



# REQUIREMENTS FOR HOUSING LOANS

**Background analysis for the introduction of limits on  
the LTV ratio, the DSTI ratio and the loan maturity  
on housing loans issued in Estonia**

**November 2014**

## SUMMARY

Changes to the Credit Institutions Act that came in on 19 May 2014 gave Eesti Pank the right to set requirements for loans issued by credit institutions. Among these is a limit on the loan-to-value (LTV) ratio, the borrower's debt service-to-income (DSTI) ratio, and the maximum maturity of loans. Unlike many other European Union member states, Estonia has not previously set these limits as a numerical value in regulations or in the supervisory guidelines. The banks operating in the credit market have used their own internal rules for setting these limits in calculations of collateral coverage and reasonable debt burdens.

From 2015 Eesti Pank will start using macroprudential tools which will set requirements for the whole of the banking market that must be observed when housing loans are granted. The requirements introduced as part of macroprudential supervision are intended to increase the resilience of borrowers and banks against losses from unfavourable developments, and to reduce the chances of a real estate boom being caused by excessive lending.

Loan demand from Estonian households has been modest in recent years and the lending standards of banks are generally appropriate for the current macroeconomic environment, so the new requirements for lending can be introduced in such a way

that they do not affect the current credit environment. Setting these limits is important for avoiding credit booms, as they help stop the loan terms and conditions affected by the limits described here being loosened if competition between the banks increases in the housing loan market. If risks start building up significantly in the real estate market and the risk behaviour of lenders and borrowers amplifies the cyclical upswing, then Eesti Pank will be able to tighten the requirements that are already in place. It is assumed that this would lead to a reduction in lending and would lower the chances of a housing bubble inflating.

Eesti Pank is introducing three limits for all banks operating in Estonia, including the branches of foreign banks. These limits are an LTV limit, a DSTI limit, and a limit on the maximum maturity of loans. The requirements are set by a decree of the Governor of Eesti Pank and will apply from March 2015.

Credit institutions will need to abide by all three limits when issuing new housing loans. To ensure that banks have sufficient flexibility in making decisions about lending and in assessing the risks associated with it, and thus to help make sure that the credit market operates as efficiently as possible, Eesti Pank will permit banks to issue a predefined share of housing loans that breach the limits.

Requirements	1) Loan-to-value (LTV) limit for housing loans: 85%* 2) Debt service-to-income (DSTI) limit: 50% 3) Maximum maturity of a housing loan: 30 years * Up to 90% for housing loans guaranteed by KredEx
Permitted exceptions	up to 15% of the amount of housing loans issued by a credit institution in a quarter
Applies to	all credit institutions operating in Estonia
Entry into force	from 1 March 2015
Legal basis	§ 83 section 2 of the Credit Institutions Act

## 1. OVERVIEW OF THE RECENT DEVELOPMENTS OF FINANCING IN THE ESTONIAN HOUSING MARKET

### 1.1. Growth in housing loans and the indebtedness of households

After the loan stock grew very fast in 2005-2008 and then declined somewhat until the middle of 2012, the housing loan portfolio has grown at a stable, but quite modest, rate (see Figure 1).

At the start of this decade households were taking new housing loans in ever increasing volumes. Growth in loan volumes has been supported by an increase in the size of the average housing loan, which is in part a reflection of the rapid rise in real estate prices. In the first nine months of 2014, 20% more was taken out in loans than a year earlier. Repayment of earlier loans means that **the housing loan portfolio has grown to only a minor extent, and in September it was 2.4% larger than a year earlier.**

The loan volumes of Estonian households have grown a lot less in recent years than their incomes have and so the indebtedness of households has continued to decline. By the end of the second quarter of 2014 the debt of households had fallen to 76% of disposable income, which is more than 20 percentage points less than the peak reached in 2009 (see Figure 2). Household debt has fallen to 40% as a ratio to GDP.

### 1.2. The housing market

Activity in the residential real estate market has generally surpassed that in the housing loan market in recent years and real estate prices have risen very quickly in some cases. In the first quarter of 2014, apartment prices rose on the year by over 16%, which was more than in any other country in the European Union (see Figure 3).

Growth slowed at the start of the second quarter of 2014 in the number of transactions for residential property and in prices, since when both the number of transactions per month and the average square metre price have remained stable

Figure 1. Volume and growth of housing loans

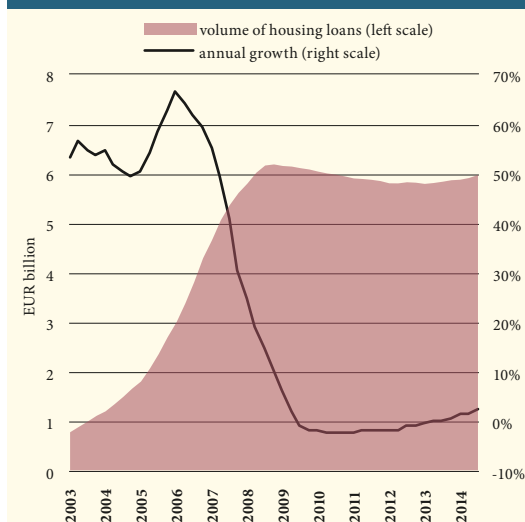
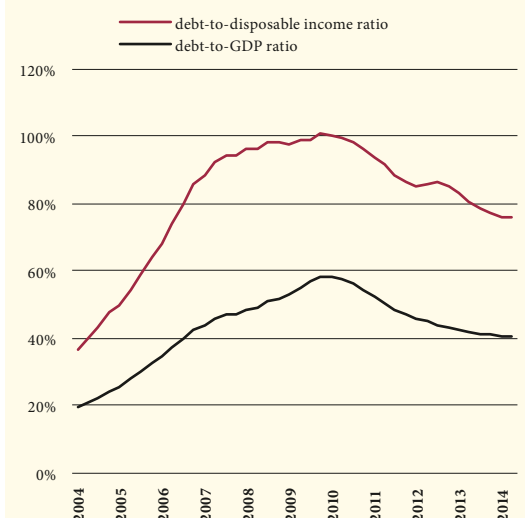
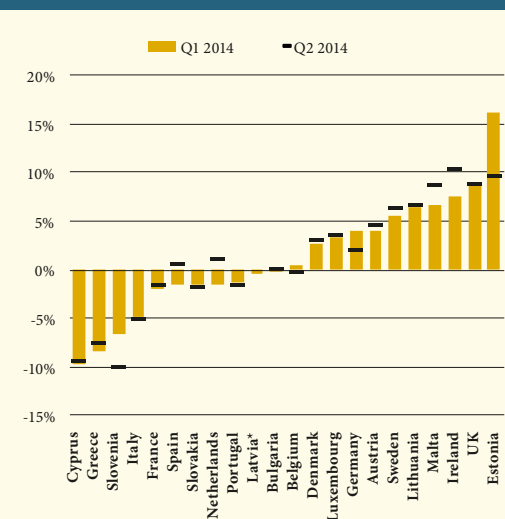


Figure 2. Household indebtedness

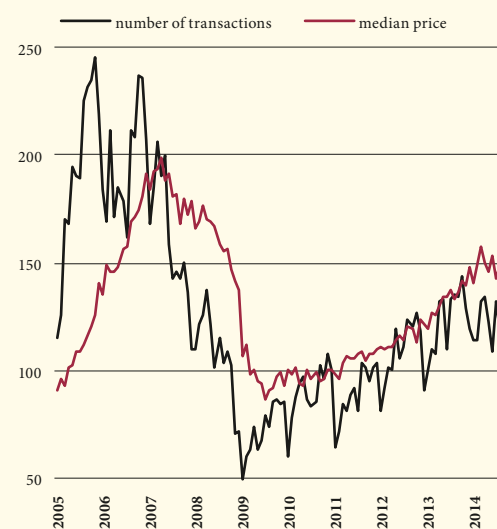


**Figure 3. Annual growth of housing prices in EU countries**



\*data from Q4 2013  
Source: European Central Bank

**Figure 4. Number of transactions with apartments and median price (December 2010 = 100)**



Source: Estonian Land Board

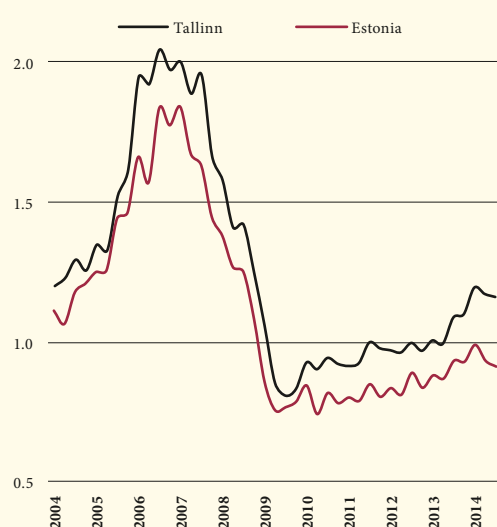
or have fallen in places (see Figure 4). One cause of this was probably the increase in the supply of dwellings, but at the same time real estate prices had been rising significantly faster than incomes for some time, making purchasers wary of possible overheating in the market. The decline in the affordability of housing, which has been especially noticeable in the Tallinn apartment market since the second half of 2013, ended in spring 2014 (see Figure 5).

### 1.3. The role of the credit market in financing transactions for housing

Housing loans have not increased their share of the financing of transactions for residential real estate since the major fall in 2008 (see Figure 6). The share has been relatively stable throughout the past four years, and is much smaller than it was during the years of rapid growth in 2005-2008.

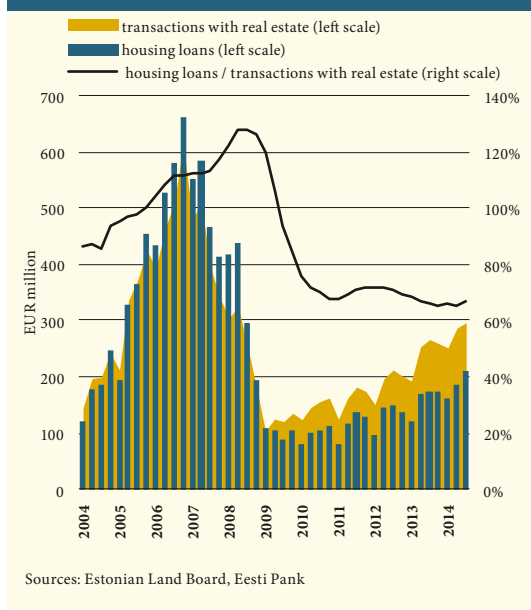
The reduced use of credit can mainly be explained by the change in the behaviour of real estate buyers, as wealthy households have preferred to use more of their own funds for buying real estate than in the past. It cannot be directly concluded

**Figure 5. Ratio of median price per square metre of apartments to monthly gross wages**



Sources: Estonian Land Board, Statistics Estonia

**Figure 6. Value of households' transactions with real estate and volume of new housing loans issued in a quarter**



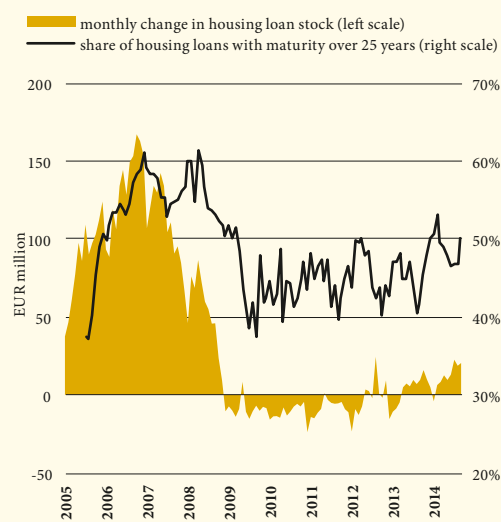
from the change in the values of housing loans and real estate transactions that the use by borrowers of their own finances for purchasing real estate has increased. However the credit and real estate boom of 2005-2008 was driven to a large extent by the loosening of credit standards.

#### 1.4. Loan conditions: maturities and interest rates

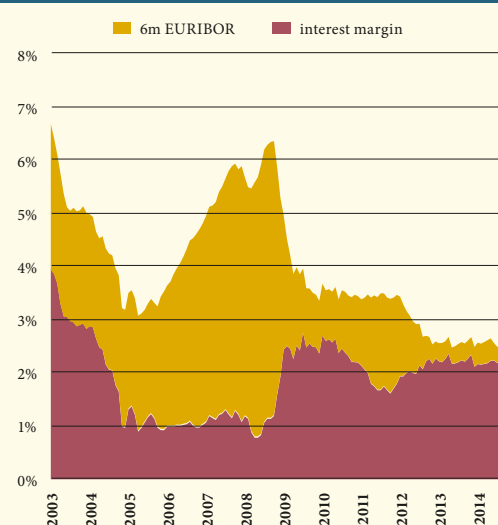
A major role in accelerating the growth of credit during the first years of the credit boom of 2005-2008 was played by the extension of the **average maturity** of housing loans (see Figure 7). This made it possible for a large share of households to get a loan for a property, as the loan repayments were divided over a longer period, meaning that the amount due each month was smaller. After the boom, the average maturity of housing loans was somewhat shortened again.

The **average interest rate** for housing loans has remained relatively low for the past two years because EURIBOR has been extremely low (see Figure 8). In the past five years around 95% of housing loans have had variable interest rates, and the

**Figure 7. Share of new housing loans with maturity over 25 years and monthly change in housing loan stock**



**Figure 8. Average interest rate on new housing loans by components**

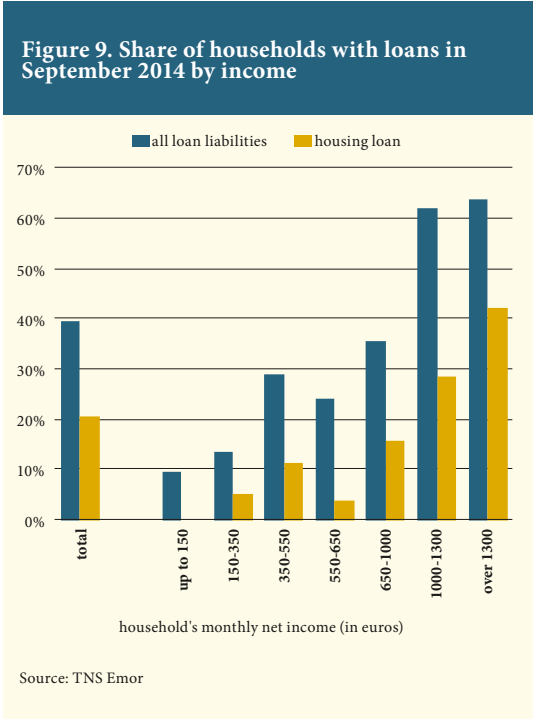


preference for variable interest rates has tended more to increase this year. The average interest margin on top of the 6-month EURIBOR has remained relatively stable in recent years at 2.2% and does not indicate any change in the lending behaviour of banks.

1.5. Household debt burdens from micro data

The survey of households’ financial and savings behaviour conducted by market research company TNS Emor showed that in autumn 2014, 40% of households had loans and 21% had housing loans. The share of households with loan liabilities peaked in 2008 when 47% had loans of some sort and 23% had housing loans, but after a slight decline during the crisis this ratio has remained practically unchanged for the past five years.

The share of households with loan liabilities is highest among households with higher incomes (see Figure 9), where 65% have at least one loan product and more than 40% have a housing loan.



## 2. THE OBJECTIVES OF TOOLS REGULATING LOAN TERMS AND CONDITIONS

Many financial crises have been preceded by real estate booms financed by loans. The financial shocks and recessions that follow real estate and lending booms are often much deeper, more costly and longer-lasting than periods of decline caused by other factors. The reason is that such booms are driven by increased financial leverage among households and in the financial sector, which in turn complicates the recovery in the cyclical downturn. Real estate also has an important role in defining the wealth of households, which then affects consumption. The volatility of economic growth can be amplified a great deal by the construction sector.

The macroprudential measures taken to reduce the risks to the real estate market and particularly its financing can be roughly divided into two groups: capital instruments and measures regulating lending. Whereas capital instruments like counter-cyclical capital buffers or higher risk weights for housing loans are aimed at lenders, measures like LTV and DSTI limits that regulate loan terms and conditions target borrowers. The aims of the two sets of measures overlap, but the channels they work through are quite different. Requirements regulating lending have a direct impact on the issuance of loans and can if necessary be changed quickly and simply. Macroprudential measures complement one another, which means that their objectives will best be achieved if they are used together during the growth and decline phases of the credit cycle.

The **aim** of the macroprudential measures regulating lending terms and conditions is to reduce the systemic risks around the lending activity of banks. The limits on LTV and DSTI ratios applied to housing loans help to reduce risks in two ways: first they help strengthen the resilience of banks and borrowers against losses from unfavourable developments, and second they help control excessively fast credit growth during the growth phase

of the credit cycle, and through that they may restrict growth in real estate prices.

1. **Strengthening the resilience of banks and borrowers.** The LTV and DSTI limits enhance resilience in somewhat different ways. The LTV limit protects borrowers if real estate prices fall and limits the possible loss given default (LGD) that the banks face if the borrower cannot repay the loan. The DSTI limit restricts the accessibility of loans to borrowers who are less able to repay them. This limit supports the quality of the loan portfolio of the banks as the probability of default (PD) of the borrowers is reduced. When both limits are set together they are better able to strengthen the resilience of both households and the banking sector.
2. **Smoothing the credit and real estate cycle.** As the LTV and DSTI limits restrict the size of the loans available to borrowers, they help to reduce demand for real estate financed with loans during the upswing of the real estate cycle, and help reduce upward pressure on housing prices. When the economy turns down the LTV and DSTI limits can be returned to their level of before the boom, which will help increase the credit supply and reduce the risk of a credit crunch. The DSTI limit can help to smooth out the credit cycle even if the limit doesn't change, as it works as an automatic stabiliser because its effect is more limiting when real estate prices and loan volumes are growing faster than household incomes.

The direct impact of the housing loan requirements on the real estate cycle may prove weaker than expected, depending on the market situation, if demand in the housing market is driven mainly by wealthier buyers for example, who use less borrowed money for purchases. However, making the rules stricter can have an indirect impact on activity in the real estate market if the tightening changes the expectations of participants in the market about future developments in the market.

### 3. NEW REQUIREMENTS IN ESTONIA AND MONITORING OF COMPLIANCE WITH THEM

#### 3.1. Scope of application of the requirements

Eesti Pank is setting three requirements at one time regulating the terms and conditions of housing loans. These are limits on the maximum loan-to-value (LTV) ratio, the borrower's debt service-to-income (DSTI) ratio, and the maximum maturity of loans.

Banks will have to abide by the limits when issuing **new housing loans**. The housing loans to which these requirements will apply are loans to households for buying, building, extending, rebuilding or renovating residential property in Estonia that are secured by a mortgage. The requirements do not apply to loans that are secured by a mortgage but are issued for purposes other than housing.

The legal basis for the requirements is the Credit Institutions Act and they must be followed by **all credit institutions operating in Estonia**, including branches of foreign banks. The requirements do not regulate housing loans issued by other financial intermediaries. However, the government is working on a draft law on creditors and credit intermediaries, under which the ministries responsible will have the right to impose similar limits on loans provided by non-bank lenders or intermediaries.

#### 3.2. Definitions and rates

##### 1. Loan-to-value (LTV) limit for housing loans.

The LTV ratio is found by dividing the amount of a housing loan by the value of the property used as collateral for it. At the moment the decision to grant the loan is taken, the LTV ratio can be up to 85%.

$$LTV \text{ ratio} = \frac{\text{loan amount}}{\text{property value}}$$

The collateral used for the calculation of the LTV ratio is the residential property that is mortgaged to the lender. In most cases the mortgage on the same residential property that is being financed by the loan should be considered as collateral. This

condition creates a direct link between the borrower and the value of the residential property being bought. However, there can be cases where it may be reasonable or practical to use mortgages on a different real estate property, if they are sufficient to guarantee additional loan liabilities, such as loans taken to finance building work or to finance the purchase of an apartment for a family member.

The first mortgage should be preferred as collateral for a housing loan, because it presents a lower risk to the lender than second mortgages do. However the bank may accept mortgages that are lower in rank if all the higher ranked mortgages are assigned to the state or the same bank.

The value of the residential property used for the calculation of the loan-to-value ratio is whichever is lower of the market value of the residential property at the time the housing loan is decided, and the actual purchasing price of the property. Applying this principle helps to reduce the risk that the amount of the loan is based on an estimate of the market value and the loan is not used for its intended purpose. The background information of the transaction should be given in the loan contract.

The value of a property where there is a loan for construction, which generally comes in parts to match the stages of construction, is found from the current market value of the property and if necessary from the value of other real estate property used as additional collateral. If the bank's estimate of the value of the property under construction is based on its expected future market value, then that future market value must be decided by an independent assessor.

If the collateral is already used for other loan liabilities of the loan applicant or another party, then the total value of the loans secured against the collateral are used in calculating the LTV ratio.

An exception to the LTV limit is made for loans that are guaranteed by the state foundation KredEx. The KredEx guarantee for housing loans is a state



housing policy measure that permits targeted groups including young families, young specialists, tenants of restituted living premises, or veterans of the Defence Forces or the Defence League to reduce their own initial down payment on a housing loan to 10% of the value of the loan guarantee property. The LTV ratio for housing loans with a KredEx guarantee can be up to 90%.

The requirements for housing loans apply to new loans and this regulation does not generally apply to changes made to current loan contracts. The requirements apply only if changes to the contract lead to an increase in the size of the loan. Thus they do not restrict the restructuring of loans due to difficulties in the repayment of the loan.

## 2. Debt service-to-income (DSTI) limit.

The debt service-to-income ratio is found by dividing all the principal and interest payments that the borrower must make for loans each month by the monthly net income of the borrower. If a housing loan is being taken jointly with other applicants, all the loan payments known to the credit institution of all the borrowers are added together in the calculation of the ratio, as are all the net incomes of the named borrowers. At the moment the decision to grant the loan is taken, the DSTI ratio can be up to 50%.

$$DSTI \text{ ratio} = \frac{\sum_{i=1}^n (\text{principal and interest payments})_i}{\text{borrower's net income}}$$

where n is all the credit agreements of the borrower including the new housing loan.

The borrower's net income is the regular and proven post-tax income of the borrower. Regular income is the amount of income that is received every month, quarter or year by the borrower that is approximately the same every time and where consideration has been given to how long the income has been received for and how sustainable it is. Post-tax income is income once all the amounts due as state taxes and payments have been deducted. In a loan decision, the bank uses its own internal rules to define the acceptable sources of income and other necessary conditions for calculating them.

Loan principal and interest payments are taken to mean the monthly loan payments both of the new housing loan and of all the other loans, leases and other credit agreements of which the lending credit institution is aware that have been granted to the borrower by any credit institutions or by other credit providers. Requirements for collecting the information on which the loan decision is based are given in the guidelines for responsible lending issued by the Estonian Financial Supervision Authority.

The principles of responsible lending require that banks set their own internal rules for methodologies and risk limits for assessing the reasonable debt burden of borrowers, and that these should at the least consider the regular income of the borrower and regular financial obligations and household spending. Banks specify in their internal rules the requirements and limits that differentiate between borrowers by their ability to repay loans. The single limits set for the whole banking market for macroprudential purposes will not change this practice, but Eesti Pank will set minimum requirements.

Assessment of regular loan payment obligations when a long-term loan with a variable interest rate is being issued must consider that base interest rates may rise before the loan is fully paid off. This means that the calculation of the DSTI ratio must use a conservative method that uses estimated interest rates over the interest cycle. Eesti Pank considers it appropriate for the calculation of the loan payments for loans with variable interest rates to use either the interest rate in the loan contract (base rate + margin) plus two percentage points, or an estimated annual rate of 6%, whichever is higher.

The recommendation to use an estimated interest rate of 6% is made because base rates have been very low in recent years. This means that the assumption of a rise in interest rates of two percentage points that is commonly used in the stress test and that is appropriate at the peak of the interest rate cycle would right now seriously underestimate the risks to new long-term loans from a

rise in interest rates given current market conditions. The most popular base interest rate used in loans in Estonia is the six-month EURIBOR. Since EURIBOR was first quoted in 1999, there have been times when it has reached 5.4%. Given that there is an interest margin on top of this, it is appropriate to make additional calculations using the assumption of a 6% annual interest rate.

The bigger banks use a more detailed stress test methodology in assessing the ability of borrowers to repay loans that is generally more conservative than that which Eesti Pank requires by this regulation. Banks do not need to change their standard practice for considering interest rate rises if the methods they use meet the Eesti Pank minimum standards.

### *3. Maximum maturity of a housing loan.*

The maximum permitted maturity of a housing loan contract is 30 years. The internal rules of the banks may set more precise conditions on the maturity of loans, by taking account of the life expectancy of the borrower for example.

The requirements do not affect changes to existing loan contracts, such as agreed grace periods or extension of contracts, if the changes do not increase the size of the loan.

### **3.3. Limits for permitted exceptions**

Eesti Pank allows up to 15% of the total volume of new housing loans issued by each bank in a quarter not to meet one or more of the three requirements.

The requirements for the housing loans are applied as a macroprudential measure that helps to prevent systemic risks building up. The efficient and transparent functioning of the credit market is also important for financial stability, so permitting the limits to be breached in exceptional cases can have a positive effect on the functioning of the financial system.

The ability to make use of exceptions will give the banks sufficient flexibility in making credit deci-

sions and in assessing the related risks. Using their risk assessments, the banks can decide for themselves on the use of exceptions. They may decide to apply them because a borrower has an outstanding and sustainable ability to make repayments, or because of the very good quality of the collateral, or for other reasons. Exceptions may also be needed if a borrower is exchanging their home, in which case one or more of the ratios may be temporarily pushed beyond the limit.

The limit to the permitted exceptions will apply throughout the period to the total value of housing loans issued, not to the number of loans. Eesti Pank finds that calculating the requirement on the value is more in line with the aims of macroprudential supervision and helps to avoid market distortions stemming from the lending behaviour of the banks.

### **3.4. Setting and changing the requirements**

In setting the requirements for housing loans, Eesti Pank is using macroprudential measures to create a frame around the credit market that can be changed if necessary to influence lending. The requirements are not being introduced because of a need stemming from the current credit or real estate cycle in Estonia. Housing loans have been growing slowly in recent years and the lending standards of the banks operating in Estonia have not caused risks to build up in the market (see section 1 for an overview of the recent developments of financing in the Estonian housing market).

Given this, the requirements for housing loans can be set close to the current lending standards of the banks. The lending standards of the banks in the past couple of years have helped keep balance in the demand for housing loans, and the new requirements, which are based on those standards, will not have a restrictive effect on the current credit market.

The requirements for housing loans are more structural than cyclical as they are being introduced. Introducing the requirements at a level that is neutral for the credit cycle will anchor the

expectations of borrowers and lenders for the loan terms and conditions and will help prevent the conditions being loosened too far if competition increases in the credit market.

If the risk of excessive growth appears in the real estate market and the risky behaviour of lenders and borrowers starts to amplify the growth, Eesti Pank can tighten the requirements, which can be expected to lead to a reduction in the supply of credit. Eesti Pank constantly monitors and analyses the indicators for the credit and real estate cycle and assesses their implications for financial stability.

### 3.5. Monitoring of compliance with the requirements

The Estonian Financial Supervision Authority (EFSA), which supervises compliance with its guidelines for responsible lending<sup>1</sup>, will also supervise compliance with the new requirements set by Eesti Pank. The requirements for responsible lending foresee that the internal rules of the banks should contain detailed guidelines on how to assess the financial capability and liabilities of borrowers.

The macroprudential requirements set by Eesti Pank apply as universal minimum requirements for the whole of the banking market in Estonia. They are relatively general so as not to weaken the responsibility of the banks for risk management. The banks can design their internal rules within the frame of their own lending policies, taking the risks of borrowers and collateral into account. The requirements in the internal rules of the banks and the actual terms and conditions for loans that are issued must be within the limits set by the Eesti Pank requirements.

Eesti Pank will start to monitor the actual conditions of housing loans using the regular reports of the banks. From the start of 2015 all the banks operating in Estonia will have to present data to Eesti Pank on the individual housing loan con-

tracts and the conditions in them, including data on the collateral of the loan, the loan payments, the net income of the borrower and the maturity of the loan<sup>2</sup>. Eesti Pank will give more details on the reporting of housing loans after the decree setting them has been passed.

1 [http://www.fi.ee/failid/Soovitustlik\\_juhend\\_Vastutustundlik\\_lae-namine\\_2.pdf](http://www.fi.ee/failid/Soovitustlik_juhend_Vastutustundlik_lae-namine_2.pdf) in Estonian only.

2 Eesti Pank Governor's Decree No 7 of 29 May 2014 "Establishment of Supplementary Reports on Credit Institutions' Balance Sheet". Appendix 13 "Report on Housing Loans"

#### 4. CALIBRATION OF THE LIMITS

The starting point for the limits on housing loans is the lending standards applied by the banks in 2014 and the actual terms and conditions used for issuing loans.

In analysing the lending conditions, data from the EFSA was used. The analyses were based on data from the housing loan contracts signed by the four biggest banks in April 2014<sup>3</sup>, where the loan limit agreed with the borrower was at least 10,000 euros. The sample contained 889 loan contracts with a total value of 53.2 million euros, accounting for 60% of all the housing loans issued by the banking sector in that month. The mean and median values of the LTV and DSTI ratios and the loan maturity calculated from that sample were well below the limits set in the requirements (see Table 1).

It is apparent from the distribution of the ratios that a majority of housing loans are issued with much stricter conditions than those given by the requirements and 78% of new housing loans by volume had an LTV ratio of below 85% (see Figure 10). The share of loans with an LTV of over 85% is relatively large because close to 19% of housing loans had KredEx guarantees that allowed the borrower's down payment to be reduced to 10%. There were only a few individual housing loans where the LTV ratio was more than 90%.

More than half of the new housing loans issued in April 2014 by volume were issued with DSTI ratios of up to 30% (see Figure 11), and a somewhat

**Figure 10. Distribution of the LTV ratio in a sample of new housing loans**



Sources: Estonian Financial Supervision Authority, Eesti Pank calculations

larger share of the number of contracts had low DSTI ratios. Only 2% of the loans by volume had a DSTI ratio of more than 50%.

The lending standards for most of the banks are for a maximum loan maturity of 30 years. This is also the most common maturity in housing loan contracts and 97% of new housing loans by volume were issued for up to 30 years (see Figure 12). Loans for longer than this were only issued exceptionally.

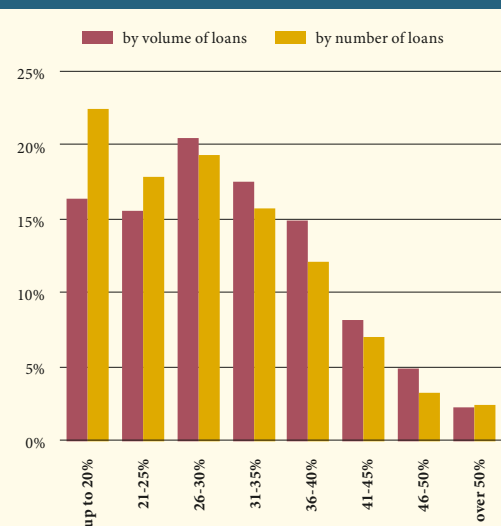
**Table 1. Median and average values of the LTV and DSTI ratios and the loan maturity in a sample of banks' housing loan contracts concluded in April 2014**

	weighted average	median
LTV ratio	69%	70%
DSTI ratio	30%	28%
housing loan maturity	24.1 years	22.0 years

Sources: Estonian Financial Supervision Authority, Eesti Pank calculations

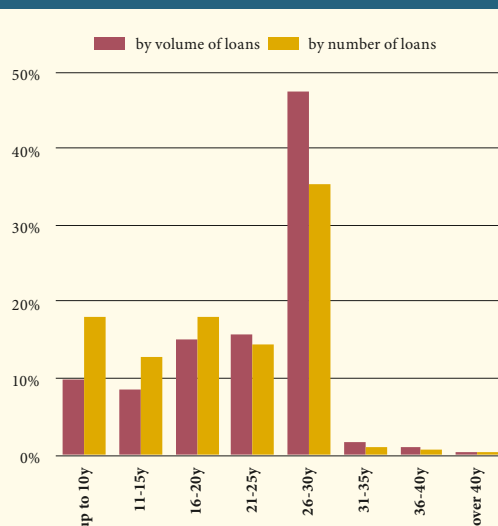
<sup>3</sup> The lending standards and actual terms and conditions of the banks in issuing housing loans have not changed significantly in the past couple of years. As the housing market was more active in spring 2014 than it has been in recent years, a sample of the loan transaction in April may be considered sufficiently representative for drawing conclusions on the typical lending standards and conditions.

**Figure 11. Distribution of the DSTI ratio in a sample of new housing loans**



Sources: Estonian Financial Supervision Authority, Eesti Pank calculations

**Figure 12. Distribution of the loan maturity in a sample of new housing loans**



Sources: Estonian Financial Supervision Authority, Eesti Pank calculations

Depending on the indicator used, the share of housing loans issued in April 2014 that did not meet the new requirements is between 2.3% and 7.5% (see Table 2). The largest impact would be from the LTV ratio, if the impact of the limits on the behaviour of borrowers and banks is left aside.

The joint impact of the new limits would affect 12.6% by value of the housing loans in the sample, and 8.8% by number, which is only slightly less than the total impact of the limits taken separately. This means that there were only a few loans that breached more than one limit at a time.

Applying the permitted exceptions of 15% would reduce the total impact of the limits by 10.7 percentage points, so if exceptions are used to the extent allowed, 1.8% of the loans issued in April by volume would have been affected by the new limits. As some of those loans would probably still have been issued with more conservative conditions, it follows that setting the limits at the level decided will not have any significant impact on the loan supply. The restrictive impact of the limits may also be lessened if it is permitted to calculate the exceptions over a longer period like three months.

**Table 2. Share of loans exceeding the limits from a sample of housing loans issued in April 2014 by the four largest banks**

	share in volume of loans	share in number of loans
LTV limit: 85%*	7.5%	4.7%
DSTI limit: 50%	2.3%	2.5%
maximum loan maturity: 30 years	2.9%	1.7%
<b>Aggregate impact without exceptions</b>	<b>12.6%</b>	<b>8.8%</b>
permitted exceptions: 15% of the total amount of new housing loans	10.7%	7.3%
<b>Aggregate impact with exceptions</b>	<b>1.8%</b>	<b>1.5%</b>

\*For KredEx guaranteed loans the maximum limit of the LTV is 90%  
Sources: Estonian Financial Supervision Authority, Eesti Pank calculations

## APPENDIX 1. REQUIREMENTS FOR HOUSING LOANS IN OTHER COUNTRIES

a) Limit on LTV (loan-to-value) ratio		
Country	Limit	Application or latest modification
<b>EUROPE</b>		
Sweden	85%	October 2010
Norway	85%	December 2011
Finland <sup>1</sup>	90%	July 2016
Denmark <sup>2</sup>	80%	November 2010
Latvia	90%	June 2007
Lithuania	85%	November 2011
Netherlands <sup>3</sup>	104%	January 2014
Hungary <sup>4</sup>	80%	September 2014
Slovakia <sup>5</sup>	90%	November 2014
Ireland <sup>6</sup>	80%	2015
<b>OTHER COUNTRIES</b>		
Canada	95%	July 2012
China	70%	April 2010
Hong Kong	70%	November 2010
Indonesia	80%	September 2013
Singapore	80%	2010
Korea	50-70%	2012
New Zealand <sup>7</sup>	80%	October 2013
Israel	75%	November 2012

1 for first-time homebuyers the LTV cap is 95%

2 applied in covered-bond legislation

3 gradual reduction of the limit to reach the limit of 100% in 2018

4 size of the limit depends on the currency of the loan (HUF 80%, EUR 50%, other currencies 35%)

5 up to 25% of the value of all housing loans issued in a quarter may be issued at an LTV ratio of between 90% and 100%

6 up to 15% of the value of all housing loans issued in a half year period may exceed the limit (planned measure)

7 up to 10% of the value of all housing loans issued in a three or six months period may exceed the limit

b) Limit on LTI (loan-to-income) ratio		
Country	Limit	Application or latest modification
<b>EUROPE</b>		
United Kingdom <sup>1</sup>	4.5	October 2014
Ireland <sup>2</sup>	3.5	2015

1 up to 15% of the number of all housing loans issued in a three months period may be at or greater than the limit

2 up to 20% of the value of all housing loans issued in a half year period may exceed the limit (planned measure)

c) Limit on DSTI (debt service-to-income) ratio		
Country	Limit	Application or latest modification
<b>EUROPE</b>		
Lithuania	40%	November 2011
Hungary <sup>1</sup>	50-60%	September 2014
<b>OTHER COUNTRIES</b>		
USA	42%	January 2014
Canada <sup>2</sup>	44%	July 2012
China	50%	2004
Hong Kong	50%	August 2010
Singapore	60%	June 2013
Korea	50-60%	2012
Israel	50%	August 2013

1 size of the limit depends on the currency of the loan (HUF 50-60%, EUR 25-30%, other currencies 10-15%)

2 additional limit on gross-debt-service, which covers additional costs related to the housing loan (39%)

d) Maximum loan maturity of a housing loan		
Country	Maximum loan maturity	Application or latest modification
<b>EUROPE</b>		
Lithuania	40 years	November 2011
Slovakia <sup>1</sup>	30 years	March 2015
<b>OTHER COUNTRIES</b>		
Canada	25 years	July 2012
Israel	30 years	August 2013

1 up to 10% of the value of all housing loans issued in a quarter may exceed the requirement for maximum loan maturity

Sources: ESRB, IMF Global Macro-Prudential Indicators (GMPI), central banks