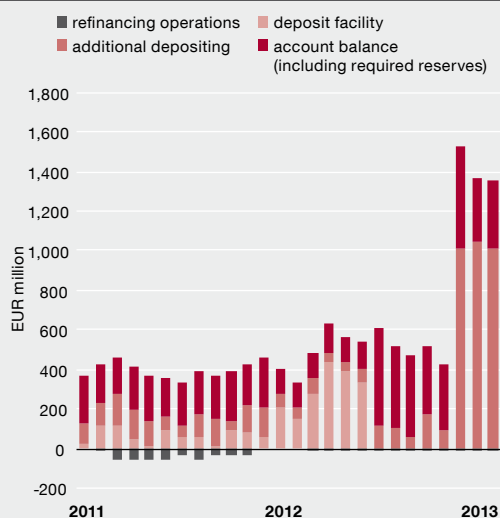


Figure 3.1.2. Banks' assets and loans with the central bank

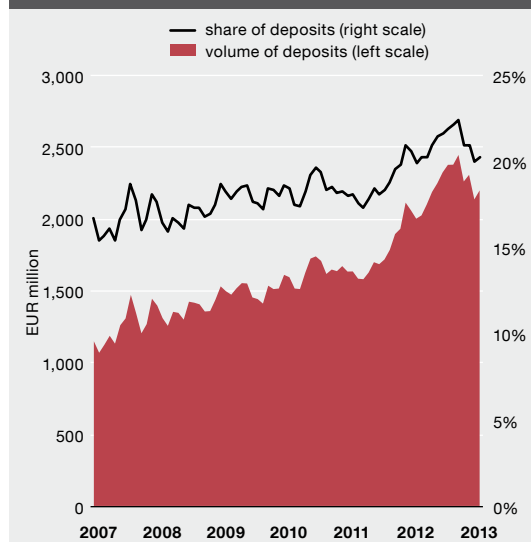


lion euros to stand at almost 12.7 billion euros in February 2013 (see Figure 3.1.3). From the end of 2011, real sector deposits from non-resident clients grew several times faster than residents' deposits, but by the start of 2013 this had reversed, and since the end of 2012 the volume and share of non-residents' deposits has fallen somewhat (see Figure 3.1.4).

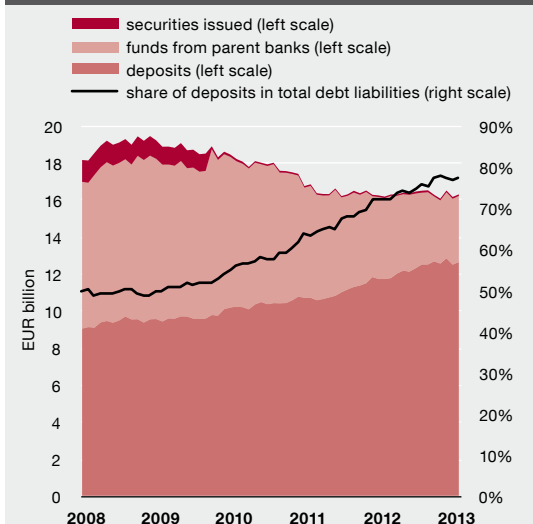
As the banks' loan portfolios did not grow significantly while the deposits were growing, the loan-to-deposit ratio improved over the year by 7 percentage points to 112% (see Figure 3.1.5). If the loan-to-deposit ratio is compared to the same figure before the financial crisis, it can be seen that the improvement in the aggregate figure for the Estonian banking sector is one of the most significant (see Figure 3.1.6).

The continued growth of deposits means that banks operating in Estonia have repaid the funds taken from their parent banks and other banks, and in this way they have reduced their expo-

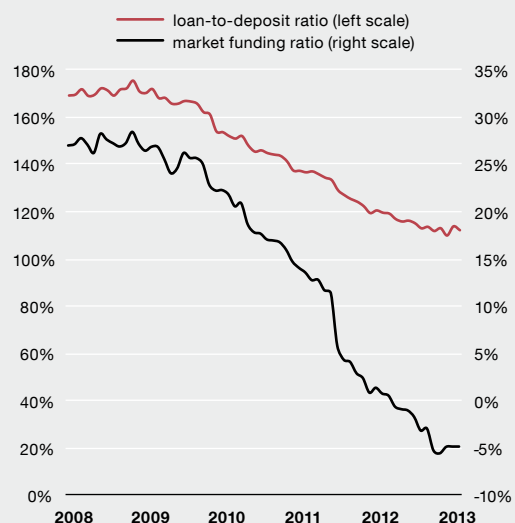
**Figure 3.1.4. Volume and share of non-residents deposits in total non-financial sector deposits**



**Figure 3.1.3. Structure of banks' liabilities**



**Figure 3.1.5. Loan-to-deposit ratio and market funding ratio**



sure to funding risks stemming from the financial markets. The market-based funding risk ratio for the entire banking sector in Estonia is –5% (see Figure 3.1.5), meaning that the banks have more of other liquid assets than they have liquid assets from the markets.

**Figure 3.1.6. Loan-to-deposit ratio and its change in selected EU countries in 2008–2012**



### Box 5. Liquidity of banks registered in Estonia<sup>15</sup>

The new Basel III framework that is about to be adopted in Europe will for the first time set harmonised quantitative liquidity requirements for banks, and these will be the liquidity coverage ratio, LCR, and the net stable funding ratio, NSFR. These requirements will be introduced gradually and it is planned that they will come into force in 2019 when both figures will need to be at 100% for each bank.

The reason for setting the LCR is to strengthen the short-term liquidity of banks and to increase their capacity to resist a liquidity crisis. The LCR is calculated as a ratio between highly liquid assets and the net outflow of funds forecast to take place during the first 30 days of a stress period.

<sup>15</sup> Based on analysis by the Financial Supervision Authority.

The NSFR is intended to promote stable longer-term structural funding of banks and is calculated as a ratio between long-term funding sources and less-liquid assets.

The analysis by the Financial Supervision Authority at the end of 2012 shows that the liquidity indicators of banks operating in Estonia were high and most of the banks would have met the liquidity requirements (see Figure 5B.1). All eight of the banks registered in Estonia participated in the analysis on a consolidated basis.

All of the banks<sup>16</sup> would have met the LCR requirement and the average figure for the sector was almost triple the requirement. The individual figures for the banks ranged between 112% and 12,890%. The highest result for the sector of 12,890% is an outlier

<sup>16</sup> The analysis does not cover branches of foreign credit institutions operating in Estonia.

**Table 5B.1 Liquidity indicators for the Estonian banking sector**

Indicator	Number of banks analysed	Number of banks meeting the standard	Weighted average for the sector	Lowest figure for the sector	Highest figure for the sector
LCR	8	8	292%	112%	12 890%
NSFR	8	7	112%	95%	489%

and was largely achieved because the requirement was initially designed for big banks that operate internationally, and can give surprising results for small banks with specific business models.

Most of the banks would have met the NSFR at the end of 2012. The average for the sec-

tor was 112%, which is 12 percentage points more than the requirement. The results for the different banks for the NSFR ranged between 95% and 489% and only one small bank would have failed to meet the requirement. Assuming that deposits will grow, it can be expected that all the banks will be able to meet this requirement when it finally comes into force.

## Profitability

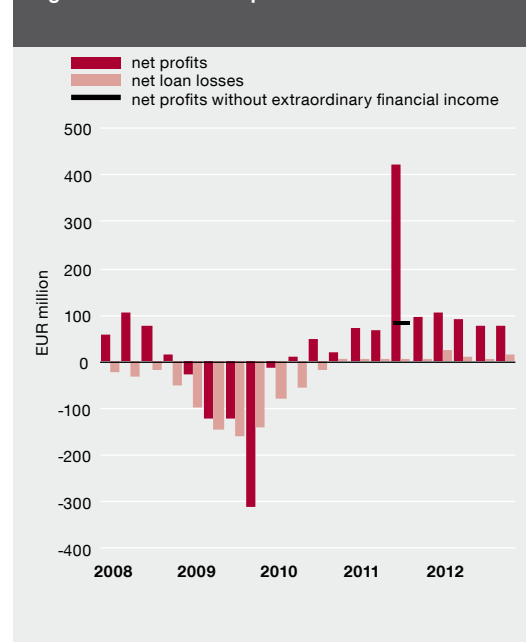
The biggest impact on the profitability of credit institutions in 2012 came from the challenging interest rate environment. At the same time the banking sector profitability was continuously supported by the recognition of earlier write-downs as profit.

The aggregate profits of the banking sector for 2012 before revaluation of assets were around 3% lower than in 2011 (excluding the one-off extraordinary profit of Swedbank in the third quarter of 2011<sup>17</sup>). The aggregate profit before revaluations was 297 million euros and net profit was 350 million (see Figure 3.1.7). The aggregate net profit of the banking groups, banks and subsidiaries registered in Estonia was 416 million euros.<sup>18</sup>

<sup>17</sup> Net profit in the third quarter of 2011 was strongly impacted by the income received from the sale of Swedbank's subsidiaries in Latvia and Lithuania to the parent bank, which made up 50% of the net profit of the whole banking sector for the year. See also the background box 'The impact of changes in Swedbank's legal structure on the aggregate balance sheet and capital of the Estonian banking sector' in Financial Stability Review 2/2011.

<sup>18</sup> From here on the figures for individual banks and subsidiaries have been aggregated.

**Figure 3.1.7. Banks' net profits and net loan losses**

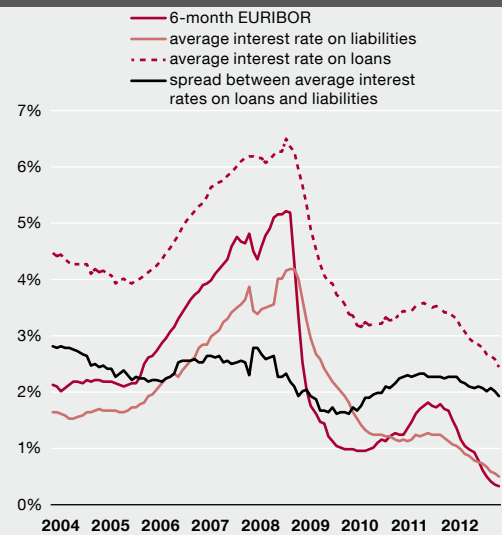


The net interest income of the banks remained around 3% lower than in 2011, while at the same time the cost of resources fell by one fifth (see Figures 3.1.8-3.1.9). The growth of client deposits, including demand deposits, as a share of banks' resources has allowed the banks to reduce their market based funding and funding facilitated by parent banks, which is more expensive. However, earnings from loan portfolios which mostly consist of loans with floating interest rates have followed changes in the base interest rate quite closely with a short lag, and thus interest income has declined. Although it is quite likely that banks would like to issue loans with higher margins, the moderate level of demand prevents any rapid income increase from loan margins.

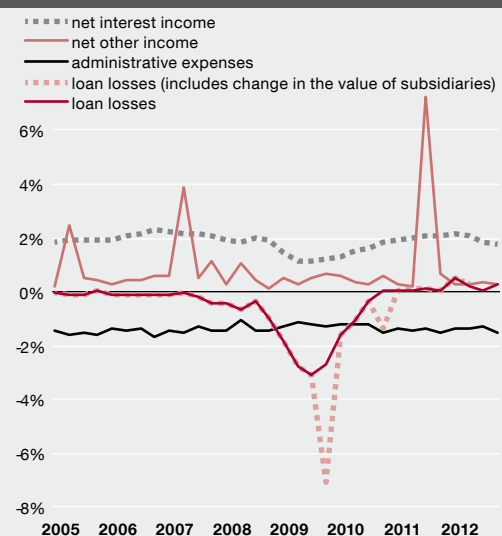
The capacity of banks to earn net service fees has remained quite stable in recent quarters or increased somewhat, with the aggregate accounts showing a rise of 2% over the year. More than half of the service fees earned by banks in Estonia come from payment services. The expected growth in economic activity is likely to lead to a slight increase in the use of payment services, but in the short term any potential rise in income is likely to be offset by the need for investments and by competition. Attempts to increase service fees are also likely to be met by increasingly knowledgeable and price sensitive customers.

Developments in staff and administration costs differ between banks, but the effect of changes in them on the profitability of the banks has remained modest. Banks have looked for opportunities for more cost-effective provision of services, by closing or relocating some offices for example, but at the same time offers of alternative solutions and a change in the emphasis in the choice of services offered have made new investments necessary. On aggregate the number of bank offices fell by 16 in 2012, of which 13 were in towns, but the total number of bank

**Figure 3.1.8. Average interest on banks' liabilities and receivables (end-month) and 6-month**



**Figure 3.1.9. Banks' income and expense items (% of average assets in a quarter \* 4)**

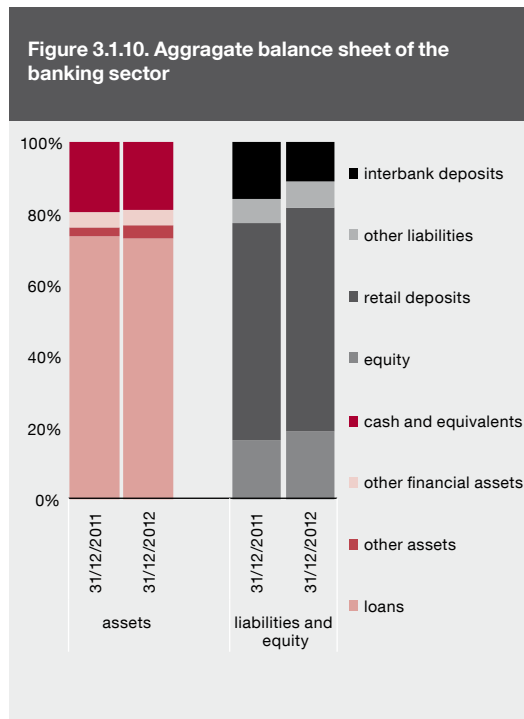


offices has remained above 160. The total number of people employed by the banks rose by about twenty to more than 5500.

Banks also handle asset valuing and problem loans differently. Banks with more conservative provisioning practices have been able to bring more written-off assets back to their balance sheets. Some banks, however, have continued to write more loans down than they have been able to consider as recovered. On aggregate, the banking groups operating in Estonia have written down around 800 million euros in value from their assets in the last five years.

It is unlikely that banks will be able to increase their net interest income significantly in the next few quarters with key interest rates remaining low and the investment activity of clients likely to remain moderate. In the coming quarters the lagged effect of the fall in interest rates will probably continue to affect income, but should base interest rates stabilise in the longer term, then it is likely that interest income will act similarly. This assumes, however, that the price of regional or company-based financing will not rise markedly. It can be presumed that following the fierce competition seen during the preceding decade of rapid loan growth, the banks are again more interested in increasing the yield of their portfolios. Despite this, the effect of new loans on the total loan portfolio will probably remain modest in the short term due to the subdued addition of new loans and the long amortisation period of housing loans.

This means that in the coming quarters the income of banks will remain dependant on the general economic situation and market confidence, as a change in this could rapidly and seriously affect the cost of financing and the ability of clients to service their debt.



### Capitalisation

The aggregate balance sheet of the banking groups<sup>19</sup> grew by 4% in 2012. This was caused to a large extent by the creation of DNB Pank<sup>20</sup>, without which the growth would have been less than 1%. The addition of the new bank did not significantly change the structure of the aggregate balance sheet of the banking groups. A much bigger effect came from the rapid overall growth in the deposits of the real sector in the first half of 2012, which increased the share of retail deposits, and the growth in the profits of the banks, which increased the share of own funds. The structure of assets remained almost unchanged from the end of 2011 (see Figure 3.10).

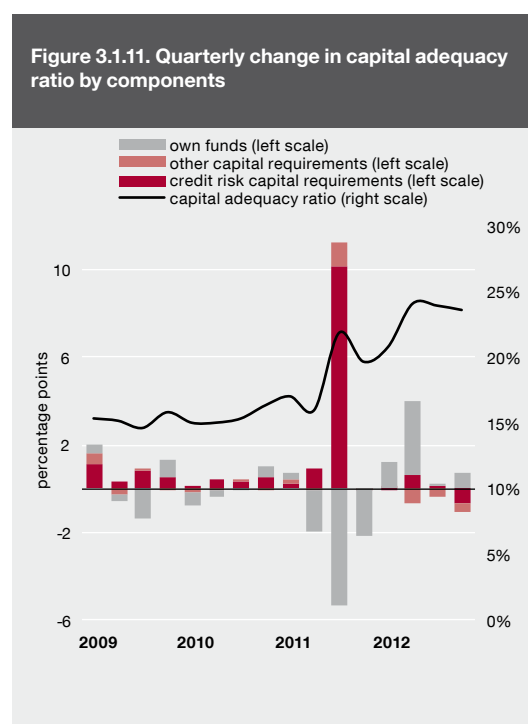
<sup>19</sup> For this chapter, the figures for the banks have been aggregated; subsidiaries of foreign credit institutions operating in Estonia are not included.

<sup>20</sup> Bank DnB A/S Eesti filiaal and DnB Liising were joined into one legal entity called AS DNB Pank, which has operated as a local bank since 3 September 2012.

The capital adequacy of the banking sector increased to 24% by the second quarter of 2012 and remained at around the same level until the end of the year (see Figure 3.11), exceeding by a wide margin the 10% minimum requirement. Capitalisation largely improved in 2012 due to the growth in own funds from retained profits. Retained profits increased in 2012 by 554 million euros and at the end of the year they made up 80% of the own funds used in calculating capital adequacy. The contribution of capital requirements for credit risk to changes in capitalisation was positive in the first half of the year, but it was negative in the second half as the credit portfolio of the banks began to grow. The share of capital requirements for credit risk in total capital requirements was 75% at the end of 2012, having fallen by 5 percentage points over the year.

Tier 1 capital grew as a share of the banks' total own funds from the end of 2011 to the second quarter of 2012 by 3% to 99%, where it stayed for the rest of the year. The core Tier 1 capital ratio of the local banks<sup>21</sup> remained high in the last three quarters of 2012, reaching over 23%. The reason banks chose to keep such high levels of own funds in Estonia lies in the favourable income tax system, as it makes no difference to the group where the capital is located.

<sup>21</sup> Counting only share capital, reserves and retained profits as own funds.



The aggregate leverage of banking groups<sup>22</sup> has improved in recent years and rose from 12% to 15% in 2012. Leverage has dropped primarily for the larger banks as their retained profits have led to an increase in own funds, while their assets continued to decline. Assets stopped decreasing in 2012 and leverage remained relatively stable in the second half of the year.

<sup>22</sup> Expressed as the ratio of Tier 1 own funds to assets.

### Box 6. Forecast and stress test of overdue loans in the banking sector

#### Assumptions related to the macro economy

The forecast for loans overdue for more than 60 days is based on the baseline scenario of the Eesti Pank forecast published in December 2012 and on the risk scenario for external demand. The baseline scenario foresees annual growth accelerating in Estonia in 2013 to 3% and reaching an equilibrium

growth rate of 4% in 2014 (see Figure 6B.1). The loan balance will continue to grow on the back of increased economic activity and favourable interest rates, with loans to companies being the main source of growth. In the baseline scenario the loan balance will grow by 3% in 2013 and 5% in 2014.

One of the biggest risks to the baseline scenario of the forecast being realised is the speed of recovery in the external environment, so the risk scenario for overdue loans is also based



Figure 6B.1. Growth of real GDP and credit stock

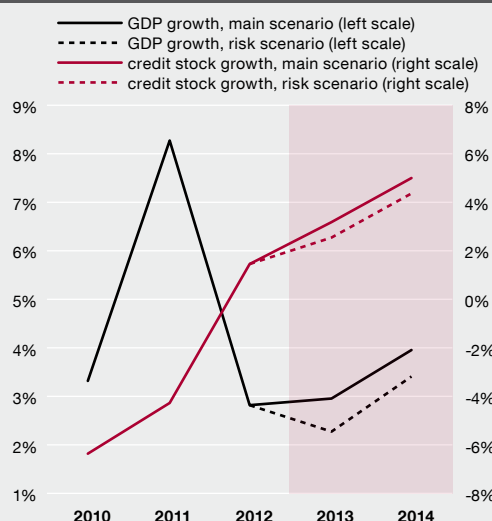
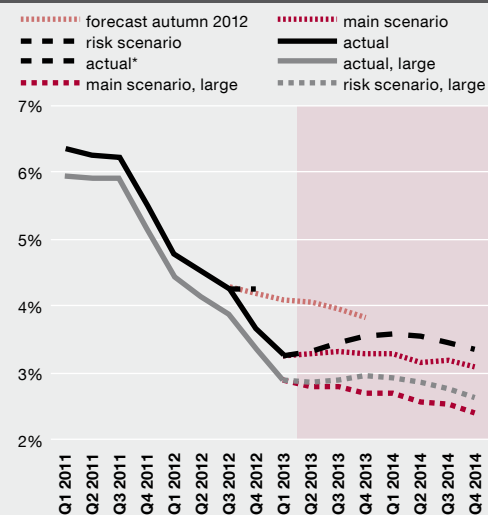


Figure 6B.2. Loans overdue for more than 60 days as a ratio of the loan portfolio



\* Q4 2012 write-offs excluded.

on this. Under this scenario, the recovery in growth in Estonia's export partners is pushed half a year further forward and the growth rate slows for Estonian exports. In consequence, GDP growth slows from the baseline forecast by 0.7 percentage points in 2013 and 0.6 points in 2014, and the loan portfolio grows by 0.6 points less in both 2013 and 2014.

### Forecast for overdue loans

The share of loans that were overdue fell in the last quarter of 2012 to 3.7% meaning that if written-off loans are excluded, overdue loans diminished at around the speed forecast in the autumn<sup>23</sup>. In the baseline scenario, the level of overdue loans in the banking sector not including write-offs will remain about the same throughout 2013 as it was at the start of the year at around 3.3% (see Figure 6B.2). The loan

portfolio will improve for housing loans but as a whole, the stock of overdue loans will grow at the same rate as the loan portfolio, meaning that the share of overdue loans will not change.

Loan growth and economic growth will accelerate in 2014 according to the forecast, and the quality of both the corporate and private loan portfolios will improve. Increased economic activity in particular will lead to a fall in the share of corporate loans that are overdue and the ability of companies to repay their loans will improve despite the forecast rises in interest rates in the second half of 2012. The share of private loans that are overdue will fall mainly in consequence of falling unemployment and increasing wages and by the fourth quarter of 2014 the share of overdue loans will have fallen to 3.1%. However, further write-offs of loans could lead to a lower share of overdue loans than forecast.

<sup>23</sup> Does not include loans written off in the fourth quarter of 2012.

In the risk scenario the share of overdue loans will increase in the first quarter of 2014 to 3.6% and then fall by the fourth quarter to 3.4%. The higher share of overdue loans will be due to slower economic growth and smaller loan demand than in the baseline scenario and higher interest rates caused by a change in risk assessments. Additional causes for household loans will be higher unemployment and slower wage growth. In the risk scenario the recovery in the external demand is pushed back by half a year, but the decline in the share of overdue loans to a level similar to that in the baseline scenario retreats more than a year into the future.

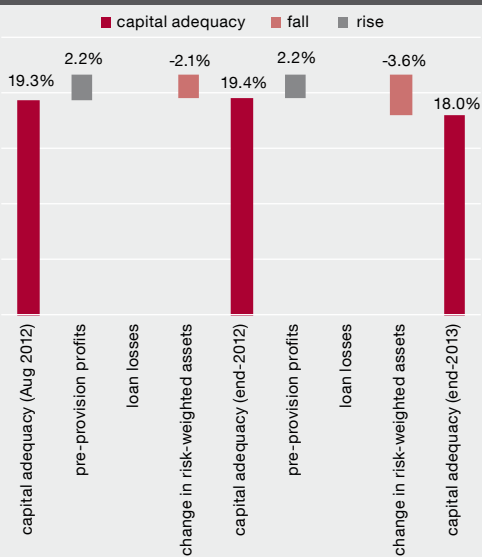
In both scenarios the behaviour of the larger banks is more stable. In the baseline scenario the share of overdue loans falls more quickly for the large banks mostly because of the structure of their loan portfolios, which have a larger share of loans to rapidly growing companies and housing loans with a generally lower default rate, and a smaller share of relatively riskier consumption loans. In the risk scenario the share of overdue loans of the large banks increases by less than that of the banking sector as a whole, and by the end of the forecast period the share of overdue loans falls below the current level.

### **Effect on capitalisation**

If conservative assumptions are used, the baseline scenario suggests that the banking sector will earn around 200 million euros in profit in 2013<sup>24</sup>. At the end of 2013 the capitalisation of the banking sector will be at the same level as the year before, as the increase in own funds from profits and the increase in risk-weighted assets due to loan growth will

<sup>24</sup> Under the forecast, provisions will not increase in 2013 or 2014. Assuming that provisions are not recalculated as profits and dividends are not paid out, the profit before and after write-downs will be the same.

**Figure 6B.3. Projected change in capital adequacy ratio by components**



cancel each other out (see Figure 6B.3). The forecast assumes that interest income for the banks will increase in 2014 as base interest rates rise, but costs will also rise and profits will be essentially the same as in 2013. Risk-weighted assets will increase faster in 2014 than own funds and so the capitalisation of the banking sector will decline somewhat.

In the risk scenario, the banks will earn 5% less profit in 2013 than under the baseline scenario. However, the loan portfolio and the associated risk-weighted assets will grow more slowly, meaning that the capital adequacy ratio will increase by the end of 2013 to 20%. In 2014 the interest rates will be higher than in the baseline scenario, enabling the banks to earn larger profits, while at the same time risk-weighted assets will increase and capitalisation will fall from the 2013 level in the risk scenario to 19.6%. The capitalisation of the banking sector will remain high in both forecast scenarios.

### 3.2. INSURANCE COMPANIES

In the assessment of EIOPA<sup>25</sup>, one of the main risks to the financial stability of the insurance sector in Europe is macroeconomic uncertainty, which could have a negative impact on demand as it recovers slowly from the crisis. In 2012 the recent decline in premiums collected in the insurance market turned around, though the rate of growth was still very modest. A big risk remains the low level of long-term interest rates, as they make the long-term liabilities of insurers to the insured significantly more expensive, threatening their profitability and solvency in the medium term.

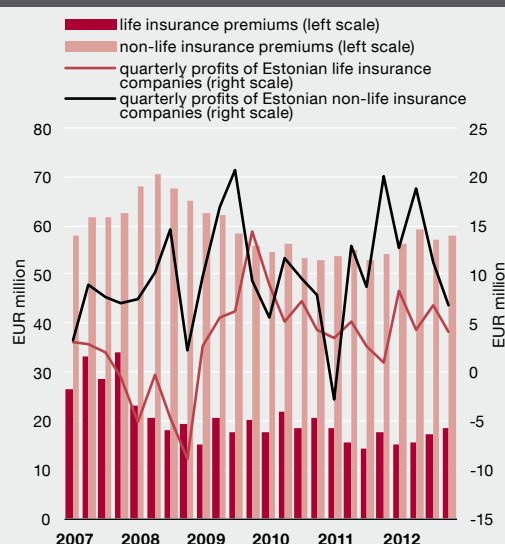
In line with the increase in economic activity, the Estonian insurance market also returned to life last year as 5% more was taken over the year in premiums (see Figure 3.2.1). The aggregate investment portfolios of the insurance companies were making revenues (see Figure 3.2.2) and the results for the sector for the year were very good.

#### Life insurance

In the second half of 2012 the decline in the Estonian life insurance market ceased and for the year as a whole companies operating in Estonia took in 66 million euros in premiums, which is 1% more than in 2011. In the last two quarters of 2012 the sale of unit-linked life insurance picked up in particular. Increased demand from insurance clients for unit-linked products led the share of sales revenue from life insurance to increase to 42%. The share of unit-linked life insurance contracts, which pass the risks from the profitability of the investments to the insurance purchaser, is not even close to what it was during the crisis and insurance companies are now themselves more exposed to financial risks. Nevertheless, there were signs of positive developments in the life insurance business as payouts for insurance claims were down by 8% over the year.

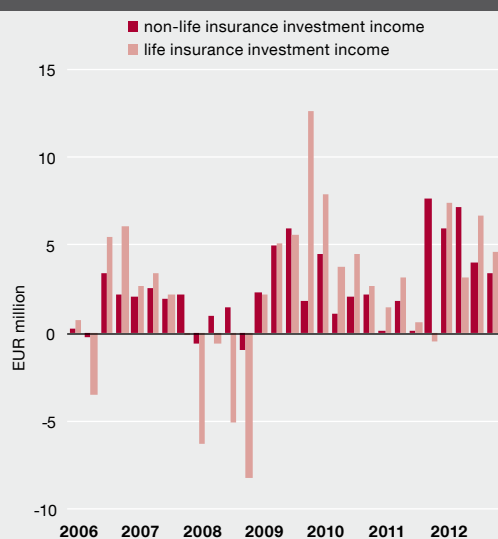
<sup>25</sup> The European Insurance and Occupational Pensions Authority.

Figure 3.2.1. Profit of insurance companies and premiums from residents



Source: Statistics Estonia, Eesti Pank

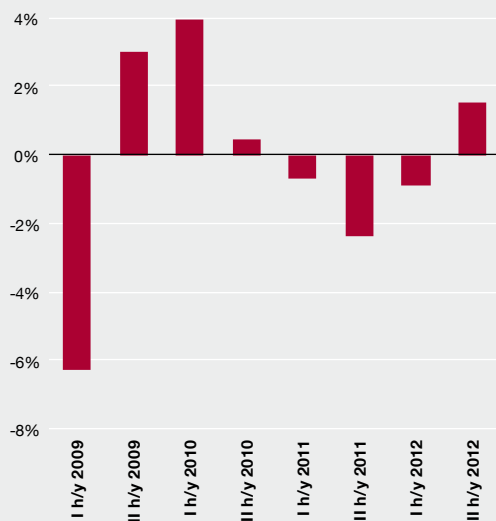
Figure 3.2.2. Net investment income



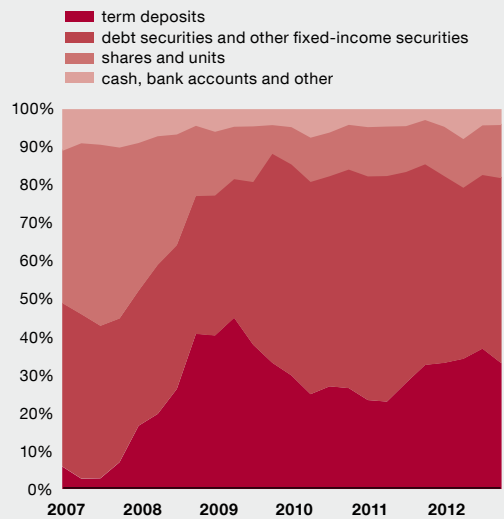
The year 2012 was very profitable for insurance companies as the total profit of the market doubled to 24 million euros. The profitability of the companies was boosted notably by the 22 million euros in net income from investment activity. Investment profit increased primarily through changes in the value of assets and from sales of them. As the long-term interest rates remain low, interest income has fallen. Similarly, the liabilities from insurance contracts with guaranteed returns have been reduced, and they made up 41% of all liabilities in the fourth quarter of 2012. The average guaranteed return offered by insurance companies in 2012 was 3.4%, which was less than the average return on the investment portfolios of the companies. The annual yield in 2012 was around 5% (see Figure 3.2.3).

As the tensions eased in the bond markets in 2012, investments in bonds and other fixed-income securities increased, so that they made up around half of all investments at the end of 2012 (see Figure 3.2.4). About two thirds of the bond portfolio contains central government bonds. The share of high risk sovereign bonds

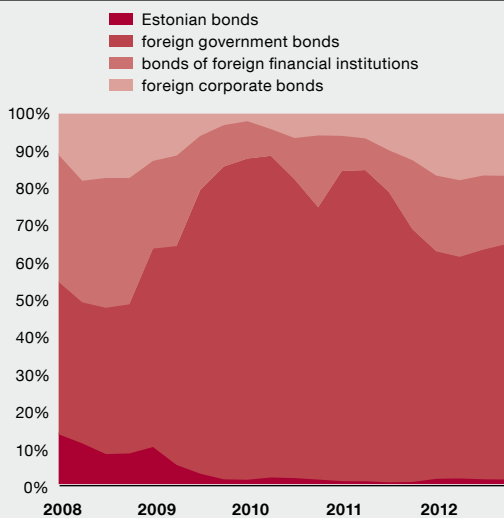
**Figure 3.2.3. Difference between investment profitability of life-insurers and guaranteed returns to the insured**



**Figure 3.2.4. Investments of life insurance companies**



**Figure 3.2.5. Debt security investment of life insurance companies by issuer**



from the euro area has fallen to zero. As stock market prices have risen to above their average of the past five years, investments in shares by insurance companies have increased somewhat. Although the low interest rates meant that deposits can not earn good interest income either, about one third of assets are held in term deposits in banks in order to ensure sufficient liquidity (see Figure 3.2.5).

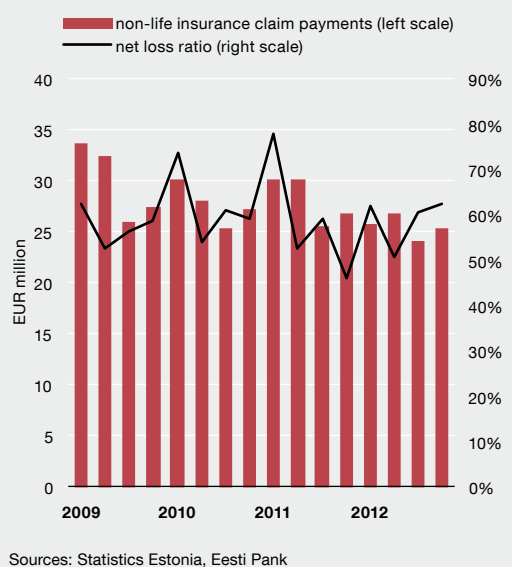
### Non-life insurance

The non-life insurance market is mostly affected by developments in the largest classes of insurance, particularly motor vehicle insurance. As car sales have picked up quickly and the take-up of new housing loans has increased, the non-life insurance market has continued to grow. The insurance premiums of 230 million euros collected in the Estonian market in 2012 were 7% more than those of 2011. The rate of growth in the last quarters of 2012 was the same as for the year as a whole. Branches of foreign non-life insurers have had around 20% of the Estonian market for about a year, which is a little more than during the years of the financial crisis.

The income from insurance activities in the third and fourth quarters of 2012 together exceeded costs by 12 million euros, which was about half as much as in the same period of the previous year, although the technical result from insurance was the same as in 2011 at 32 million euros. The technical result in 2012 was affected by the favourable level of payouts for claims, which was 3.5% down on the previous year. Tough competition in the second half of 2012 pushed up the net loss ratio<sup>26</sup>, but it remained at a satisfactory 62% (see Figure 3.2.6).

The technical result of insurance companies was negatively affected by the continuing rise in operating costs.

Figure 3.2.6. Claims and net loss ratio in non-life insurance



Annual growth of 17% in costs was partly due to a low reference base. This is because one insurance company pooled its branches from across the Baltic States into a single non-life insurance company in December 2011, which inflated the total costs of the market. If the unified company is excluded, the costs of the insurance sector increased by around 4%.

The profit of non-life insurance companies registered in Estonia fell in the last two quarters of 2012 and earnings totalled 18 million euros. As income was notably higher in the first half of 2012, the profit of the non-life insurance market for the whole year was 50 million euros, which was 28% more than in 2011.

Net income from investments contributed around 21 million euros to annual profit. The situation in the financial markets supported the good returns of 4% of the investment portfolio in rolling annualised terms, but the last quarters of 2012 did not see good results. A loss was made in the fourth quarter on the realisation of investments and net

<sup>26</sup> Claims submitted net of reinsurance / premiums earned net of reinsurance

interest income fell due to the low interest rates. At the end of the year the share of term deposits in the portfolio of the insurance companies increased to almost one third. At the same time, investments in bonds and other fixed-income securities continued to be the largest share with 55%. The share of central government bonds in the portfolio fell sharply, from 55% a year earlier to 19%. Like life insurance companies, non-life insurers are showing a tendency to increase their investments in the bonds of foreign financial

institutions and in shares, and their holdings of securities issued by Estonian residents has also increased.

The financial assets of non-life insurance companies stood at 425 million euros on 31 December 2012, which was 220 million more than their obligations under insurance contracts net of reinsurance. This means that the companies continue to have very large liquidity reserves.

## IV. SYSTEMICALLY IMPORTANT PAYMENT AND SETTLEMENT SYSTEMS

### 4.1. PAYMENT AND SETTLEMENT SYSTEMS OF EESTI PANK

Eesti Pank manages two inter-bank settlement systems: TARGET2-Eesti, the settlement system for express payments, and ESTA, the settlement system for domestic retail payments. In the coming years the Estonian payment market will change as the requirements of the Single Euro Payments Area (SEPA) are introduced. This will affect the ESTA run by Eesti Pank from the start of 2014 at the latest, as ESTA in its current configuration does not meet the SEPA requirements and will need to be replaced by a new system. Eesti Pank has been working on replacing ESTA, but the current members of ESTA are free to choose which system they want to use for their retail payments.

In the second half of 2012, 99.7% of the inter-bank payments were made through ESTA, while 87% of the value was in payments initiated in TARGET2-Eesti (see Figure 4.1.1).

The average number of payments made through ESTA each day passed 100,000 for the first time in the second half of 2012. However, the rise in the number of payments has been modest in recent years, with the average annual growth in the last three years under 1% while the average annual growth in value has been almost 12%. The average size of payments made through ESTA in the second half of 2012 was 1366 euros, which is 27 euros more than in the second half of 2011 (see Figure 4.1.2).

An average of 352 payments per day were made through TARGET2-Eesti in the second half of 2012, with a total value of 937 million euros. The number of payments was about the same as in the second half of 2011, but the value was 29% less. The main factors affecting the volatility in the value in TARGET2-Eesti are payments related to the Eurosystem monetary policy operations.

Figure 4.1.1. Payments made in Eesti Pank settlement systems (daily averages)

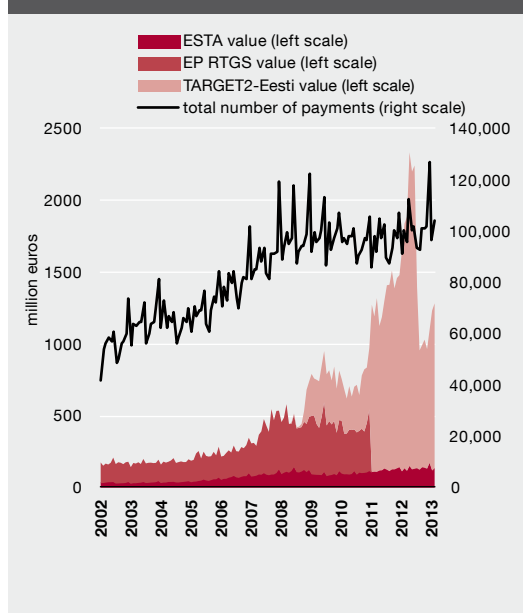
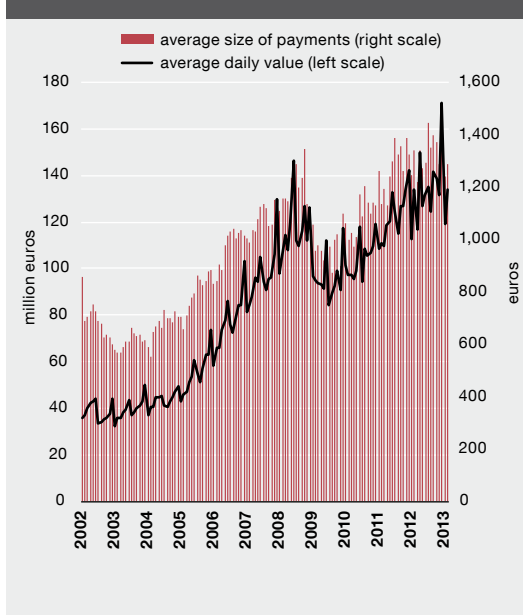


Figure 4.1.2. Value of payments settled in ESTA and average size of payments



In the second half of 2012 two thirds of the total value of TARGET2-Eesti consisted of cross-border interbank payments. These are large payments averaging 14.3 million euros.

Around one third of the value of TARGET2-Eesti was domestic interbank payments, a large proportion of which were transactions with Eesti Pank: collateral transfers for ESTA, payments related to the Eurosystem monetary policy operations, and sale and purchase transactions for cash. In the second half of 2012 the daily value of TARGET2-Eesti fell as the overnight deposit facility stopped being used. At the start of 2013 the value of TARGET2-Eesti increased, principally because some individual banks participated in the weekly deposit tenders of the European Central Bank.

Customer payments made up an average of 5% of the value of payments in TARGET2-Eesti in the second half of 2012.

#### 4.2. RISKS TO THE PAYMENT AND SETTLEMENT SYSTEMS AND THE OVERSIGHT ASSESSMENT

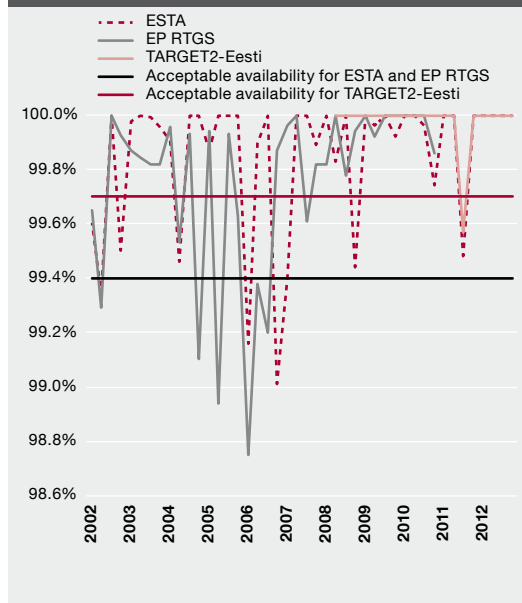
The settlement systems of Eesti Pank operated without any significant incidents<sup>27</sup> in the second half of 2012, and both TARGET2-Eesti and ESTA had availability rates of 100% (see Figure 4.2.1).

The operation of TARGET2-Eesti was affected a little by minor incidents related to the TARGET2 central system, but these had only a minimal effect on Estonian banks and their clients. Development work to TARGET2 was done smoothly and without provoking any risks.

Some disruptions to the IT-systems of the ESTA participants occurred, but they did not affect the availability of the system as a whole. These disruptions caused brief problems in the file

<sup>27</sup> An incident is significant if it has some impact on several settlement system participants or if it leads to measures being put in place to ensure continuity or to a loss of availability.

Figure 4.2.1. Availability of interbank settlement systems



exchange for specific system participants.

The start of the ESTA settlement day was delayed for some system participants during the second half of 2012 on ten occasions. In all cases the problem was caused by operational problems where the instructions to pay in the ESTA collateral were not submitted at the right time. The issues were resolved quickly and there was no risk to the system liquidity, and by 11.00 at the latest all the system participants were ready to participate in ESTA.

On three settlement days, one system participant had operational problems causing payment instructions that it had submitted to ESTA for the last settlement cycle of the day to be rejected so that the payments were made on the following settlement day. In each of the three cases, the system participant affected was different.

The settlement and registry system for securities managed by the Estonian Central Securities



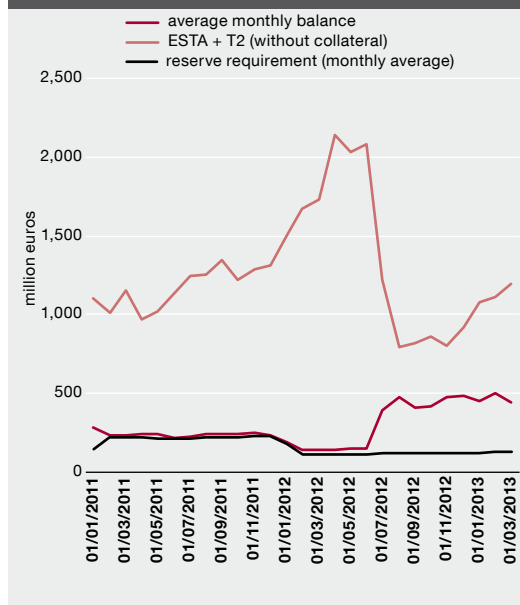
Depository (ECSD) underwent some minor adjustments in the second half of 2012, which were correctly planned, tested and executed. In November 2012 the Financial Supervision Authority issued ECSD a licence to act as a securities settlement system operator. Prior to this, ECSD had operated the securities settlement system under section 272 of the Securities Market Act.

ECSD is currently preparing to join the trans-European securities settlement platform TARGET2-Securities. On 27 June 2012, ECSD signed a contract with Eesti Pank to join the platform. The Eurosystem is updating its pre-assessment of TARGET2-Securities that was made in 2011 against the oversight requirements.

The liquidity buffers of the banks continue to be sufficient for settlements and the liquidity risks are minimal. The number of banks that have set up the capacity to use the collateral pooling system<sup>28</sup> for monetary policy operations remains four. As banks did not use the overnight deposit facility, their balances at the central bank tripled in July 2012, and in December the average balance held at Eesti Pank was 488 million euros. All the banks met the reserve requirements (see Figure 4.2.2).

Changes to the membership of the interbank settlement systems were made smoothly and without disruption. In June 2012, the Estonian branch of AIB closed its TARGET2-Eesti account and from November 2012 BIGBANK AS became a member of ESTA.

Figure 4.2.2. Value of interbank payments, reserve requirements, and balances held at the central bank



### 4.3. THE PAYMENT MARKET

#### The structure of use of payment instruments

The shares of payments made with credit transfers and card payments in Estonia have changed over the last decade. In 2012, 63.5% of cashless payments were card payments, 30.7% were credit transfers and 5.8% were direct debits. The last major change came in 2011 at the change-over to the euro, when the share of card payments increased by nearly 4%. Subsequent changes have been negligible (see Figure 4.3.1).

The structure for non-cash payments in Estonia is most similar to that of Sweden and Finland among European Union countries, as more than half of payments there are made by card and direct debits have a small share. Even though the Estonian banking sector is heavily dominated by Scandinavian bank groups, the prime comparison that can be drawn for changes taking place in the euro area is with Finland (see Figure 4.3.2).

<sup>28</sup> In the pooling system, the monetary policy operation counterparty makes a pool of sufficient underlying assets available to the central bank to cover the related credits received from the central bank, meaning that individual assets are not linked to specific credit operations. By contrast, in the earmarking collateral system, each credit operation is linked to a specific identifiable asset.

## The effect of the Single Euro Payments Area on the payment market

As Estonia is adopting the technical and business requirements of the Single Euro Payments Area (SEPA), the payment instruments used will undergo several changes<sup>29</sup>. The changes to payments will above all be technical and formal. Eesti Pank considers that the change of the local payments instruments for pan-European ones will not have any major impact on the payment habits of Estonian residents although the launch of new payment services in the market could have an impact.

The SEPA regulation<sup>30</sup> came into force in 2012, requiring payment service providers to replace local credit transfers and direct debits with payments that meet the SEPA requirements by 1 February 2014. The biggest change for bank transfers or credit transfers is that the local bank account number will need to be replaced with the international form of the account number (IBAN) and a single message standard (ISO 20022 XML) will be used for sending the payment to the bank. The change of bank account numbers into their international form will affect all customers and companies with accounts. Customers making a payment will have to enter a slightly longer number and companies will have to change their account numbers into IBAN format everywhere, including inside their own systems and on invoices they issue. The use of the single messaging standard will only affect companies and public sector institutions that have connected their IT systems to their bank. It could take time to upgrade the IT system and it could create costs.

<sup>29</sup> The payment instruments used in SEPA are credit transfers (ordinary payments), direct debits and card payments.

<sup>30</sup> Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009

Figure 4.3.1. Use of non-cash payments in Estonia (1999–2012)

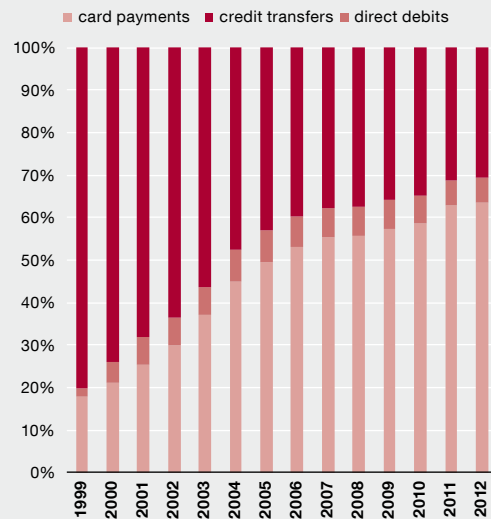
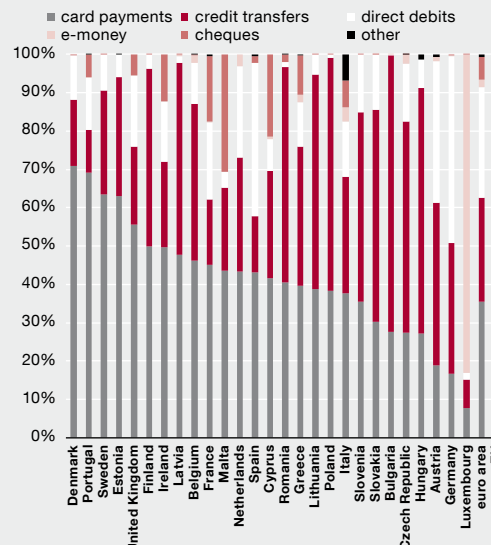


Figure 4.3.2. Use of non-cash payments in the European Union (2011)



Source: European Central Bank

The banks have to have their own upgrades in place by 1 February 2014. Customers and companies will be able to have an additional transition period of one year when they can use conversion services, making the changeover smooth and ensuring that payments function as now. The conversion services will be offered by the banks in the first instance and they will let companies plan the necessary upgrades calmly while customers can get used to using their current account numbers in IBAN format.

The domestic direct debit service will be replaced by a service based on e-invoicing and SEPA credit transfers and the same will happen in Finland. Given that in 2012 direct debits were used to pay one quarter of the bills that were paid electronically<sup>31</sup>, with the rest being credit

transfers, this change will affect a lot of Estonian residents. The changeover from direct debits to the e-invoice standing order service will be made jointly by the bank and the company receiving the payment, and the whole process will be automatic for customers. It is important for the payment market that payment of all bills continue to be simple and effective.

SEPA operates on the assumption that all payers are able to use SEPA payment instruments across borders, and this makes it important that Estonian residents can pay for cross-border consumption of goods and services by direct debit if necessary, using a bank account of their home country to do so. The SEPA direct debit will need to be developed as a new service in Estonia.

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<sup>31</sup> Bills that were paid by credit transfers and direct debits from households.

## APPENDIX. ASSESSMENT OF EXCESSIVE DEBT ON THE ESTONIAN EXAMPLE

An efficiently functioning domestic lending market is an important factor in economic development. Like the entire economy, the lending market develops in cycles. However, excessively sharp changes in lending cycles can cause systemic risk to the financial sector. To prevent accumulation of risks that could lead to a financial crisis, in national policies more emphasis has been put on macro-prudential policy options, which aim to reduce the build-up of systemic risk and to increase the resilience of the financial system.

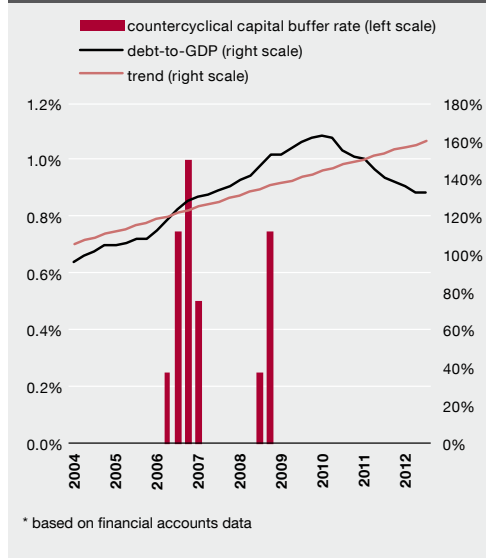
In 2010 the Basel Committee on Banking Supervision released its proposal to require banks to have additional capital buffers during periods of rapid loan growth. The aim of this counter-cyclical capital requirement is to increase the resilience of the banking sector to the risks that come from rapid growth in indebtedness. The Basel Committee proposed a method and principles for assessing the need for the buffer and the size of it<sup>32</sup>. These proposals will serve as a basis for the European Systemic Risk Board (ESRB), which is developing and harmonising a methodology for this at European Union level.

### Assessment of the indebtedness in relation to the long-term trend

The Basel Committee proposes that the best way to measure excessive loan growth is by looking at the ratio of loans to GDP and its deviation from its long-term trend. Empirical analysis has shown that estimates of the credit

<sup>32</sup> Basel Committee on Banking Supervision, "Guidance for national authorities operating the countercyclical capital buffer". BCBS Paper No 187. 2010.

Figure A.1. Private sector debt-to-GDP ratio and estimated countercyclical capital buffer rate\*



gap calculated using the Hodrick-Prescott (HP) filter technique give an adequate analytical base for assessing the requirement for capital buffers, particularly in the credit growth period of the lending cycle.

However there are some weaknesses in the method. The main criticism of the use of the HP filter is that it doesn't consider key economic indicators that should be of critical importance for assessing the equilibrium level of real sector indebtedness. A further criticism is that the result of the empirical analysis depends to a large degree on the technical parameters of the HP filter, meaning that the statistical analysis may give misleading signals by identifying the risk of bubbles. The approach also requires a long time series of data. At the same time, it is foreseen in the Basel methodology that the calculations should be supported by data that cover all the loan commitments of the real sector and not just bank loans.

One weak point in assessing the real sector debt obligations for Estonia and some other European Union members is the very short time series for the widest-based quarterly financial account. This means that the data-set of the Estonian financial account has not included cyclical components to a sufficient degree, reducing the reliability of the methodology for assessing excessive credit growth<sup>33</sup> (see Figure A.1).

However, when the Basel methodology was used with a longer time series of domestic banking and leasing sector statistics, the results described the growth phase of the Estonian credit cycle quite well. It showed that credit growth deviated from its long-term trend in 2004 and was so fast from 2005 that the banks should have had to meet higher capital buffer requirements<sup>34</sup> (see Figure A.2).

This means that although the longer time series makes the financial account data more usable for describing the credit cycle in the future, it is better to use two sources of data in parallel for calculating Estonia's private sector indebtedness: the financial account for wider calculation of the indebtedness, and the statistics for the loans and leases issued by the domestic financial sector.

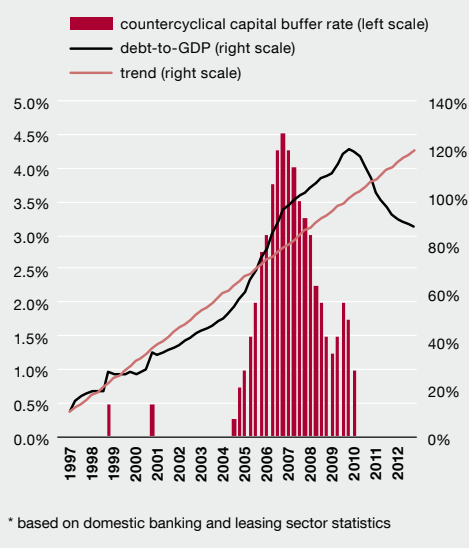
### Assessment of indebtedness in relation to key indicators of economic development

An approach based on the HP filter may not be an adequate analytical tool for assessing

33 See also the background box 'The essence and implementation of the counter-cyclical capital buffer in Estonia' in Financial Stability Review 2/2011.

34 In practice, Eesti Pank raised the risk-weights on housing loans from 50% to 100% in March 2006, which effectively raised the capital adequacy requirements for the banks by 2 percentage points. A further measure taken by Eesti Pank in September 2006 was to increase the minimum reserve requirement from 13% to 15%.

Figure A.2. Private sector debt-to-GDP ratio and estimated countercyclical capital buffer rate\*



excessive credit growth for countries whose economy is seeing major structural change. For example the rapid credit growth in central and eastern European countries may have been partly related to the movement of the indebtedness to the average level of developed countries. As credit growth started from a very low level, a one-off major change in the level of debt or in real estate prices did not necessarily mean that there was an equal amount of imbalance in the lending market or an accumulation of systemic risk. It has been found to be more appropriate for converging economies to define the equilibrium level of debt that considers the economic fundamentals and to assess excessive debt from the difference in levels.<sup>35</sup>

Research into the equilibrium debt level for Estonia<sup>36</sup> confirmed that convergence with

35 Geršl, A. and Seidler, J. (2011). "Credit growth and capital buffers: empirical evidence from CEE Countries".

36 Miller, O. (2012). "Credit cycle in Estonia and the Basel III countercyclical buffer" (mimeo).

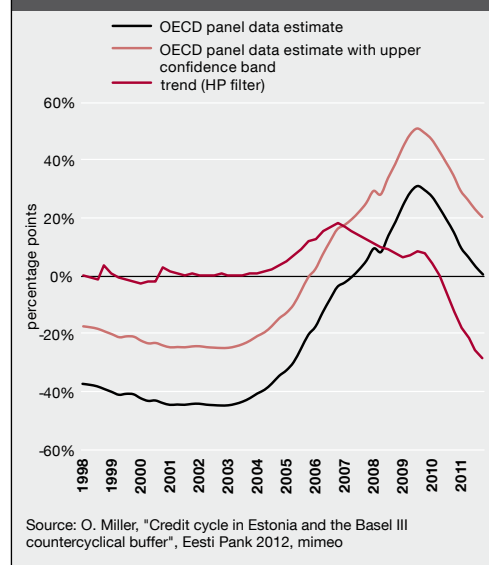
the economic structure of developed countries also leads to faster financial deepening. The survey used OECD panel data for small countries to show that until the middle of 2004, private sector indebtedness in Estonia was 20–40 percentage points lower than the estimated long-term debt level based on key economic indicators<sup>37</sup> (see Figure A.3). In other words it can be said that the Estonian loan market developed too modestly during the period under review, given the relative size of GDP and the wider financial environment.

After Estonia joined the European Union, investors became significantly more adventurous, and there was a sharp rise in the income expectations of Estonian borrowers. The main source of financing of the economy before EU membership had been internal funds and direct investment from abroad, but in the following years the share of credit coming through the banking sector increased noticeably. This was facilitated by highly favourable global liquidity conditions, which created good conditions for the inflow of foreign funds and for reductions in loan margins. The combined influence of these factors made indebtedness grow rapidly, and the average of the estimates from the panel data used in the survey shows that it reached its long-term equilibrium level in the middle of 2007. These data suggest that the debt level in Estonia was excessive from the second half of 2007.

However, several macroeconomic indicators started to exhibit bubble-like features a year earlier, among them economic growth in excess of its estimated potential, rapid real estate development, and extensive credit growth due to more benign lending standards.

<sup>37</sup> The panel indicators for small countries used to explain the level of debt covered GDP per capita, the long-term loan interest rate, inflation, and the difference in the interest rates for loans and deposits.

**Figure A.3. Estonian private sector credit gap estimate using different methodologies**



This means that when using the estimates from the OECD panel data to assess the equilibrium level for Estonian debt, it makes sense to use an upper confidence boundary that takes Estonia's low income level and modest financial deepening in the first half of the decade after 2000 into account. This conservative estimate shows that Estonian private sector indebtedness reached its long-term equilibrium level at the end of 2005. This fits in with the result achieved with the HP filter approach, and with the assessment of the Financial Stability Review written by Eesti Pank in autumn 2005, after which the macroprudential measures were taken.

## Conclusions

A comparison of the estimates of the credit gap arrived at using different methodologies shows that the treatment of the trend using the HP filter proposed by the Basel Committee identified the Estonian credit growth cycle

quite well and gave an early warning of a possible credit bubble inflating. It is equally important to remember that the excess of debt above the long-term trend in 2004-2005 was at least partially the result of structural processes, meaning that in those years the indebtedness had reached a new long-term equilibrium level.

The debt of the Estonian private sector started to shrink in autumn 2008 and from April 2012 the monthly growth in the loan portfolio of the banks turned positive again. As the debt to GDP, nevertheless, continued to grow during the sharp economic downturn, all methods estimate that the credit gap remained positive until the middle of 2010. This means that none of the methods proved reliable in a situation where financial leverage is being reduced at the same time that the economy is shrinking.

With regard to the new credit growth cycle, research is needed into which methods for estimating the credit gap would give the best results, given the changes in the structure of Estonia's economy. It should also be remembered that there has been a major reduction in debt levels in Estonia and the other Baltic States in recent years. So work continues to find the most appropriate method for Estonia, and further analysis should focus particularly on whether the structural changes in the financial sector and real estate market after Estonia joined the European Union mean that more robust methods like the HP filter can be relied on in the future, as its estimates have described the credit and credit growth cycles of developed countries quite well.

However well the HP filter or any other method succeeds in measuring the credit gap, indicators for the economic and credit cycles should still always be used in estimates. The ESRB is

currently preparing guidelines which will be the starting point for the implementation of counter-cyclical capital buffers in the new capital framework for banks that the European Union will introduce in 2014. The guidelines will not only adapt the Basel Committee principles to make them suit the European banking market, but it is also planned to complement the estimation methods for the credit cycle with alternative indicators. As the explanatory power of those indicators may differ between times and countries, Eesti Pank finds that it will be quite difficult to arrive at a solution that is fully harmonised for all countries.

