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**Box:**

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Abbreviations:

AJPES	Agency of the Republic of Slovenia for Public Legal Records and Related Services
SMA	Securities Market Agency
ISA	Insurance Supervision Agency
GDP	Gross domestic product
BLS	Bank Lending Survey
BoS	Bank of Slovenia
OFls	Other financial institutions
DSTI	Debt service-to-income ratio
TARS	Tax Administration of the Republic of Slovenia
BAMC	Bank Asset Management Company
ECB	European Central Bank

EIOPA	European Insurance and Occupational Pensions Authority
EMU	Economic and Monetary Union
EU	European Union
EURIBOR	Interbank interest rate at which representative banks in the euro area offer deposits to one another
Eurostat	Statistical Office of the European Communities
Fed	Board of Governors of the Federal Reserve System
SMARS	Surveying and Mapping Authority of the Republic of Slovenia
HICP	Harmonised Index of Consumer Prices
IFs	Investment funds
KDD	Central Securities Clearing Corporation
TR	Turnover ratio
Leaseurope	European Federation of Leasing Company Associations
LJSE	Ljubljana Stock Exchange
LTRO	Long-Term Refinancing Operation
LTV	Loan-to-value ratio
MCR	Minimum capital requirement
IMF	International Monetary Fund
SMEs	Small and medium-size enterprises
MTS Slovenia	Part of the Euro MTS electronic trading platform for euro-denominated government and para-government benchmark bonds
NFCs	Non-financial corporations
ROE	Return on equity
SBI TOP	Blue-chip index at Ljubljana Stock Exchange
SCR	Solvency capital requirement
SDW	Statistical Data Warehouse
SURS	Statistical Office of the Republic of Slovenia
S&P	Standard and Poor's
TLTRO	Targeted Longer-Term Refinancing Operation
AUP	Average unit price of a mutual fund
VLTRO	Very Long-Term Refinancing Operation
MF	Mutual fund

## 1 EXECUTIVE SUMMARY

The favourable macroeconomic environment with high economic growth and a positive outlook for the future contributed to the continuation of the favourable trends in the banking system in 2017 and the early part of 2018. The most significant risks in the banking and financial systems have remained unchanged over the last six months. Income risk at the banks remains at medium level, despite their profitability. In the wake of relatively favourable economic developments, the banks are faced with a highly uneven recovery in lending activity, both in terms of sector (the gap between growth in corporate lending and growth in household lending), and in terms of the type of lending (the gap between growth in consumer loans and growth in housing loans), and also the type of remuneration. Growth in loans to the non-banking sector has begun to be reflected in increased interest income, although the sustainability of further growth in corporate lending is still uncertain. Stable, even growth in loans is the key to greater stability in the banks' profitability in the future. The favourable growth in household loans is having a positive impact on the average quality of the banks' credit portfolio, but at the same time could increase credit risk should there be a decline in credit standards, particularly in the area of consumer loans. The banking system's portfolio continues to feature a relatively large proportion of legacy non-performing claims, which are continuing to burden the average return on bank investments, and demand action from the banks for their resolution. The high growth in prices on the real estate market has the potential to increase cyclical risks, particularly from the perspective of the redirection of built-up savings and investments into this asset segment.

Table 1.1: Overview of risks in the Slovenian banking system

Systemic risk	Risk assessment				Risk assessment	
	Q3 2017	Q4 2017	Q1 2018	Trend in risk	Q2 2018	Trend in risk
Macroeconomic risk	Green	Green	Green	→	Green	→
Credit risk	Yellow	Yellow	Yellow	↓	Yellow	↓
Real estate market	Green	Yellow	Yellow	↑	Yellow	↑
Refinancing risk	Yellow	Yellow	Yellow	→	Yellow	→
Interest rate risk	Yellow	Yellow	Yellow	↑	Yellow	→
Contagion risk and large exposure	Green	Green	Green	→	Green	→
Solvency risk	Green	Green	Green	↑	Green	→
Income risk	Yellow	Yellow	Yellow	→	Yellow	→
Leasing companies	Green	Green	Green	↓	Green	↓

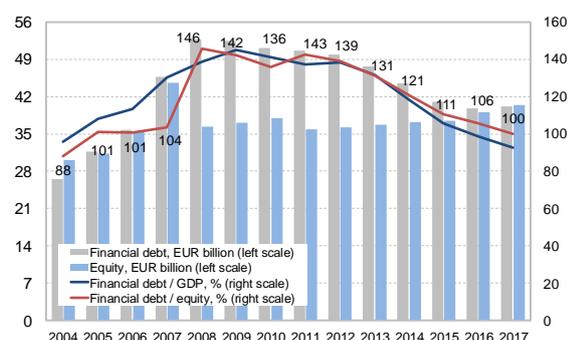
Colour code:



Source: Bank of Slovenia

Corporate indebtedness, which increased sharply before the crisis and reduced debt repayment capacity, thereby introducing instability into the banking system, has declined sharply over the last decade, although the deleveraging process is still to a lesser extent underway. At the end of 2017 the total stock of corporate debt was equal to equity, and was thus at an acceptable level. Firms have thus seen improvements in their

Figure: Corporate debt indicators



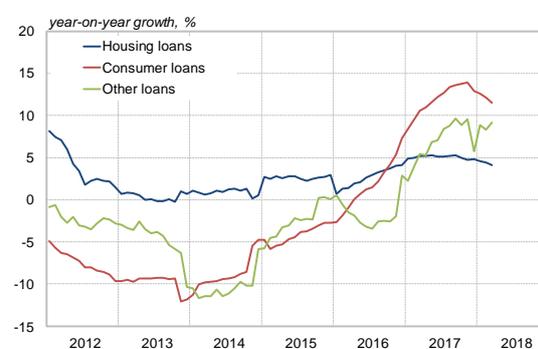
creditworthiness and debt repayment capacity, and in their resilience to interest rate rises. Recent years have seen a sharp decline in firms' excessive debt, which last year reached its pre-crisis level of EUR 6.6 billion. The concentration of excessive debt is still high, as a third of the excessive debt is concentrated among the 50 firms with the largest excessive debt. In recent years firms have improved their financing structure primarily via increases in equity, and less via debt repayments, which is a good basis for further growth. There was a significant improvement in the terms and possibilities of corporate borrowing at banks relative

to previous years. After several years of decline, year-on-year growth in corporate bank loans re-entered positive territory in 2017, and reached 3.4% in March 2018. Corporate investment is currently based primarily on financing via internal resources. An answer to the question of how much bank financing will contribute to corporate investment in the near future is still uncertain, although surveys suggest that corporate demand for bank loans is likely to increase in the future. Although corporate indebtedness is at an acceptable level, it is important for the successful balancing of systemic risks that firms continue to show concern for debt sustainability in the future.

The systemic risk to the banking system from the household sector remains low. Household indebtedness expressed as the ratio of debt to GDP was less than half of the euro area average last year. The structure of the household sector's assets remains conservative, despite the improvement in the situation on the labour market and the low interest rates. Consumer confidence is high, and the rise in disposable income is being reflected in strengthened growth in final consumption expenditure. The banks' exposure in the consumer loans segment has increased rapidly since the second half of 2016, particularly at the longer maturities of more than 10 years and in unsecured loans approved via simplified procedures and with the incomplete documentation of purpose. The proportion of total exposure accounted for by the stock of consumer loans is relatively small, but a further increase in the figure could increase the systemic risks to the banking system. In the event of a deterioration in the macroeconomic environment and the financial standing of households,

higher interest rates might not suffice to cover the losses in connection with non-performing loans. It is important that the banks diligently monitor and manage the risks inherent in an increase in loans of this type. Here it is also necessary to monitor the purpose of consumer loans, i.e. whether a portion of long-term consumer loans might be used to finance real estate purchase. This could increase credit risk in the event of a price reversal on the real estate market, or a deterioration in the financial standing of borrowers. Growth in residential real estate prices in 2017 reached its highest since the outbreak of the crisis, and was among the highest in the euro area.

Figure: Breakdown of household loans by type



At the same time further evidence of the high demand on the real estate market comes from the high number of transactions in residential real estate, which has drawn level with the pre-crisis period. Growth in housing loans has nevertheless not tracked the high growth in the number of transactions on the real estate market in recent years. Growth in housing loans to private individuals was stable and moderate in 2017 at 5%, before falling to 4% in the first quarter of 2018. This is an indication that growth in housing loans is currently not encouraging growth in real estate prices, and is not encouraging imbalances on the real estate market. It also means that households are not using bank loans alone to make real estate purchases.

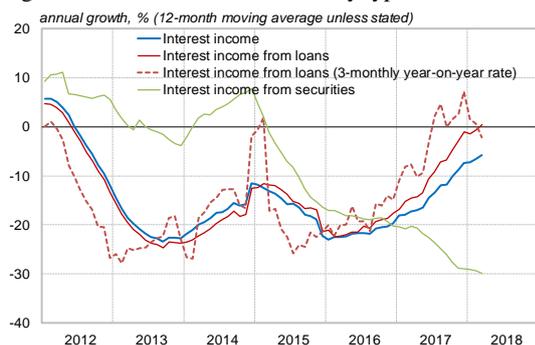
In the wake of an increase in demand and the anticipated further growth in prices, investment in residential real estate is increasing. The current gap between supply and demand on the real estate market entails further upward pressure on prices, which could also result in short-term fluctuations in prices of residential real estate. The indicators of overvaluation and undervaluation of real estate show residential real estate prices to be below their pre-crisis level, although the gap is diminishing. The risk to the banking system could increase in the event of a sharp price reversal on the real estate market, although the banks are less vulnerable than during the last financial crisis.

Compared with the situation before the crisis, the banking system is less sensitive to the risks inherent in cyclical developments and imbalances on the real estate market, on account of the banks' smaller exposure to the construction sector, and higher household disposable income and, above all, because the credit standards on housing loans are higher than at the outbreak of the last financial crisis and remain stable at the level of the banking system. Other factors in the banks' low vulnerability to potential risks are the structural attributes of the Slovenian real estate market, such as low household indebtedness, the large proportion of owner-occupied residential real estate, and the smallest proportion of housing owners with a mortgage in the euro area. It is recommended that the banks continue to maintain adequate credit standards with regard to housing loans, despite the increased optimism on the market. A macroprudential recommendation including the recommended maximum level of the LTV (loan-to-value) ratio and the recommended maximum level of the DSTI (debt service-to-income) ratio when a loan is concluded was adopted during the period of stable growth in real estate prices at the end of 2016, for the purpose of limiting the transmission of risks from the real estate market to the banking sector or borrowers. The LTV and DSTI ratios for new loans were stable overall

in 2017. However, the stability of the LTV ratio in a situation of rising real estate prices does not necessarily entail no change in risks. Further analysis of the aforementioned risks will form the basis for a decision on any change in the macroeconomic recommendation.

Despite the current very solid growth in bank profitability, the banks' income risk remains at a medium level in the low interest rate environment. The banking system has been profitable in the last three years, although in 2017 and the first quarter of 2018 growth in profit was based in part on the release of impairments and provisions. The banks' net interest income is still declining, although the contraction slowed in 2017 and the first quarter of 2018. At the turn of the year the favourable effects of the increase in bank lending were being reflected in growth in interest income from loans. At the same time growth in the banks' net fees and

Figure: Growth in interest income by type



commission, which account for the largest proportion of non-interest income, turned positive again in the final months of 2017 after several years in negative territory. In the future the banks' income position will increasingly depend on growth in interest income, which the banks can only achieve through increased lending activity, which must be sustainable and prudent. Given a combination of several altered factors, i.e. the gradual evening-out of the favourable impact of the release of impairments, insufficient lending and cost pressures, the banks could be exposed to more unfavourable income developments even over the medium term.

The traces of the banks' past bad credit decisions still remain. For several years now the banks have been endeavouring to improve the quality of the credit portfolio by reducing the burden of non-performing exposures. The NPE ratio across the banking system's total exposure had declined to 5.4% by March 2018, as NPEs declined to EUR 2.3 billion. Corporate exposures continue to account for two-thirds of total NPEs, most notably the SMEs portfolio. Claims more than 90 days in arrears account for a smaller proportion of the NPEs to corporates, while a larger proportion consists of forbore exposures or other exposures with smaller likelihood of payment. NPEs to corporates amounted to EUR 1.6 billion in March 2018, of which forbore exposures accounted for EUR 1.0 billion. The coverage of total NPEs by impairments and capital remained high. Regulatory capital in March 2018 was almost four times higher than the stock of NPEs, after allowing for impairments already created. Coverage varied from bank to bank, while there were also differences in the banks' capacity to further reduce NPEs, particularly with regard to the sale or write-off of non-performing claims, which could have an impact on the level of available capital. Simultaneously with their active approach to the resolution of NPEs, the banks also improved their monitoring of credit risk through the early warning system for increased credit risk.

The banks' refinancing risk remained moderate, as a result of their favourable liquidity position and the large proportion of secondary liquidity. The large proportion of liquid assets on the balance sheet is reducing the banks' sensitivity to any adverse effects that might result from the increasing maturity mismatch between assets and liabilities. The growth in sight deposits and long-term loans is increasing the maturity mismatch between funding and investments, and in the wake of extraordinary developments and the switching of deposits between banks or outside the banking system could lead to instability in bank funding, which is less likely in the short term. Last year's increase in deposits by the non-banking sector strongly exceeded the increase in loans to the non-banking sector. This will be joined this year by an even larger amount of funds released from investments in securities, which could encourage the banks in relaxation of credit standards that is undesirable from a systemic perspective.

The banking system's capital position remained appropriate last year. The banking system's capital adequacy declined as a result of an increase in capital requirements. In the wake of further credit growth and the accompanying growth in capital requirements, the decline in capital adequacy could continue, unless the banks adjust their capital as appropriate by means of recapitalisations or retained earnings.

Leasing companies and banks that provide finance leasing services continued to increase their equipment leasing business in 2017 and the first quarter of 2018, while real estate leasing business is at a low level. Leasing companies saw an improvement in their portfolio quality and profitability. The systemic risks inherent in leasing companies' operations are declining.

An increase in gross written premium and a decline in insurance technical provisions brought an improvement in the insurance sector's performance. The capital adequacy of insurance corporations and reinsurance corporations increased. The low interest rate environment meant that market risk and refinancing risk account for a significant proportion of the systemic risk in the insurance sector.

A high concentration of volume in a few domestic securities, the low volume of trading on the Ljubljana Stock Exchange and the ongoing fall in the number of share issuers are continuing to reduce the primary role of the domestic capital market. The role of the domestic capital market should in part be based on providing additional financing to economic operators and on ensuring growth in capital at firms. This would provide a more sustainable basis for lending growth in the future.

In general it can be assessed that the risk level in the banking sector is relatively low, and comparable to the risk level at the time of the release of the previous Financial Stability Review, although there is the possibility of an increase in certain segments. At the same time it is found that the banking system is currently more resilient to the consequences of any realisation of systemic risks than during the last financial crisis.

## 2 MACROECONOMIC ENVIRONMENT

### Summary

Economic growth in the euro area recorded its highest rate since 2007 in 2017, and remains robust despite numerous risks in the international environment, which strengthened further in 2018. Geopolitical tensions and rising protectionism are to the fore. Economic growth in Slovenia increased sharply in 2017, and was among the highest in the euro area. GDP growth was broadly based, with contributions made by growth in domestic consumption, gross investment and exports of merchandise and services, partly as a result of the favourable international environment and improved competitiveness of the Slovenian economy. The economic sentiment deteriorated slightly in the early part of this year, but remains well above its long-term average.

### 2.1 International environment

**Global economic growth strengthened in 2017, despite numerous risks.** Economic growth in the euro area was up 0.6 percentage points on the previous year at 2.4%, the highest rate since 2007. GDP growth remains relatively high and robust, despite numerous risks, which increased further in early 2018. Political risks were to the fore, including trade protectionist measures between the two largest global economies (the US and China). Increasing protectionism could have an adverse impact on ongoing growth in the euro area, where there is still uncertainty surrounding Brexit. The situation in the Middle East also remains unstable.

Table 2.1: European Commission forecasts of selected macroeconomic indicators for Slovenia's main trading partners

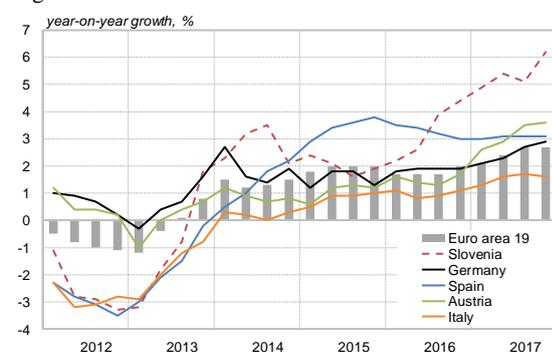
(%)	Real GDP growth				Unemployment rate				Inflation				Government deficit / GDP			
	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
<b>EU</b>	1,9	2,4	2,3	2,0	8,6	7,6	7,1	6,7	0,3	1,7	1,7	1,8	-1,7	-1,0	-0,8	-0,8
<b>Euro area</b>	1,8	2,4	2,3	2,0	10,0	9,1	8,4	7,9	0,2	1,5	1,5	1,6	-1,5	-0,9	-0,7	-0,6
<b>Germany</b>	1,9	2,2	2,3	2,1	4,1	3,8	3,6	3,5	0,4	1,7	1,6	1,8	1,0	1,3	1,2	1,4
<b>Italy</b>	0,9	1,5	1,5	1,2	11,7	11,2	10,8	10,6	-0,1	1,3	1,2	1,4	-2,5	-2,3	-1,7	-1,7
<b>Austria</b>	1,5	2,9	2,8	2,2	6,0	5,5	5,2	5,0	1,0	2,2	2,1	1,9	-1,6	-0,7	-0,5	-0,2
<b>France</b>	1,2	1,8	2,0	1,8	10,1	9,4	8,9	8,3	0,3	1,2	1,7	1,4	-3,4	-2,6	-2,3	-2,8
<b>Croatia</b>	3,0	2,8	2,8	2,7	13,4	11,1	9,6	8,5	-0,6	1,3	1,4	1,5	-0,9	0,8	0,7	0,8
<b>Slovenia</b>	3,1	5,0	4,7	3,6	8,0	6,6	5,6	5,4	-0,2	1,6	1,9	2,0	-1,9	0,0	0,5	0,4

Note: Grey area signifies European Commission forecasts.

Source: European Commission spring forecast

**Economic growth in Slovenia's main trading partners strengthened in 2017, and the forecasts are favourable.** Confidence indicators in the euro area improved further in 2017, but declined slightly in early 2018 in industry, retail and services as a result of the increased uncertainty surrounding current and future business expectations, while confidence in the construction sector is still increasing. The economic sentiment indicator and confidence indicators nevertheless remain high above their long-term averages. According to forecasts by domestic and international institutions, economic growth in the euro area will be comparable to that in 2017, while growth in Slovenia's major export partners can also be expected to be similar to last year. Continuing economic growth can also be expected in the western Balkans and Russia (given the expectations of higher oil prices).

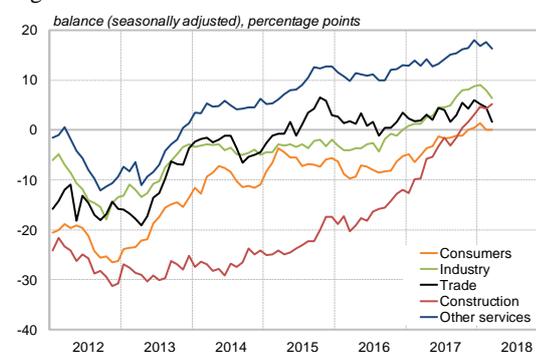
Figure 2.1: GDP in selected countries



Note: GDP figures are seasonally adjusted.

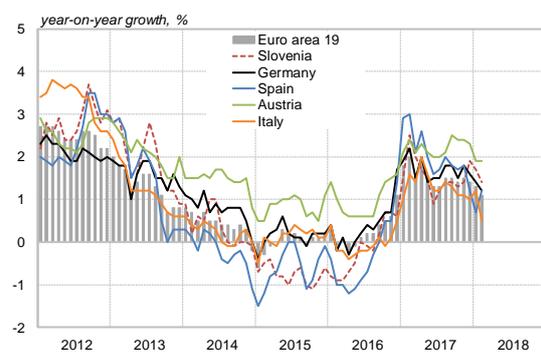
Sources: Eurostat, European Commission

Figure 2.2: Confidence indicators in the euro area



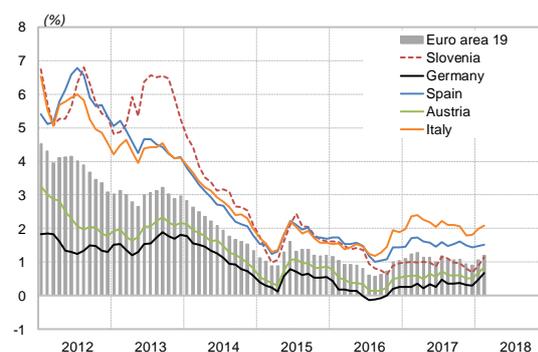
**Inflation in Slovenia was comparable to the euro area average in 2017, while the required yield on government bonds remains relatively low.** Headline inflation in Slovenia (HICP) averaged 1.6% last year, and its movements were strongly dependent on external factors, energy prices in particular. Inflation in Slovenia is expected to rise moderately in the coming years, to approximately 2%. The required yields on Slovenian government bonds remained low in 2017, due to the continuation of the ECB's expansionary monetary policy, high economic growth, the favourable fiscal position and the improvement of the country's credit rating. The financial sector will see more uncertainty in 2018 than in 2017, which is already being reflected in corrections in the stock market.

Figure 2.3: Inflation (HICP)



Source: ECB (SDW)

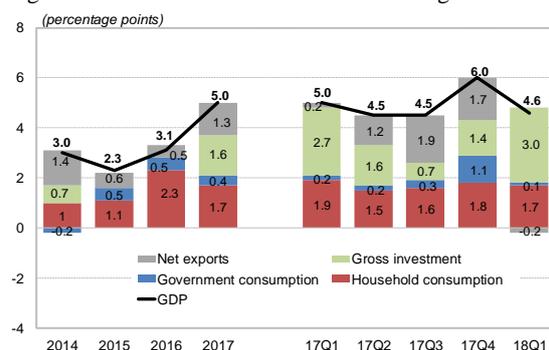
Figure 2.4: Required yield on 10-year government bonds



## 2.2 Economic situation in Slovenia

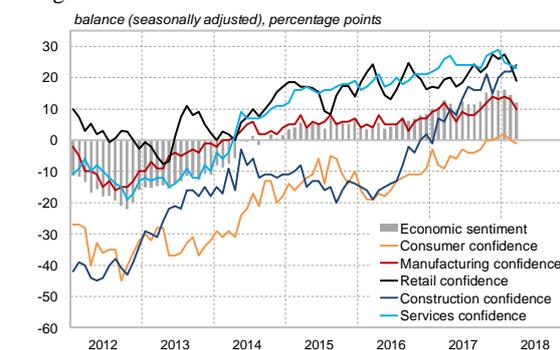
**Economic growth in Slovenia in 2017 was significantly higher than in the previous years, and among the highest in the euro area.** GDP growth stood at 5.0% in 2017, and was particularly high in the final quarter (6.0%), the second-highest rate in the euro area. The growth was broadly based, and founded on growth in household consumption (3.2%), significant growth in gross investment (8.4%), and strengthening growth in exports of merchandise and services (10.6%). Government consumption increased significantly at the end of 2017, while there was also a considerable increase in construction activity. Economic growth remained relatively high in the first quarter of 2018. Good business performance, high production capacity utilisation and relatively low corporate indebtedness were factors of growth in gross investments. The favourable developments in the international environment and Slovenian firms' relatively high competitiveness contributed to growth of more than 10% in exports of merchandise and services. Economic growth in Slovenia is expected to remain relatively high in 2018.

Figure 2.5: GDP and contributions to GDP growth



Source: SURS

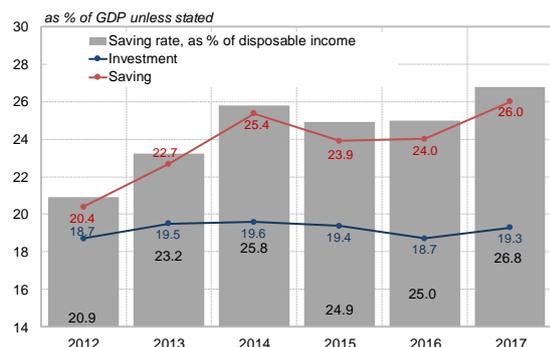
Figure 2.6: Confidence indicators



**The economic sentiment remains high above its long-term average, although the confidence indicators deteriorated slightly in the early part of 2018.** Given the favourable economic situation and the positive outlook, confidence strengthened in 2017 in all sectors, but declined slightly in the first quarter of 2018 with the exception of construction. Firms in the majority of sectors reported slightly weaker growth in current demand, which brought a slight decline in the indicators. Growth in value-added in manufacturing increased sharply in 2017, to which the key contribution came from the car industry.

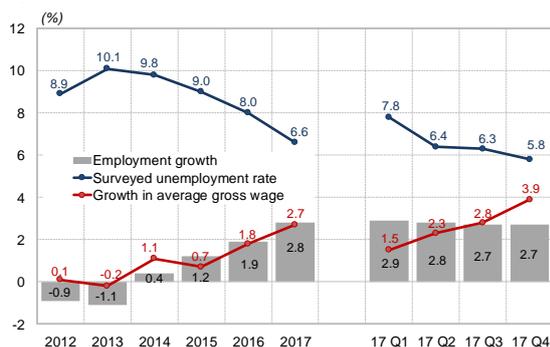
The ratio of investment to GDP increased slightly, while there was a pronounced increase in saving in the wake of the favourable situation on the labour market. The investment cycle strengthened in 2017, particularly in construction investment, although the high economic growth meant that there was only a small increase in the ratio of investment to GDP. Given the good economic situation, investment is expected to continue growing in the future, particularly in the wake of the anticipated increase in the disbursement of EU funds. The ratio of saving to GDP increased sharply, despite the low interest rates and favourable conditions for consumption and investment. Employment growth in Slovenia stood at 2.8% in 2017, while in the wake of the sharp fall in the surveyed unemployment rate the average gross wage is gradually strengthening, the rate of growth approaching 4% at the end of 2017.

Figure 2.7: Saving and investment



Source: SURS

Figure 2.8: Employment, unemployment rate and gross wages



### 3 HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS

#### 3.1 Households

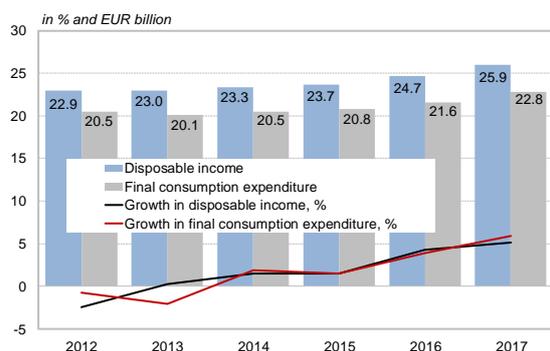
##### Summary

Household indebtedness remains low despite the stronger growth in borrowing at domestic banks, and thus the risks to the banking system from the household sector remain low. Slovenian banks strengthened their household lending activities in 2017, most notably in consumer loans. The longer average maturity of consumer loans, and the increase in new unsecured loans approved without the complete documentation of the purpose of the loan but with higher interest rates could increase the risks to households and thus to the banking system in the future. The banks will have to diligently monitor and manage these risks.

##### Household assets and debt

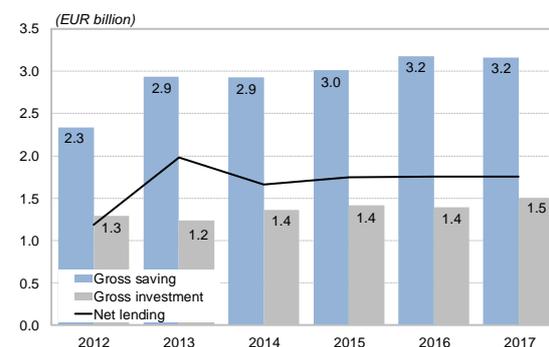
**High consumer confidence and the rise in disposable income are being reflected in increased growth in final consumption expenditure.** The high employment growth and stronger growth seen in 2017 in gross wages were reflected in an increase of 5.1% in disposable income to a record level of EUR 26 billion, which brought an increase in final consumption expenditure. Gross saving remains at a relatively high level. Gross investment by households strengthened slightly, but remains well below its pre-crisis level after three years of stagnation. Given the favourable situation on the labour market, disposable income can be expected to continue growing, and with it households' capacity for consumption and gross investment (in particular gross investment in residential real estate, given further growth in residential real estate prices).

Figure 3.1: Disposable income and final consumption expenditure



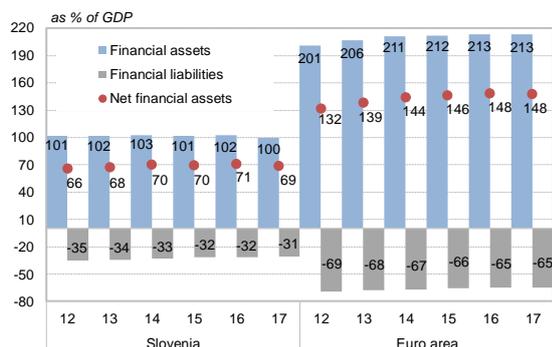
Source: SURS

Figure 3.2: Household saving and investment



**The ratio of household debt to GDP remains less than half that in the euro area overall, despite the strengthened credit growth in 2017.** Household financial liabilities increased by EUR 690 million in 2017 to EUR 13.4 billion, while household financial assets increased by EUR 1.8 billion to EUR 43.1 billion, which brought an increase of EUR 1.1 billion in net financial assets. The ratios of household financial liabilities to GDP and to disposable income actually declined slightly, and at 31.0% and 51.8% respectively remain significantly lower than the corresponding figures for the euro area overall. In the wake of the increase in net financial assets, and given the low indebtedness of Slovenian households, there was no increase in the risks to the banking system from the household sector.

Figure 3.3: Household financial assets and liabilities



Source: ECB (SDW)

**Slovenian households are maintaining a conservative structure in their assets, despite the improvement in the situation on the labour market and the low interest rates.** The majority of assets are held in low-risk, lower-yielding forms, most notably currency and deposits. The overall proportion of Slovenian households' total financial assets accounted for by investment fund shares and units and by life and pension insurance is less than half the figure in the euro area overall. Slovenian households' flows of assets into shares and pension insurance increased slightly in 2017, although they remain negligible compared with assets held in deposits.

Figure 3.4: Household financial liabilities

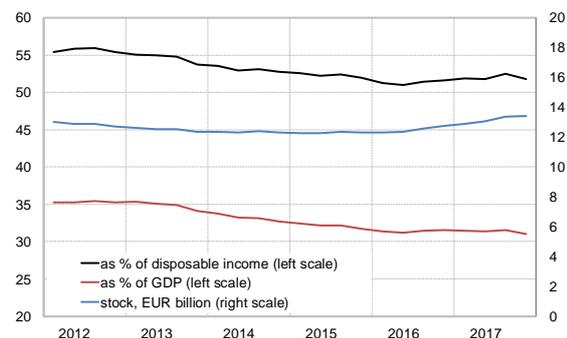
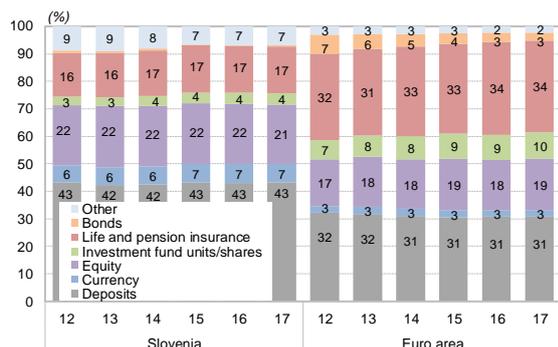
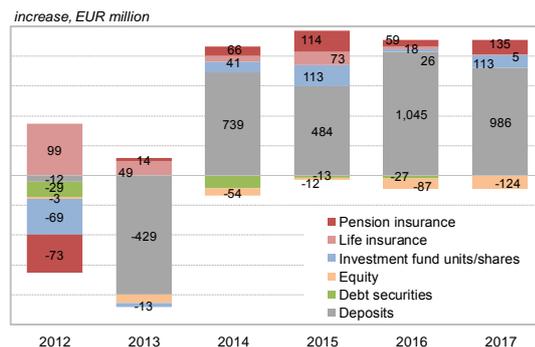


Figure 3.5: Breakdown of stock of household financial assets



Source: Bank of Slovenia

Figure 3.6: Breakdown of transactions in household financial assets

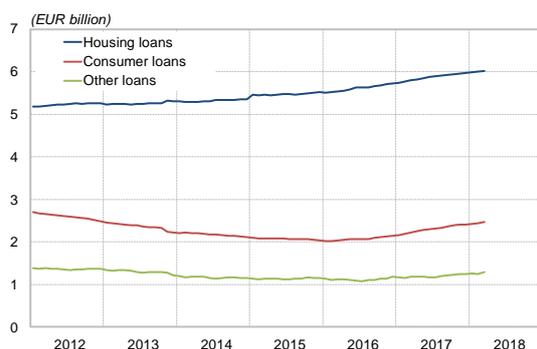


### Household lending at Slovenian banks

**Slovenian banks strengthened their household lending activities in 2017.**<sup>1</sup> As corporate demand for loans declined, and given the need to increase interest income, the banks notably directed their activities towards lending to lowly-indebted households. Year-on-year growth in housing loans remained stable in 2017 at almost 5%, which matches growth in GDP. Growth in housing loans declined in early 2018, which could be the result of an increasing gap between the supply of and demand for residential real estate, and the corresponding fall in the number of transactions. The stock of housing loans passed EUR 6 billion in early 2018, while consumer loans are also strengthening significantly, the stock reaching EUR 2.47 billion in March.

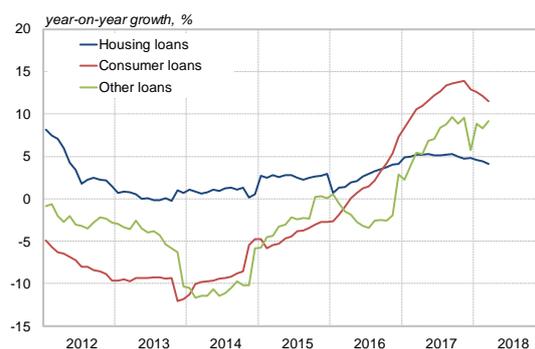
<sup>1</sup> For more on housing loans and the real estate market, see the Thematic Section (p 50).

Figure 3.7: Breakdown of stock of household loans by type



Source: Bank of Slovenia

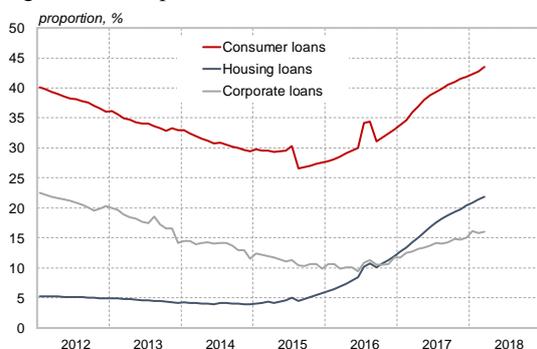
Figure 3.8: Growth in household loans by type



**Growth in loans was most pronounced in consumer loans, partly as a result of the banks' changing business models.** The banks saw a pronounced increase in their stock of consumer loans in 2017, of 12% in year-on-year terms, partly as a result of the simplification of the loan approval procedure, while at the same time the average maturities of consumer loans have been lengthening, and the banks have been raising the maximum amount allowed for such loans. Fixed-rate consumer loans have primarily seen an increase in unsecured loans, mainly without a stated purpose. The increase in the proportion of consumer loans of this type, with otherwise on average higher interest rates, could increase the risks to the banking system. The banks must be diligent in monitoring and managing the risks inherent in consumer loans of this type.

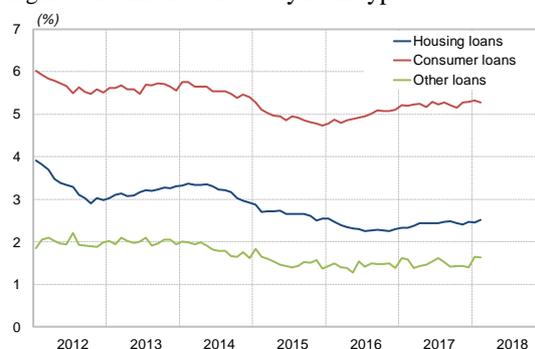
**In the low interest rate environment there is increasing demand from households for fixed-rate loans.** The proportion of total loans accounted for by fixed-rate loans has increased by 16 percentage points since 2016, for both housing loans and consumer loans. Fixed-rate loans account for 44% of consumer loans, and 22% of housing loans. The proportion of fixed-rate loans can be expected to increase in the future, at least while interest rates remain at such low levels. Interest rates on fixed-rate housing loans are gradually rising already (reaching 2.9% in March 2018).

Figure 3.9: Proportion of loans with fixed rate



Source: Bank of Slovenia

Figure 3.10: Interest rates by loan type



## 3.2 Non-financial corporations

### Summary

*After several years of corporate deleveraging, total corporate financing began to strengthen again in 2017. In recent years the increase in financing via equity has had a positive impact in the reduction of corporate leverage, and an increase in non-financial corporations' creditworthiness. In their financing non-financial corporations are increasingly relying on external resources overall, with the exception of loan financing, where there is a trend of deleveraging, even at parent companies in the rest of the world. The access to and terms of financing at banks are improving, with financing for SMEs costing slightly more, given the higher risk in light of their higher NPE ratio and less favourable indebtedness indicators. Corporate deleveraging continued at the aggregate level in 2017, thereby improving non-financial corporations' debt repayment capacity. Although corporate indebtedness is thought to be at an acceptable level, for the successful balancing of systemic risks it is necessary that non-financial corporations show concern for debt*

sustainability. The increase in the proportion of corporate financing via internal resources has reduced non-financial corporations' sensitivity to potential shocks from the rest of the world.

### Structure of corporate financing

**Corporate financing<sup>2</sup> strengthened in 2017.** There was a renewed increase in trade credits, which account for higher proportion of financing at non-financial corporations in Slovenia than in the euro area overall. Although growth in trade credits is generally linked to economic growth, which has been strengthening for the last three years, this form of financing only began resuming its importance in 2017, from the rest of the world in particular. Corporate financing via loans is continuing to decline in all creditor sectors (loans at Slovenian banks are just part of this aggregate). The inflow of equity in 2017 was slightly less than in the two preceding years, but this is the sole source of financing that has been positive for three consecutive years. The inflow of equity into non-financial corporations has amounted to EUR 3.6 billion since 2015, but the increase in the stock of corporate equity at EUR 3.1 billion has been slightly less due to revaluations.

**Resources from the rest of the world continued to gain in importance in Slovenian corporate financing in 2017, with the exception of financing via loans.** The proportion of non-financial corporations' total financial liabilities accounted for foreign resources had reached 28% by the end of 2017, up 12 percentage points on 2007. Trade credits record the highest proportion of financing from the rest of the world, at 44%, which is to be expected given the export focus of Slovenian non-financial corporations. Borrowing via foreign loans increased particularly rapidly in previous years, most notably borrowing at parent companies in the rest of the world. The latter in particular was mostly related to acquisitions of Slovenian non-financial corporations by foreign investors, which provided internal financing to their subsidiaries after acquisition. The proportion of corporate financing via loans accounted for by the rest of the world increased by 16 percentage points over a decade to stand at 30% at the end of 2017, although this is also the only form of foreign financing whose importance in corporate financing has declined in the last year.

Figure 3.11: Non-financial corporations' flows of financial liabilities by instrument

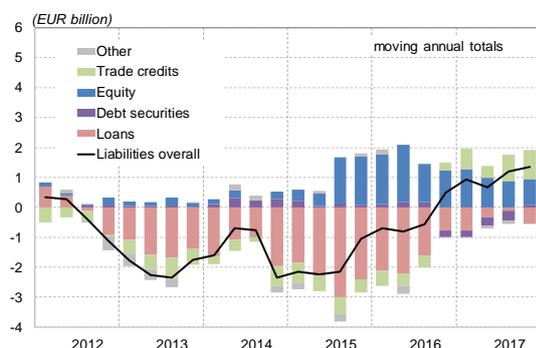
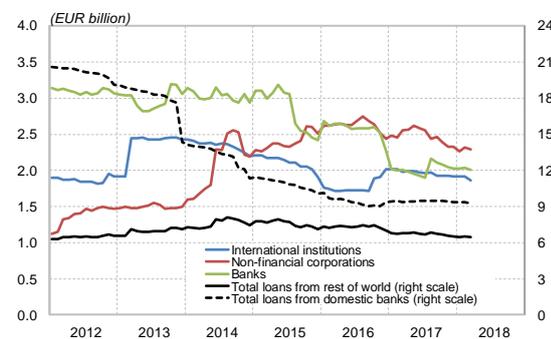


Figure 3.12: Loans to non-financial corporations from the rest of the world by creditor sector and loans raised with domestic banks



Note: Total corporate loans include loans from the rest of the world, loans from domestic banks, loans from the general government sector and other financial institutions, business-to-business loans and loans from households. DS: debt securities.

Source: Bank of Slovenia

**Non-financial corporations have reduced their financing via foreign loans from parent companies in the rest of the world since the second half of 2017.** Total foreign loans began to decline back in 2015, but financing at parent companies continued to gain in importance for some time after. The stagnation and subsequent decline in the loans of this type partly overlapped with the beginning of growth in borrowing at domestic banks. The terms of corporate financing at banks in the euro area overall are more favourable than at Slovenian banks, although the gap already declined significantly in 2015, which could partly explain the process of debt repayment at foreign banks since that year.

**One feature of corporate financing via loans in the last year has been that only loans at domestic banks are increasing.** Corporate financing via loans is declining in all other creditor sectors. Total corporate debt on the basis of loans declined by a further 3.8%<sup>3</sup> in 2017, while debt at domestic banks increased by 2.5%<sup>4</sup>

<sup>2</sup> Total financing according to the financial accounts methodology includes total financing via debt and equity instruments other than non-financial corporations' internal resources.

<sup>3</sup> Financial accounts figures, which are the data source for total corporate financing, are only available up to the end of 2017. The data cited for borrowing at domestic banks is from bank balance sheets, which are available up to March 2018.

<sup>4</sup> Year-on-year growth in bank loans to non-financial corporations increased for the majority of 2017, reaching 8.2% in November, albeit primarily as a result of a base effect (a contraction in 2016).

and continued to grow at similar rates in the first quarter of 2018, reaching 3.4%<sup>5</sup> in March. The loans are predominantly long-term loans: they account for 85% of the total. Growth in long-term loans has also been positive since the onset of the revival in corporate lending in late 2016, but it was not until the final quarter of 2017 that short-term loans recorded positive growth, the rate increasing further in early 2018. Non-financial corporations are still largely covering their needs for current and investment financing from accumulated own resources and from retained earnings. At the same time access to financing including bank financing is no longer a significant limiting factor in corporate performance, at either large enterprises or SMEs.<sup>6</sup>

Figure 3.13: Corporate loans by creditor sector

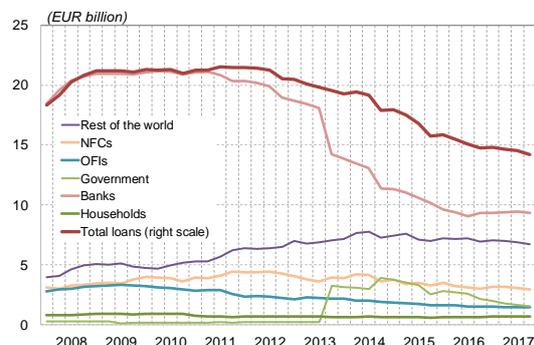
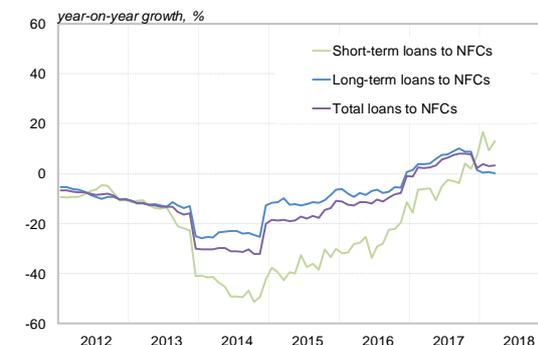


Figure 3.14: Corporate loans at domestic banks by maturity



Source: Bank of Slovenia

**There was a significant improvement in the terms and possibilities of corporate borrowing at banks relative to previous years.** After several years of falling indebtedness and increasing profitability, corporate creditworthiness has improved sharply. The debt-to-equity financing ratio fell to 100%, its level from 2005. Non-financial corporations' equity has increased by 8.4% over the last three years, while their debt increased in 2017 for the first time since 2008, albeit only by 0.7%. The improved stability in corporate financing structure in recent years has primarily been achieved via an inflow of equity, and less via debt repayments, which is a good basis for further corporate growth.

**Favourable interest rates have in recent years reduced the burden of servicing existing corporate debt, while the terms of new borrowing have also improved.** A large proportion of corporate loans at banks are variable-rate loans (83% in March 2018), which has additionally contributed to the sharp decline in the debt servicing burden. However, this also entails increased interest rate risk for non-financial corporations and increased credit risk for banks over the upcoming medium term, in the event of a rise in market interest rates. Prudent assessment is therefore required on the part of banks and non-financial corporations with regard to further borrowing and exposure to the corporate sector.

Figure 3.15: Corporate debt indicators

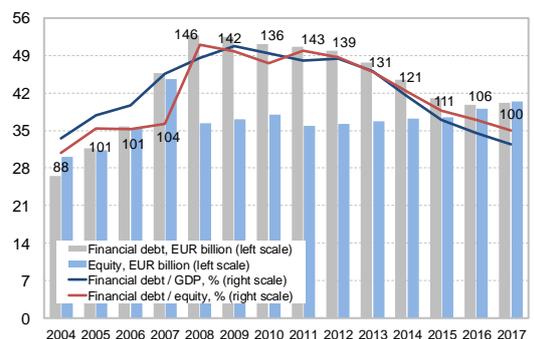
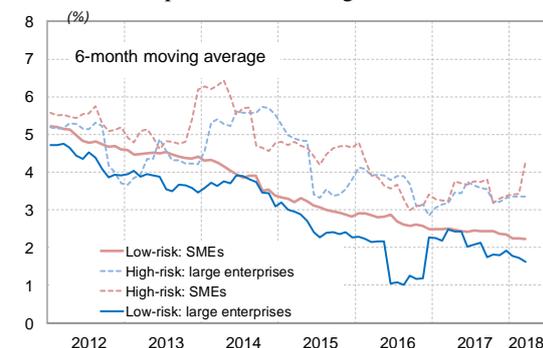


Figure 3.16: Interest rates on new corporate loans by corporate size with regard to risk level



Sources: Bank of Slovenia, ECB (financial accounts of both sources in left figure)

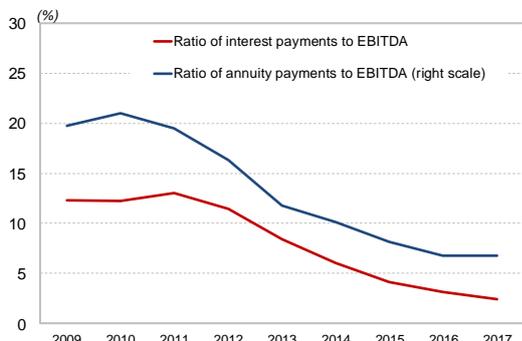
**Interest rates at banks vary with regard to corporate size.** SMEs borrow at slightly higher interest rates than large enterprises; the spread averaged 0.5 percentage points in 2017. According to survey data, in the coming years the banks are ready to focus more on financing SMEs, including micro enterprises and sole traders. The higher margins in this type of financing should cover the higher risk in this segment of the

<sup>5</sup> The introduction of IFRS 9 on 1 January 2018 accounted for 0.6 percentage points of the increase in year-on-year growth.

<sup>6</sup> According to a January 2018 survey on access to corporate financing.

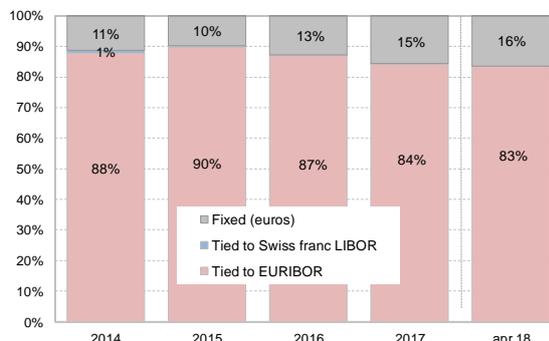
portfolio, which comes from the greater diversity and granularity of the investments, and consequently the less-detailed verification of the debtor's financial position.

Figure 3.17: Non-financial corporations' debt servicing burden for bank loans



Sources: Bank of Slovenia, AJPES

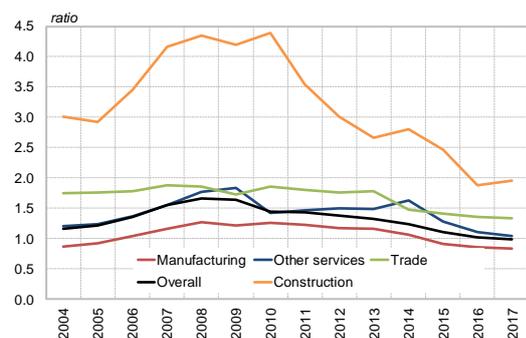
Figure 3.18: Stock of non-financial corporations' debt at banks by type of remuneration



### Corporate indebtedness

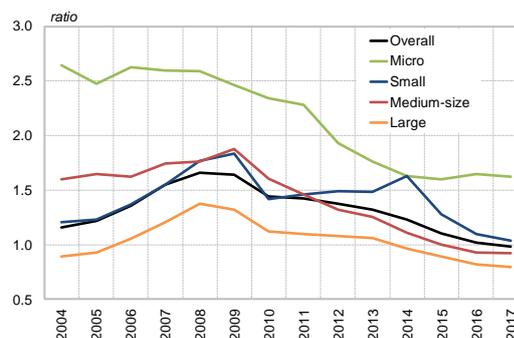
The process of corporate deleveraging continued at aggregate level in 2017, although there was variation with regard to sector and corporate size. Deleveraging at micro enterprises has come to an end over the last four years, while construction firms saw a slight increase in indebtedness last year. Non-financial corporations' leverage<sup>7</sup> as measured by the debt-to-equity ratio declined from 100% to 98% in 2017. Leverage is highest in the construction sector, having increased slightly to 195% in 2017, but is low in the manufacturing sector, at 83%. Since corporate indebtedness peaked in 2008, leverage at micro enterprises has declined most, but has remained at 160% since 2014. Leverage is lowest at large enterprises, as it was at the peak of indebtedness in 2008. The ratio of net financial debt to EBITDA<sup>8</sup> at all non-financial corporations declined from 5.2 in 2009 to 2.3 in 2017. The ratio improved last year at non-financial corporations in the majority of sectors, and across all categories of corporate size, as a result of a decline in net financial debt and also an increase in EBITDA. Corporate equity financing is making a significant contribution to the increased stability of the financial system, as in the event of excessive corporate financing via bank loans, any difficulties in debt servicing would again be reflected in a deterioration in the banks' credit portfolio.

Figure 3.19: Leverage for selected economic sectors



Sources: AJPES, Bank of Slovenia calculations

Figure 3.20: Leverage by corporate size



<sup>7</sup> Leverage in this case differs slightly from the indicator published previously, which illustrates the ratio of debt to equity in corporate financing on the basis of financial accounts data (the differences are the result of the differences in the methodology of data capture). In this section leverage is calculated as the debt-to-equity ratio from closing corporate balance sheet figures collated by AJPES.

<sup>8</sup> The net financial debt to EBITDA indicator is measured as the ratio of financial liabilities, less cash and cash equivalents, to cash flows from operating activities, and indicates a firm's capacity to regularly service debt (interest and principal). The indicator shows how many years of cash flow the firm needs to repay its debt and interest (assuming no change in net debt and EBITDA). The lower the ratio, the lower is the risk in the repayment of the firm's liabilities.

Figure 3.21: Ratio of net financial debt to EBITDA for selected economic sectors

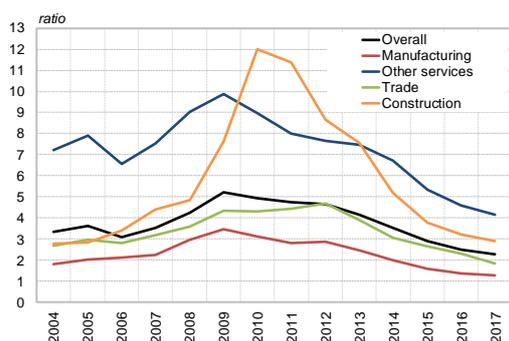
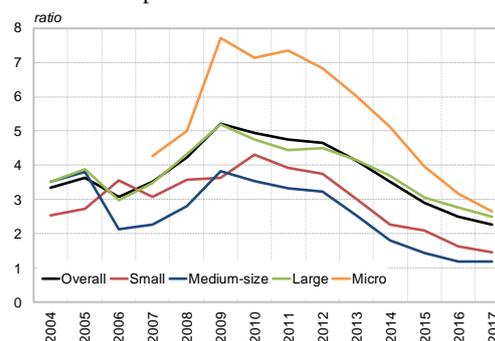


Figure 3.22: Ratio of net financial debt to EBITDA by corporate size



Sources: AJPES, Bank of Slovenia calculations

**Non-financial corporations' debt servicing capacity has been improving since 2009, thereby increasing their resilience to a rise in interest rates and the related rise in debt servicing costs.** Net financial debt and excessive debt<sup>9</sup> stood at EUR 17.8 billion and EUR 6.6 billion respectively in 2017, at the pre-crisis level. Having declined by 5% from the previous year, non-financial corporations' excessive debt amounted to 37% of their total net financial debt in 2017. Having peaked at EUR 14.5 billion in 2009, excessive debt had declined by fully EUR 8 billion by 2017. The ratio of excessive debt to net financial debt had declined to its pre-crisis level by 2017 in the majority of sectors, but remained high in the construction sector.

**Excessive debt is concentrated at a small number of non-financial corporations.** The concentration has diminished slightly in recent years, as certain large enterprises that were heavily burdened with excessive debt withdrew from the market. The hundred non-financial corporations with the largest excessive debt accounted for 42% of total excessive debt in 2017, while the ten non-financial corporations with the largest excessive debt accounted for 20% of the total. The proportion of non-financial corporations with excessive debt declined by 2 percentage points between 2011 and 2017 to stand at 31%, having stood at 22% in 2004. Non-financial corporations' increased debt servicing capacity also put in place favourable conditions for a new credit cycle. Although corporate indebtedness is at an acceptable level, for the successful mitigating of systemic risks it is necessary that non-financial corporations show concern for debt sustainability.

Figure 3.23: Net financial debt, excessive debt and sustainable debt

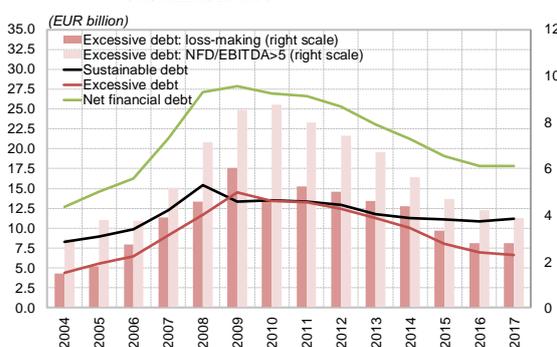
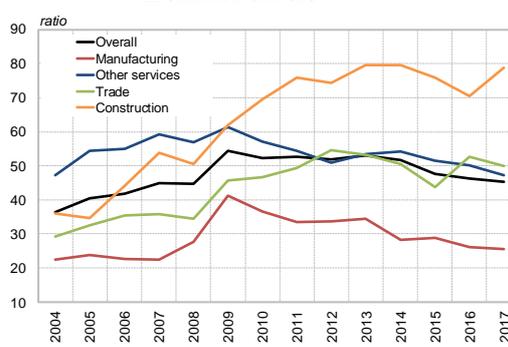


Figure 3.24: Ratio of excessive debt to net financial debt in selected sectors



Sources: AJPES, Bank of Slovenia calculations

<sup>9</sup> Excessive debt is calculated as the sum of total net financial debt of non-financial corporations disclosing a loss (or failing to disclose a profit), and the portion of net financial debt at profitable non-financial corporations in excess of the amount that would give a ratio of net financial debt to EBITDA of five. The calculation excludes three large enterprises under government ownership.

Figure 3.25: Concentration of excessive debt

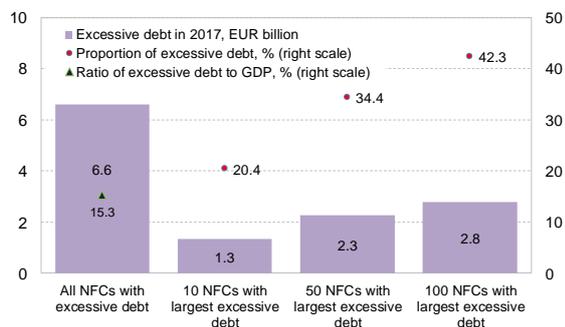
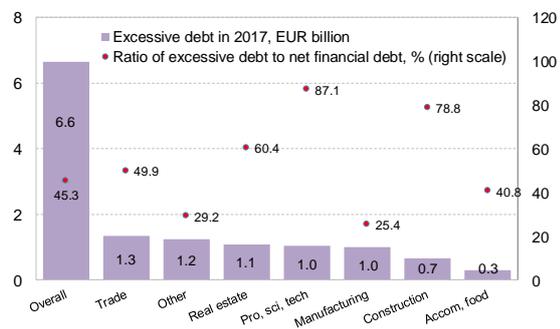


Figure 3.26: Concentration of excessive debt in selected sectors



Sources: AJPES, Bank of Slovenia calculations

## 4 BANKING SYSTEM

### 4.1 Bank profitability

#### *Summary*

*The banks are operating at a profit for the fourth consecutive year. One of the factors in the banks' solid profitability in 2017 and the first quarter of 2018 was the release of impairments and provisions at certain banks, a process that is judged to be slowly coming to a close. Despite the slow recovery in credit activity, the banks' net interest income is still declining. However, the decline has slowed profoundly in the last year. The banks' profitability is uncertain, even over the medium term. Sufficient lending activity and a corresponding increase in net interest income are the keys to achieving and maintaining solid growth in bank profitability. Profitability risk is currently moderate, but could increase if circumstances remain unchanged.*

#### **Income statement**

**Pre-tax profit at the level of the banking system amounted to EUR 443 million<sup>10</sup> in 2017, and to EUR 143 million in the first quarter of 2018, already a third of last year's figure.** The banks' net interest income has been declining since 2012, although the contraction slowed significantly in 2017 and the first quarter of 2018. The components of the banks' non-interest income that had contributed most to high non-interest income in the previous year also declined in 2017. This brought a decline in the banks' gross income and net income last year. The quality of the credit portfolio at the banks improved, which was a factor in the net release of impairments and provisions. The decline in the banking system's operating costs seen for several years came to an end in late 2017.

#### *Net interest, net non-interest income and margin*

**The banks' net interest margin has been declining since 2015. The decline came to a temporary halt in the final quarter of 2017, but then resumed in the first quarter of this year.** The net interest rate margin on interest-bearing assets declined by 0.08 percentage points to stand at 1.83% in 2017, and had fallen to 1.81% by the end of March 2018. The net interest margin is thus again at virtually its lowest level of the last decade, having been lower only in 2013. The net interest margin is at almost the same level in all the bank groups, its distribution across the banks having narrowed. The banks did not compensate for the decline in the net interest margin with an increase in the net non-interest margin, which stood at 1.13% in 2017. The banks are forecasting that the net interest margin in 2018 will remain at a similar level to 2017, or will actually increase slightly.<sup>11</sup> In line with the expectations with regard to increased lending activity and the maintenance of a funding structure that is favourable in cost terms, the banks are not anticipating any major changes in non-interest income.

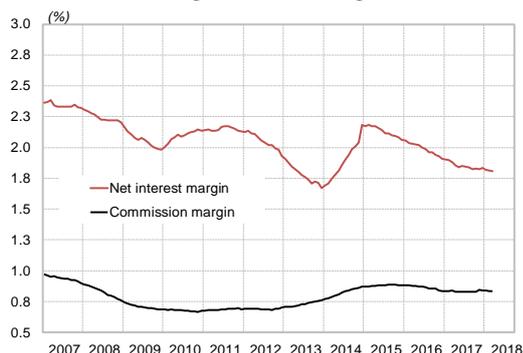
**The banks are focusing more attention on increasing income from net fees and commission.** Growth in the banks' net fees and commission, which account for the largest proportion of non-interest income, turned positive again in the final months of last year. Net fees and commission in 2017 were up 2% on the previous year. The banks' commission margin is relatively stable, and stood at 0.82% at the end of March 2018.<sup>12</sup>

<sup>10</sup> The figures are unaudited, and could be revised after the release of the Financial Stability Review.

<sup>11</sup> Bank Survey, April 2018. The survey results are used merely to assist in the interpretation of developments in the financial system, and are otherwise not published.

<sup>12</sup> In the short term the banks can only increase net income from fees and commission in a limited extent, while the remainder of non-interest income is relatively volatile and depends mostly on one-off factors (e.g. capital gains). Because net fees and commission are the most important and most stable part of non-interest income, and have accounted for between two-thirds and four-fifths of total non-interest income in individual years, the figure illustrates the ratio of solely this portion of non-interest income to total assets.

Figure 4.1: Net interest margin and commission margin in the banking sector



Source: Bank of Slovenia

The decline of several years in the banks' net interest income<sup>13</sup> has not yet come to an end, but the contraction has slowed profoundly in the last year. The banking system has seen a decline in interest income and interest expenses for several years now, and interest income has fallen by more than interest expenses over the last three years. The ratio of interest income to interest expenses has increased sharply: the banks' interest expenses are now equivalent to just 14% of interest income. The decline in interest income was attributable to the fall in interest rates and the contraction in lending activity in previous years. In addition to falling liability interest rates, the decline in interest expenses was attributable to the increase in the proportion of sight deposits.

Figure 4.2: Banking system's gross income

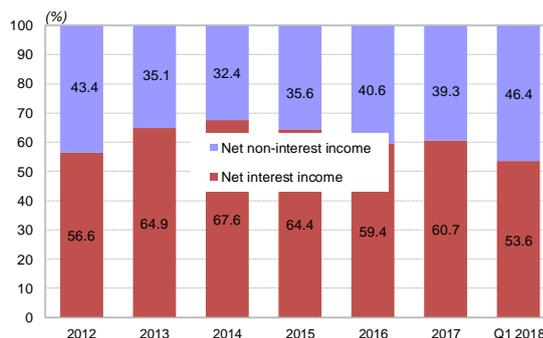
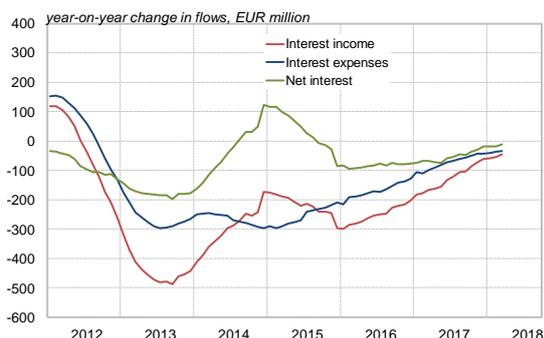


Figure 4.3: Interest income, interest expenses and net interest

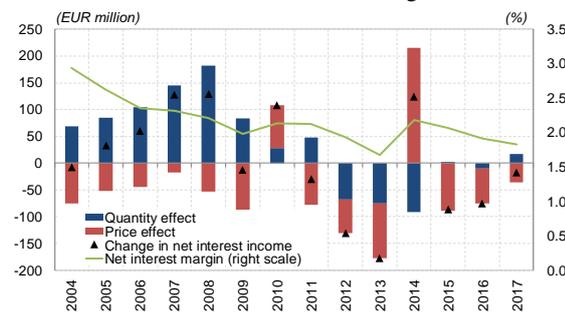


Note: The right figure takes account of the 12-month moving total of interest income/expenses, while the net interest margin is calculated for the same period.

Source: Bank of Slovenia

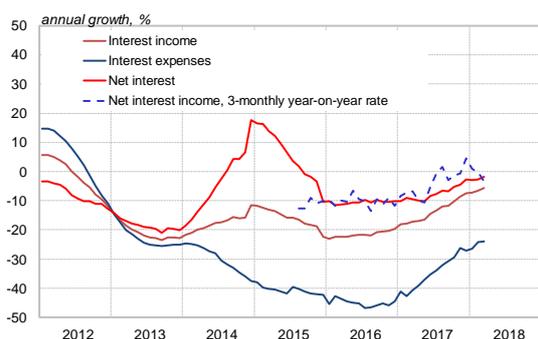
The factors affecting the change in net interest income can be price effects (e.g. a change in the effective interest rate) or quantity effects (e.g. an increase in loans). The contribution made by price effects to the change in net interest income has been larger than the contribution made by quantity effects since 2009, particularly in the last three years. While price effects have still been acting to reduce net interest income in the recent period, as of 2017 quantity effects are now acting to increase net interest income. This is the effect of the increase in the stock of loans. Because interest income from securities declined sharply at the same time, and the banks increased their stock of highly liquid assets, the increase in loans was not yet sufficient to turn growth in net interest income positive in 2017. In the upcoming short term, only sufficient lending activity on the part of the banks could contribute to renewed positive growth in net interest income.

Figure 4.4: Contribution made by quantity effects and price effects to the change in net interest income, and net interest margin



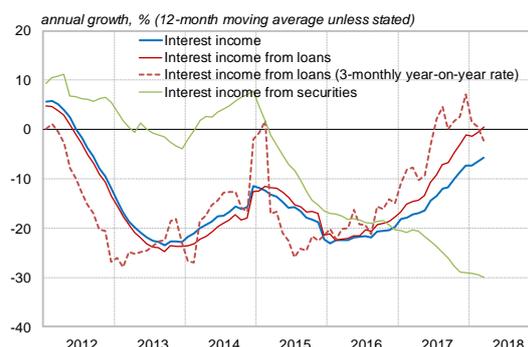
<sup>13</sup> The decomposition of net interest income and the net interest margin is illustrated below (see appendix). The decomposition of net interest income allows for the measurement of the relative importance of changes in individual components of the banks' interest income and expenses to the overall change in net interest, i.e. via quantity effects and price effects. Changes in net interest income are illustrated below in terms of their nominal amount in millions of euros, and in relative terms, i.e. with regard to interest-bearing assets (the net interest margin). For more, see the December 2016, June 2017 and January 2018 issues of the Financial Stability Review.

Figure 4.5: Interest income, interest expenses and net interest



Note: The year-on-year growth rates are calculated on the basis of the 12-month moving totals.  
Source: Bank of Slovenia

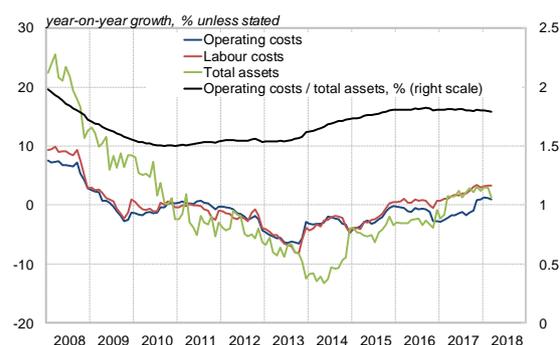
Figure 4.6: Interest income by type



**Operating costs, net income, and impairment and provisioning costs**

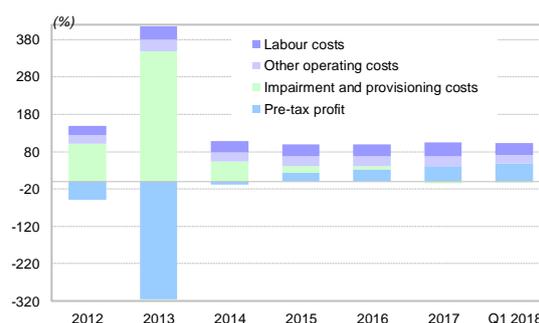
The decline in the banking system’s operating costs seen for several years came to an end in 2017. The possibilities of further reductions in operating costs are currently temporarily limited owing to the burden on the banks from numerous regulatory and institutional changes, the investments and costs in connection with the digitalisation of operations, and the rise in labour costs.<sup>14</sup> The CIR increased to almost 63%, primarily as a result of a decline in the banks’ gross income in 2017, having ranged between 56% and 59% in previous years.<sup>15</sup>

Figure 4.7: Operating costs, labour costs and total assets



Source: Bank of Slovenia

Figure 4.8: Disposal of banks’ gross income



In the wake of the decline in gross income, and almost no change in operating costs, the banks’ net income is also declining. The banks’ net income declined by 2.5% in 2016, and by 12.6% in 2017. Last year’s relatively large decline in net income was attributable to the decline in gross income, and to positive growth of 1% in operating costs. An increase in non-interest income brought positive growth in the banks’ net income in the first quarter of 2018.

A net release of impairments and provisions in the amount of EUR 43 million in 2017 contributed to the increase in the banking system’s profitability. The net release of impairments and provisions was the result of an improvement in the quality of the credit portfolio as a result of higher economic growth, an improvement in non-financial corporations’ financial standing, and the active resolution of non-performing exposures at the banks. From the perspective of the contribution made to the banking system’s improved profitability by impairments and provisions, it should be emphasised that it is a short-term phenomenon: in normal circumstances the banks dispose of a certain part of their income on impairment and provisioning costs.<sup>16</sup> According to the Bank Survey data (April 2018), the banks are expecting the release of impairments to gradually come to an end. The proportion of the disposal of the banks’ gross income accounted for by

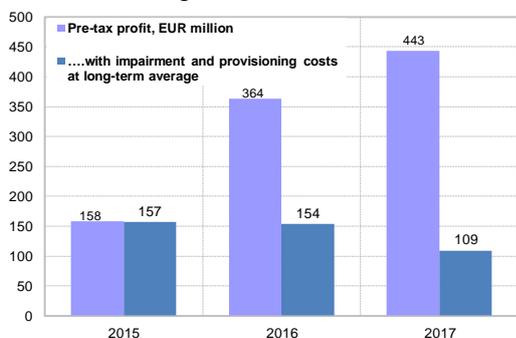
<sup>14</sup> Year-on-year growth in labour costs was low or even negative in previous years, but approached 3% in 2017.

<sup>15</sup> Balance sheet figures on an individual basis.

<sup>16</sup> For example, impairment and provisioning costs accounted for 16% of the disposal of gross income on average between 1996 and 2008. The ratio of impairment and provisioning costs to gross income then increased rapidly, reaching 3.5 in 2013. It declined rapidly after the bank recovery and resolution, and the banks actually achieved income from impairments and provisions in 2017 and the first quarter of 2018. The long-term average of the ratio of the banking system’s impairment and provisioning costs to gross income is based on the average between 1996 and 2017 excluding 2013, and stands at 27.2%.

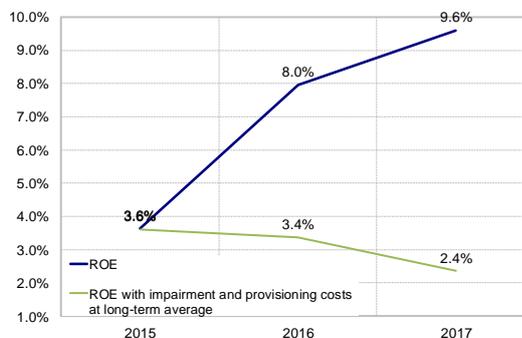
impairment and provisioning costs is nevertheless forecast to be well below average in 2018. The figure is forecast to approach a tenth in 2019 at the level of the banking system, which will still allow the banks to generate a solid profit over the next two years.

Figure 4.9: Comparison of actual profit and profit generated under the assumption of the ratio of impairment and provisioning costs to gross income standing at its long-term average



Source: Bank of Slovenia

Figure 4.10: Actual ROE and ROE with ratio of impairment and provisioning costs to gross income at its long-term average

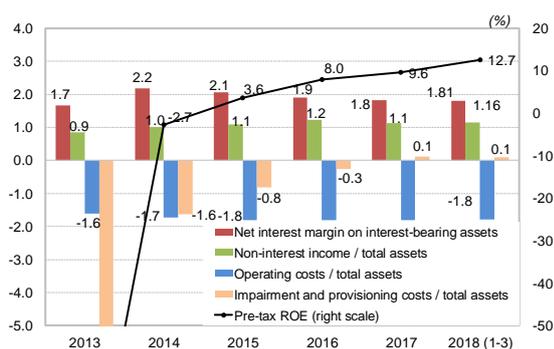


**The implementation of the new IFRS 9 did not have any significant impact on the creation of impairments and provisions at the banks.** The introduction of IFRS 9 had an impact on growth in loans in the banking system. On the basis of the opening balance it was estimated that without the impact of IFRS 9 year-on-year growth in loans to non-financial corporations would have stood at 2.5% in February of this year, or 0.6 percentage points less than it otherwise would have been. The increase in growth was the result of the reclassification of a specific part of the banks' credit portfolio that before the introduction of IFRS 9 was measured at amortised cost to the category of financial assets measured at fair value.

### Profitability of the Slovenian banking system

**The banking system's ROE improved to 9.6% in 2017.** Decomposing ROE into the four components of profit margin, risk-weighted income, risk level and leverage reveals that increased profit margin was the main factor in the increase in profitability in 2017, as it had been in the previous year, alongside, to a lesser extent, risk level. The impact of leverage was negligible, while risk-weighted income made a negative contribution to the banks' profitability.

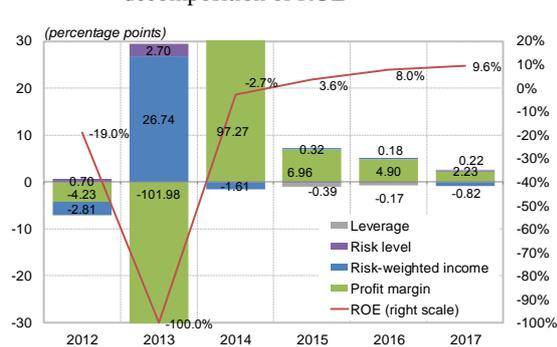
Figure 4.11: Bank performance indicators



Note: In the left figure the March 2018 figures for net interest margin on interest-bearing assets and the ratio of impairment and provisioning costs to total assets are calculated over the preceding 12 months. The March 2018 figure for ROE is calculated for the first three months of the year.

Source: Bank of Slovenia

Figure 4.12: Impact of four factors on changes in ROE; decomposition of ROE



**The Slovenian banking system's profitability increased in 2017, for the fourth consecutive year, primarily as a result of a higher profit margin.** The profit margin, i.e. the ratio of profit to gross income, was positive in 2017 for the third consecutive year, the banking system having operated at a profit since 2015. Risk-weighted income, the ratio of the banks' gross income to risk-weighted assets, declined in 2017 as a result of a decline in the banks' gross income and an increase in risk-weighted assets. After several years of decline, risk-weighted assets resumed their increase in 2017 as a result of growth in loans. Risk level, the

ratio of risk-weighted assets to total assets, increased slightly as a result of credit growth outpacing growth in total assets. Leverage in 2017 was virtually unchanged from the previous year. In the wake of further solid performance by the banks, it is primarily profit margin that is expected to contribute to their profitability. The other components of ROE can also be expected to gradually have a positive impact on bank profitability, as a result of an increase in gross income and risk-weighted assets as the banks expand their lending activity.<sup>17</sup>

## 4.2 Banking system's credit portfolio

### Summary

The banks further improved the quality of the credit portfolio in 2017 and the first quarter of 2018 by speeding up the resolution of non-performing exposures (NPEs). A large proportion of the remaining NPEs consists of legacy claims, particularly against non-financial corporations in bankruptcy. Coverage of NPEs by impairments and capital is high, which means that the banks would not incur major losses in the event of the faster write-off of the remaining NPEs. Household lending has overtaken corporate lending on bank balance sheets in terms of stock and growth, while the number of banks predicting a greater focus on this segment of the portfolio is increasing. An aggressive household lending policy on the part of certain banks could increase the banks' exposure to credit risk, particularly in the unsecured consumer loans segment, which in the event of a reversal in the economic cycle could increase the overall NPE ratio.

### Quality of the banking system's credit portfolio

The quality of the banks' credit portfolio further improved in 2017 and in the beginning of 2018. The NPE ratio<sup>18</sup> across the banking system's total exposure had declined to 5.4% by March 2018, as NPEs declined to EUR 2.3 billion, down 3 percentage points and EUR 1.2 billion respectively on the end of 2016. Alongside the banks' active approach, the decline in NPEs was also attributable to the favourable impact of economic growth on debtors' financial standing and debt repayment. The bank's total exposure<sup>19</sup> began to increase in December 2016 with the growth in lending to the non-banking sector, which has additionally contributed to the improvement in the overall quality of the credit portfolio.

Figure 4.13: NPEs, NPLs and claims more than 90 days in arrears, stocks and ratios

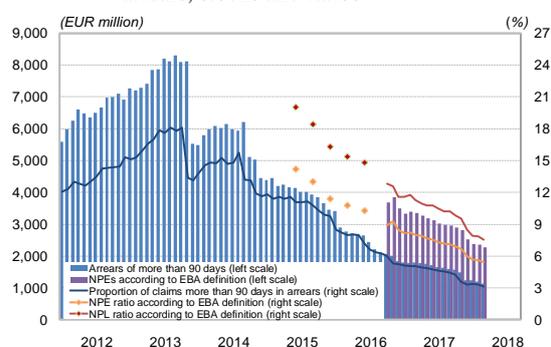
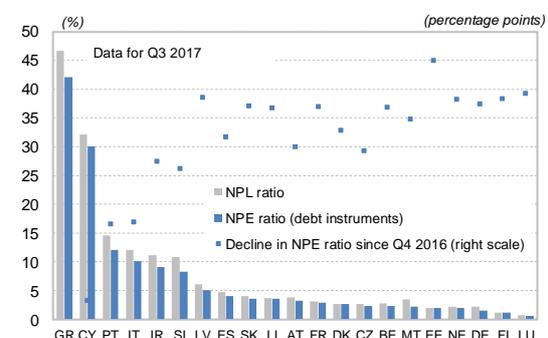


Figure 4.14: NPE and NPL ratios in euro area countries



Note: Right figure: Consolidated data. NPE ratios are available solely for the debt instruments portfolio, and not for total exposure.  
Sources: Bank of Slovenia, ECB (consolidated banking data)

The NPL ratio as a measure of the quality of bank loan portfolio, which encompass a smaller proportion of total bank exposure, had declined to 7.5% by March 2018. Bank loans account for two-thirds of the banks' total exposure, but a predominant proportion of NPEs (93% on average in 2017). Investments in securities account for 20% of the banking system's total exposure, but the quality of this portfolio is still good, i.e. there are no non-performing investments.

<sup>17</sup> See the tables illustrating individual components of ROE in the appendix.

<sup>18</sup> The section on credit risk mainly illustrates data according to the EBA definition, whose use is well-established in international comparisons. The data for the Slovenian banking system according to this definition is available at the aggregate level from June 2015, while the banks' regular monthly reporting allows for detailed itemisation only from October 2016. Comparisons over a longer term can only be made on the basis of the definition of non-performing claims according to the criterion of more than 90 days in arrears. Figures with these longer series are given in the appendix to the review.

<sup>19</sup> Denominator in the NPE ratio.

The banks largely reduced their NPEs in 2017 through write-offs and repayment of non-performing claims.<sup>20</sup> Write-offs of non-performing loans accounted for 33% of the reduction in NPEs, while repayments during the year accounted for another 30% of the reduction. Collateral liquidation and the sale of claims each accounted for 10% of the reduction. The approaches taken to reducing NPEs varied according to the debtor sector. The reduction in NPEs in the non-financial corporations sector was primarily achieved through the write-off of claims (35% of the total), while the repayment of claims was significantly smaller (26%). By contrast, the reduction in NPEs in the household sector was primarily achieved through the repayment of claims (56% of the total), while the write-off of non-performing claims was significantly smaller (27%).

In the further reduction of NPEs, alongside repayments of claims, greater emphasis can be expected to be given to collateral liquidation and the sale of non-performing claims. By the end of 2019 the stock of NPEs is forecast to be down 43% on the end of 2017 according to survey data, the banks achieving over a quarter of the reduction through the repayment of claims. While the sale of claims accounted for 10% of the reduction in 2017, the banks are forecasting that it will play a large role in 2018 and 2019, accounting for 22% of the overall reduction in these two years. There is expected to be a similar increase in the importance of collateral liquidation. At the same time the banks are forecasting a net increase of approximately 10% in new NPEs in both years. The forecast for the household sector<sup>21</sup> remains for a high 61% of the reduction in NPEs to come from cash repayments. The banks are also expecting the largest increase in NPEs in household sector relative to their current stock.<sup>22</sup> In the wake of their increased focus on household lending in the last two years, there has also been an awareness at the banks of the increased risk inherent in the rapid increase in the consumer lending segment (see the section entitled Risk in the private individuals portfolio).

Figure 4.15: Approaches to reducing NPEs in 2017

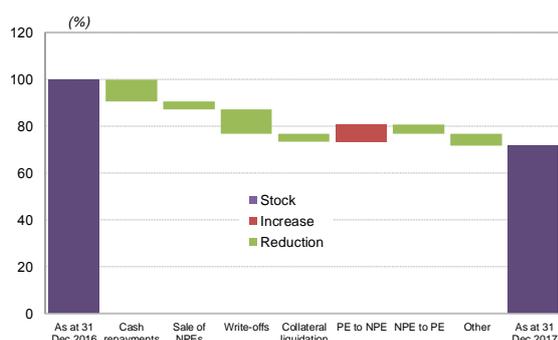


Figure 4.16: Envisaged approaches to reducing NPEs in 2018 and 2019



Notes: 1. PEs: performing exposures. 2. The reduction in NPEs is illustrated in the figures as a percentage of the stock of NPEs at the beginning of the period. The contributions made by individual approaches in the text are described in terms of the reduction achieved between the beginning and end of the period (excluding the contribution made by the net inflow of new NPEs). 3. The data is on a consolidated basis for NLB, NKBM and Abanka, and on an individual basis for other banks.

Source: Bank of Slovenia, Bank Survey, April 2018

The banks were more intensive in reducing NPEs to non-residents in 2017 than in previous years. The stock of NPEs to non-residents was down a half on the end of 2016 to stand at EUR 328 million at the end of March 2018, while the NPE ratio in this client segment fell to 4.4%, below the overall ratio for the banking system. The largest factor in the reduction in NPEs to non-residents was the write-off of claims in the final quarter of 2017. This significantly reduced the proportion of total NPEs accounted for by non-residents from 21% at the end of 2016 to 14% in March 2018.

The segment of the credit portfolio most heavily burdened with NPEs is non-financial corporations, despite a trend of improvement in its quality. NPEs to non-financial corporations still amounted to EUR 1.6 billion in March 2018, or 11.8% of total exposure to the sector. The most heavily burdened sectors in March 2018 were construction (an NPE ratio of 21.9%), wholesale and retail trade (20.0%) and real estate activities (33.8%), which together accounted for 60% of total NPEs to non-financial corporations. Manufacturing accounts for 15% of total NPEs to non-financial corporations because of its large size, but the NPE ratio in the sector is among the smallest, at 6.0%. Despite the persistently high NPE ratio, there is a clear trend of reduction in the default rate in the non-financial corporations sector, in which the macroeconomic environment has been a major factor in recent years. Last year the highest default rate was in

<sup>20</sup> Source: Bank Survey, April 2018.

<sup>21</sup> Figures showing the approaches to reducing NFEs at non-financial corporations, SMEs and households are given in the appendix to the review.

<sup>22</sup> The red column in the right figure illustrates the increase in NPEs relative to the actual stock of NPEs, and together with the next column illustrates the net increase in NPEs.

construction, at 2.3%, down significantly from the figures of 11% and 10% recorded in 2012 and 2013 respectively. The probability of default was also not in excess of 2.5% in 2018.

Figure 4.17: NPE ratios by client segment

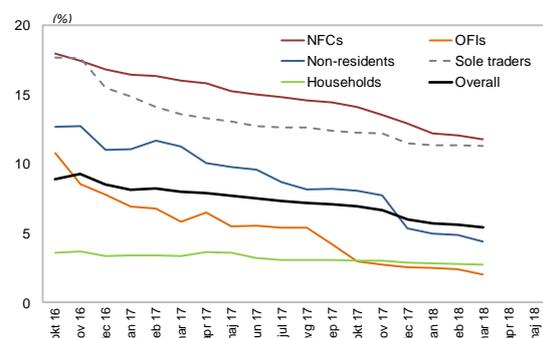
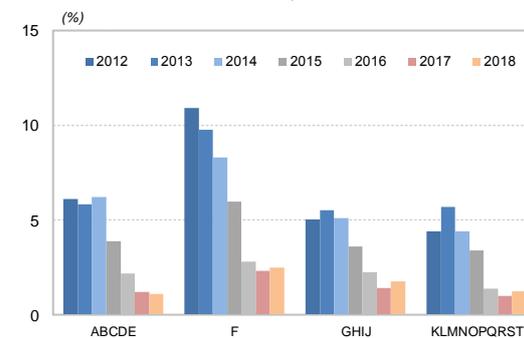


Figure 4.18: Default rates (to 2017) and probability of default (2018) by sector



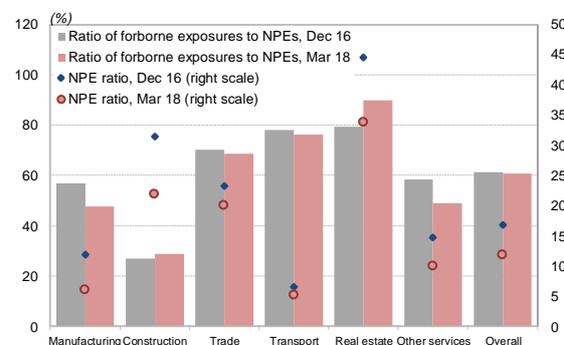
Note: Sector codes: ABCDE: agriculture, fishing, forestry, manufacturing, electricity, gas and water supply; F: construction; GHIJ: wholesale and retail trade, accommodation and food service activities, transportation and communication, financial and insurance activities; KLMNOPQRST: other services.

Source: Bank of Slovenia

**Classified claims more than 90 days in arrears, as narrower indicator of non-performing claims,<sup>23</sup> declined sharply in all sectors in the first three months of 2018.** The ratio for the entire corporate sector stood at just 5.0%. The large difference between the indicators, particularly in the corporate sector, arises because the improvements in the quality of investments are evident in the NPE ratio only after the certain period, when clients are already regularly repaying their debts.

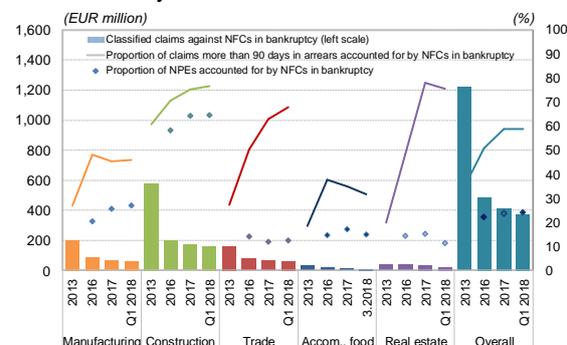
**Claims more than 90 days in arrears account for a smaller proportion of the NPEs to corporates, while a larger proportion consists of forbore exposures or other exposures with smaller likelihood of payment.** NPEs to corporates amounted to EUR 1.6 billion in March 2018, of which claims more than 90 days in arrears accounted for EUR 644 million, while forbore exposures accounted for EUR 1.0 billion (including firms that have fallen into arrears again, or where the forbearance has been less successful). The ratio of forbore exposures to total NPEs is high at the level of the corporate sector as a whole (61% in March), and also in individual sectors (just under 50% in manufacturing, to more than 75% in transportation and storage and in real estate activities). These exposures remain classed as non-performing because of the banks' obligation to maintain observation status for a specific period after the resumption of debt servicing, because of unsuccessful forbearance or because the debtors have again fallen into arrears. The proportion of forbore exposures that have again fallen more than 90 days in arrears stood at 20% in March 2018 across the non-financial corporations sector, with large variations between sectors, from 1% to more than 60%.<sup>24</sup> Exit from NPE status can be expected for the majority of the remaining forbore exposures, particularly in light of the favourable economic growth.

Figure 4.19: Ratio of forbore exposures to NPEs by sector



Source: Bank of Slovenia

Figure 4.20: Exposure to non-financial corporations in bankruptcy: stocks, proportion more than 90 days in arrears and ratio to NPEs



<sup>23</sup> The differences in the methodologies for measuring credit portfolio quality, namely claims more than 90 days in arrears and NPEs according to the EBA definition, are explained in detail in Box 2.1 of the January 2016 Financial Stability Review ([https://bankaslovenije.blob.core.windows.net/publication-files/FSR\\_-\\_januar\\_-2016\\_.pdf](https://bankaslovenije.blob.core.windows.net/publication-files/FSR_-_januar_-2016_.pdf)).

<sup>24</sup> See the graph in the appendix to the review.

**The burden on bank portfolios exerted by claims against non-financial corporations in bankruptcy remains heavy.** Non-financial corporations in bankruptcy account for almost 60% of total claims more than 90 days in arrears and 24% of NPEs. Non-financial corporations in bankruptcy account for fully 65% of NPEs to the construction sector, by far the highest figure in any sector. This also explains the lower proportion of forbore exposures in the sector (almost 30%), as claims in bankruptcy generally do not undergo forbearance.

**SMEs still account for 56% of NPEs to non-financial corporations, and 38% of total NPEs.** Despite declining in recent years, the NPE ratio in the SMEs segment remains high, at 14.0%, compared with 9.7% in the large enterprises segment. The decline in NPEs in the SMEs segment has been notably faster than in the large enterprises segment since 2016. The transition matrices also indicate that there were considerably more upgradings of SMEs (measured by exposure amount) in 2017 than in previous years, and more than in the large enterprises segment. At the same time there were also more downgradings of SMEs, an indication of the heterogeneity of this client segment with regard to debt servicing capacity. The banks are forecasting a greater level of collateral liquidation in the further reduction of NPEs in the SMEs segment than in other client segments (28% of the overall reduction), while other approaches are forecast to be evenly distributed.

Figure 4.21: Breakdown of SMEs' transitions between ratings

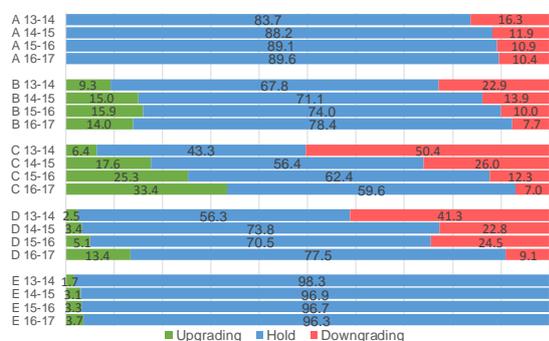
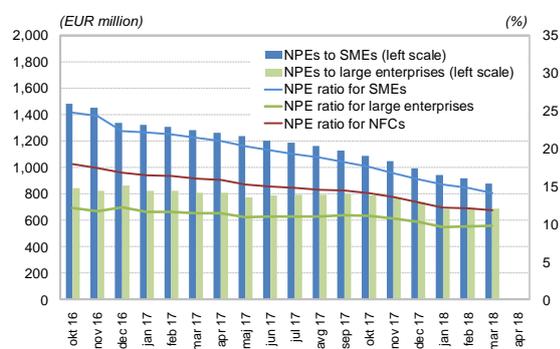


Figure 4.22: NPEs by corporate size



Source: Bank of Slovenia

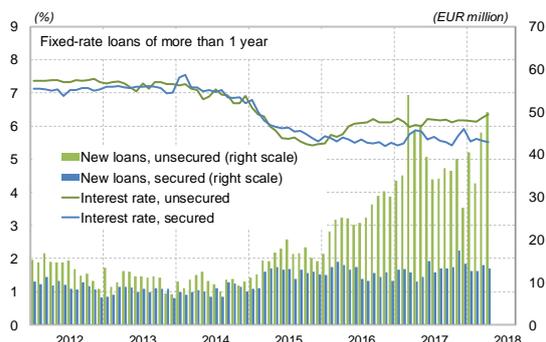
### Risks in the household portfolio

**The banks have seen a rapid increase in exposures to households since the second half of 2016, particularly in the consumer loans segment.** The relatively small size of the individual exposures means that risks are more diversified, while the return on investment is higher than other investments. The quality of the household portfolio<sup>25</sup> is relatively high overall, although there is an above-average NPE ratio in the consumer loans segment. The NPE ratio is 2.8% across the household portfolio as a whole; the NPE ratio is 2.8% for housing loans, but is higher for consumer loans at 3.6%.

**Since 2016 the main increase in consumer loans has been in unsecured fixed-rate loans of longer maturities.** The proportion of total new fixed-rate consumer loans accounted for by loans with a maturity of more than 10 years increased from 4% in 2015 to 13% in 2017, three-quarters of which were unsecured, primarily as a result of the automation of loan agreement approval procedures.

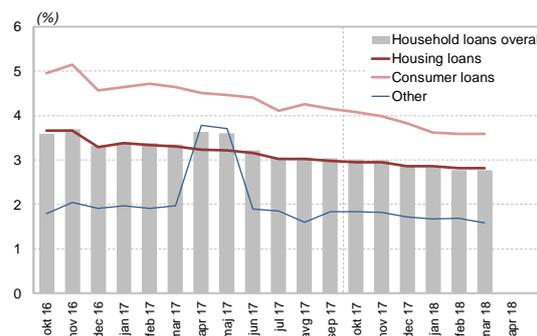
<sup>25</sup> The household sector also includes sole traders, whose NPE ratio is significantly higher, at 7.6%. Hereinafter the term. NPE ratios for households are calculated for households without sole traders, which are shown separately where necessary.

Figure 4.23: New long-term consumer loans and interest rates by type of credit protection



Note: Under other loans (right figure), there was a temporary increase in off-balance-sheet exposures at one bank.  
Source: Bank of Slovenia

Figure 4.24: NPE ratios for exposures to households by loan type

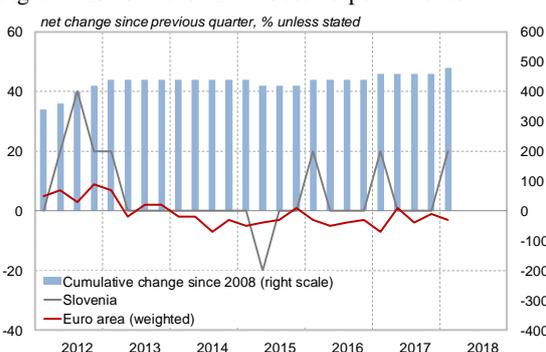


**The banks are charging higher contractual interest rates because of the increased credit risk from unsecured consumer loans.** Average interest rates on unsecured long-term fixed-rate consumer loans have been 0.5 percentage points higher than those on the corresponding secured loans for the last year and a half. The interest rate spread on loans with a maturity of more than 10 years between secured and unsecured loans is significantly wider, at 2 percentage points on average. In the favourable economic environment this entails additional income for banks, albeit alongside the increased risk that the premium will be insufficient in the event of a reversal in the cycle, particularly when the loans have been approved for weaker clients.

**The average maturity of new long-term consumer loans was 6.8 years in 2017.** During this period there could be a reversal in the economic cycle, and thus a deterioration in the creditworthiness of the debtors. Another important segment from the perspective of risk is variable-rate loans, which despite a decline still account for 55% of the total stock of consumer loans, and would entail increased credit risk for the banks in the event of a rise in interest rates.

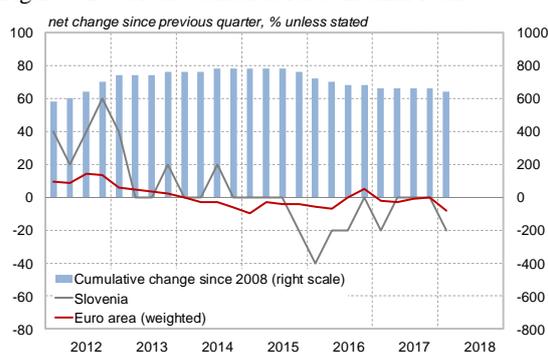
**The banks are maintaining the credit standards on household loans at the elevated levels previously reached.** The standards on housing loans have not changed for some time now, while the banks are actually reporting a slight tightening on consumer loans. However, reporting on credit standards is limited to the five largest banks, who have large market shares but are not the most representative in consumer lending under the aforementioned terms.

Figure 4.25: Credit standards for corporate loans



Source: Bank of Slovenia

Figure 4.26: Credit standards for consumer loans



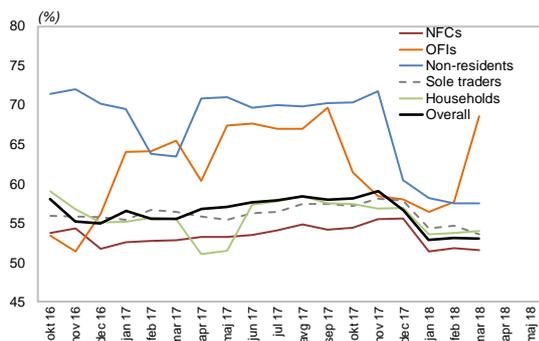
**For consumer loans, credit risk is mainly present over the upcoming medium term.** Despite the increase in household borrowing at banks, household indebtedness remains low, and thus the credit risk inherent in this segment of bank investments currently remains relatively low. In the event of a reversal in the economic cycle, particularly at banks with a large proportion of consumer loans with higher loan values and longer maturities to weaker client segments, the NPL ratio could increase. Although the acceleration in consumer lending has been more pronounced at individual banks, these trends could persist and could be reinforced at other banks.<sup>26</sup>

<sup>26</sup> Bank Survey, April 2018.

**Coverage of non-performing claims by impairments and provisions, and by capital**

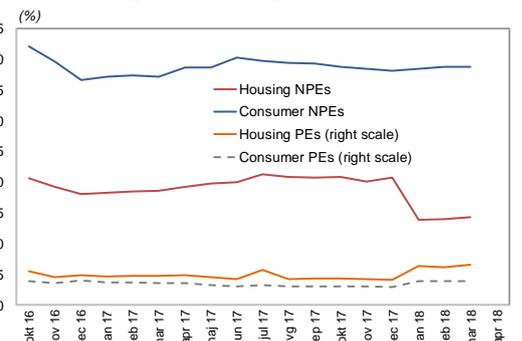
**Coverage of NPEs by impairments<sup>27</sup> increased during 2017, reaching 59% by November.** There was a significant decline in coverage in December 2017 and in January 2018 almost to 53%, at which level it remained in February and March. A major factor in the decline in coverage by impairments was the write-off of NPEs to non-residents, which had already been almost entirely covered by impairments, which reduced the average coverage of the remaining NPEs. A significant decline in NPEs and impairments was seen in exposures to all client segments in January 2018, mostly as a result of the introduction of IFRS 9. The overall impact of IFRS 9 on the coverage of the entire NPEs by impairments was decrease by 3.4 percentage points.

Figure 4.27: Coverage of NPEs by impairments and provisions by client segment



Source: Bank of Slovenia

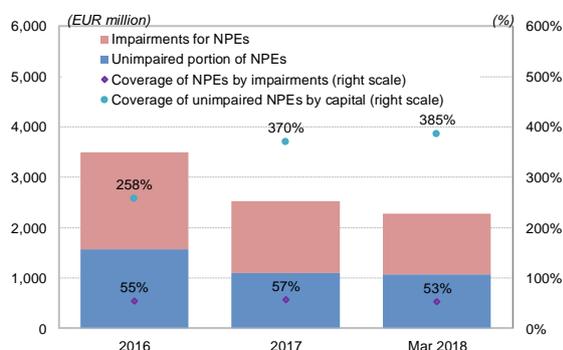
Figure 4.28: Coverage of non-performing and performing housing loans and consumer loans by impairments and provisions



**Coverage of NPEs to households by impairments is slightly above the overall figure for the entire portfolio, with higher coverage of consumer loans than housing loans.** Coverage of consumer loans by impairments stood at 69% in March 2018, compared with a figure of 44% for housing loans. There is less need to cover housing loans because of their higher coverage by collateral. For now the banks are largely not creating impairments for performing consumer loans, which in the context of an increase in new unsecured loans could slightly reduce the banks' exposure to credit risk in this segment. Impairments for performing consumer loans amount to just 0.7% of exposure, and there is no great variation at banks with a more aggressive consumer loan approval policy.

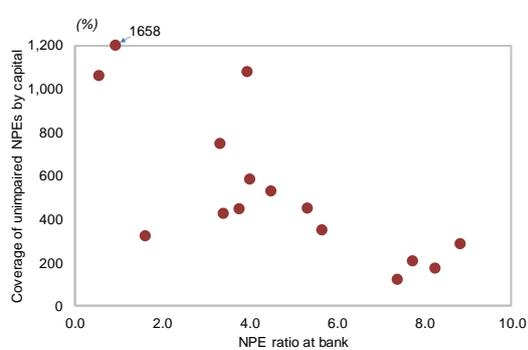
**The banking system's capital adequacy is providing for high coverage of the unimpaired portion of NPEs by capital.** In the wake of the decline in NPEs to EUR 2.3 billion and the decline in the unimpaired portion of NPEs to EUR 1.1 billion, coverage of the latter by regulatory capital<sup>28</sup> had increased to 385% by March 2018. The Slovenian banking system is already notable in comparison with other euro area countries for its coverage by impairments, while the high coverage by capital ensures extra robustness in the event of an increase in credit risk. Coverage of unimpaired NPEs by capital varies considerably at the level of individual banks, and is lowest at the banks with the highest NPE ratios.

Figure 4.29: Coverage of unimpaired NPEs by capital



Source: Bank of Slovenia

Figure 4.30: Coverage of unimpaired NPEs by capital versus NPE ratio



<sup>27</sup> The term "impairments" is used in this section to mean "impairments and provisions".

<sup>28</sup> According to regulatory capital data for December 2017.

**Box 4.1: Impact of changeover to IFRS 9**

On 1 January 2018 the banks changed over to the accounting of financial instruments in accordance with IFRS 9, which intervenes in all key areas of banking: risk management, back-office, accounting and reporting.

The changeover to IFRS 9 brought changes in the rules for the classification and measurement of financial instruments and for the calculation of credit losses for the purposes of creating value adjustments and provisions (owing to the changeover from the incurred loss model to the expected loss model), which consequently has an impact on hedge accounting. By comparing the data on an individual basis from bank reports as at 31 December 2017 (before the changeover to accounting in accordance with IFRS 9) and 1 January 2018 (after the changeover), the Bank of Slovenia has analysed the impact of IFRS 9 on the banks' financial statements and capital. This analysis reveals that IFRS 9 has not had a significant impact on book capital at the majority of banks, and that the impact was actually positive at more than half of the banks owing to the release of value adjustments and provisions for credit losses that took place as a result of favourable macroeconomic forecasts.

The actual impact of IFRS 9 on financial statements and capital is not yet final, as given the complexity of the new standard the full effects of the changeover will only stabilise over the longer term. It will therefore be necessary to focus attention this year on verifying the proper implementation of IFRS 9.

**Impact on the classification and measurement of financial instruments**

The new concept of the classification of financial instruments under IFRS 9 is based on business models for managing financial instruments and on the attributes of financial instruments, which are assessed by the SPPI<sup>29</sup> test, in which the bank checks whether an individual debt financial instrument has the customary attributes of a loan agreement, i.e. attributes that represent the collection of cash flows from principal and interest (including appropriate compensation for credit risk).

On the basis of this concept, during the changeover the banks reclassified fully a quarter of the portfolio of debt securities from the category of available-for-sale financial assets (i.e. measured at fair value through other comprehensive income) after passing the SPPI test to the category of financial assets measured at amortised cost, whereby there was a negative impact on capital at the level of the banking system overall owing to the revaluation of these securities from fair value to amortised cost. The reason for the reclassification lies in the definition of the business models for managing financial instruments, and in the surplus debt securities portfolio that the banks do not need for managing daily liquidity.

The SPPI was only failed by a negligible part of the credit portfolio that the banks measured at amortised cost before the introduction of IFRS 9, which was therefore reclassified to the category of financial assets measured at fair value through profit or loss. The revaluation of this part of the credit portfolio to fair value had a positive impact on capital at the level of the banking system.

**Impact on the NPE ratio and coverage of NPEs by value adjustments and provisions for credit loss**

The reclassification of exposures between accounting portfolios and the resulting revaluations from amortised cost to fair value and vice-versa from fair value to amortised cost, and the different methodological treatment during a change in repayment terms of exposures (particularly to defaulters) that have passed the SPPI test and are measured at amortised cost slightly reduced the gross book value of the exposures<sup>30</sup> at the level of the banking system, which resulted in a slight reduction in the NPE ratio (by 0.3 percentage points according to the current estimate), and was also a factor in a decline in the coverage of exposures by value adjustments and provisions for credit losses.

The decline in coverage (by 3.4 percentage points according to the current estimate) can be explained primarily by favourable macroeconomic forecasts and lower probabilities of default (PDs), which the banks take into account in the calculation of expected credit losses.

<sup>29</sup> Solely payments of principal and interest.

<sup>30</sup> Gross book value is the book value before value adjustments for credit losses, as defined for supervisory reporting purposes in paragraph 34 of Part 2 of Annex V of Commission Implementing Regulation (EU) No 680/2014.

### 4.3 Bank funding, interest sensitivity and liquidity

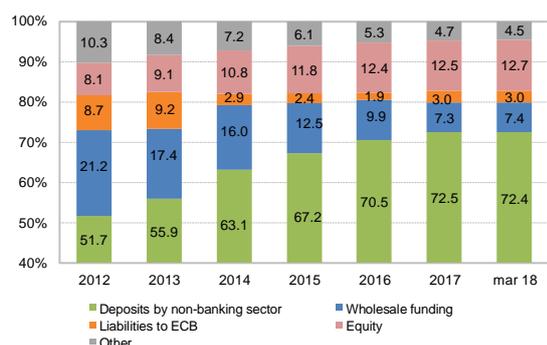
#### Summary

Deposits by the non-banking sector are strengthening at banks as a result of growth in household deposits and deposits by non-financial corporations. The growth in sight deposits and long-term loans means that the maturity mismatch between investments and funding on bank balance sheets is still increasing. In the event of stress conditions, and the corresponding switching of deposits between banks or outside the banking system, this could lead to increased instability in bank funding. The banks' refinancing risk nevertheless remains moderate, as a result of their favourable liquidity position and the large proportion of secondary liquidity in bank assets. The high stock of liquid assets on bank balance sheets is reducing their sensitivity to the adverse effects of the widening maturity gaps between assets and liabilities.

#### Bank funding

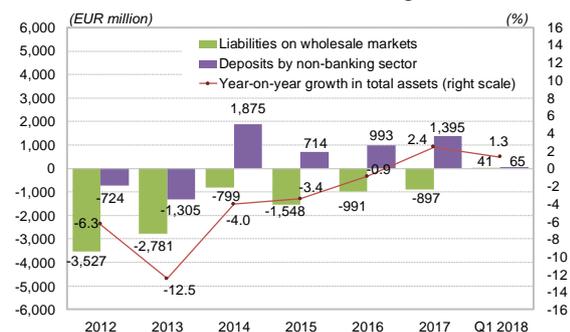
The changes in the funding structure of the Slovenian banking system slowed in the first quarter of 2018. The proportion of total funding accounted for by deposits by the non-banking sector strengthened to 72.5% in 2017, and remained at this level in the first quarter of 2018. The banks are continuing to make debt repayments on the wholesale markets; the increase in liabilities to foreign banks at the beginning of this year was the result of the introduction of the new IFRS 9.<sup>31</sup> Given the large volume of liquidity, the banks have no need for additional borrowing with the Eurosystem, for which reason the proportion of funding that it accounts for remains insignificant.

Figure 4.31: Structure of bank funding



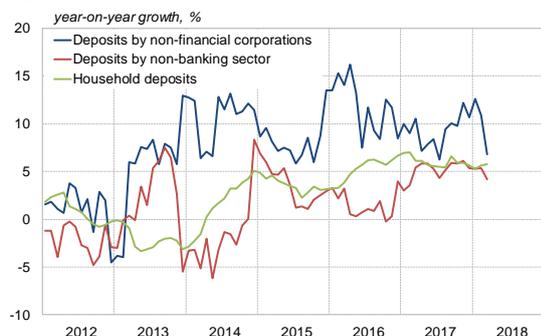
Note: Wholesale funding comprises liabilities to banks in the rest of the world and issued debt securities.  
Source: Bank of Slovenia

Figure 4.32: Changes in deposits by the non-banking sector and wholesale funding



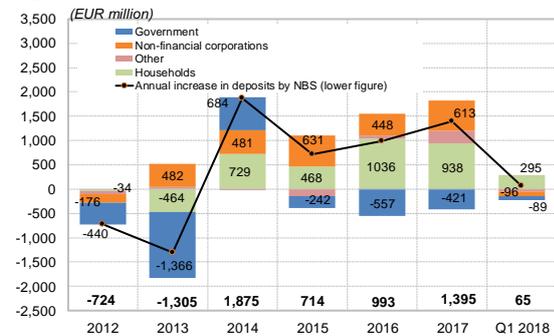
Deposits by the non-banking sector remain the main source of funding for the banks' lending activity. The annual net increase in deposits by the non-banking sector is still exceeding the annual net increase in loans to the non-banking sector. Year-on-year growth in deposits by the non-banking sector was relatively stable in 2017, averaging 5% over the year, but had declined to 4.2% by the end of the first quarter 2018. The main driver of growth in deposits by the non-banking sector is growth in household deposits and deposits by non-financial corporations, which together accounted for 63% of the Slovenian banking system's total funding at the end of the first quarter of 2018.

Figure 4.33: Growth in deposits by sector



Source: Bank of Slovenia

Figure 4.34: Increase in deposits by sector



<sup>31</sup> In accordance with IFRS 9, banks have included subordinated liabilities under liabilities to banks as of 1 January 2018.

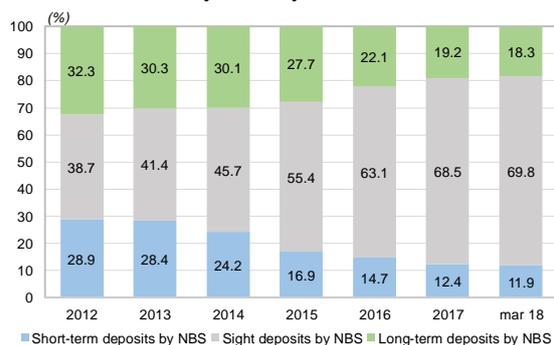
**The importance of household deposits in the funding structure is strengthening further.** Household deposits increased by 5.6% or EUR 938 million in 2017 to EUR 17.5 billion. The slowdown in growth in household deposits seen in the second half of 2017 came to an end in the first quarter of 2018, when year-on-year growth stood at 5.8%. Despite the extremely low interest rates, the increase in household deposits in the first quarter of 2018 reached almost a third of the total increase in 2017. The favourable economic situation, higher employment growth and growth in disposable income will also be a good basis for further growth in household deposits in the future. Another factor in this will be the conservative behaviour by savers, who are less inclined towards alternative forms of investment.

**Growth in deposits by non-financial corporations remains unstable.** Deposits by non-financial corporations increased by almost 11% or EUR 613 million last to EUR 6.4 billion. After strengthening at the end of 2017 and the early part of 2018, year-on-year growth in deposits by non-financial corporations slowed to 6.8% in March. Given the favourable economic situation, and the concomitant ongoing growth in corporate investment and turnover, a gradual reduction in the funds that non-financial corporations have deposited at banks can be expected.

*Maturity of deposits by the non-banking sector*

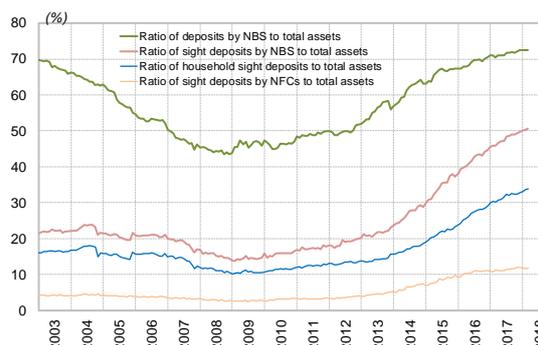
**The average maturity of deposits by the non-banking sector is continuing to shorten as a result of the increase in sight deposits, although the proportion that they account for is increasing more slowly than in previous years.** The banks have had a similar funding structure in the past, with a prevalence of deposits by the non-banking sector, although the proportion accounted for by sight deposits was significantly smaller at that time. Sight deposits accounted for almost 70% of deposits by the non-banking sector at the end of the first quarter of 2018, or 51% of total assets, where the latter figure is 27 percentage points higher than its long-term average.<sup>32</sup>

Figure 4.35: Breakdown of deposits by the non-banking sector by maturity



Source: Bank of Slovenia

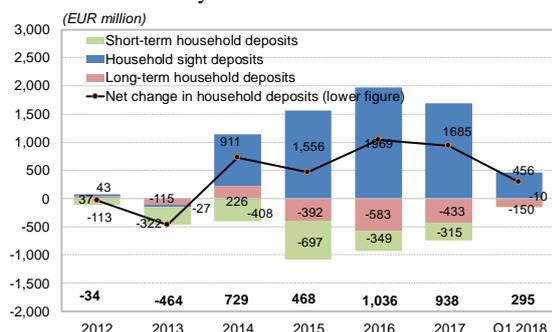
Figure 4.36: Ratio of various deposits to total assets



**In the maturity breakdown of household deposits, the proportion accounted for by sight deposits increased further in the first quarter of 2018, albeit slightly more slowly than in the two preceding years.** Sight deposits by households increased by EUR 1.7 billion in 2017, partly as a result of an actual influx of such deposits, and partly as a result of a net decline in fixed-term deposits, whose funds are usually left in bank accounts for longer periods by savers. The proportion of total household deposits accounted for by sight deposits reached 72.2% at the end of the first quarter of 2018. The small spread between the return on sight deposits and fixed-term deposits is discouraging savers from continuing to fix their savings. There has not been any major switching of household deposits between banks, because deposit rates are relatively equalised between banks. There was a slight rise in interest rates on new household deposits of more than 1 year at the end of 2017, but this trend did not continue in the first quarter of 2018. The interest rate on new deposits of more than 1 year stabilised at 0.5%, slightly above the euro area average.

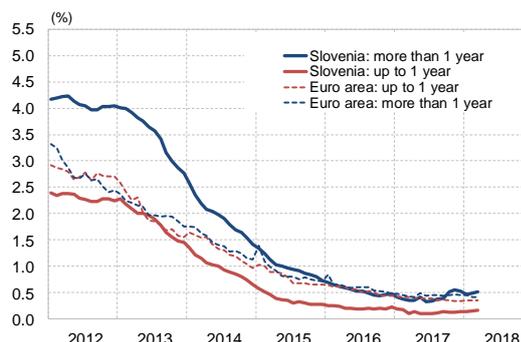
<sup>32</sup> The long-term average is calculated over the period of 1995 to 2017.

Figure 4.37: Change in stock of household deposits by maturity



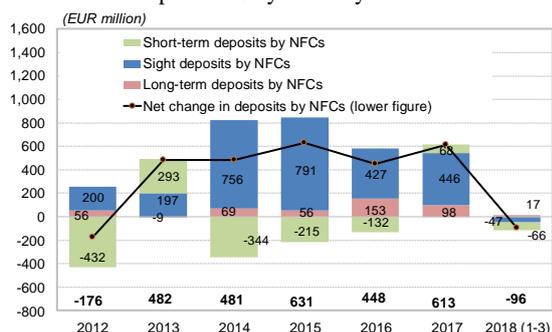
Source: Bank of Slovenia

Figure 4.38: Interest rates on new household deposits



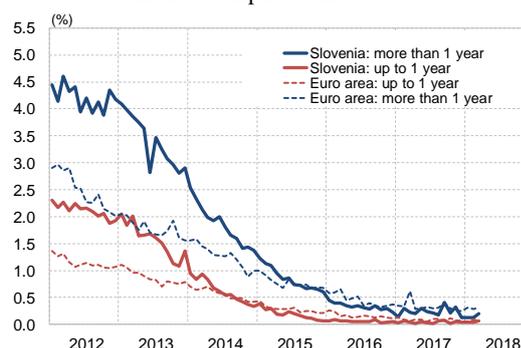
**The proportion of deposits by non-financial corporations accounted for by sight deposits is large, but is not increasing.** It averaged almost 72% over 2017, and actually declined slightly in the first quarter of 2018. Despite the extremely low interest rates, last year non-financial corporations opted to fix their deposits more often than did households, which was reflected in a net increase in short-term and long-term corporate deposits. The average interest rate on new corporate deposits of more than 1 year declined at the end of 2017 to virtually equalise with the average interest rate on short-term deposits, which is deterring non-financial corporations from fixing their deposits at banks. By contrast, they are being encouraged to fix deposits by the fees charged by certain banks for excess balances in corporate current accounts.

Figure 4.39: Change in stock of deposits by non-financial corporations by maturity



Source: Bank of Slovenia

Figure 4.40: Interest rates on new deposits by non-financial corporations

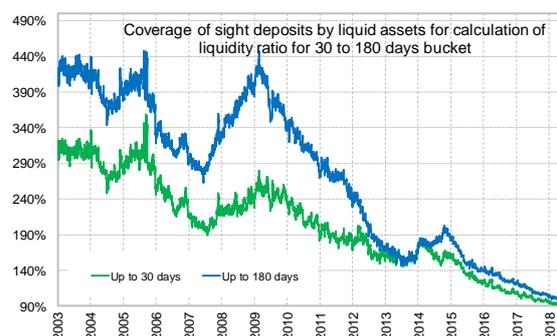


**The large proportion of sight deposits by and long-term loans to the non-banking sector is introducing potential instability into the banks' funding structure in the event of stress conditions, or a rapid and uncoordinated rise in interest rates, which is less likely in the short term.** Changes in sight deposits will mostly depend on developments in market interest rates, which usually track changes in the ECB's key interest rate. This will not be raised in 2018, according to market expectations. Given the high liquidity surpluses and relatively slow credit growth, it is expected that the banks will not significantly raise deposit rates, and the increase in the proportion of sight deposits is thereby unlikely to fully stabilise. However, monitoring of the competition situation and prompt responsiveness on the part of the banks will be vital to the maintenance of deposit stability. Savers, non-financial corporations in particular, respond to changes in interest rates, which could lead to increased switching of funds between banks, thereby reducing the funding stability of individual banks.

To bridge any short-term liquidity difficulties, the banks have EUR 4.2 billion or 11% of their total assets available in the form of highly liquid assets.<sup>33</sup> The results of the Bank Survey (April 2018) show that in the event of a shortage of primary funding the banks will redirect some of the highly liquid assets into lending activity. This will improve the return on investment, but at the same time will reduce their capacity to quickly cover any outflow of sight deposits. Coverage of sight deposits by highly liquid assets will thereby decline further.

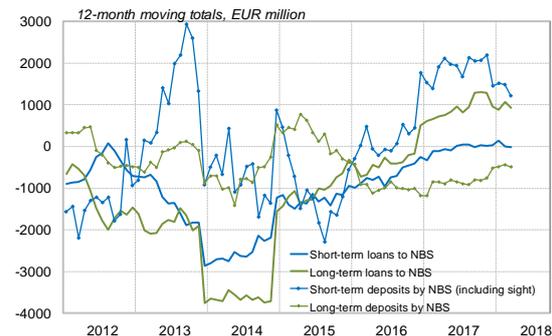
<sup>33</sup> Highly liquid assets comprise cash on hand, balances at the central bank and sight deposits at banks.

Figure 4.41: Coverage of sight deposits by highly liquid assets



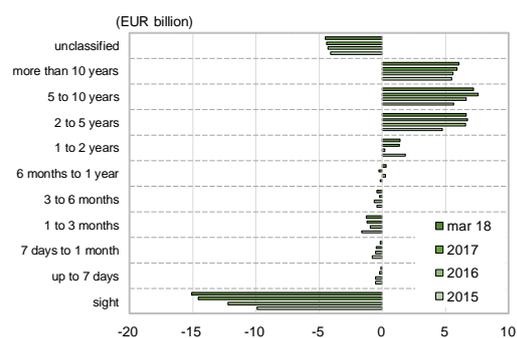
Note: Loans to the non-banking sector solely include loans at amortised cost.  
Source: Bank of Slovenia

Figure 4.42: Net increases in deposits and loans to the non-banking sector by maturity



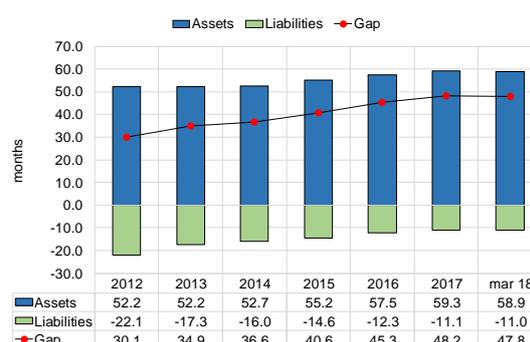
**The maturity gap between assets and liabilities vis-à-vis the non-banking sector remains large.** The banks are primarily funding their increased credit activity via deposits by the non-banking sector, i.e. via their primary source of funding, which confirms the functioning of the universal bank business model typical of the Slovenian banking system. The maturity mismatch between investments and funding is continuing to increase in the wake of growth in sight deposits by the non-banking sector and the simultaneous lengthening of the average maturity of loans to the non-banking sector, which is introducing a certain level of instability into the banks' balance sheet structure.

Figure 4.43: Net gap between total assets and total liabilities by residual maturity



Source: Bank of Slovenia

Figure 4.44: Weighted average of assets, liabilities and gap



### Interest sensitivity

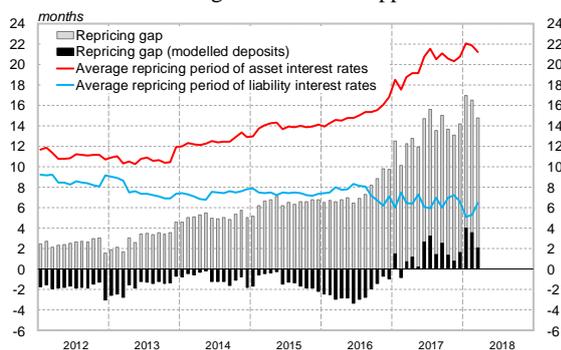
**Interest rate risk as measured by the difference between the average repricing periods for asset and liability interest rates and by the repricing gap<sup>34</sup> illustrates the exposure of the banks' operations to the risk of a rise in market interest rates.** The lengthening of the average repricing period on investments is exposing the banks to the lengthening of the period of adjustment in interest income at the time of a rise in interest rates, while at the same time the repricing period of funding that entails interest expenses for the banks is shortening.

**The increase in the repricing gap indicates the chance of slower repricing on the investment side than on the funding side.** The final impact of a rise in market interest rates on the banks' interest income and interest expenses will depend primarily on the pace of the pass-through of market rates into the banks' liability interest rates relative to asset interest rates. The pace of the pass-through of market interest rates into deposit rates<sup>35</sup> will be particularly important, as the banks are funding the majority of their investments through sight deposits. It is also important how quickly sight deposits will be switched back to fixed-term deposits.

<sup>34</sup> The repricing gap (or funding gap) consists of the difference between assets whose interest rates will change (be repriced) in a specific future period and liabilities whose interest rate will also change in the specific future period.

<sup>35</sup> During a period of rising market interest rates, deposit rates are generally raised only gradually, or with a lag. See: Hannan & Berger (1991), Neumark & Sharpe (1992), Diebold & Sharpe (1990), Craig & Dinger (2011) or Driscoll & Judson (2013).

Figure 4.45: Comparison of repricing gap between interest-sensitive assets and liabilities according to the IRRBB approach



Note: The calculated average repricing period according to the IRRBB approach includes off-balance-sheet items (it takes account of hedging with derivatives) and amortisation. The gaps in the modelled deposits take account of a stability of 50% for sight deposits, which are allocated by means of a decay function that applies a maximum weight of 51 months, or close to the limit set by the Basel methodology.

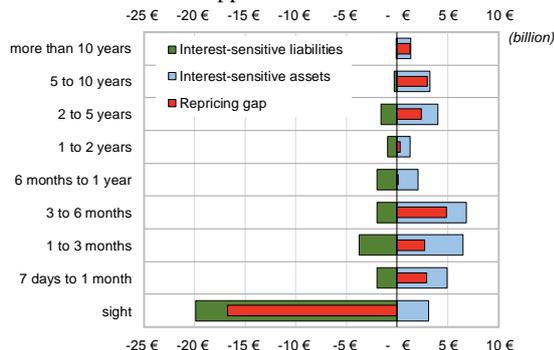
Source: Bank of Slovenia

According to the IRRBB methodology,<sup>36</sup> which takes account of hedging of interest rate positions, amortisation and the stability of sight deposits, the repricing gap increased. The gap between the average repricing period of asset and liability interest rates widened by 2.6 months in 2017 and by a further 0.3 months in the first quarter of 2018. The average repricing period of asset interest rates lengthened by 3.9 months in 2017 and by a further 0.5 months in the first quarter of 2018. At the same time the average repricing period of liability interest rates shortened by 0.5 months in 2017 and by a further 0.1 months in the first quarter of 2018. The repricing gap thus stands at 1.9 months according to the IRRBB approach, or 14.8 months without taking account of hedging of interest rate positions, amortisation and the stability of sight deposits.

The Slovenian banking system has a negative repricing gap between interest-sensitive assets and interest-sensitive liabilities in the first maturity bucket.<sup>37 38</sup> The repricing gap in the first maturity bucket amounts to EUR 16.7 billion, which exposes the Slovenian banking system to refinancing risk. In the event of a rise in market interest rates, the negative repricing gap means that the Slovenian banking system would be faced with a negative annual change in net interest income, as interest expenses would increase by more than interest income. The high negative repricing gap and the resulting negative impact of a rise in market interest rates on the banks' net interest income are primarily the result of the classification of sight deposits as interest-sensitive liabilities.<sup>39</sup> Under the assumption that 50% of sight deposits are stable (they have an effective maturity of more than 1 year), the Slovenian banking system has a positive repricing gap within one year, which means that a rise in market interest rates would have a positive impact on the banks' annual net interest income.

The average maturity of interest-bearing assets is lengthening, primarily as a result of an increase in longer-term loans with a fixed interest rate, most notably housing loans. The average maturity of fixed-rate housing loans (in terms of residual maturity) has reached 15 years, close to that of variable-rate housing loans, at 16 years. The average maturity of fixed-rate consumer loans has also increased over the last year.

Figure 4.46: Interest-sensitive assets and liabilities by repricing period and repricing gap, excluding IRRBB approach



<sup>36</sup> The IRRBB methodology measures interest rate risk in the banking book. The primary focus of the IRRBB methodology is assessing the impact of various scenarios of changes in the yield curve on the banks' economic value of equity and net interest income. A feature of the IRRBB methodology is that it takes account of the different contractual attributes of individual assets and liabilities, and attributes deriving from patterns of client behaviour, and thereby calculates the effective maturity of assets and liabilities. In addition, the methodology takes account of hedging of interest rate positions. The methodology is primarily applied in stress tests, but using certain assumptions (with regard to the effective maturity of assets and liabilities, and existing hedging of interest rate positions) it can also calculate the repricing gap. For more see: Basel Committee on Banking Supervision, Interest rate risk in the banking book, issued April 2016 (<http://www.bis.org/bcbs/publ/d368.htm>).

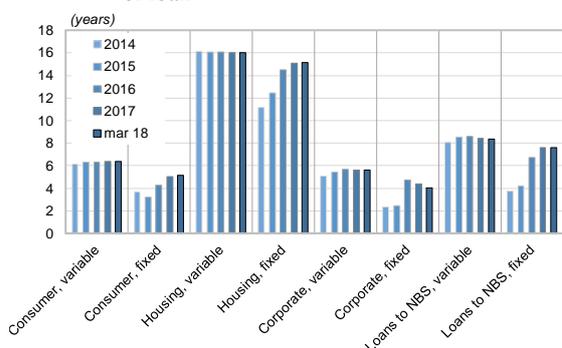
<sup>37</sup> A repricing period of less than one day.

<sup>38</sup> The findings are based on the assumption that the effective maturity of sight deposits is the same as the contractual maturity, i.e. all sight deposits are in the first maturity bucket (sight). It also takes no account of hedging of interest rate positions.

<sup>39</sup> An argument against the inclusion of sight deposits as interest-sensitive funding is that interest rates on deposits do not change at the same time as market interest rates. However, when market interest rates rise depositors can withdraw their sight deposits, following which the bank must replace the loss of funding with more costly interest-sensitive funding. This can happen when interest rates on alternative forms of investment become higher in relative terms. The opportunity costs of holding sight deposits thereby increase, which encourages depositors to seek higher-yielding investments.

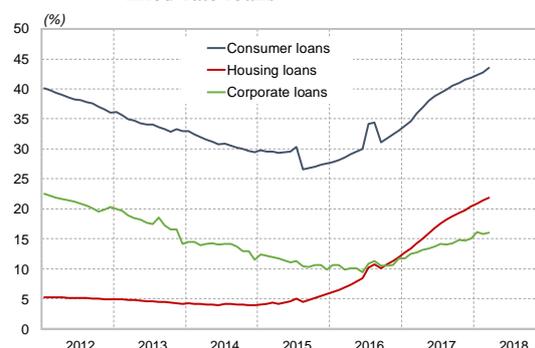
The maturity of interest-bearing liabilities is primarily determined by deposits by the non-banking sector, which account for more than 70% of total liabilities.

Figure 4.47: Average residual maturity for individual types of loan



Source: Bank of Slovenia

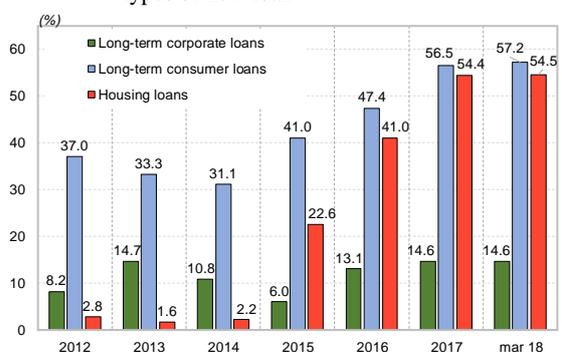
Figure 4.48: Proportion of loan stock accounted for by fixed-rate loans



**The proportion of fixed-rate loans is increasing for all types of loans.** The proportion of loans to the non-banking sector accounted for by fixed-rate loans had increased to 20% by March 2018. The highest proportion of fixed-rate loans is recorded by consumer loans, at almost 45%, followed by housing loans with 22% and corporate loans with 16%. The increase in the proportion of fixed-rate loans is reducing the volatility of debtors' future cash flows, and is increasing the ease of debt servicing in comparison with variable-rate loans.

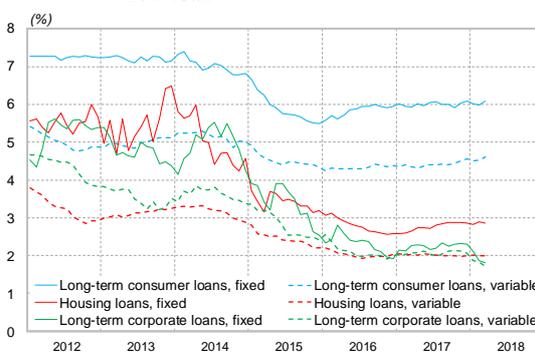
The proportion of new consumer loans with a fixed interest rate had reached 57% by March 2018, while the corresponding figure for housing loans had reached almost 55%. Fixed-rate housing loans are 0.9 percentage points more expensive than variable-rate loans on average, and are therefore very popular with households, as households thus avoid exposure to changes in interest rates. Investments with interest rates that are fixed for a long time expose banks to the risk of a decline in net interest income in a period of rising market interest rates, if they are not adequately covered on the liability side or hedged via derivatives.

Figure 4.49: Proportion of fixed-rate loans for individual types of new loan



Source: Bank of Slovenia

Figure 4.50: Average interest rates for individual types of new loan



### Bank liquidity

**The banking system's liquidity risk remains low.** The stock of liquid assets<sup>40</sup> increased by EUR 1.9 billion over 2017 and the first quarter of 2018 to reach EUR 11.5 billion, equivalent to 30% of total assets. In addition to their current liquid assets, the banks also hold a solid stock of secondary liquidity, which increased by EUR 588 million over 2017 and the first quarter of 2018 to EUR 7.4 billion, equivalent to 19.6% of total assets. The banks are reducing the stock of Slovenian government securities and increasing their investments in foreign marketable securities rated BBB or higher,<sup>41</sup> with the aim of diversifying their

<sup>40</sup> Liquid assets comprise highly liquid assets and secondary liquidity. Highly liquid assets comprise cash on hand, balances at the central bank and sight deposits at banks. Secondary liquidity is calculated from liquidity ladder data as the sum of the monthly average of Slovenian government securities and foreign marketable securities rated BBB or higher.

<sup>41</sup> In accordance Article 5 of the Regulation on the macroprudential monitoring of liquidity and funding structure, these are investments in securities that are listed for trading on a regulated market and whose credit assessment, together with the long-term credit assessment of the issuer, is at least BBB (Fitch or Standard & Poor's) or at least Baa2 (Moody's) (<https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2017-01-3457/sklep-o-makrobonitetnem-spremljanju-podrocja-likvidnosti-in-strukture-financiranja/#1>).

securities holdings and improving returns. The proportion of secondary liquidity accounted for by foreign securities increased by 15 percentage points over 2017 and the first quarter of 2018 to 55%.

Figure 4.51: Stock of liquid assets

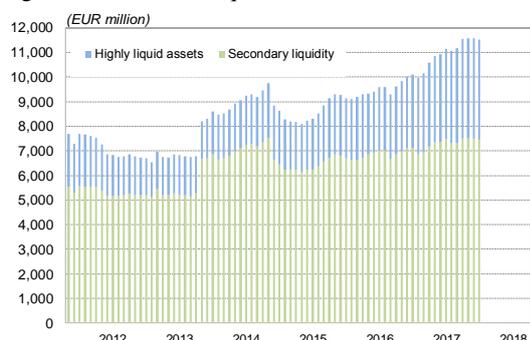
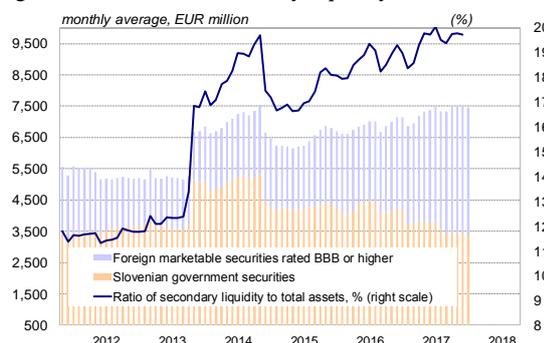


Figure 4.52: Stock of secondary liquidity

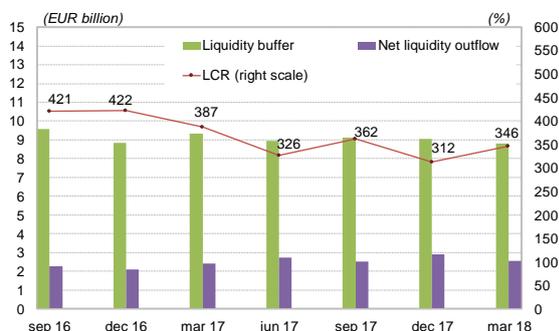


Note: Highly liquid assets comprise cash on hand, balances at the central bank and sight deposits at banks. Secondary liquidity is calculated from liquidity ladder data as the sum of the monthly average of Slovenian government securities and foreign marketable securities rated BBB or higher.

Source: Bank of Slovenia

**The banks' favourable liquidity position has been reflected in a high liquidity coverage ratio (LCR), and in the proportion of the pool of eligible collateral at the Eurosystem that is free.** The LCR declined in 2017, but remained at a high level, and reached 346% in March 2018. In the event of additional liquidity needs the banks have a source of funding available at the ECB that is favourable in cost terms, thanks to high proportion of the pool of eligible collateral at the Eurosystem that is free. This stood at 67% of the overall pool of eligible collateral for the banking system (EUR 3.5 billion). Currently the banks are not participating in the ECB's ordinary refinancing tenders, given their high excess liquidity.

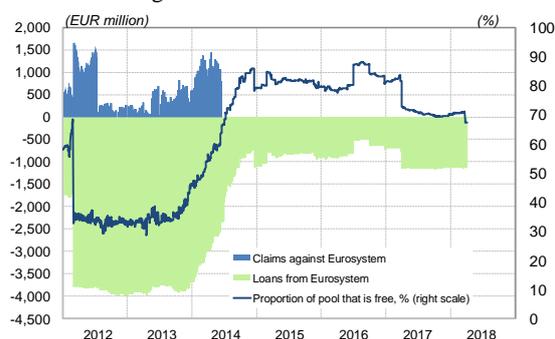
Figure 4.53: Liquidity coverage ratio



Source: Bank of Slovenia

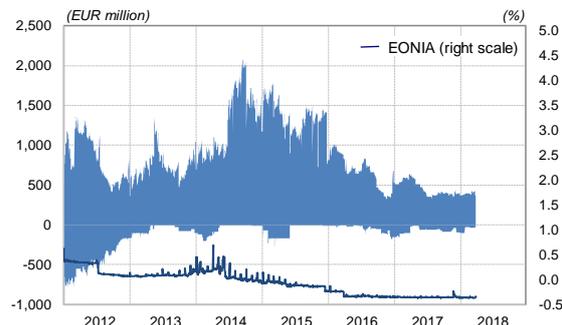
**Volume on the euro area unsecured money market remained modest.** The high excess liquidity in the euro area and the maintenance of a negative interest rate are deterring banks from placing their surplus funds on this market. Slovenian banks' net claims on the euro area unsecured money market averaged EUR 385 million in 2017, and remained at this level in the first quarter of 2018. The stock of claims and liabilities on the domestic interbank market was just EUR 29 million in the first quarter of 2018, as the banks are not using it to manage their excess liquidity.

Figure 4.54: Banks' claims and liabilities vis-à-vis the Eurosystem, and proportion of the pool of eligible collateral that is free



Source: Bank of Slovenia

Figure 4.55: Stock of unsecured loans of Slovenian banks placed and received on the euro area money market



## 4.4 Bank solvency

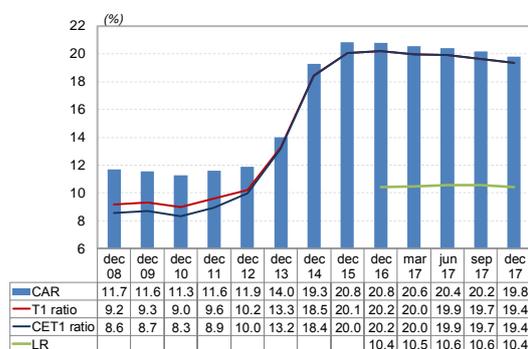
### Summary

The Slovenian banking system's capital position remains adequate. The banking system's capital adequacy declined as a result of an increase in capital requirements. There is considerable variation from bank to bank; the small domestic banks and savings banks are notable for their weaker capital positions. In the wake of further credit growth and the accompanying growth in capital requirements, the downward pressure on capital adequacy could continue, unless the banks adjust their capital as appropriate by means of recapitalisations or retained earnings.

### Capital adequacy

**The banking system's capital adequacy remained at a solid level, despite a decline.** The total capital ratio on an individual basis declined by 1 percentage point in 2017 to stand at 19.8%. Capital requirements increased by more than regulatory capital in 2017, as a result of the strengthened lending activity to the non-banking sector. The core Tier 1 capital ratio and the common equity Tier 1 capital ratio declined by 0.8 percentage points in 2017, and remained equal at 19.4%. The two ratios are minimally less than the total capital ratio, because the banks are primarily meeting their capital adequacy requirements through the highest-quality form of capital, and significantly less through Tier 2 capital.

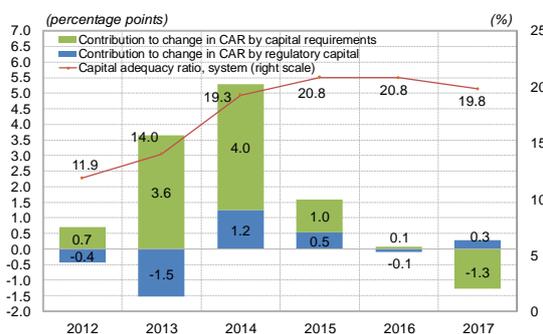
Figure 4.56: Banking system's basic capital ratios on an individual basis



Note: In the right figure a negative sign for capital requirements denotes that they increased, thereby having a negative impact on the total capital ratio.

Source: Bank of Slovenia

Figure 4.57: Contribution to change in total capital ratio on an individual basis made by changes in regulatory capital and capital requirements

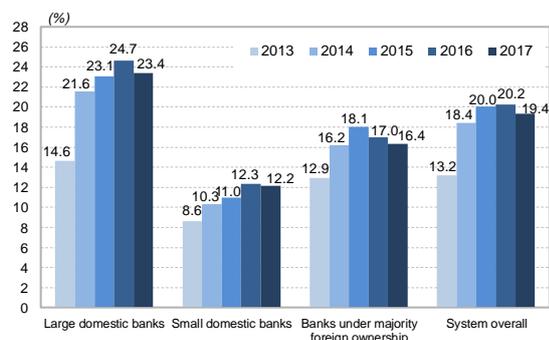


**The capital position remains weakest at the small domestic banks and savings banks.** Their common equity Tier 1 capital ratio declined slightly last year to 12.2%, below the average for the banking system. Further evidence comes from the leverage ratio,<sup>42</sup> which stood at 4.5% in December 2017, compared with

<sup>42</sup> Leverage is calculated on the basis of the full definition of capital from the CRR.

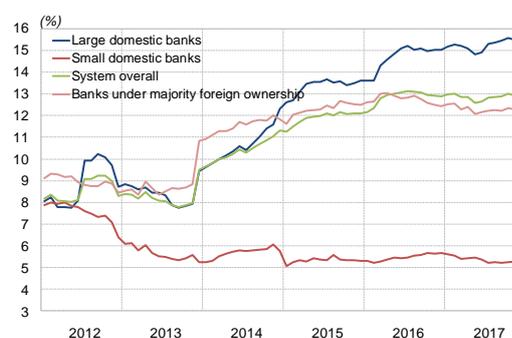
10.4% for the banking system overall. The majority of the small domestic banks and savings banks strengthened their lending activity to the non-banking sector in 2017, thereby increasing their capital requirements. They increased their regulatory capital through Tier 1 and Tier 2 capital, retained earnings and other reserves. The results of the Bank Survey (April 2018) show that the savings banks will continue to strengthen their lending activity and simultaneously increase their stock of regulatory capital, either through recapitalisations or through retained earnings, thereby reducing the downward pressure on capital adequacy.

Figure 4.58: Common equity Tier 1 capital ratio on an individual basis by bank group



Source: Bank of Slovenia

Figure 4.59: Ratio of book capital to total assets on an individual basis by bank group



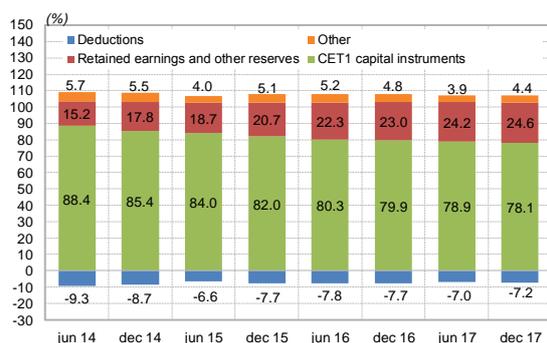
**Capital and capital requirements in the banking system**

**Regulatory capital increased in 2017, primarily as a result of the banks’ positive performance.** Capital increased by 1.4% or EUR 56 million in 2017 to EUR 4,118 million. Tier 1 capital primarily increased in the form of retained earnings and other reserves, and less through recapitalisations. Tier 2 capital declined again, and now accounts for just 2.4% of total capital. Other than the small domestic banks, the majority of banks are not planning recapitalisations in 2018. This raises the question of whether the banks will succeed in generating sufficient profit in the context of slow credit growth to be able to maintain a stable capital position. In the wake of further growth in credit activity and, the corresponding increase in capital requirements, the downward pressure on capital adequacy will continue.

**Concern for maintaining an adequate level of capital will in the future also be necessary from the perspective of meeting the minimum requirements for own funds and eligible liabilities (hereinafter: MREL), which are defined by Directive 2014/59/EU (the BRRD).**<sup>43</sup> The Single Resolution Board and the Bank of Slovenia as the national resolution authority (the demarcation of tasks within the framework of the Single Resolution Mechanism is set out in Regulation (EU) 806/2014) formulate the policy for defining the MREL requirements, which reflects the envisaged use of instruments in the event of the resolution of a particular bank. Eligible instruments for meeting the MREL requirement are own funds and eligible liabilities, provided that they meet the conditions set out in the BRRD (including a residual maturity of liabilities of at least one year). The MREL requirements had not yet been defined for all banks by the end of 2017. In accordance with the currently applicable methodology for setting the MREL requirements, it is estimated that for now the banks will not have problems with providing eligible instruments for meeting the requirements. The banks’ capital position and funding structure are not expected to be additionally burdened in 2018 by the introduction of the MREL. This assessment is made for banks whose resolution plans and MREL requirements are the responsibility of the Bank of Slovenia. In the event of a potential MREL shortfall, a transition period could be provided for the banks to make appropriate adjustments.

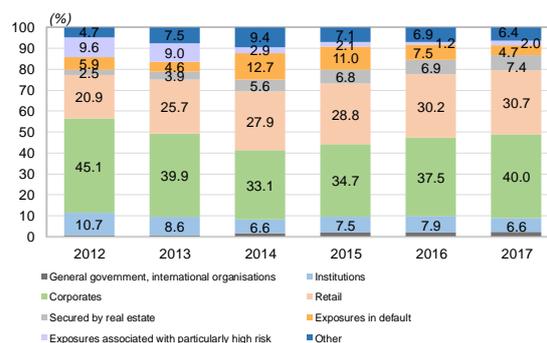
<sup>43</sup> Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms (the BRRD); <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0059>.

Figure 4.60: Breakdown of common equity Tier 1 capital



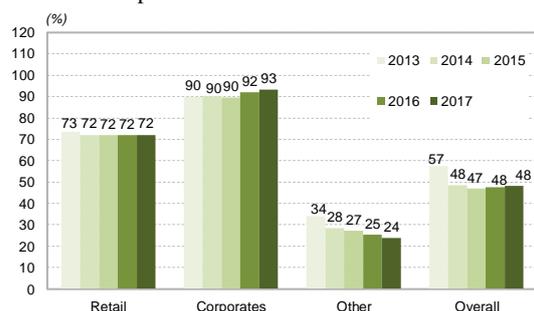
Source: Bank of Slovenia

Figure 4.61: Breakdown of capital requirements for credit risk



**Capital requirements increased by EUR 101 million or 6.5% in 2017 to stand at EUR 1,662 million.** The increased credit activity was reflected in an increase in capital requirements for exposures to corporates and retail exposures, which together account for almost 71% of total capital requirements for credit risk. There is therefore an increase in the capital requirements for exposures where the predominant use of the standardised approach means that higher risk weights are used than in the use of IRB approaches at banks, which is contributing to the increase in capital requirements. In the future it can be expected that banks will redirect funds into higher-risk investments in the search for a better return on equity. Despite the maintenance of tight credit standards, the risk level of the banks' portfolio will increase, which will be reflected in a gradual rise in the average risk weight, and thereby an increase in capital requirements.

Figure 4.62: Average risk weight by type of investment exposure



Source: Bank of Slovenia

**The banks are trying to slow the increase in capital requirements by optimising the burden on capital.** In 2017 there was an increase of 12% in the capital requirements for exposures secured by real estate, for which the risk weight is lower than for other capital requirements for credit exposures, although the proportion of capital requirements that they account for remains relatively small, at 7.4%. The improvement in the quality of the credit portfolio is reducing capital requirements for exposures in default and exposures associated with particularly high risk, which is further easing the burden on bank capital. Certain banks are reducing their capital requirements for operational risk by optimising business processes.

**Comparison of the Slovenian banking system's capital adequacy with the euro area (consolidated figures)**

**The Slovenian banking system's capital adequacy is gradually declining on a consolidated basis, as it is on an individual basis.** The total capital ratio declined by 1 percentage point in 2017 to 18.1%, as a result of growth in capital requirements outpacing growth in regulatory capital. It thereby equalised with the total capital ratio of the euro area overall, which has been increasing continually. Capital requirements in the euro area overall have been declining relative to the Slovenian banking system, which given the simultaneous growth in regulatory capital has brought an increase in capital adequacy. The Slovenian banking system's ratio of capital requirements to total assets stands at 4.6%, which is still in excess of the euro area average, which stood at 3.1% in September 2017. One of the reasons for this is the use of higher risk weights at Slovenian banks, which is attributable to the diversity of the investment portfolio and the prevailing use of the standardised approach.

**In contrast to the total capital ratio, the common equity Tier 1 capital ratio of the Slovenian banking system remains above the euro area average, at 17.7%.** Given the low proportion of Tier 2 capital, the differences between the Slovenian banking system’s capital ratios are very small. Tier 2 capital accounts for 13.7% of total capital at the level of the euro area, which means that the common equity Tier 1 capital ratio remains lower than the total capital ratio. The weak capital position of the small domestic banks is also reflected in the capital ratios on a consolidated basis, which are below the averages in Slovenia and in the euro area overall.

Figure 4.63: Total capital ratio compared with euro area, consolidated figures

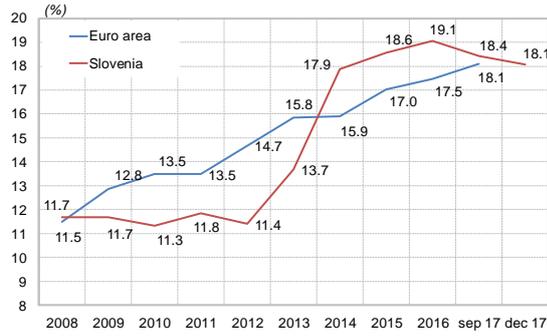
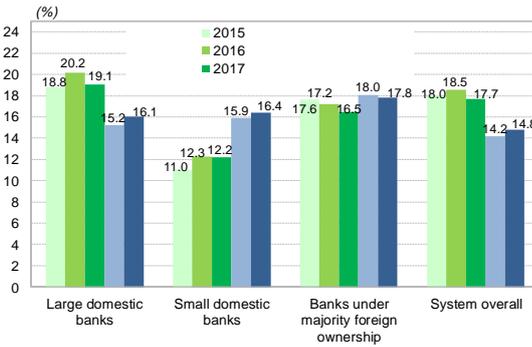


Figure 4.64: Common equity Tier 1 capital ratio (CET1) by bank group, comparison with euro area, consolidated figures



Note: For the sake of comparability, medium-size euro area banks are included under large domestic banks.  
Sources: Bank of Slovenia, ECB (SDW)

## 5 NON-BANKING FINANCIAL INSTITUTIONS

### Summary

Leasing companies are continuing to increase the stock of equipment leasing business, while real estate leasing is stagnating. They are seeing an improvement in their portfolio quality and profitability. The systemic risks inherent in leasing companies' operations are declining.

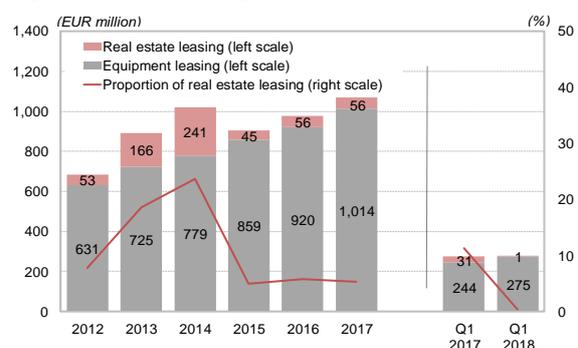
An increase in gross written premium and a decline in insurance technical provisions are bringing an improvement in the insurance sector's performance. The capital adequacy of insurance corporations is gradually improving. The low interest rate environment means that market risk and refinancing risk account for a significant proportion of the systemic risk in that sector.

Factors such as the high concentration of volume in a few domestic securities, the low volume of trading on the Ljubljana Stock Exchange and the ongoing fall in the number of share issuers are continuing to reduce the primary role of the domestic capital market, and are reducing the liquidity of the domestic capital market. The role of the domestic capital market should in part be based on providing additional alternative approaches to the financing of economic operators, and on ensuring growth in capital market at firms in a period of strengthening economic growth.

### 5.1 Leasing companies

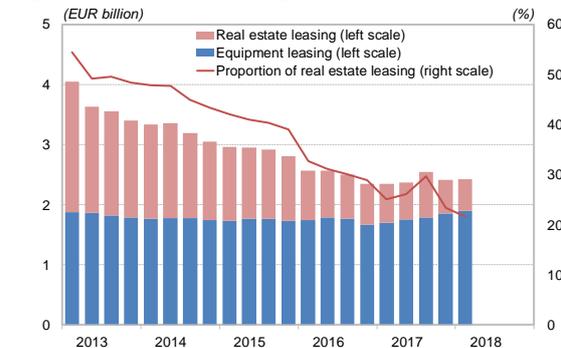
The increase in leasing companies' business<sup>44</sup> continued in the first quarter of 2018, albeit only in equipment leasing. New equipment leasing business in the first quarter of this year was up 12.5% in year-on-year terms at EUR 275 million, while new real estate leasing business did not exceed EUR 1 million. Leasing companies are still focusing on leasing of cars, and commercial and goods vehicles, which accounted for 89.6% of new equipment leasing business in the first quarter of 2018. There has been no significant change in average maturity in recent years: almost half of the leasing business in the first quarter was concluded for a period of 5 to 10 years. The LTV ratio for new equipment leasing business remained stable at 80%. In recent years the performance of leasing companies has been primarily based on equipment leasing, while leasing companies have shown little interest in real estate leasing.

Figure 5.1: New leasing business<sup>45</sup>



Source: Bank of Slovenia

Figure 5.2: Stock of leasing business



The positive trend in new equipment business is being reflected in gradual growth in the total stock of leasing business. Since the middle of 2017 the growth in the stock of leasing business has been attributable to, alongside vehicles, a slight increase in demand for leasing of production plant and equipment, while demand for other equipment leasing business and real estate leasing business has declined. The stock of real estate leasing business has contracted in recent years in particular, as a result of a lack of project financing for the construction of commercial and residential real estate. Leasing companies that had been established exclusively to support real estate business were consequently wound up. Because there are still a few of such companies remaining from the past, the number of leasing companies is expected to fall further in the future.

<sup>44</sup> The analysis takes account of data from institutions reporting on the basis of the regulation on reporting by institutions providing leasing services, and includes business with residents and non-residents of Slovenia. Three leasing companies have been added to the reporting population over the last two quarters, while one leasing company has ceased reporting and discontinued its operations. The impact of the inclusion of new reporting entities has been minimal: total assets increased by app. 1.1% or EUR 32 million as a result.

<sup>45</sup> Leasing business is disclosed at financed value, excluding the financing of inventories.

The trends in the performance of banks that provide finance leasing services are similar to those in the performance of leasing companies.<sup>46</sup> The banks recorded new finance leasing business of EUR 40.9 million in the first quarter of 2018, up 22.5% in year-on-year terms, taking the stock of leasing business to EUR 327 million, up 25.3% in year-on-year terms. In their finance leasing services the banks are also focusing primarily on equipment leasing.

**Leasing companies are continuing to reduce the proportion of claims more than 90 days in arrears.** The proportion of claims more than 90 days in arrears was down in year-on-year terms in March 2018, at 6.6%. The concentration of claims more than 90 days in arrears further increased: three leasing companies accounted for three-quarters of the total, despite only accounting for 9% of total assets. Claims more than 90 days in arrears are more common in real estate leasing: 15.4% of all real estate leasing business is more than 90 days in arrears, compared with only 4.2% of all equipment leasing business. The proportion of claims more than 90 days in arrears can also be expected to decline in the future, as a result of the completion of judicial proceedings and the winding-up of individual leasing companies.

**Leasing companies' profitability and total assets are increasing.** The increased profitability in 2017 was based on the release of provisions from finance leasing, a reduction in impairment costs, write-offs of assets and a reduction in labour costs. Total assets stood at EUR 2.9 billion in March 2018, up 6.2% in year-on-year terms. Funding of leasing business via loans remains stable, as the contraction in funding from the rest of the world has been replaced by domestic sources. Foreign loans, which accounted for 55.8% of debt funding at the end of the first quarter of 2018, were down 14.6% in year-on-year terms, while domestic loans were up 43%.

Figure 5.3: Stock of leasing business and claims more than 90 days in arrears

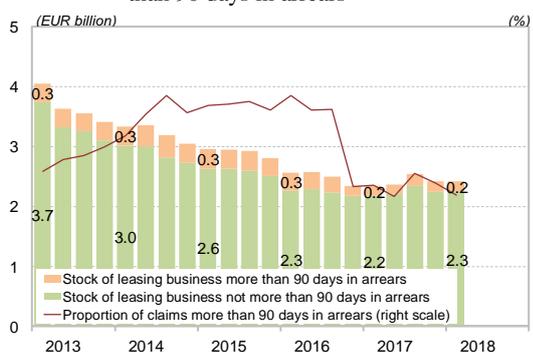
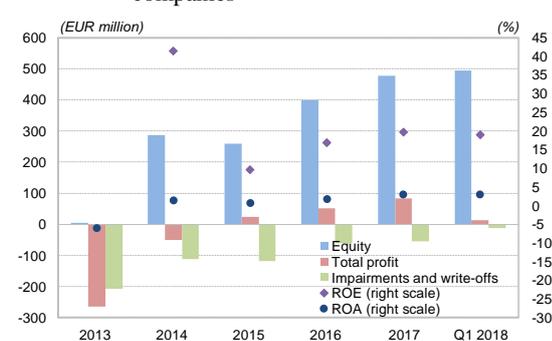


Figure 5.4: Selected performance indicators of leasing companies



Note: In the right figure, ROE is calculated on the basis of total profit generated over the preceding 12 months.  
Source: Bank of Slovenia

**It is assessed that the entry into force of the new IFRS 16 in 2019 will only have a limited impact on the performance of leasing companies.** The key aim of the new financial reporting standard is to provide for greater comparability of financial statements between finance and operating lessees, and truer and fairer financial statements derived from operating leases. This means that the lessees will have also to recognise assets and liabilities deriving from operating leases<sup>47</sup> in the statement of financial position. The proportion of the total stock of leasing business accounted for by operating leases has been declining at leasing companies for a number of years now, and stood at just 8.5% (equivalent to EUR 205 million) in the first quarter of this year. The negative impact on leasing companies' performance is therefore expected to be limited.

## 5.2 Insurers

**The favourable economic situation is also being reflected in the performance of insurance corporations and reinsurance corporations.** Year-on-year growth in gross premium over 2017 and the first quarter of 2018 stood at 4% at the insurance corporations, while at the reinsurance corporations the rate declined by 1 percentage point in year-on-year terms in the first quarter of 2018 to 3.6%. Gross premium at insurance corporations in all three insurance segments increased in the first quarter of this year, as health insurance and general insurance recorded the highest year-on-year growth rates of 5.1% and 4.9% respectively. In the life

<sup>46</sup> The analysis does not take account of bank operations from finance leasing.

<sup>47</sup> Under the existing accounting standards, operating leases may be disclosed as off-balance-sheet assets, which distorts the firm's financial position.

insurance segment, the highest growth continued to be recorded by premium for unit-linked insurance, at 4.2%, while other life insurance premium was up 2.3% in year-on-year terms.

Figure 5.5: Gross written premium and annual growth by type of insurance

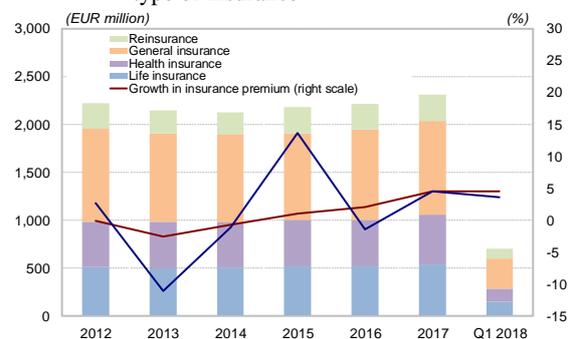
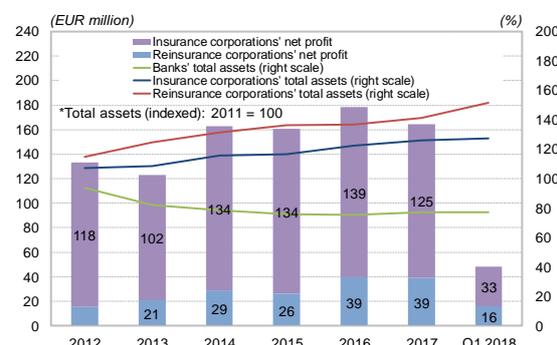


Figure 5.6: Insurers' net profit and total assets



Note: The figures for growth in insurance premium in the first quarter of 2018 are based on a year-on-year comparison.  
Sources: ISA, Bank of Slovenia

**Insurers' total assets in the first quarter of 2018 were up 1.4% in year-on-year terms.** The growth in total assets was driven by an increase in the value of financial assets, which was up 2.3% in year-on-year terms at EUR 4.4 billion. The insurance corporations' net profit in the first quarter of 2018 was up 9.6% in year-on-year terms, primarily as a result of an increase in net income from insurance premium in all insurance segments, and a decline in insurance technical provisions in the general insurance segment. The reinsurance corporations saw an increase in their net profit from EUR 6 million to EUR 16 million, which was attributable to an increase in income from dividends and other shares in the profit of undertakings in the group.

**The capital adequacy of insurance corporations and reinsurance corporations in Slovenia mostly remains at a high level.**<sup>48</sup> The solvency capital requirement (SCR) expresses the level of capital that allows an institution to cover losses and provides a reasonable assurance to policyholders, insurers and beneficiaries. The insurance corporations' SCR increased to EUR 830 million in 2017, up 5.3% in year-on-year terms. The ratio of eligible own funds to SCR is below 200% at six insurance corporations, although there was a slight improvement in the second half of 2017. The reinsurance corporations' SCR in 2017 was up 1% in year-on-year terms, and the ratio of eligible own funds to the SCR exceeds 300% at both reinsurance corporations.

The minimum capital requirement (MCR) of insurance corporations and reinsurance corporations, which sets an insurer's minimum internal capital requirement within the framework of Solvency II, remains at a high level. The MCR at the insurance corporations increased by 2.6% to EUR 280 million, while the MCR at the reinsurance corporations increased by 3.1%. All of the insurance corporations and reinsurance corporations succeeded in improving the ratio of eligible own funds to the MCR.

Figure 5.7: Aggregate SCR coverage ratio (quartiles and median)

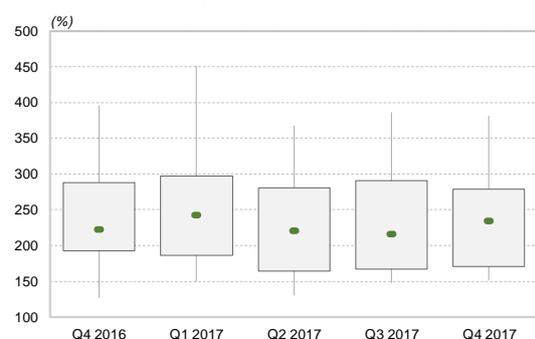
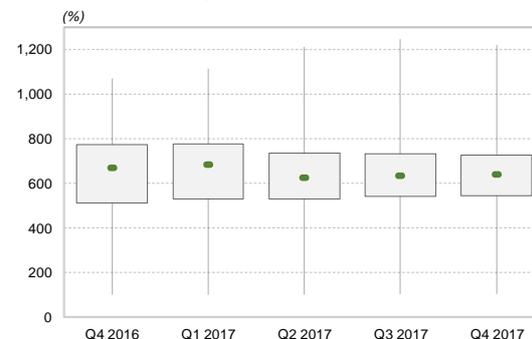


Figure 5.8: Aggregate MCR coverage ratio (quartiles and median)



Sources: ISA, Bank of Slovenia

<sup>48</sup> The data on capital adequacy is obtained on the basis of insurers' reporting in accordance with Solvency II. Data up to 31 December 2017 inclusive was available when the material was prepared. The comparison of capital adequacy and minimum capital includes the insurance corporations and reinsurance corporations that reported over the entire period (13 insurance corporations and two reinsurance corporations).

The claims ratio as measured by the ratio of gross claims paid to gross written premium in the first quarter of 2018 deteriorated by 4.8% in year-on-year terms at the insurance corporations, but remained on the same level at the reinsurance corporations. Despite an increase of more than 4% in gross written premium, the claims ratio at the insurance corporations increased in all three segments, most notably in life insurance, where survival benefits have entailed increased payouts of unit-linked life insurance. After increasing for three years, gross written premium for credit insurance, which is part of the general insurance segment, was down 5.8% in year-on-year terms in the first quarter of 2018 at EUR 10 million. As gross claims for credit insurance remained unchanged, the claims ratio for credit insurance increased by 6% to 0.37.

Figure 5.9: Claims ratio for major types of insurance

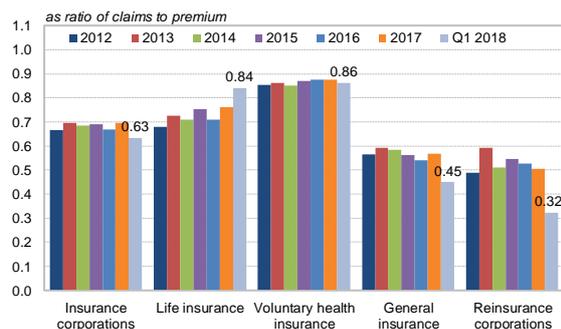
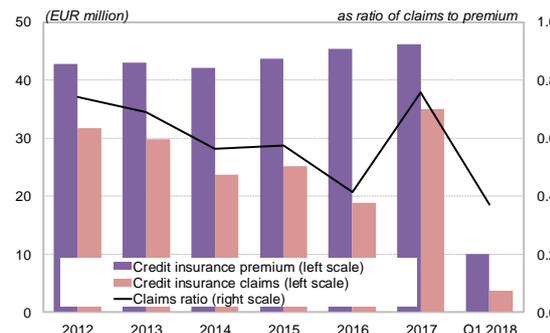


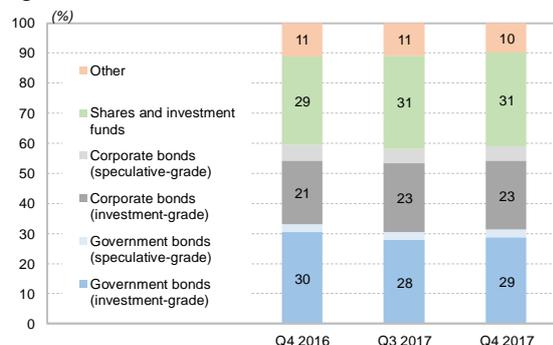
Figure 5.10: Written premium and claims paid in credit insurance



Source: ISA

As expected, the low interest rate environment is bringing a further decline in interest income from investments in debt securities. The figure in the first quarter of 2018 was down 4.1% at EUR 7 million at the insurance corporations, and down 11.6% at the reinsurance corporations. The desire to seek higher returns is being evidenced in minor changes in the breakdown of the insurance sector's investments. As at the end of December 2017,<sup>49</sup> the investments by insurance corporations and reinsurance corporations in higher-risk assets such as shares, investment funds and investment-grade corporate bonds<sup>50</sup> were up in year-on-year terms, while their investments in other forms of asset, most notably government bonds, were down in year-on-year terms.

Figure 5.11: Breakdown of the insurance sector's investments



Note: Data is based on individual quarterly reports in accordance with Solvency II.

Source: ISA

In the low interest rate environment, market risk and reinvestment risk remain among the most significant risks for the insurance sector. The required yield on government securities and other debt securities remains low, which means the insurance corporations are failing to achieve the returns guaranteed in insurance contracts.

<sup>49</sup> The data for the first quarter of 2018, which the insurance sector provides in accordance with Solvency II, was not available at the time of publication.

<sup>50</sup> Investment-grade bonds are those rated AAA to BBB- or Baa3, while speculative-grade bonds are those rated BBB- or Baa3 and those that are unrated.

### 5.3 Capital market and mutual funds

#### *Developments on the capital market*

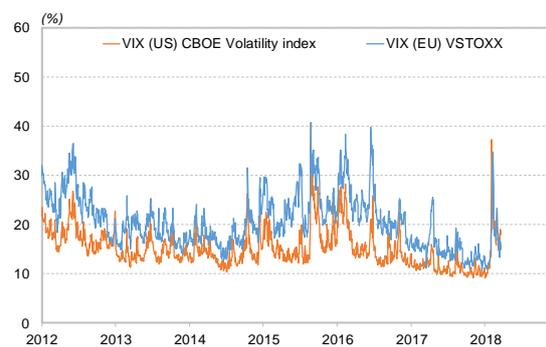
**Volatility increased on stock markets, as the pronounced growth in 2017 was followed by a correction in February 2018.** After the release of data showing a rise in the number of newly created jobs and in wages in the US, share indices fell more than 3% in a single trading day. Inflation expectations strengthened, as did the expectation that the Fed would increase the number of key interest rate rises that it is planning for this year. The announcement of the introduction of protectionist measures in the US and China in March additionally increased uncertainty on the market, which was reflected in renewed selling pressure on stock markets. Despite the selling pressure, in the first quarter of 2018 market risk remained one of the main risks on the capital markets, because share values<sup>51</sup> remain at a high level.

Figure 5.12: Year-on-year changes in selected stock market indices



Sources: Bloomberg, Stoxx.com

Figure 5.13: Volatility on share markets



**The challenges on the domestic stock exchange remain.** The market capitalisation of shares amounted to EUR 5.3 billion at the end of March 2018, up 1.3% in year-on-year terms, a reflection of the positive mood on exchanges in 2017, while there were no new issues of shares on the domestic market, as in the previous year. The correction on foreign stock exchanges was only reflected to a lesser extent on the domestic stock exchange, as the SBI TOP gained 1.4% over the first three months of 2018. The monthly volume of trading in shares averaged EUR 24.2 million over the first quarter, down 26.7% in year-on-year terms. The decline in volume, particularly in the second half of 2017, and the restrained growth in market capitalisation were factors in the ongoing decline in the turnover ratio. Concentration increased further in the first quarter of this year: shares in five issuers accounted for 84.2% of total volume.<sup>52</sup>

**Debt securities are mostly being issued by non-financial corporations, albeit to a diminishing extent.** Issuance of bonds and commercial paper amounted to EUR 25 million, down EUR 83 million in year-on-year terms. The market capitalisation of bonds on the Ljubljana Stock Exchange nevertheless increased by 17% in year-on-year terms to stand at EUR 27.1 billion in March 2018. The increase was attributable to new and additional issues of 10-year government bonds listed on the domestic stock exchange during the period in question. The monthly volume of trading in bonds averaged EUR 1.5 million over this period, down 17.9% in year-on-year terms. A single non-financial corporation's bonds accounted for the majority of the volume of trading in bonds (82%).

<sup>51</sup> The P/E ratio in EU Member States declined slightly in the first quarter of 2018, but nevertheless remains high at 17. (Source: ESRB risk dashboard, March 2018)

<sup>52</sup> Acquisitions are having a positive impact on developments on the stock exchange in the form of increased volume and rises in share prices. Similar developments began in May, when the likely Chinese acquirer confirmed its interest in acquiring a domestic white goods manufacturer. The sale of one of the domestic insurance corporations, albeit not one listed on the stock exchange, was also confirmed in May. The acquisition value of the two firms was estimated at EUR 540 million. The estimated value that will remain under the ownership of domestic residents is EUR 350 million, while the remaining EUR 190 million will be paid to non-residents. The latter held 65% of all shares in the white goods manufacturer at the end of 2017. The positive effects in the form of the projected increase in the volume of trading in shares and a rise in the stock market index will be limited in time and scale. Without new listings of firms on the stock exchange, sales of this type will further paralyse the domestic stock exchange, which in recent years has seen a fall in the number of listed firms and a decline in volume.

Figure 5.14: Market capitalisation on the Ljubljana Stock Exchange and annual turnover ratios

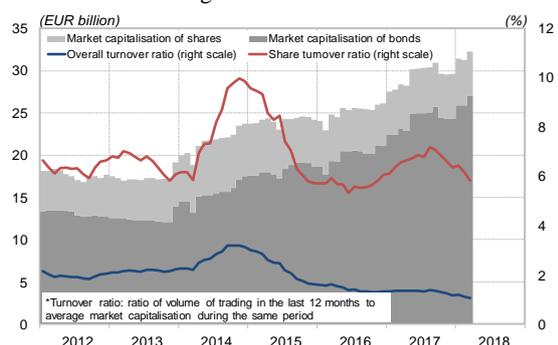
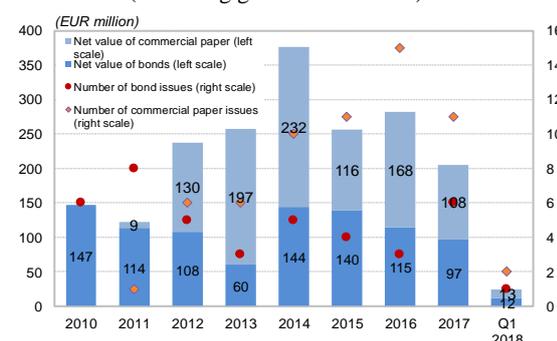


Figure 5.15: Issuance of bonds and commercial paper (excluding government sector)



Sources: Ljubljana Stock Exchange, KDD, Bank of Slovenia

**Given the low liquidity and shallowness of the domestic capital market, liquidity risk and market risk remain high on the Slovenian capital market.** Given the low liquidity, there is greater likelihood that it will be impossible to redeem a particular security quickly enough, while a series of smaller purchases/sales could result in larger changes in securities prices. Owing to low returns and high risk, the domestic capital market is becoming less attractive to domestic and foreign investors, which is further reducing the possibilities for issuing shares on the primary market, where there have been no new share issues in recent years.

**The increased uncertainty on stock exchanges has been reflected in a decline in residents' net outward investments, while non-residents have increased their net inward investments on account of the issuance of government bonds.** Residents made net sales of EUR 28 million in foreign bonds over the first quarter of 2018, having recorded net purchases of EUR 210 million over the same period last year. It was insurance corporations that were the main sellers of bonds, in the amount of EUR 64 million. The banks, which usually have the biggest impact on investments in foreign bonds, recorded net purchases of EUR 40 million, down from EUR 250 million, mostly through purchases of EU bonds. Net investments in foreign shares amounted to EUR 89 million in the first quarter of 2018, down 18.2% in year-on-year terms. The banks recorded net sales of foreign shares, while other sectors made reduced net purchases over the period in question, with the exception of pension funds. As a result of new and additional issues of 10-year government bonds, non-residents<sup>53</sup> recorded net investments in domestic bonds of EUR 2.1 billion in the first quarter of 2018, up 12.2% in year-on-year terms. The majority of the purchases consisted of an issue of 10-year government bonds. Non-residents' demand for domestic shares was low, as they recorded net purchases of EUR 5 million.

Figure 5.16: Net outward investments by residents

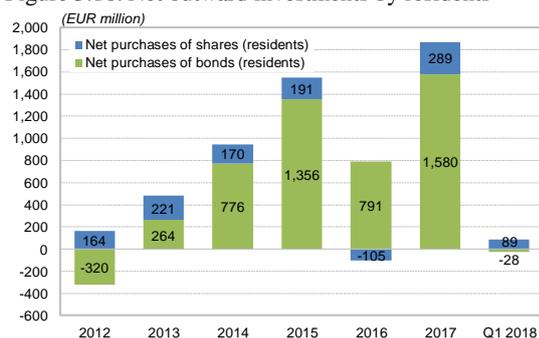
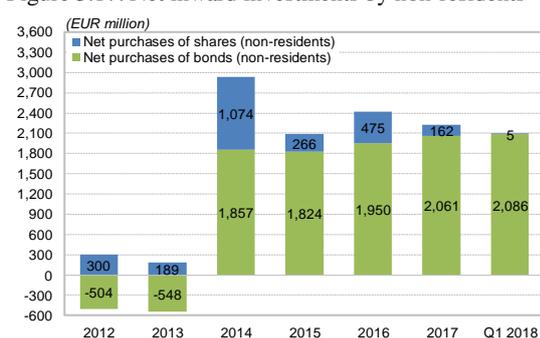


Figure 5.17: Net inward investments by non-residents



Sources: KDD, Bank of Slovenia

**Investment funds**

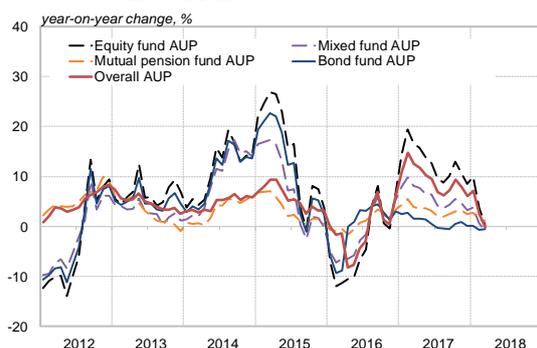
**A correction on stock exchanges was reflected in a decline in the average unit prices of all types of investment fund,<sup>54</sup> while there remained a net positive inflow into investment funds.** Mutual funds' assets under management declined by 1.1% over the first quarter of 2018 to EUR 2.6 billion, while the net inflow into funds over the same period was up EUR 30 million in year-on-year terms. The increase in the net

<sup>53</sup> The largest purchases were made via Belgium and Luxembourg, where two international clearing houses that provide for the registration and settlement of government bonds and that allow bond ownership via fiduciary accounts at KDD are registered.

<sup>54</sup> A lack of available data means that only mutual funds are discussed below.

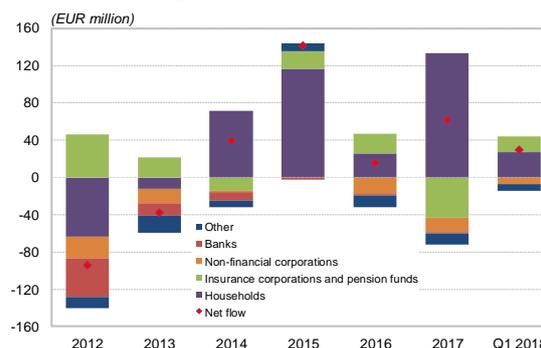
inflow into funds was attributable to an increase in net inflows from insurance corporations and pension funds, while net inflows from households were down 16.3% at EUR 27.4 million. The proportion of the net value of mutual funds owned by households exceeded 61% as a result of increased inflows in 2017 and the continuation of positive net inflows in the first quarter of 2018. Both the household sector and insurance corporations and pension funds sector hold the majority of their assets in equity funds, which are the most popular form of mutual fund saving in Slovenia. Notwithstanding that mutual funds assets and net inflows have been increasing in year-on-year terms for several years now, the poorly developed capital market and the increase in the minimum assets under management that offer viability for management companies, further consolidation of management companies can be expected in the future.

Figure 5.18: Growth in average unit price by type of mutual fund



Source: Bank of Slovenia

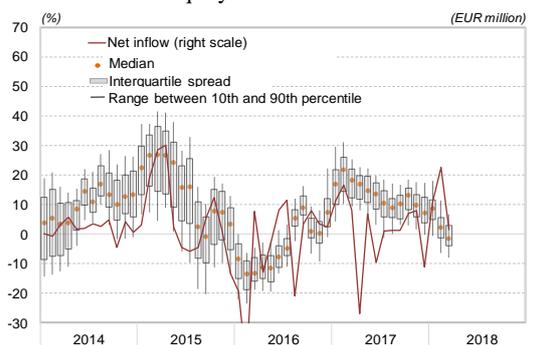
Figure 5.19: Net inflows into mutual funds by investor sector



**The proportion of assets under management accounted for by equity funds and mixed funds increased in the first quarter of 2018, despite the increased volatility on stock exchanges.** Equity funds accounted for 61.5% of total assets under management, and mixed funds for 29.7%, compared with more balanced figures of 28.3% and 25.2% respectively in the euro area overall. Market risk consequently remains in the Slovenian mutual funds market. In other euro area countries, where the proportion of assets under management accounted for by bond funds is larger, interest rate risk and liquidity risk are also present. A rapid revaluation on the bond market could trigger investor flight from bond funds, which are less-liquid by nature.

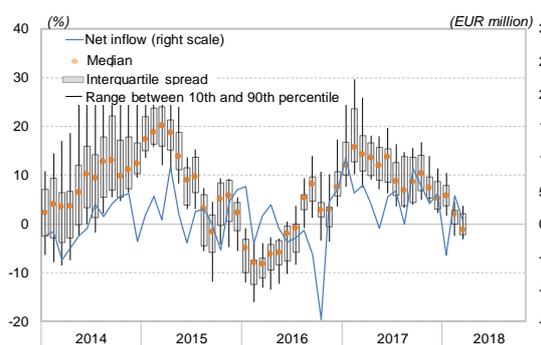
The distribution of annual returns between the 10<sup>th</sup> and 90<sup>th</sup> percentiles narrowed at equity funds and mixed funds, which are the most common forms of mutual fund saving in Slovenia. The distribution of returns on equity funds declined from 20 percentage points to 17 percentage points, while the distribution of returns on mixed funds declined from 18.3 percentage points to 7.5 percentage points.

Figure 5.20: Distribution of annual returns and net inflows into equity funds



Source: Bank of Slovenia

Figure 5.21: Distribution of annual returns and net inflows into mixed funds



## 6 MACROPRUDENTIAL INSTRUMENTS

To meet individual intermediate objectives<sup>55</sup> of macroprudential policy, on the basis of an assessment of risks in the financial system the Bank of Slovenia uses the instruments defined by the Capital Requirements Regulation<sup>56</sup> and the Banking Act<sup>57</sup> (the ZBan-2), and other instruments in accordance with Slovenian legislation.

To prevent and mitigate systemic risks the Bank of Slovenia uses five packages of macroprudential instruments,<sup>58</sup> which are summarised in Table 6.1.

Table 6.1: Macroprudential instruments used by the Bank of Slovenia

MACROPRUDENTIAL INSTRUMENT	YEAR OF INTRODUCTION	OBJECTIVE
Countercyclical capital buffer	2016	- preventing excessive credit growth and excessive leverage - increasing the banking system's resilience to shocks - curbing the expansive phase of the credit cycle
O-SII buffer	2016	- increasing the resilience of O-SIIs, and consequently the entire banking system
Instruments for the real estate market - LTV - DSTI	2016	- preventing excessive credit growth and excessive leverage
GLTDF	2014	- slowing the pace of reduction in the LTD ratio for the non-banking sector - contributing to the stabilisation of funding structure - reducing systemic liquidity risk
Limits on deposit rates	2012	- limiting income risk for banks in connection with an excessive rise in interest rates on deposits by the non-banking sector - encouraging caution in the management of levels of liability interest rates, which should have a positive impact on lending rates

Notes: GLTDF: gross loans to deposits flows, a limit on the pace of reduction in the LTD ratio for the non-banking sector; O-SIIs: other systemically important institutions; LTV: recommended maximum ratio of the amount of a housing loan to the value of the real estate pledged as loan collateral; DSTI: recommended maximum ratio of the annual costs of debt servicing to a borrower's annual income when a loan agreement is concluded.

Source: Bank of Slovenia

The **countercyclical capital buffer** may also be applied when the Slovenian banking system is excessively exposed to third countries. Pursuant to Article 214 of the ZBan-2, the Bank of Slovenia takes account of the Recommendation of the ESRB on recognising and setting countercyclical buffer rates for exposures to third countries (ESRB/2015/1).<sup>59</sup> In accordance with ESRB/2015/1 the Bank of Slovenia is required to examine once a year whether the Slovenian banking system is materially exposed to third countries. In the identification of material exposures of the Slovenian banking system to third countries, Slovenia follows the ESRB methodology for the identification of third countries to which the EU banking system has a material exposure. Third countries are defined as countries that are not part of the EU banking system and for which the ESRB does not set a countercyclical capital buffer rate.

<sup>55</sup> The intermediate objectives of macroprudential policy are described in detail in the [Guidelines for the macroprudential policy of the Bank of Slovenia](#).

<sup>56</sup> Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012, Official Journal of the European Union L 176/13.

<sup>57</sup> Official Gazette of the Republic of Slovenia, Nos. 25/15, 44/16 [ZRPPB], 77/16 [ZCKR] and 41/17.

<sup>58</sup> They are presented in detail at <https://www.bsi.si/en/financial-stability/macroprudential-supervision/macroprudential-instruments>.

<sup>59</sup> ESRB/2015/1.

The Governing Board of the Bank of Slovenia has stipulated that the threshold of materiality of the Slovenian banking system's exposure to a third country be set to 5% in terms of at least one of the following criteria:

- i. **original exposure**, i.e. the ratio of the original exposure to the third country to the total exposure to all countries;
- ii. **risk-weighted exposure**, i.e. the ratio of the risk-weighted exposure to the third country to the total exposure to all countries.

The exposure ratio is then calculated as the ratio of the exposure to the third country to the total exposure to all countries separately for each metric (i) and (ii). The threshold set by the Governing Board at its 559<sup>th</sup> meeting (5% for original exposures and 5% for risk-weighted exposures to a particular third country) was not exceeded in 2015 or 2016. Repeat analysis conducted on data from 31 December 2017 revealed that exposure to third countries remains below 5%, which means that the Slovenian banking system currently has no material exposure to any third country from which the transmission of risks of a systemic nature could occur.

**Decision to not apply reciprocity with regard to Finnish and Estonian macroprudential measures** The competent authority in Finland (FIN-FSA) introduced a macroprudential measure that entered into force on 1 January 2018. The measure includes a 15% risk-weight floor for credit institutions on housing loans secured by a mortgage on housing units in Finland. The ESRB recommended reciprocation for credit institutions using an IRB approach that approve housing loans secured by a mortgage on housing units in Finland either via branches located in Finland or directly. The Finnish competent authority defined an exposure amount of EUR 1 billion as the materiality threshold. A decision to not apply reciprocity was taken on the basis of the *de minimis* principle, as none of the Slovenian banks using an IRB approach exceeds the materiality threshold set by the Finnish competent authority.

In June 2016 the ESRB recommended reciprocation of Estonia's 1% systemic risk buffer rate, which in accordance with Article 133 of Directive 2013/36/EU<sup>60</sup> is applied to the domestic exposures of all credit institutions authorised in Estonia. Because the exposures to Estonia of credit institutions authorised in Slovenia are negligible, a decision to not apply reciprocity was taken on the basis of the *de minimis* principle.

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<sup>60</sup> Official Gazette of the Republic of Slovenia. Nos. 25/15, 44/16 [ZRPPB], 77/16 [ZCKR] and 41/17.

## **THEMATIC SECTION**

### **REAL ESTATE MARKET AND RELATED RISKS TO FINANCIAL STABILITY**

## 7 REAL ESTATE MARKET AND RELATED RISKS TO FINANCIAL STABILITY

### Summary

*In 2017 growth in residential real estate prices reached its highest level since the outbreak of the crisis, recording the third highest rate in the euro area along a record number of transactions. There was particularly high growth in prices of newly-built residential real estate, as a result of a shortage on the market and a high demand. The trend of growth in prices can be seen in all major cities and towns in Slovenia, most notably Ljubljana and Koper. The rapid growth in real estate prices means that housing affordability has been deteriorating in recent years, despite the net wage growth, but it remains higher than before the crisis. There is considerable variation from town to town, and housing affordability has deteriorated particularly sharply in Ljubljana in recent years. Compared with 2008 disposable income is up 15%, while real estate prices are still down 10%, which together with the significantly lower price-to-rent ratio does not indicate overheating of the real estate market in Slovenia.*

*The onset of a new construction cycle is evident in Ljubljana, while elsewhere in Slovenia it is expected in a year or two. An increase in construction activity is indicated by the high construction confidence indicator, and by the rise in the number of building permits and the amount of residential construction put in place. Alongside the good economic situation and the favourable terms of financing, the imbalance between supply and demand is the most important reason for the rapid growth in prices, and in light of the short supply of new-build housing, prices can be expected to rise in the future. This is expected to continue until the supply of housing on the market increases.*

*The risks to the banking sector in connection with the real estate market have not increased for now. The LTV ratio on new loans remains stable overall, and in line with the Bank of Slovenia's macroprudential policy recommendation. Growth in housing loans remains stable and moderate, and declined slightly further in late 2017 and early 2018. The average maturity of new housing loans is no longer increasing, while the amount of loans and proportion of loans with a fixed interest rate are increasing. Compared with the situation before the crisis, the banking system is less sensitive to the rising imbalances on the real estate market. The major differences come from the banks' smaller credit exposure to the construction sector, the rising disposable income, and the still-low household indebtedness. Another difference is in the credit standards for housing loans, which have remain unchanged since 2008 at a considerably elevated level.*

*With the help of a survey of the banks' credit standards (Survey of LTV and DSTI 2017), the Bank of Slovenia undertook an assessment of compliance with the macroprudential recommendation for the housing market for the first time in 2018. It can be observed that the average values of the indicators addressed by the recommendation have not undergone any significant change over time, while the proportion of loans that exceed the recommended values of the indicators has fallen since the introduction of the macroprudential measure. It could be concluded from this that the banking system has adjusted its credit standards since the introduction of the recommendation by the Bank of Slovenia. However, the constant LTV in a situation of rising real estate prices does not necessarily entail no change in risks. It is further found that the banks are most likely reporting a DSTI<sup>61</sup> that is too low, for which reason this indicator is perhaps painting a better picture of credit standards at loan approval than is actually the case. Further analysis of the aforementioned risks will form the basis for a decision on any change in the macroeconomic recommendation.*

*Cyclical risks from the real estate market could be transmitted to the banking system in the event of further growth in real estate prices, particularly in the event of a further reduction in credit standards given the high optimism and favourable expectations on the real estate market. There is also a need to monitor consumer loans and to determine their purpose, in particular whether real estate might be being financed to a limited extent by consumer loans. This could increase the credit risk to the bank in the event of a price reversal on the real estate market, or a deterioration in the financial standing of the borrower, particularly in the case of variable-rate housing loans with longer maturities.*

### Prices and transactions on the real estate market

**Growth in residential real estate prices in 2017 was at its highest since the outbreak of the crisis.** Residential real estate prices increased by 10% in 2017. At the end of 2017 residential real estate prices were

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<sup>61</sup> For more, see below.

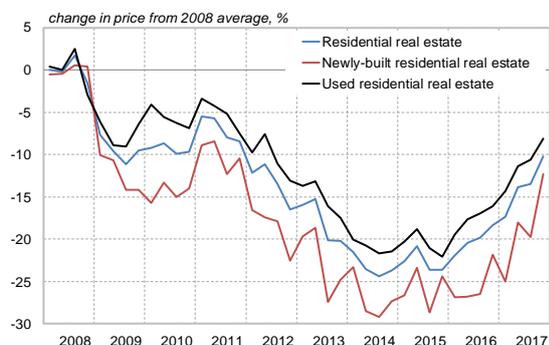
down 10% on their peak of 2008<sup>62</sup>, but up 14% on their low of 2014. The trend of growth in prices of used residential real estate that began in the first half of 2016 continued last year. The most pronounced price growth in 2017 was recorded by newly-built residential real estate (12.2% in year-on-year terms), an indication of the shortage on the market. After 2008 prices of newly-built residential real estate fell more than prices of used residential real estate, and despite pronounced growth last year remain down 12.3% on their peak of 2008.

Figure 7.1: Residential real estate prices



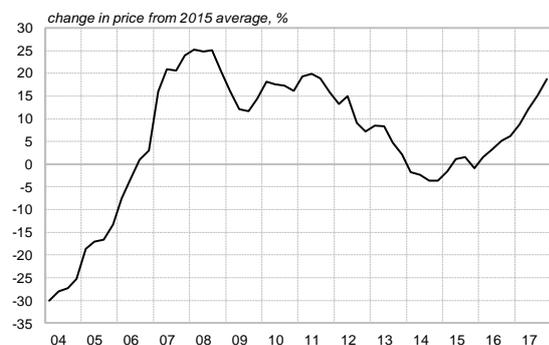
Source: SURS

Figure 7.2: Change in residential real estate prices since 2008



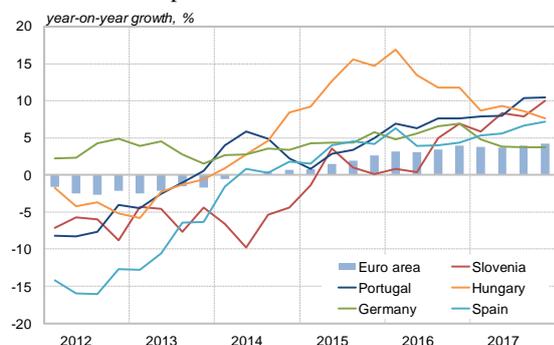
**Real estate prices increased in almost all euro area countries in 2017, Slovenia recording the third-highest rate of growth.** Only Portugal and Ireland recorded higher year-on-year growth in real estate prices, at 10.5% and 11.8% respectively, while only Italy recorded a year-on-year fall in prices, at 0.3%. The 10% growth in real estate prices in Slovenia in 2017 was 5.8 percentage points more than the average in the euro area overall. In the favourable macroeconomic environment, the relatively rapid growth in prices of residential real estate in Slovenia is a result of the sharp fall in prices during the crisis and a long period of a small number of transactions on the market. Prices of used housing rose particularly sharply in the years before the outbreak of the crisis in 2008, when annual growth of 15% was recorded, but a relatively sharp fall in prices then followed during the crisis.

Figure 7.3: Prices of used residential real estate



Sources: SURS, Eurostat

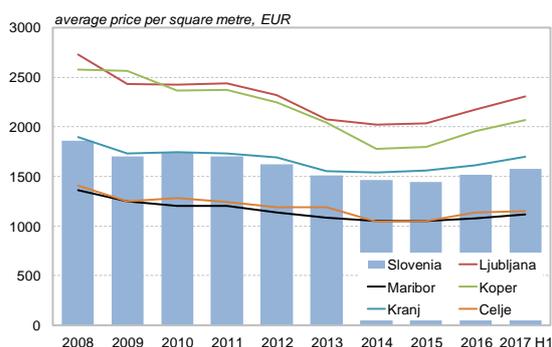
Figure 7.4: Residential real estate prices, international comparison



**Real estate prices rose in all larger towns in Slovenia, although there was considerable variation between them.** Prices of used residential real estate are highest in Ljubljana and Koper, and have also increased the most in recent years, followed by prices in other towns with slightly slower growth. The higher growth in prices in Ljubljana and Koper is partly attributable to higher growth in the number of inhabitants. Better employment opportunities are the main factor in faster urbanisation and migration to the larger, wealthier towns, which is leading to increased demand and thus to higher growth in real estate prices. Prices of used housing in Ljubljana are up 24% on their low of 2014, which is significantly more than the average increase of 14% in Slovenia overall. As prices rise quickly, real estate in larger towns (Ljubljana in particular) is becoming less affordable, and given the lack of supply, increased migration to the suburbs can also be expected. Another factor in the rise in prices in Ljubljana in recent years has been the boom in tourism, which has most likely seen increased purchases of real estate for the purpose of tourist rentals.

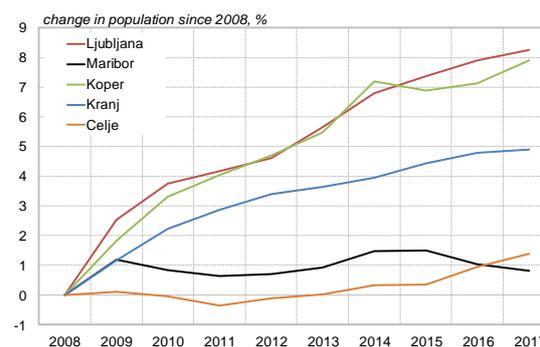
<sup>62</sup> Residential real estate prices in the final quarter of 2017 were down 12% on their peak in the third quarter of 2008.

Figure 7.5: Average prices of used housing in larger towns in Slovenia



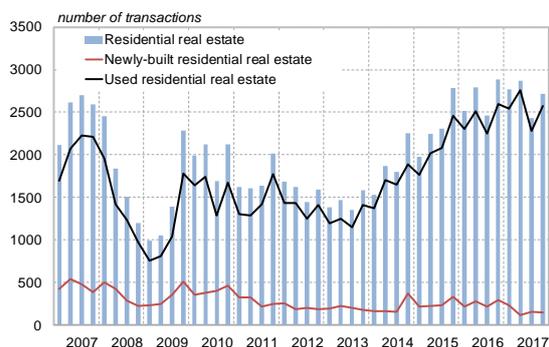
Sources: SMARS, SURS

Figure 7.6: Growth in population in larger towns in Slovenia



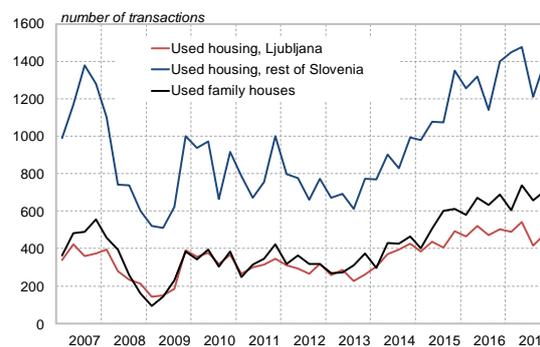
The number of transactions in residential real estate in 2017 was the highest of the last decade, although growth in the number of transactions slowed slightly in the second half of the year. There were 10,788 transactions in residential real estate concluded last year, up 1.3% on the previous year, but the number of transactions fell slightly in the second half of the year (by 3.7% in year-on-year terms). Last year saw a record low in the number of transactions in newly-built residential real estate (632), down more than a third on the previous year. The favourable economic situation and favourable loan terms are contributing to increased demand for residential real estate, and therefore, together with sales in bankruptcy proceedings, increasing number of transactions. Certain part of transactions is most likely attributable to the purchase of housing as an investment, particularly in Ljubljana and other tourist destinations, as real estate is often a relatively high-yielding investment in a period of extremely low market interest rates.

Figure 7.7: Number of transactions in residential real estate



Source: SURS

Figure 7.8: Number of transactions in used residential real estate



### Supply of and demand for residential real estate

In the future, the (im)balance between supply and demand will stay an important factor in price growth. Interest in purchase of residential real estate remains high, most likely both for the purpose of occupation and for investment purposes, as in light of the good economic situation and the improved situation on the labour market many households are opting to purchase real estate. Compared with 2008 households have greater capacity to purchase housing, although due to a high growth in real estate prices in the last two years, it has been deteriorating (particularly in Ljubljana). The improved situation on the labour market and the expectation of further growth in real estate prices, despite their high growth, is contributing to increased demand. The supply of newly-built housing remains low, as for now the construction cycle has only begun in Ljubljana, although it is expected to begin elsewhere in the next two years.

Figure 7.9: Ratio of housing prices to net wages in Ljubljana

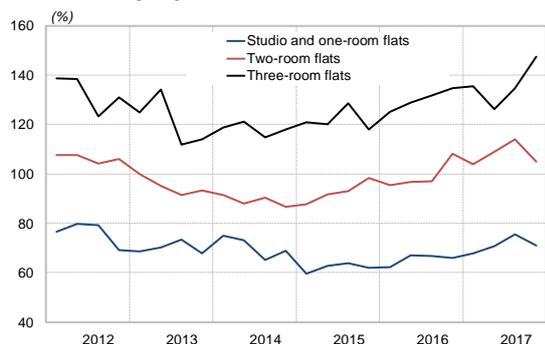
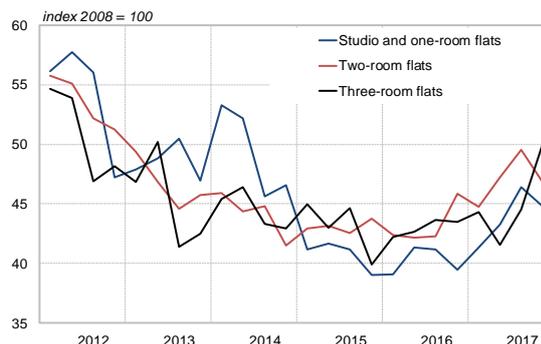


Figure 7.10: Housing affordability index



Note: The left figure illustrates the ratio of prices of used flats to the annual moving average of net monthly wages in Ljubljana. Due to a break in the SMARS data series for transactions in residential real estate, average prices in the period since 2015 are lower than in the prior period. The housing affordability index (right figure) shows whether housing affordability has improved or deteriorated for households. It is calculated by means of a PMT function (loan payment on the basis of fixed prices and an unchanged interest rate), and takes account of prices of used flats, the annual moving averages of monthly wages, and loan terms (interest rates and maturities).

Sources: Bank of Slovenia, SURS

**Despite strengthened wage growth, housing affordability in Ljubljana has been deteriorating in recent years because of high growth in housing prices.** Prices of used flats in Ljubljana rose by 14.8% in 2017, while the average wage rose by 4.4% over the same period. The ratio of housing prices to net wages in Ljubljana increased slightly for one-room flats (including studio flats) and two-room flats, and increased more markedly for three-room flats. After falling slightly in the first half of last year, prices of three-room flats rose sharply in the second half of the year, and their affordability deteriorated. Housing affordability in Ljubljana also deteriorated sharply when loan terms are taken into account (average interest rates and maturities in a specific period),<sup>63</sup> these having remained broadly unchanged in 2017. A further deterioration in housing affordability could lead to a slowdown in growth in real estate prices, particularly in the event of any change in loan terms or rise in interest rates.

**Household disposable income and net wages have increased since 2008, while real estate prices are still significantly below their pre-crisis level.** As a result, households' capacity to purchase real estate is greater than it was before the crisis. Growth in demand for real estate will in the future depend primarily on development in real estate prices, loan terms and the situation on the labour market. It can be concluded that growth in demand is predicted to be lower in towns where prices have already risen more sharply (e.g. Ljubljana), and demand will shift to the suburbs and rural areas.

Figure 7.11: Residential real estate prices, disposable income and net wages



Figure 7.12: Price-to-rent and price-to-income ratios for residential real estate



Note: The figures in the OECD database are seasonally adjusted.

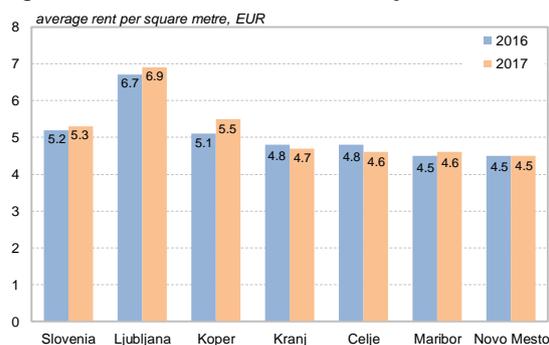
Sources: SURS, Eurostat, OECD

**Favourable rental yields are increasing investors' interest in purchasing real estate.** According to OECD data, residential real estate prices fell more sharply during the crisis than did rents, which has increased the return on investment. In addition to capital gains (the anticipated further growth in real estate prices), investors can achieve a relatively high return on investment compared with investments with

<sup>63</sup> The assumption is that the purchase of the housing is financed entirely by a loan, subject to terms of approval calculated as an average across the banking system.

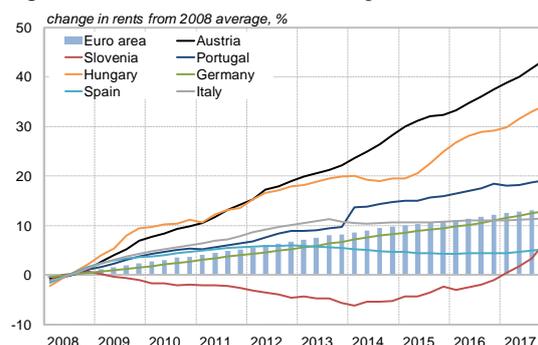
comparable risk. There can be considerable variation in the price-to-rent ratio from town to town, and consequently the projected returns also vary. In Slovenia the proportion of owner-occupied real estate is very high, and consequently demand for purchase is significantly higher than rental demand, although growth can also be seen in rents. According to SMARS data (with certain data limitations<sup>64</sup>), by far the largest housing rental market is in Ljubljana, where the average rent per square metre is also highest. Growth in rents varies from town to town, but like real estate prices, some of the most pronounced growth in rents is in Ljubljana and Koper. According to OECD data, since 2008 rents in Slovenia are lower than in the euro area average, although they have been rising sharply in the last year. The price-to-rent ratio does not indicate overheating of the real estate market.

Figure 7.13: Rents in Slovenia and in major towns



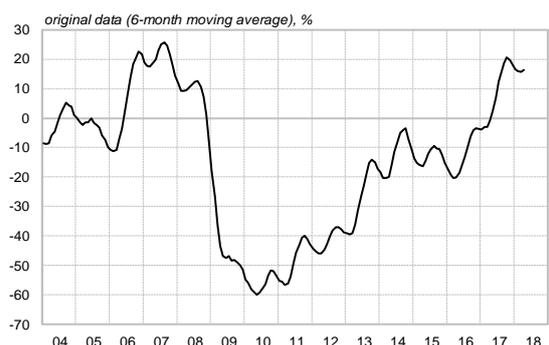
Note: The figures in the OECD database are seasonally adjusted.  
Sources: SMARS, OECD

Figure 7.14: Rents, international comparison



**The amount of residential construction put in place is gradually increasing, but remains at a low level.** The need for new housing is increasing, which is being reflected in high construction confidence indicator and increasingly in the amount of construction put in place in the residential buildings segment. The growth in demand and in real estate prices is also increasing investors' interest in construction, partly on account of the anticipated fast sale of new-build housing. The strengthening of the construction cycle is for now only evident in Ljubljana, where numerous housing units are being sold off-plan, an indication of the inadequate supply of newly-built housing. There is also a high imbalance between supply and demand in other major towns, where the onset of a new construction cycle can also be expected shortly. An increase in construction activity is also being indicated by the gradual rise in the number of building permits issued for residential buildings in 2016 and 2017.

Figure 7.15: Construction confidence indicators<sup>65</sup>



Source: SURS

Figure 7.16: Index of amount of residential construction put in place



**The revival in construction activity is also gradually increasing credit activity vis-à-vis the construction sector.** The stock of loans to the construction sector remains low at EUR 500 million, and reveals the banks' relatively low exposure to the sector. There has not yet been a reversal in loans to firms in the real estate activities sector, which are continuing to decline. With the onset of increased construction activity, growth in lending to the construction sector could be expected, albeit to a lesser level than before the crisis. In contrast to the pre-crisis period, there are no longer so many large construction firms, and the majority of the financing is through equity. Construction firms are still heavily involved in investment in the real estate

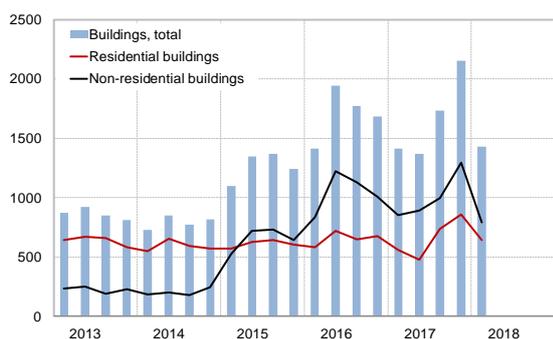
<sup>64</sup> For more, see [http://www.e-prostor.gov.si/fileadmin/etn/Porocila/Porocilo\\_najemni\\_trg\\_2017.pdf](http://www.e-prostor.gov.si/fileadmin/etn/Porocila/Porocilo_najemni_trg_2017.pdf) (in Slovene).

<sup>65</sup> See 2014 Financial Stability Review.

market, and the separation of functions between the construction sector and investors has not yet been established to the degree to which it is practised in other countries. In contrast to investors, loans are the prevalent source of financing in the construction sector, and consequently the banks are more sensitive to changes in the sector via the larger exposure.

**The banks must maintain adequate assessment of credit risk in the construction sector.** This is particularly the case because of the expectation of the strengthening of the construction cycle and high growth in real estate prices, and the possibility of a price reversal in the future. Construction firms will have to properly assess the financial viability and design of individual projects, and in so doing not embark on major projects while overleveraging. This would mitigate financial consequences for the financial sector and the real economy of the type experienced during the crisis.

Figure 7.17: Number of issued building permits



Source: SURS

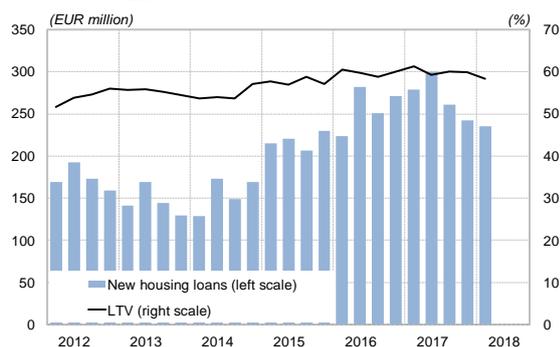
Figure 7.18: Growth in loans to the construction and real estate activities sectors



**Real estate market and related risks to the banking sector**

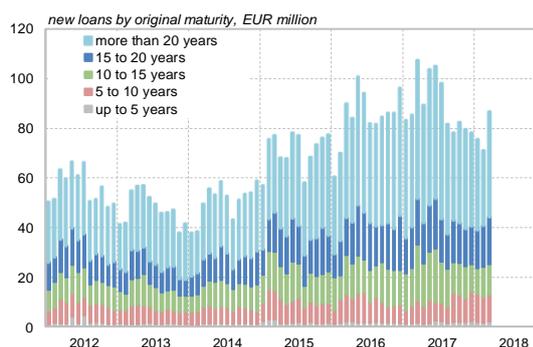
**At the approval of new housing loans, collateral remains high.** The average LTV<sup>66</sup> on new bank loans obtained on the basis of ordinary monthly reporting and with certain restrictions remains stable at close to 60%, despite the positive outlook on the real estate market. The average LTV remains within the bounds of the Bank of Slovenia’s recommendations. Growth in real estate prices slightly reduced the average LTV for the stock of loans, which stands at 50% (March 2018). It is recommended that the banks continue to maintain the high credit standards achieved with regard to housing loans, despite the increased optimism on the market.

Figure 7.19: New housing loans per quarter and average LTV



Source: Bank of Slovenia

Figure 7.20: New housing loans by maturity



**The average maturity of new housing loans is no longer increasing, while the proportion of fixed-rate loans is increasing.** The average maturity of new housing loans stood at 19 years in 2017, and began to shorten moderately in the second half of the year. The banks have seen the gradual limitation of the maturities of housing loans, particularly on fixed-rate loans. The proportion of fixed-rate loans is still increasing: more than half of new loans are being approved with a fixed interest rate, while fixed-rate loans account for 22% of the stock of loans (as at March 2018). Average interest rates on housing loans remain relatively low on fixed-rate loans (2.9% in March 2018) and on variable-rate loans (2.0% in March 2018).

<sup>66</sup> The LTV is the ratio of the value of a housing loan to the value of the collateral. The macroprudential recommendation relates solely to the ratio of the value of the housing loans to the value of the residential real estate pledged as collateral.

**Growth in housing loans declined in the first quarter of 2018.** The total stock of housing loans exceeded EUR 6 billion in early 2018, although the year-on-year rate of growth is slowing significantly, reaching 3.8% (in March 2018). Growth in loans is slowing despite the high number of transactions and growth in real estate prices, which could be the result of a shortage of new-built real estate on the market, and consequently the reduced need to raise loans. Another reason could be the continually rising real estate prices, which are reducing households' capacity to purchase real estate. A single housing loan can be reflected in several transactions in residential real estate. A rise in the number of transactions is then reflected, via increased demand, in price rises. The improved situation on the labour market and growth in disposable income are increasing households' capacity to finance purchases with their own resources.

Figure 7.21: Stock of and growth in housing loans in Slovenia

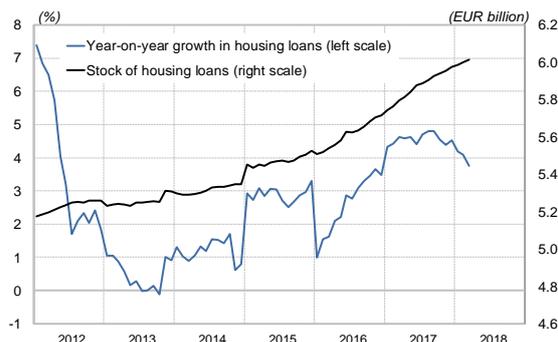
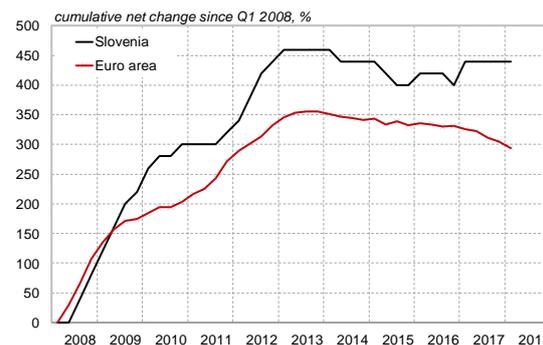


Figure 7.22: Credit standards for housing loans



Note: The data in the right figure illustrates the cumulative net percentage change on the previous quarter. A positive net change indicates a tightening of credit standards, while a negative net change indicates an easing of credit standards.

Sources: Bank of Slovenia, ECB (SDW)

According to a survey on bank lending in the euro area,<sup>67</sup> credit standards on housing loans remained unchanged in 2017 and early 2018, and tighter than they had been during the last financial crisis. Credit standards in Slovenia are at a significantly higher level than in 2008, and also than the euro area average, where there has been a trend of easing since 2015. The easing of credit standards in the euro area is primarily attributable to the pressures of competition, the lower perception of risk in the economic environment, the better outlook for the housing market and a higher tolerance for risk at banks. Despite increased optimism and the favourable economic situation, Slovenian banks will have to maintain adequate credit standards and loan terms in the future.

The rate of owner occupation in Slovenia is among the highest in the euro area, while the proportion of real estate owners with a mortgage is among the lowest. According to Eurostat data, in 2016 a quarter of housing in Slovenia was rented, while three-quarters was owner-occupied, which is above the euro area average. Owner-occupiers with a mortgage accounted for 10% of households in Slovenia in 2016, one of the lowest rates in the euro area. In addition, households in Slovenia remain among the least indebted in the euro area: their financial liabilities are equivalent to 31% of GDP, a similar figure to before the outbreak of the crisis. Risk could nevertheless increase in the event of excessive optimism with regard to further growth in real estate prices and the consequent increase in the DSTI<sup>68</sup> and LTV ratios. To limit the increase in risks of this type the Bank of Slovenia issued two macroprudential recommendations for the housing loans segment<sup>69</sup> at the end of 2016.

<sup>67</sup> Bank Lending Survey.

<sup>68</sup> The debt service-to-income ratio is the ratio of the annual costs of debt servicing to a borrower's annual income when a loan agreement is concluded.

<sup>69</sup> For more, see <https://www.bsi.si/en/financial-stability/macprudential-supervision/macprudential-instruments/instruments-for-the-real-estate-market>.

Figure 7.23: Breakdown of population to real estate owners and tenants, 2016

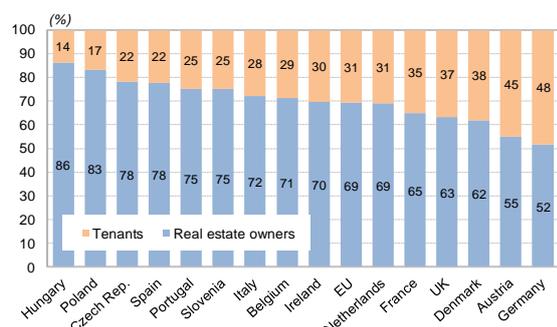
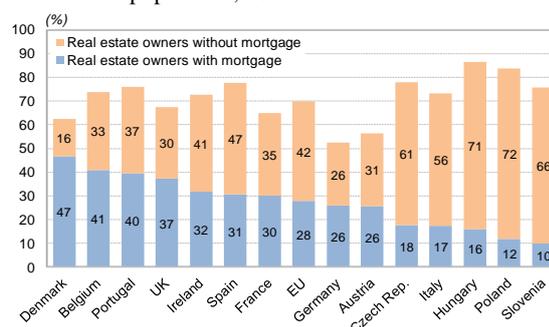


Figure 7.24: Breakdown of real estate owners (with and without a mortgage) as a percentage of total population, 2016



Source: Eurostat

**Assessment of the macroprudential recommendation for the housing loans market**

In early April 2018, the Bank of Slovenia sent a survey on housing loans to banks (including savings banks and branches).<sup>70</sup> As in previous years, it requested data on basic characteristics of new housing loans (housing loan amount, real estate collateral value, borrower's income, total debt and total debt servicing costs etc.). The data obtained allows for the calculation of LTV and DSTI ratios, which are regulated by the macroprudential recommendation for the housing loans market, issued in September 2016.

The maximum recommended LTV is 80%. DSTI recommendation depends on the borrower's monthly income. The maximum recommended DSTI is 50% for income less than or equal to EUR 1,700, and 67% for the portion of income above EUR 1,700. Moreover, in the loan approval process (when assessing creditworthiness) it is recommended that banks apply, *mutatis mutandis*, the limitations on the attachment of a debtor's financial assets set out in the Enforcement and Securing of Claims Act and the Tax Procedure Act, i.e. earnings that are exempt from attachment and limitations on the attachment of a debtor's financial earnings.

For the first time since the introduction of the instruments the review provides analysis of the developments in the indicators, with the aim of determining whether the banks follow the recommendation.

This year's survey includes data for 2015, 2016 and 2017. The information obtained is more detailed and of higher quality than in the past. The ratios for 2015 and 2016 can therefore differ from those in the last Financial Stability Review (January 2018). At the same time, the banks that previously did not report DSTI or data on non-mortgage loans have at least partly provided the missing data. From the data received, it is evident that banks do not have data for a proper calculation of total debt servicing costs. They monitor this indicator during approval, but they mostly only include the debt servicing for the newly approved loan.<sup>72</sup> At best, they supplement it with information about loans approved by their institution.<sup>73</sup> Consequently, the indicator is understated, and portrays an overly optimistic assessment of credit standards at loan approval.

In the analysis, housing loans are divided into two categories: loans secured by real estate, to which the LTV and DSTI requirements both apply, and loans not secured by real estate, to which only the DSTI requirements apply. According to data from regular reporting, the most common are loans secured by real estate, followed by loans secured at an insurance company, which covers 16% of all housing loans. Other forms of insurance, such as funded credit protection are rare.<sup>74</sup> In the event of default, credit insurance at an insurer provides faster repayment for the bank than the sale of real estate collateral.

<sup>70</sup> The first survey designed for monitoring of macroprudential recommendation was conducted in 2017. Before that, Bank of Slovenia collected data on number and amounts of loans where certain LTV and DSTI thresholds were exceeded.

<sup>72</sup> This indicator is called LSTI, loan-service-to-income.

<sup>73</sup> Banks where on average clients hold more loans will most likely report higher DSTIs. This does not necessarily mean those banks are more risky, but that they have better data about client indebtedness.

<sup>74</sup> Some countries (e.g. Finland) have instruments similar to LTV, but they take into the account all forms of credit protection. However, difficulties can arise in valuing different forms of credit protection. For this reason such instruments are rare.

Figure 7.25: Amount of mortgage and non-mortgage loans (EUR million, left scale), and number of transactions (right scale)

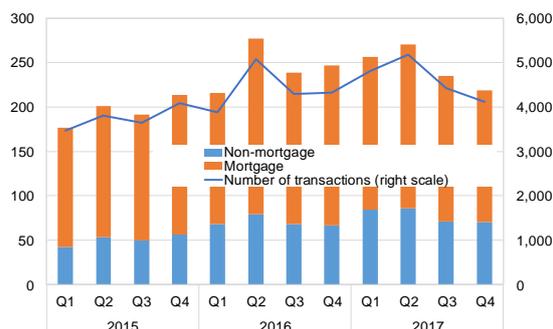
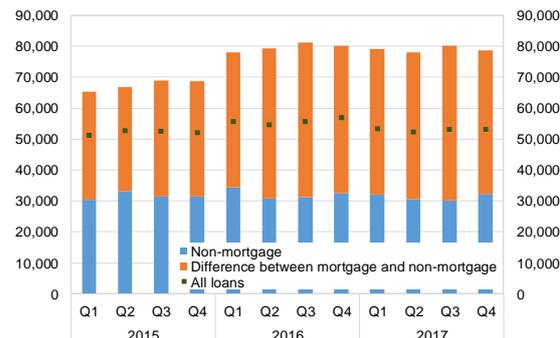


Figure 7.26: Average loan amount (EUR)



Note: The surveys included loans in the total amount of EUR 765 million in 2015, EUR 951 million in 2016, and EUR 1,028 million in 2017.

Source: LTV and DSTI survey 2017.

The volume of new loans has been increasing until the second quarter of last year. Afterwards it began to decline.<sup>76</sup> In 2017, about 70% (Figure 7.25) of new housing loans were secured by residential real estate collateral.<sup>77</sup> In terms of amount, loans secured by real estate collateral were much larger on average than unsecured loans or loans with other forms of credit protection (Figure 7.26). Between 2015 and end of 2017, the average amount of a loan secured by real estate collateral increased by approximately 20% (from about EUR 66,000 to about EUR 80,000). As LTV was stable, this means that borrowers were increasingly buying more expensive real estate. This is understandable, as real estate prices are rising. During 2016, collateral value increased more than did real estate prices.<sup>78</sup> The following year collateral values stagnated, while prices continued to rise (Figure 7.27). The average amount of loans not secured by real estate collateral remained stable. This may be a result of the banks' policies, that require real estate collateral for loans above a certain size.

Figure 7.27: Average collateral value (EUR, left scale) and index of residential real estate prices (Q1 2015 = 100, right scale)

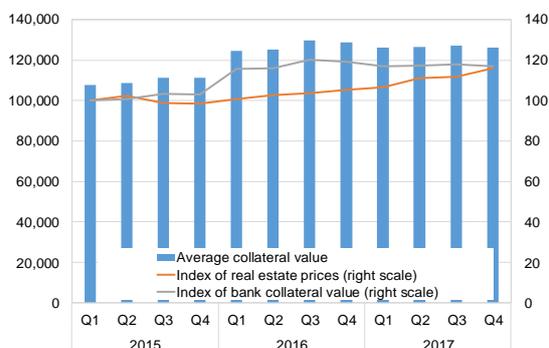
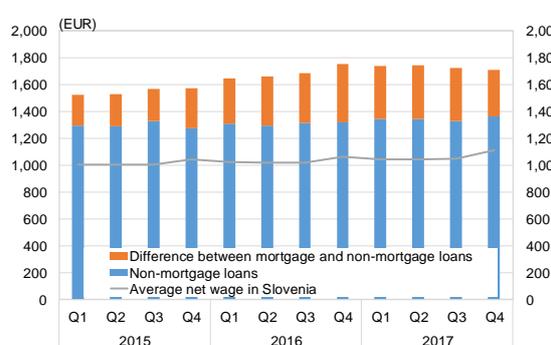


Figure 7.28: Average income of borrower by loan collateral type and average monthly net wages (ordinary mean)



Sources: LTV and DSTI survey 2017, SURS

Loans are generally raised by borrowers with higher-than-average income, which is particularly the case for mortgage loan clients. Their average income is around EUR 1,660 (more than EUR 1,700 in the final year of the observation period), or 1.6 times the average net wage.<sup>79</sup> Their income increased over the observation period. In contrast, the income of borrowers of housing loans not secured by real estate collateral stagnated. The difference between their wages and the average monthly wage in Slovenia has somewhat diminished (it stood at 1.3 times the average wage) (Figure 7.28). This gap is probably attributable to the fact that low-income borrowers borrow smaller amounts, for which the banks do not demand the creation of a mortgage.

<sup>76</sup> SURS also observed a decrease the number of transactions during 2017. The data from regular reporting shows that the trend continued in 2018.

<sup>77</sup> Non-mortgage loans account for around half of all loans in terms of numbers, but their amounts are lower.

<sup>78</sup> This is a simplified comparison, as residential real estate in the two indices is not comparable, while it is a similar case with the method of calculating the indices.

<sup>79</sup> This is understandable, as they also borrow more than on average.

Over the last three years, the average LTV and DSTI have not changed significantly. There was only a slight decline in the DSTI for non-mortgage loans and a slight increase in the DSTI for mortgage loans. The latter are lower risk, thanks to additional security in the form of real estate collateral. The average DSTI thus fluctuated around 32%, while the average LTV was around 69% (see Figure 7.29).

Figure 7.29: Average DSTI for mortgage loans and non-mortgage loans (left-axis) and average LTV (right-axis)

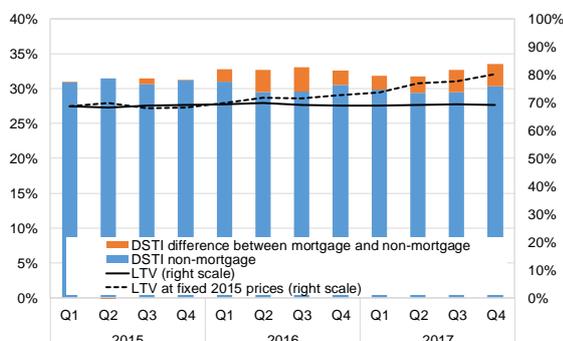
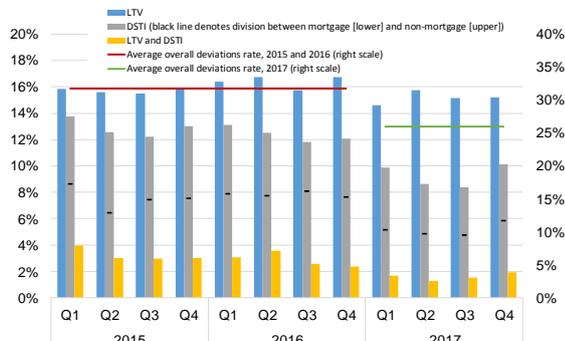


Figure 7.30: Proportion of loans (in terms of value) deviating from recommendations with regard to type of non-compliance



Note 1: The SURS index of all residential real estate prices was used in the calculation of the hypothetical LTV (LTV under fixed 2015 prices).

Note 2: Data on income is missing for certain loans, some of which probably failed to comply with the DSTI recommendation. For this reason the proportion of non-compliance is understated, particularly in 2015. The proportion of loans missing data on income has been declining, from 9.3% in 2015, to 3.1% in 2016, to 1.8% in 2017.

Sources: LTV and DSTI survey 2017, SURS

For monitoring the impact and compliance with the macroprudential measures, the distribution of the deviations from the recommended values of LTV and DSTI is more important than their average values.<sup>80</sup> With the last survey, Bank of Slovenia now has data that allows for a more accurate and simultaneous assessment of compliance with both recommendations (LTV and DSTI).<sup>81</sup>

Deviations from the recommendations have declined over time. They accounted for 32% of loan volume in 2015 and 2016 and decreased to 27% in 2017. This could suggest that after the macroprudential recommendation was issued, the banks adjusted their credit standards<sup>82</sup> or the quality of their reporting. The proportion of loans deviating from the recommendations slightly increased in the final quarter of last year. It is therefore reasonable to caution the banks to be prudent when approving such loans.

It is positive that there was a decline in the proportion of loans that deviated from both recommendations, which stood at around 2% in 2017. In the same year, only around 4% of non-mortgage loans deviated from the DSTI recommendation. After the introduction of the macroprudential instrument, the proportion of mortgage loans that deviated from the DSTI recommendation declined to about 6% (see Figure 7.30). Overall, that year, approximately 12% of the loans covered by the survey, deviated from the DSTI recommendation.

The largest and relatively stable deviations from the recommended values were observed for LTV. In 2017, around 18% of loans deviated from the LTV recommendation (two percentage points of those, also deviated from the DSTI recommendation). In 2017 about a quarter of mortgage loans had LTV above 80%, thereby deviating from the recommendation (Figure 7.31). This figure is higher than in 2015, but down from 2016. LTV is a pro-cyclical indicator. This means that the same level of LTV in 2015 and 2017 doesn't necessarily entail the same risk. The dashed line in Figure 7.29 illustrates the average LTV in the event of real estate prices remaining at their level of 2015 while the loan amounts remain unchanged. The proportion of loans where the banks could potentially have problems with repayment from collateral, were prices to fall to their level from the beginning of 2015, is therefore increasing more than is suggested by Figure 7.31. Were prices

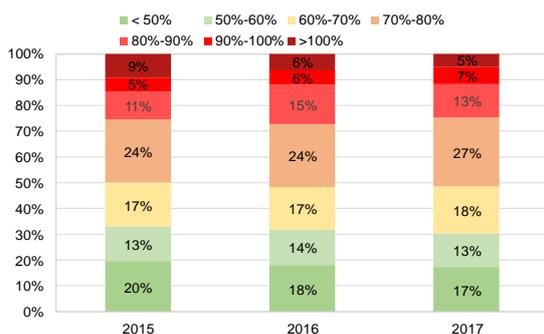
<sup>80</sup> The term "deviation from the recommendation" is also applied to the period before recommendations were adopted. However, the credit standards of that time can only be used for comparison or for risk assessment of lending activity.

<sup>81</sup> The surveys between 2013 and 2016 allowed for an approximate assessment of combined compliance with the two recommendations. The banks reported data on combinations of LTV and DSTI and combinations of DSTI and income (all across brackets) separately. It is necessary to know the client's income in order to assess compliance with the DSTI recommendation. A completely accurate assessment is still not possible, as it would require data on: the number of people involved in the loan repayment, dependent family members, etc.

<sup>82</sup> They could also be encouraged in this by the judicial practice of Slovenian courts, which in cases involving Swiss franc loans have requested clarification as to whether the Bank of Slovenia's recommendations with regard to informing clients of potential risks in connection with Swiss franc loans were being upheld in practice (e.g. LHC Order I Cp 517/2017).

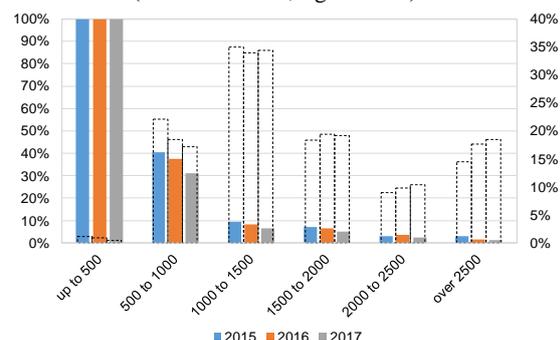
to have remained unchanged between 2015 and 2017, loans with LTV of between 70% and 80% would migrate to the category of loans with an LTV of between 80% and 100% (of course assuming that they would be approved in the same amount). There were more of these loans in 2017 than in previous years. The collateral value of loans with LTV of more than 85% would fall below the loan value were prices to fall to their level from the beginning of the observation period. Such a fall in prices would probably happen over a longer period, which means that part of the loan would have been repaid by that time.

Figure 7.31: Distribution of loans by LTV by year



Note: Loans secured by real estate only.  
Source: LTV and DSTI survey 2017.

Figure 7.32: Proportion of loans deviating from the DSTI recommendation by income bracket (coloured columns, left scale), and proportion of total loans accounted for by each income bracket (dotted columns, right scale)



The largest proportion of loans was approved for clients with a net monthly income of between EUR 1,000 and EUR 1,500. The proportion of loans to borrowers with income below EUR 1,000 is declining in favour of clients with incomes above EUR 2,000 (see Figure 7.32, right scale). This is understandable, as lower incomes generally do not allow for the servicing of larger housing loans. The aforementioned shift towards wealthier borrowers could be explained by the fact that the proportion of loans deviating from the DSTI recommendation is higher in lower income brackets. All of the loans approved to borrowers with income below EUR 500 are deviating from the recommendation. In the income bracket EUR 500 to EUR 1,000 approximately 30% of loans were deviating from recommendations in 2017 (see Figure 7.32, left scale). This proportion was higher in previous years, and its decline could indicate increased caution on the part of the banks.

It is worth repeating the warning from the previous issue of the Financial Stability Review. Banks must be mindful of the risks arising from loans with very long maturities granted to less creditworthy individuals and therefore ensure compliance with the DSTI recommendation.

**Macprudential instruments and the commercial real estate market**

**The Bank of Slovenia has conducted a simulation of the introduction of macroprudential instruments, namely LTV, LTI (loan-to-income ratio) and DSR (debt service ratio) for the case of an increase in cyclical risks in the commercial real estate lending segment.**<sup>83</sup> The analysis, which is one of the Bank of Slovenia’s longer-term, forward-facing developmental activities,<sup>84</sup> is one of the first attempts at measuring the impact of the potential introduction of macroprudential instruments addressing risks in the commercial real estate market, which accordingly demands caution in the interpretation of the results.

From the perspective of ensuring financial stability, it is important to monitor the commercial real estate market. During the pre-crisis period corporate indebtedness increased rapidly to its peak in 2008, which was followed by a long period of deleveraging. Firms in the sectors of construction and real estate activities, the key borrowers in the commercial real estate market and whose indebtedness was among the highest at aggregate level, were hit particularly hard by the crisis. The current favourable economic situation, low interest rates, low corporate indebtedness and high corporate profits could contribute in the future to an increase in transactions and price rises on the commercial real estate market.

<sup>83</sup> EU Member States that have already introduced macroprudential instruments addressing potential risks in the commercial real estate market primarily chose measures based on capital, while some countries introduced demand-side measures, in particular LTV (ESRB, 2017).

<sup>84</sup> The current situation does not indicate any risks that in the short term would require the introduction of macroprudential instruments for loans for commercial real estate.

In the analysis we used loan-level data, namely data on bank loans approved for non-financial corporations for commercial real estate such as loan value, collateral value, interest rate and maturity, and data from balance sheets, income statements and the business register, such as assets, liabilities and EBITDA.<sup>85</sup> The following definitions apply for the purposes of the analysis: LTV is the ratio of the loan value to the collateral value (the collateral is the sum of the values of commercial and residential real estate, and the value of all other classes of asset pledged as collateral), LTI is the ratio of the loan value to the firm's income, and DSR is the ratio of annual loan repayments (principal and interest) calculated on the basis of the loan value, the maturity and the annualised interest rate of the loan to the firm's income. Income is defined as average EBITDA over the three years before the firm raised the loan (for the purpose of keeping as many firms as possible in the sample). The deposit is defined as the collateral value minus the loan value. A sample encompassing 800 individual bank loans to firms for commercial real estate between Q3 2010 and Q4 2015 was used in the analysis. The sample contains just a third of all loans in value terms, as many loans were excluded from the analysis (e.g. the sample includes only those for which all three indicators could be calculated: LTV, LTI and DSR).

**The analysis uses the methodology developed by Kelly, McCann and O'Toole (2017),<sup>86</sup> who examine the impact of the introduction of macroprudential instruments addressing risks in the residential real estate market.** In this and in other literature, these instruments were mostly recognised as effective in reducing risks in the residential real estate market. In this analysis the original methodology was adapted for the commercial real estate market. The methodology consists of three steps:

First, the distribution of credit standards for LTV, LTI and DSR is examined, and their maximum values are defined by the 70<sup>th</sup> percentile in the individual quarter. The measure of "credit availability", determined by credit standards for LTV, LTI and DSR calculated at the level of the individual loan, is then introduced. Here the assumption is that all borrowers have three possible loans calculated on the basis of the three credit standards and a maximum value in the individual quarter. The measure of credit availability is the lowest of the three possible loan values, and represents the available credit that the banks are willing to approve for each firm for a particular loan.

The response of commercial real estate prices to the value of credit availability is then estimated, whereby the ratio of the price of commercial real estate to credit availability is estimated by means of OLS regression. The transaction price is a function of credit availability, deposit, age and corporate size, where the control variables are the firm's location (inside or outside Ljubljana), and the firm's business activities (manufacturing, construction, trade, real estate activities, professional, scientific and technical activities, or other activities), and the 15 banks and savings banks are combined into four groups (large domestic banks, small domestic banks, foreign banks and savings banks).

Finally, the coefficients from the model are used to measure the impact of various possible scenarios for the introduction of macroprudential instruments of LTV, LTI and DSR on the estimated availability of bank credit and commercial real estate prices. The methodology is limited in that it cannot describe all of the potential changes in the environment (e.g. the response of credit availability, the response of the rental market for commercial real estate), for which reason the effects are monitored for a maximum of one year in advance. In the analysis, we tried to apply indicators at the level of the firm (and not only at the level of the individual loan), such as the firm's debt-to-assets ratio, the ratio of the firm's financial debt to EBITDA and the ratio of interest to EBITDA, to LTV, LTI and DSR, but the credit availability measure then becomes negative and statistically insignificant in the model.

**The choice and calibration of macroprudential instruments are more complex when addressing risks in the commercial real estate market than when addressing the residential real estate market.** The diversity of commercial real estate and the small size of the market in Slovenia are factors in significant price volatility, as individual contracts can have an impact on prices and thus on LTV. Household income is positive and mostly stable compared with corporate income, which can fluctuate profoundly over the longer term, and can also be negative, which has an impact on the value of LTI and DSTI. The average maturity of corporate loans for commercial real estate is significantly shorter than that of loans for residential real estate.

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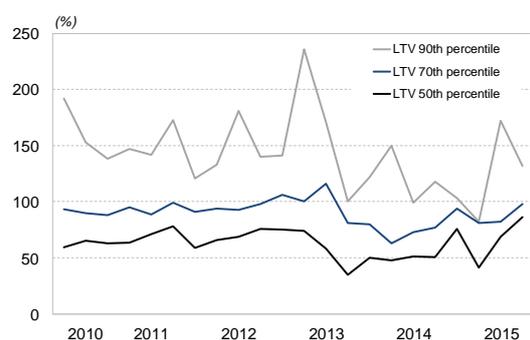
<sup>85</sup> In the survey, the commercial real estate market refers to commercial real estate intended for the business activities of economic operators, and includes the sale of industrial facilities, offices, hotels and restaurants, retail space and service activities. Commercial real estate prices are defined as the value of commercial real estate to firms that have secured a loan through commercial real estate, or the value of residential real estate to firms that have secured a loan through residential real estate.

<sup>86</sup> Kelly, R, McCann, F and O'Toole, C (2017): Credit conditions, macroprudential policy and house prices. Working Paper Series, No. 36, ESRB.

The banks also assess credit risk differently for households and firms, while the risks related to valuation are greater for commercial real estate than for residential real estate.

**In obtaining loans firms are primarily limited by the available cash flows, and less by the value of their real estate collateral.** The distribution of LTV, LTI and DSR across the cohort of firms, and the 50<sup>th</sup>, 70<sup>th</sup> and 90<sup>th</sup> percentiles reveal two attributes of the indicators. First, the distributions of LTI and DSR follow a similar pattern over time, and indicate that credit standards were eased between 2010 and 2012. In 2011 the 90<sup>th</sup> percentile stood at 100 years for LTI, and 80 years for DSR. Over the last few years the 90<sup>th</sup> percentile has declined slightly, which is indicative of tighter credit standards at the banks, although it should be borne in mind that corporate profitability has increased sharply since 2014, thereby reducing LTI and DSR. Second, the median values of all three indicators are at almost the same level over the observation period, while there is increasing volatility in the indicators at higher percentiles. This means that the banks approved loans for certain firms under very relaxed credit standards. The indicator that limited firms in obtaining loans with regard to value was mostly DSR, with LTI mainly acting as a limit in 2013 and 2014, and LTV only slightly.

Figure 7.33: Distribution of LTV



Sources: Bank of Slovenia, AJPES, Bank of Slovenia calculations

Figure 7.34: Distribution of LTI

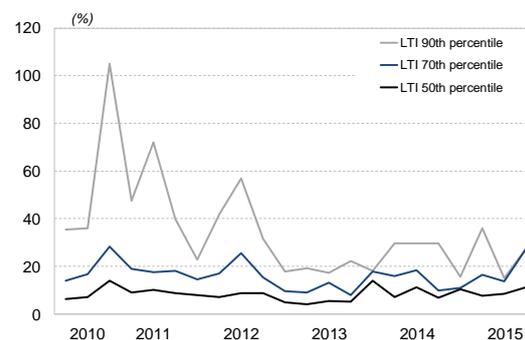
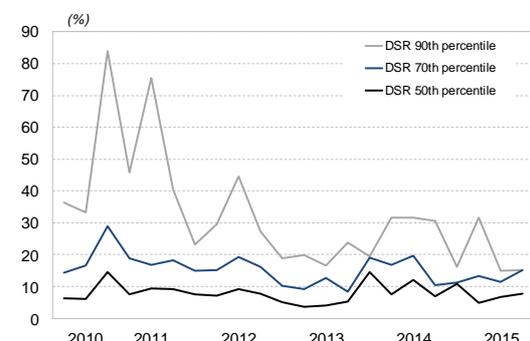
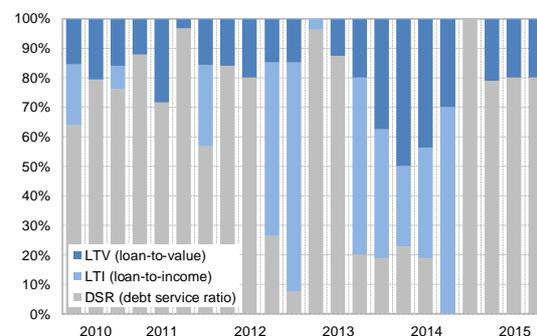


Figure 7.35: Distribution of DSR



Sources: Bank of Slovenia, AJPES, Bank of Slovenia calculations

Figure 7.36: The binding LTV, LTI and DSR limits among borrowers



**The assessment of the ratio of commercial real estate prices to credit availability by means of OLS regression shows that the coefficient estimated for the measure of credit availability is statistically significant and positive between credit availability and prices on the commercial real estate market.** The coefficient amounts to 0.175, which means that an increase of one euro in credit availability is correlated with an increase of 17.5 cents in the value of the purchased commercial real estate. The results also show that almost 60% of the loans in the sample were approved for firms in Ljubljana, an indication of the high concentration of the market. The key borrowers in the commercial real estate market are firms in the sectors of construction and real estate activities, which account for more than a half of all loans. More than half of the loans were issued by the large domestic banks. At the same time larger firms (in terms of assets) and firms with higher income purchase more expensive commercial real estate to a greater extent.

**The results of the simulation of the introduction of macroprudential instruments in the commercial real estate market show that tightening the instruments can reduce credit availability and limit growth in prices on the commercial real estate market.** The simulation assumes six different scenarios for the introduction of limits on LTV, LTI and DSR, and assesses the impact on credit availability and commercial real estate prices one and four quarters after introduction in Q3 2010. Before introduction the prevailing indicators in Q3 2010 are as follows: LTV 93%, LTI 14 years and DSR 14.4 years, whereby 67% of firms are

limited by DSR, 18% by LTV and 15% by LTI. The scenarios are as follows: changes of 3 or 5 percentage points for LTV, and 0.5 years and 1 year for LTI and DSR (the other two indicators remaining unchanged). The results show that tightening LTI and DSR has a stronger impact on credit availability and prices than tightening LTV. In the LTI and DSR scenarios, the proportion of firms being limited by income increases significantly after the first year, and leads to a large decline in credit availability. Real estate prices thereby fall more after one year during the tightening of LTI and DSR than during the tightening of LTV. In addition, the calibrated value of the indicator contributes significantly to the magnitude of the impact on credit availability and commercial real estate prices (a small decline from the prevailing value leads to a large decline in credit availability and prices). There are also significant limitations present in the use of LTV, LTI and DSR as macroprudential instruments addressing risks in the commercial real estate market, for which reason it is important to monitor other indicators at the level of the firm alongside the indicators at the level of the individual loan.

Table 7.1: Results of macroprudential simulation

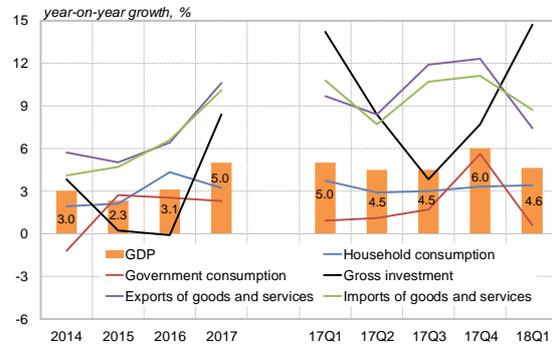
Macroprudential instrument	Initial value	New value	Limited by	Limited by	Limited by	Credit availability (change, %)		Commercial real estate prices (change, %)			
			LTV	LTI	by DSR	% of borrowers		after first quarter	after one year	after first quarter	after one year
LTV	93	90	23.7	0.0	76.3	-10.4	-9.6	-2.2	-3.8		
LTV	93	88	27.1	0.0	72.9	-14.9	-12.8	-3.1	-5.5		
LTI	14	13.5	15.3	81.4	3.4	-1.2	-21.9	-0.3	-13.1		
LTI	14	13	15.3	84.8	0.0	-4.3	-24.6	-0.9	-14.5		
DSR	14.4	13.9	15.3	0.0	84.8	-2.8	-25.7	-0.6	-14.8		
DSR	14.4	13.4	15.3	0.0	84.8	-5.8	-28.2	-1.2	-16.1		

Sources: Bank of Slovenia, AJPEŠ, Bank of Slovenia calculations

## 8 APPENDIX

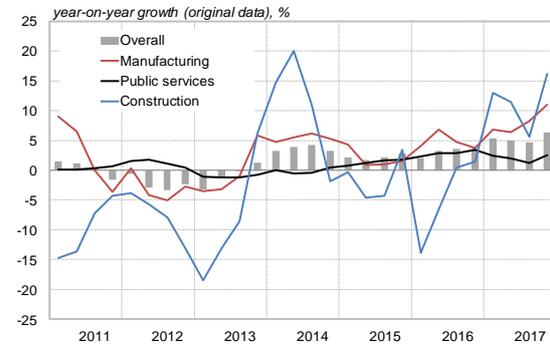
### HOUSEHOLDS

Figure 8.1: Breakdown of GDP by expenditure



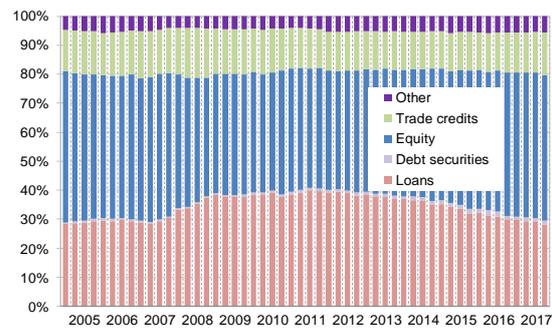
Source: Bank of Slovenia

Figure 8.2: Growth in value-added by sector



### NON-FINANCIAL CORPORATIONS

Figure 8.3: Breakdown of corporate financing by instrument



Source: Bank of Slovenia

Figure 8.4: Breakdown of corporate financing by creditor sector

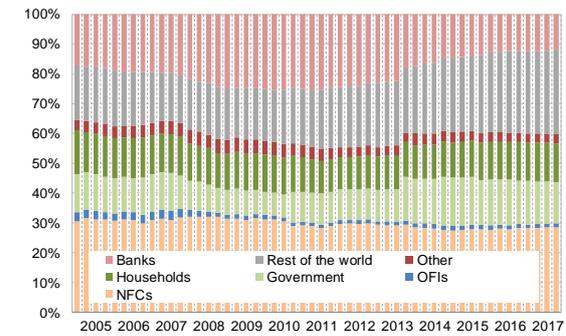
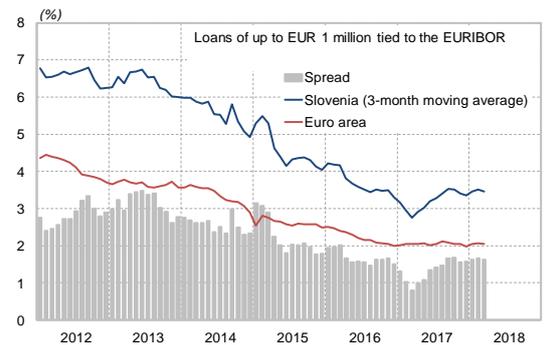


Figure 8.5: Interest rates on new corporate loans in Slovenia and the euro area



Source: Bank of Slovenia

Figure 8.6: Proportion of corporate financing accounted for by the rest of the world by instrument

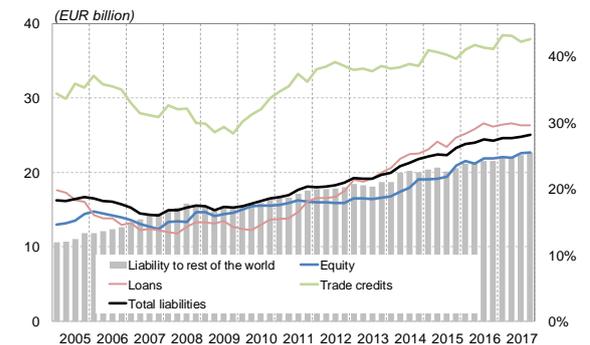
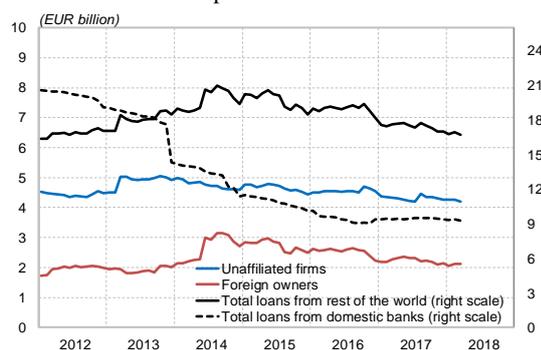


Figure 8.7: Corporate loans from the rest of the world by ownership link



Source: Bank of Slovenia

Figure 8.8: Corporate loans from foreign non-financial corporations by ownership link

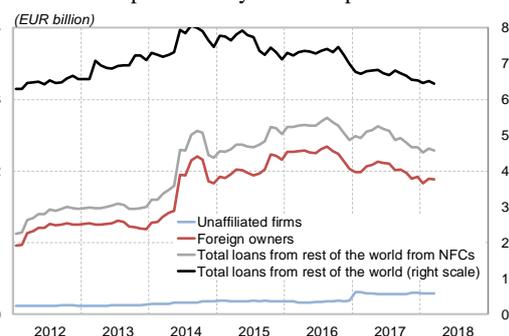
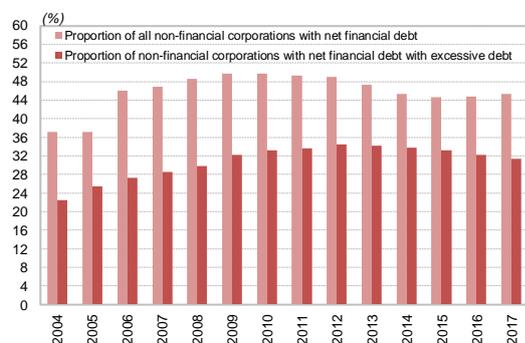
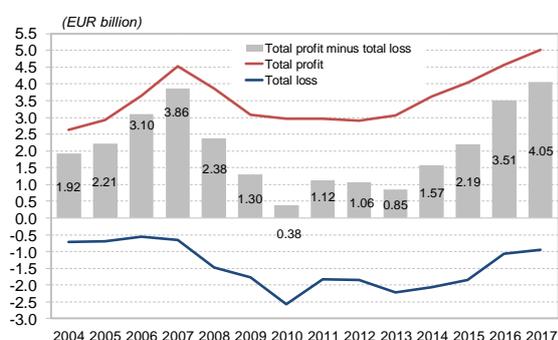


Figure 8.9: Non-financial corporations with net financial debt and non-financial corporations with excessive debt



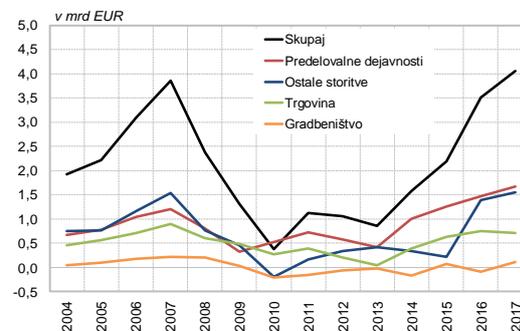
Sources: AJPES, Bank of Slovenia calculations

Figure 8.10: Total profit, total loss and net profit



Sources: AJPES, Bank of Slovenia calculations

Figure 8.11: Net profit in selected sectors



**BANK PROFITABILITY**
**Table 8.1: Slovenian banking system balance sheet for selected time snapshots**

(EUR million unless stated)											Increase in	Increase in	Year-on-year
	2004	Breakdown	2008	Breakdown	2013	Breakdown	2017	Breakdown	Mar 18	Breakdown	2017	Q1 2018	growth, Mar 18
	2004		2008		2013		2017		Mar 18		2017		
	(%)		(%)		(%)		(%)		(%)		(%)		(%)
<b>Assets</b>													
Cash on hand and balances at central bank	592	2.5	1,250	2.6	2,452	6.1	4,187	11.0	4,214	11.1	154	27	-7.3
Loans to banks	2,156	9.1	4,101	8.6	3,986	9.9	2,085	5.5	2,266	5.9	-75	181	1.9
Loans to non-banking sector	12,947	54.4	33,718	70.3	24,359	60.4	21,523	56.7	21,653	56.8	962	130	5.1
of which to non-financial corporations	8,147	34.2	20,260	42.3	11,508	28.5	8,288	21.8	8,424	22.1	180	136	3.4
of which to households	3,262	13.7	7,558	15.8	8,467	21.0	9,419	24.8	9,551	25.1	600	131	6.5
Financial assets / securities	7,013	29.4	7,307	15.2	8,318	20.6	8,776	23.1	8,574	22.5	-273	-201	-3.7
Other	1,112	4.7	1,572	3.3	1,229	3.0	1,376	3.6	1,385	3.6	128	9	3.6
<b>Liabilities</b>													
Financial liabilities to Eurosystem	0	0.0	1,229	2.6	3,727	9.2	1,141	3.0	1,141	3.0	427	0	-1.0
Liabilities to banks	4,719	19.8	18,168	37.9	7,729	19.2	3,250	8.6	3,323	8.7	-630	73	-7.5
of which to domestic banks	435	1.8	2,065	4.3	2,381	5.9	856	2.3	889	2.3	-152	32	-2.1
of which to foreign banks	4,254	17.9	16,098	33.6	5,348	13.3	2,393	6.3	2,434	6.4	-478	41	-9.3
Liabilities to non-banking sector (deposits)	14,906	62.6	20,883	43.6	22,550	55.9	27,528	72.5	27,593	72.4	1,395	65	4.2
of which to non-financial corporations	2,667	11.2	3,728	7.8	4,196	10.4	6,369	16.8	6,273	16.5	613	-96	6.8
of which to households	9,904	41.6	13,407	28.0	14,365	35.6	17,535	46.2	17,831	46.8	938	295	5.8
Debt securities	973	4.1	1,276	2.7	1,657	4.1	376	1.0	377	1.0	-419	1	-51.6
Provisions	0	0.0	176	0.4	306	0.8	236	0.6	213	0.6	-22	-23	-6.2
Shareholder equity	1,896	8.0	4,010	8.4	3,670	9.1	4,738	12.5	4,826	12.7	151	89	3.7
Other	1,326	5.6	2,206	4.6	704	1.7	677	1.8	618	1.6	-5	-59	-13.5
<b>Balance sheet total</b>	<b>23,820</b>		<b>47,947.9</b>		<b>40,343.6</b>		<b>37,946</b>	<b>100.0</b>	<b>38,091</b>	<b>100.0</b>	<b>897</b>	<b>145</b>	<b>1.3</b>

Source: Bank of Slovenia

**Table 8.2: Banking sector income statement**

	Amount, EUR million				Growth, %				Ratio to gross income, %			
	2015	2016	2017	mar 18	2015	2016	2017	mar 18	2015	2016	2017	mar 18
Net interest	746	670	652	156	-10.4	-10.1	-2.7	-3.3	64.4	59.4	60.7	53.6
Non-interest income	412	457	423	135	3.3	11.0	-7.5	-1.0	35.6	40.6	39.3	46.4
of which fees and commission	336	307	313	79	-3.0	-8.4	2.0	-0.4	29.0	27.3	29.2	27.0
of which trading gains/losses	-12	11	30	4	...	...	...	...	-1.0	1.0	2.8	1.3
Gross income	1158	1127	1075	291	-6.0	-2.6	-4.6	2.8	100	100	100	100
Operating costs	-686	-667	-674	-157	-0.1	-2.7	1.0	-0.3	-59.3	-59.2	-62.7	-54.0
labour costs	-368	-371	-382	-93	0.5	0.7	2.9	2.8	-31.8	-32.9	-35.5	-32.0
Net income	472	460	401	134	-13.3	-2.5	-12.8	6.7	40.7	40.8	37.3	46.0
net impairments and provisioning	-313	-96	43	9	-51.8	-69.2	-144.4	-44.9	-27.1	-8.5	4.0	3.0
of which at amortised cost	-222	-8	82	10	-57.7	-96.5	-1154.6	-32.9	-19.2	-0.7	7.6	3.6
Pre-tax profit	158	364	444	143	249.2	129.7	22.1	1.0	13.7	32.3	41.3	49.0
corporate income tax	-43	-31	-18	-14	439.8	-27.4	-41.1	6.5	-3.7	-2.8	-1.7	-4.7
Net profit	115	332	425	129	201.1	188.3	28.0	0.4	10.0	29.5	39.6	44.2

Source: Bank of Slovenia

**Table 8.3: Selected bank performance indicators**

(%)	2011	2012	2013	2014	2015	2016	2017	Q1 2017	Q1 2018
ROA	-1.06	-1.60	-7.70	-0.27	0.42	0.99	1.19	1.55	1.53
ROE	-12.54	-19.04	-97.30	-2.69	3.63	7.96	9.60	12.99	12.68
CIR	53.68	47.43	66.04	55.80	59.26	59.19	62.68	55.67	54.01
Interest margin on interest-bearing assets (NIM)	2.13	1.93	1.68	2.18	2.06	1.91	1.83	1.86	1.76
Interest margin on total assets	2.02	1.83	1.59	2.09	1.96	1.82	1.75	1.77	1.67
Non-interest margin	0.85	1.40	0.85	1.01	1.09	1.23	1.13	1.36	1.47
Gross income / average assets (FIM)	2.87	3.23	2.44	3.10	3.05	3.05	2.88	3.13	3.14

Note: The figures for Q1 2017 and Q1 2018 are calculated cumulatively, i.e. for a period of three months. FIM: financial intermediation margin.

Source: Bank of Slovenia

**Table 8.4: Decomposition of ROE**

	Profit margin	Risk-weighted income	Risk level	Leverage	ROE
	pre-tax profit	* gross income	* risk-weighted assets	* total assets	= pre-tax profit
	gross income	risk-weighted assets	total assets	equity	equity
2008	0.22	0.039	0.76	12.08	8.1%
2009	0.11	0.037	0.78	11.93	3.9%
2010	-0.07	0.037	0.78	12.05	-2.3%
2011	-0.37	0.036	0.79	11.79	-12.5%
2012	-0.50	0.043	0.76	11.89	-19.0%
2013	-3.15	0.033	0.74	12.98	-100.0%
2014	-0.09	0.053	0.58	10.06	-2.7%
2015	0.14	0.057	0.53	8.63	3.6%
2016	0.32	0.058	0.52	8.06	8.0%
2017	0.41	0.054	0.54	8.08	9.6%

Note: The top row of the table gives the formula for the calculation of ROE.

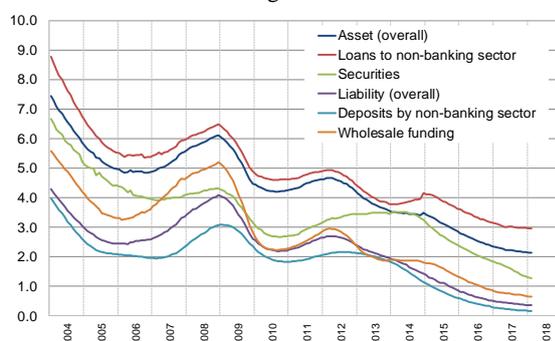
Source: Bank of Slovenia

**Table 8.5: Contribution of changes in individual components to change in ROE**

	Profit margin	Risk-weighted income	Risk level	Leverage	Change in	New
	pre-tax profit	+ gross income	+ risk-weighted assets	+ total assets	= ROE	ROE
	gross income	risk-weighted assets	total assets	equity		
2008	-6.1	-2.8	0.7	0.0	-8.1	
2009	-4.1	-0.3	0.1	0.0	-4.3	3.9%
2010	-6.2	0.0	0.0	0.0	-6.2	-2.3%
2011	-10.6	0.2	-0.1	0.3	-10.2	-12.5%
2012	-4.2	-2.8	0.7	-0.2	-6.5	-19.0%
2013	-102.0	26.7	2.7	-8.4	-81.0	-100.0%
2014	97.3	-1.6	0.9	0.8	97.3	-2.7%
2015	7.0	0.3	-0.4	-0.6	6.3	3.6%
2016	4.9	0.2	-0.2	-0.6	4.4	8.0%
2017	2.2	-0.8	0.2	0.0	1.6	9.6%

Source: Bank of Slovenia

**Figure 8.12: Effective interest rates by main instruments of interest-bearing assets and liabilities**



Source: Bank of Slovenia

**Figure 8.13: Gross income, net income, and impairment and provisioning costs**

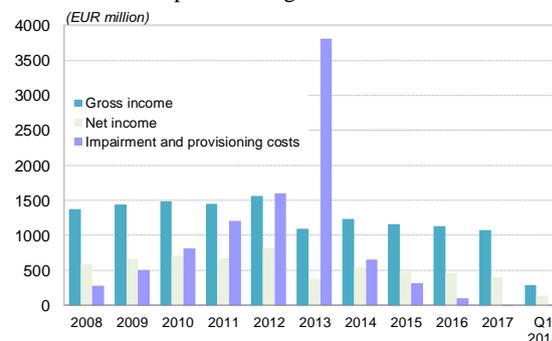


Figure 8.14: Contributions via interest-bearing assets and liabilities to change in net interest margin

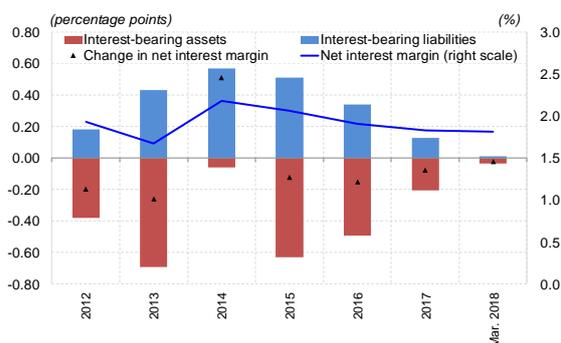
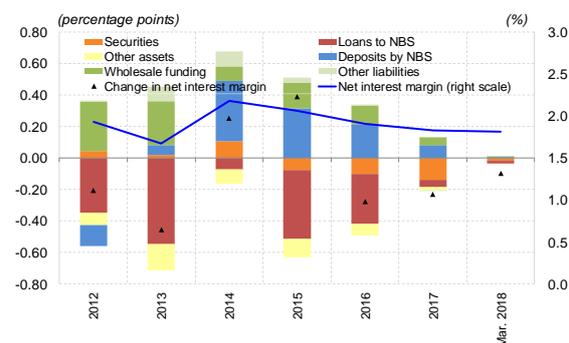


Figure 8.15: Contributions via interest-bearing assets and liabilities to change in net interest margin by instrument



Note: In the right figure the change in asset items is the sum of the contributions made by loans, securities and other interest-bearing assets, while the change in liability items is the sum of the contributions made by deposits by the non-banking sector, wholesale funding and other interest-bearing liabilities. The change in the effect of liability items is multiplied by -1, as for example a rise in liability interest rates acts to reduce the net interest margin, while a fall acts to raise the net interest margin. The margins for 2018 are calculated for the preceding 12 months.

Source: Bank of Slovenia

Figure 8.16: Contributions to increase in pre-tax profit in 2016 by changes in components of generation and disposal of income

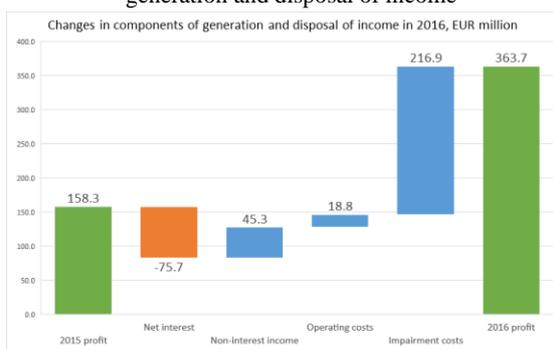
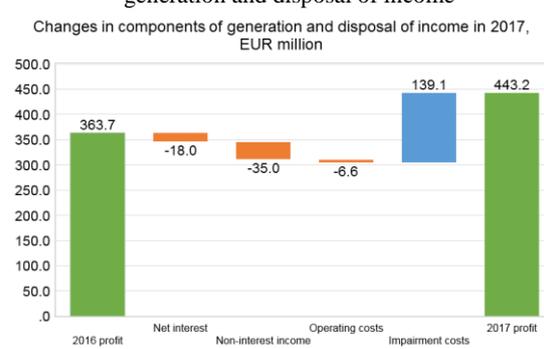


Figure 8.17: Contributions to increase in pre-tax profit in 2017 by changes in components of generation and disposal of income

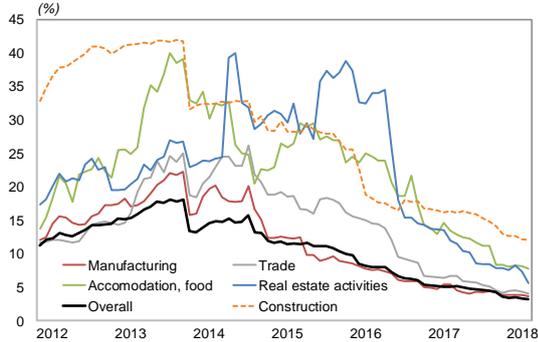


Note: The figures illustrate the changes in individual components compared with the previous year, and the pre-tax profit during the year.

Source: Bank of Slovenia

**BANKING SYSTEM'S CREDIT PORTFOLIO**

Figure 8.18: Proportion of classified claims more than 90 days in arrears by corporate sector



Source: Bank of Slovenia

Figure 8.19: NPE ratio by corporate sector

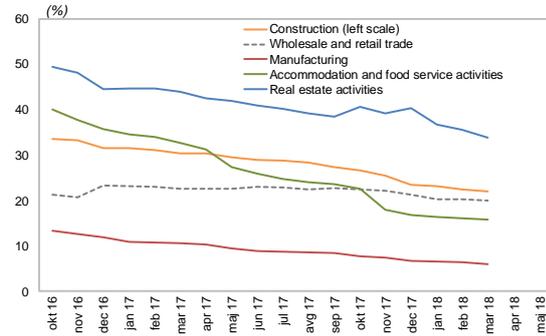
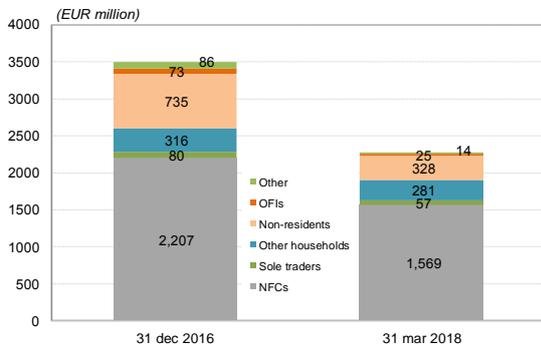
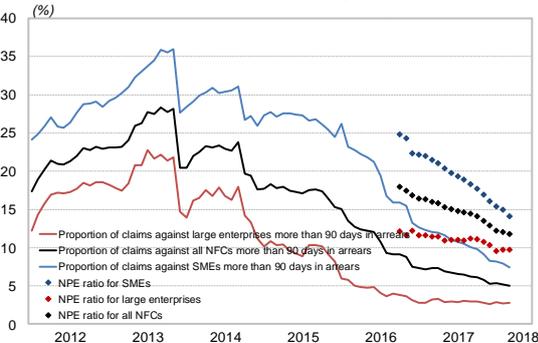


Figure 8.20: NPEs by client segment



Source: Bank of Slovenia

Figure 8.21: Proportion of claims more than 90 days in arrears and NPE ratio by corporate size



Source: Bank of Slovenia

Figure 8.22: Forborne claims more than 90 days in arrears by corporate sector

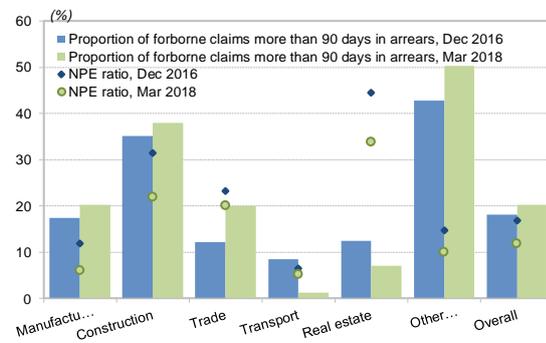
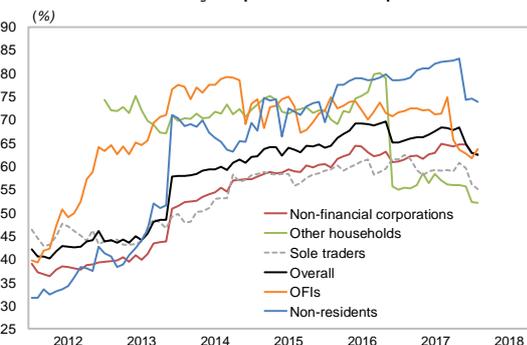


Figure 8.23: Coverage of claims more than 90 days in arrears by impairments and provisions



Source: Bank of Slovenia

Figure 8.24: Coverage of unimpaired claims more than 90 days in arrears by capital

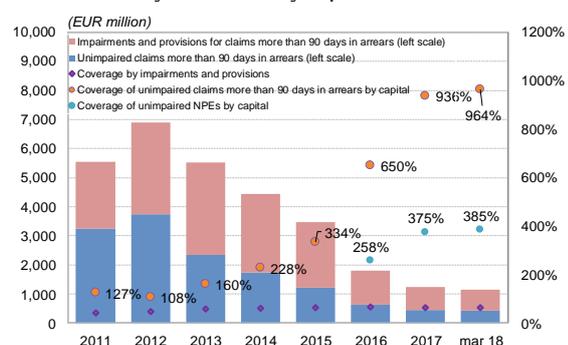


Figure 8.25: Approaches to reducing NPEs to NFCs in 2017

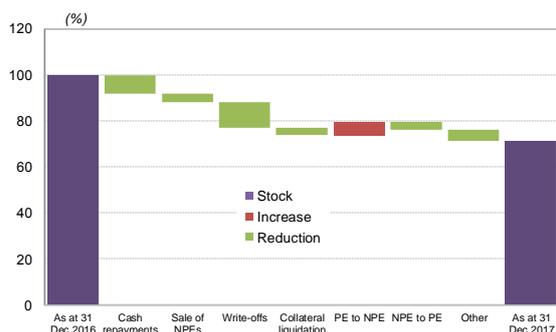


Figure 8.26: Anticipated approaches to reducing NPEs to NFCs in 2018 and 2019

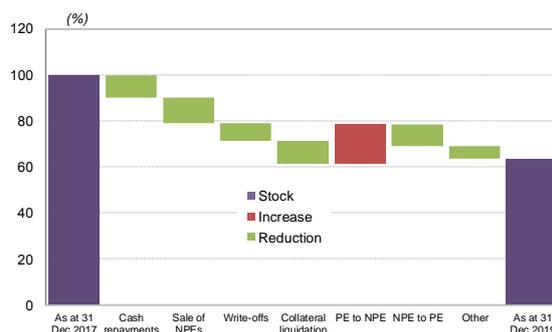


Figure 8.27: Approaches to reducing NPEs to SMEs in 2017

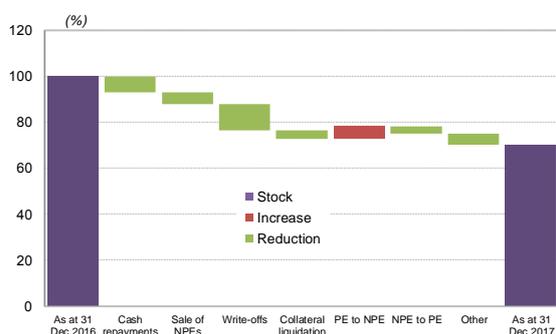


Figure 8.28: Anticipated approaches to reducing NPEs to SMEs in 2018 and 2019

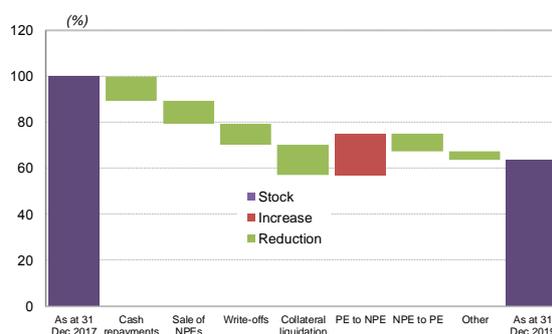


Figure 8.29: Approaches to reducing NPEs to households in 2017

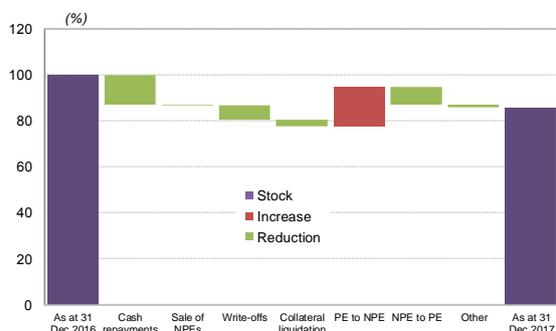
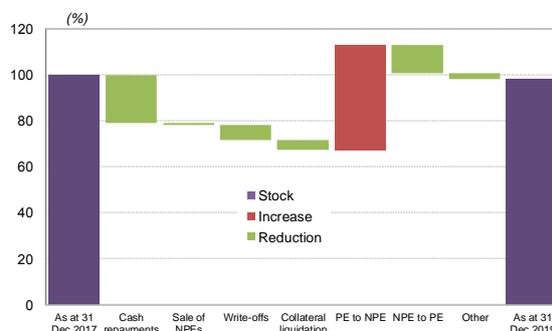


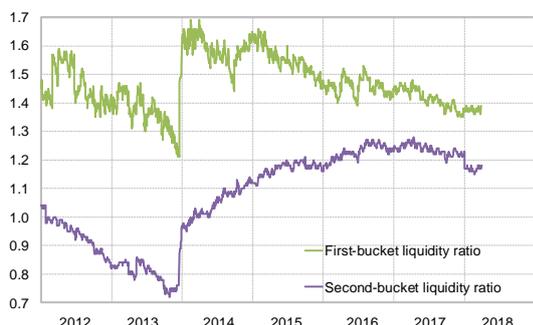
Figure 8.30: Anticipated approaches to reducing NPEs to households in 2018 and 2019



Note: The data is on a consolidated basis for NLB, NKBM and Abanka, and on an individual basis for other banks.  
Source (Figures 8.25 to 8.30): Bank of Slovenia, Bank Survey, April 2018

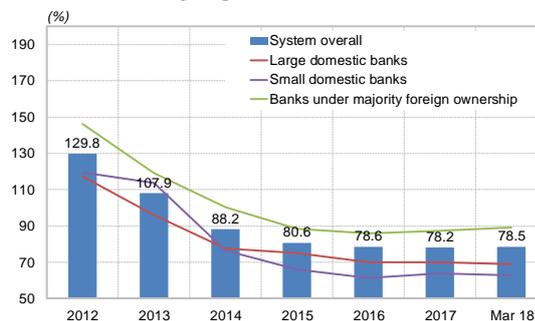
**BANK FUNDING AND LIQUIDITY**

Figure 8.31: Daily liquidity ratios for the first and second buckets of the liquidity ladder



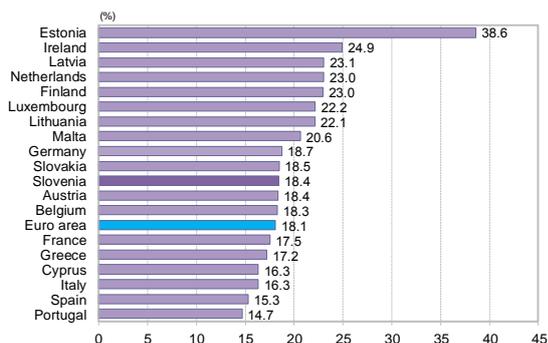
Source: Bank of Slovenia

Figure 8.32: LTD ratio for the non-banking sector by bank group



**BANK SOLVENCY**

Figure 8.33: Total capital ratios by euro area country, September 2017, consolidated basis



Source: ECB (SDW)

Figure 8.34: Common equity Tier 1 capital ratios by euro area country, September 2017, consolidated basis

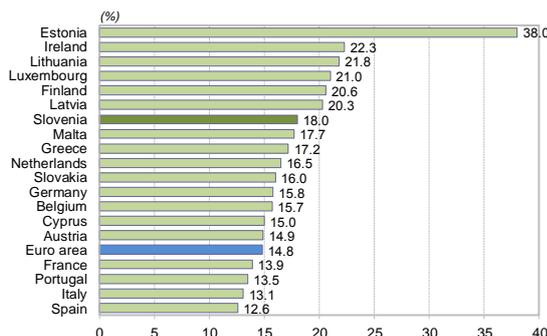
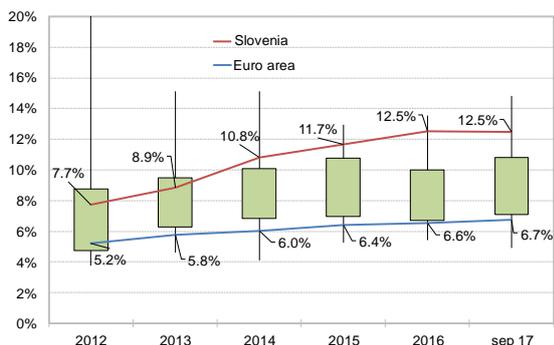
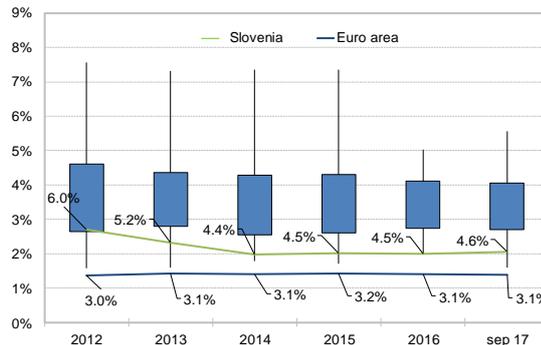


Figure 8.35: Distribution of the ratio of book capital to total assets across euro area countries, consolidated basis



Source: ECB (SDW)

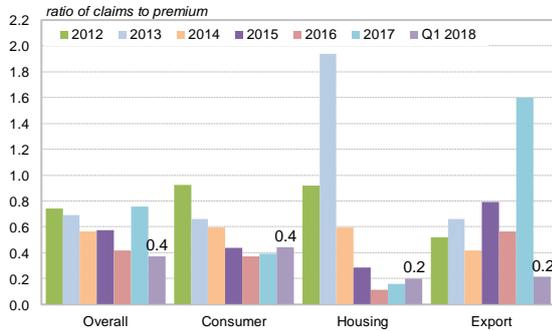
Figure 8.36: Distribution of the ratio of capital requirements to total assets across euro area countries, consolidated basis





## INSURANCE SECTOR

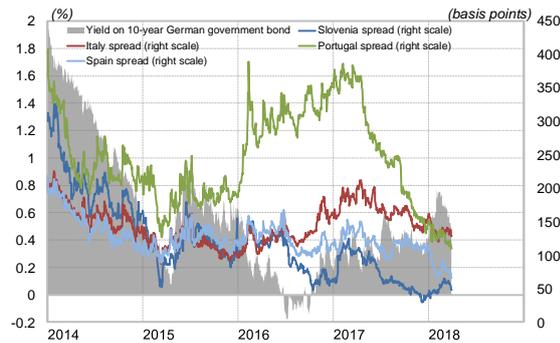
Figure 8.41: Claims ratio for credit insurance



Sources: ISA, Bank of Slovenia calculations

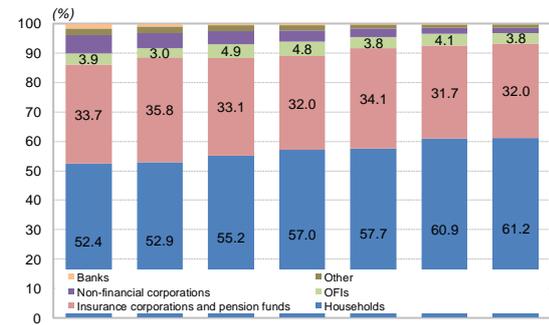
## CAPITAL MARKET

Figure 8.42: Spreads of selected 10-year government bonds over German benchmark bond



Source: Bloomberg

Figure 8.43: Ownership structure of domestic mutual fund units



Sources: Bank of Slovenia, ECB

Figure 8.44: Breakdown of investments by fund type in Slovenia and the euro area

