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BANK OF SLOVENIA

FINANCIAL STABILITY REPORT FOR 2003

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INTRODUCTION AND MAIN SUMMARY

In line with Article 4 of the Bank of Slovenia Act (Official Gazette of the RS no. 58/02), a core aim of the central bank, in addition to price stability, is endeavouring to ensure financial stability while upholding the principles of an open market economy. Within this framework the Bank of Slovenia, like certain other European central banks, has this year begun to publish annual financial stability reports.

Financial stability is defined as a situation in which the components of the financial system (financial markets, financial institutions and financial infrastructure) function without disruption and in which each component of the financial system provides the greatest possible degree of flexibility in responding to any shocks that occur. Thus the aim of the Financial Stability Report is, on the basis of the available data, to assess how robust the financial system, particularly the banking sector, is in the event of disruptions that could spread to several financial institutions and could thus hinder financial markets in effectively providing financial mediation. The focus is on identifying and drawing attention to systemic risks, and not the stability of the operations of individual entities on the financial market. The latter come under the direct oversight of the relevant supervisory authorities in the individual segments of the financial system.

The report consists of two sections. The first is devoted to analysis of the developments in the banking sector and partly also the non-monetary financial intermediaries sector, and to significant economic trends that affect developments in the financial system. The second section is devoted to articles related to the problems of maintaining financial stability.

Profit in the banking sector was up 1.5% in real terms in 2003, but banks' profitability indicators were somewhat worse than in 2002. The reason for this lies primarily in the ongoing process of cuts in the interest rate margin, which in April 2004 fell to 2.7%. This fall was reflected in a fall in the proportion of banks' gross income accounted for by net interest as the most stable part of their income. By contrast the net non-interest margin has remained roughly unchanged at 1.8% over the last two years. Nevertheless, small banks under majority domestic ownership in particular are becoming more income-dependent on the relatively more variable revenues from financial transactions. Banks succeeded in maintaining good business results last year and in the first months of this year at the expense of creating smaller provisions in 2003 and partly by cutting operating costs as a proportion of gross income in the current year.

The relatively rapid fall in interest rates owing to the process of nominal convergence as Slovenia joined the EU forced banks into competing aggressively for a greater share on the lending market. The relatively greater fall in deposit rates than in lending rates became less pronounced in 2003 and particularly in the first part of 2004, with certain deposit rates occasionally falling below the inflation rate, which is unacceptable for maintaining the long-term stability in the structure of bank's assets. The first signs of normality returning to the yield curve for treasury bills on the primary market (but not on the secondary market) also point to a halt or at least a slow-down in the process of further falls in bank interest rates, while the time structure in interest rates on the interbank market continues to fall.

Favourable economic developments, seen principally in a higher level of growth in GDP, a rise in consumer spending and low interest rates, allowed banks to increase their lending. There was a rise of almost 20% in lending to the non-banking sector in the first half of 2004, but the growth rate remained at lower levels than in 1999, when it reached 30%. Here attention should be drawn to the rise in the concentration of large credit exposure on the part of banks, as the number of banks with a total large exposure above 200% of capital rose to eight in 2003, which points to a rise in banks' lending exposure to major debtors. Banks are also rapidly increasing their exposure in foreign currency, which by the middle of 2004 accounted for one-third of all loans to the non-banking sector. Despite the rise in

lending, the proportion of banks' total assets accounted for by securities remains relatively high (34% at the end of 2003), and is only falling gradually, which represents a significant amount of secondary liquidity for banks. The increased competition among banks on the lending market is also being seen in the propagation of certain types of loans that are less desirable from the point of view of maintaining financial stability. This applies in particular to household lending offers based on collateral of units in mutual funds managed by management companies under majority bank ownership.

The rise in lending is also being reflected in an increase in banks' exposure to customers classed as suppliers of cyclical consumer goods (e.g. the textile industry, the automotive industry, the furniture industry), with their 43% share in total credit exposure being in excess of similar average loan structure for banks in the EU. This deviation from the EU average indicates greater procyclical sensitivity in Slovenian banks' lending activities, which can have a negative impact on the stability of the lending market during a recession.

The process of nominal convergence of interest rates had a unfavourable affect on the way in which banks' lending is financed. The fall in deposit rates worked to both shorten the maturity years for savings and to increase the proportion of deposits made in foreign currency, while the rate of growth in deposits by the non-banking sector fell to below 7% at the beginning of 2004. Banks under majority foreign ownership in particular increased their sources of financing from abroad, while the smaller banks under majority domestic ownership have seen their dependence on sources based on major depositors' money increase, which can entail a specific risk to their liquidity management.

Given the rising growth in lending, which after four years again exceeded the rise in total assets in 2003, banks' credit risk as measured by the quality of the loans structure improved. The proportion of loans graded as category A reached 80.9% of classified assets in March 2004, while at the same time the proportion of bad loans (categories D and E) fell to 3.5%. However, the positive changes in the classified assets structure is under the powerful influence of the favourable economic conditions brought by rising economic growth and EU membership. On the domestic lending market there has been a notable rise in risk premiums for new bank loans approved for customers graded as category B, which could already be reflecting the first expectations of a moderate deterioration in credit risk. This applies both to long-term foreign currency loans and to short-term tolar loans made by domestic banks. At the same time risk premiums for loans raised by companies abroad fell more in 2004 than risk premiums for bank loans raised abroad, which was a consequence of an improvement in the credit ratings for country risk awarded to Slovenia by international agencies at the beginning of this year.

The average credit risk for exposure to the household sector is smaller than the risk for other exposure, but by March 2004 some 52% of bank loans to households were secured with Slovenian insurers, while 16% were secured with real estate collateral. The majority of secured household loans were secured with insurance companies, which when it comes to household credit risk and its realisation makes banks dependent on the solvency of these financial institutions. In the future it is anticipated that mortgage lending will rise as a proportion of total lending, in particular because of the release of funds from the first generation of the national housing saving scheme. But a decline in stability is also anticipated for this form of security for banks' credit risk, as it is likely that given the uneven timeframe for allocating the amount of saving in the remaining national housing saving schemes price variability on the real estate market will increase. Nevertheless, the diversification of forms of collateral for bank loans will have a positive impact on increased stability in managing banks' household credit risks.

Changes in banks' assets structure, the manner in which banks are financed and greater demand for foreign currency loans are being reflected in a rise in liquidity risk and currency risk. Banks' open foreign exchange position in April 2004 was long in the amount of 51% of banks' capital, but was shorter than at the end of 2002 and the end of 2003. Here it should be noted that banks under majority

foreign ownership were maintaining a more closed foreign exchange position, taking the level of foreign currency swaps with the Bank of Slovenia into account (-8% of banks' capital), while banks under majority domestic ownership were maintaining a more closed foreign exchange position without taking account of the aforementioned Bank of Slovenia instrument (-12% of banks' capital). Even though the amount of foreign currency swapped with the Bank of Slovenia fell significantly in the first months of this year, from 10% to 5.7% of banks' total assets, banks were still left with a long open foreign exchange position.

Owing to the shortening in deposit maturity years already mentioned and the rise in the proportion of long-term loans, after the elimination of indexation clause for interest rates banks' interest rate risks have risen. In 2003 the difference between the average year of change in interest rates on banks' assets and liabilities rose from 2.4 months to 4 months. Because the proportion of banks' investments accounted for by securities is falling and the proportion of loans with a nominal fixed interest rate is rising, while deposit maturity years are also shortening, interest rate risk will continue to rise in 2004.

Banks' solvency remains at an adequate level. However, under the conditions of increased lending by banks in the competition for market share, the pressure for them to reduce their capital adequacy is growing and is forcing banks to seek new sources of capital that would allow them to grow further. Banks' capital adequacy thus fell to 11.2% in the first quarter of 2004, with the five largest banks, whose growth rates are also lower, showing a lower capital adequacy (10.4%) than other banks (12.8%). The fall in capital adequacy is not just a consequence of higher lending growth, but also a change in regulations. Credit risk regulations indicated a rise in extra-risk assets, with higher weightings being applied for certain types of credit exposure.

Although the rate of growth in bank loans to households rose, consumer indebtedness to banks remains at a lower level than in 1999. Financial gearing in the commercial sector saw a rising trend all the way to 2002, but in 2003 it stalled at the level of the previous year. At the same time, by increasing their investments abroad companies reduced the short open foreign exchange position from 8% to 2.7% of total assets.

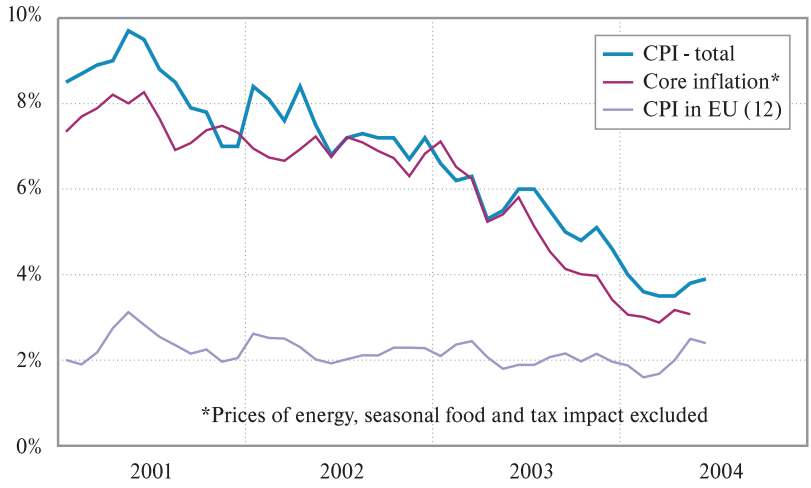
1. ECONOMIC TRENDS AND THE INTERNATIONAL ENVIRONMENT

1.1. Inflation

Inflation in Slovenia has recently seen significant falls, from 7.2% at the end of 2002 to 4.6% at the end of 2003 and 3.9% at the end of June 2004. The disinflation process has been stable, with all the most important balances in the economy being maintained. The current account was in balance in 2003, the budget deficit did not exceed the Maastricht criterion, and government borrowing remains low.

The right combination of economic policies made an important contribution to the reduction of inflation. The Bank of Slovenia has pursued a monetary policy appropriate to preventing inflationary pressures of a monetary nature. The Slovenian government held the rise in administered prices inside the inflation target and limited the pressures that could arise from fiscal adjustments while preventing volatility from being transferred from the international environment to domestic prices.

Figure 1.1: Inflation in Slovenia and the EU



Source: Statistical Office of the Republic of Slovenia; Bank of Slovenia, Analysis and Research Centre

However, the reduction of inflation has stalled in recent months. After the high monthly rate in May (0.9%), the year-on-year rate of price growth rose again, mainly because of higher oil prices. In comparison with April inflation was up 0.3 percentage points at 3.8%, and then rose again to 3.9% in June. The principal factors from abroad that could unfavourably affect future price rises are new rises in oil prices and the possibility of the dollar again appreciating against the euro. In the domestic environment it is primarily higher consumer spending owing to lower interest rates that can act as an inflationary pressure, but competition on the labour market, the partial de-indexation of public sector wages and further relaxations on the free flow of goods are acting to further reduce inflation following Slovenia's entry into the EU.

1.2. Economic Activity in Slovenia and the International Environment

International Environment

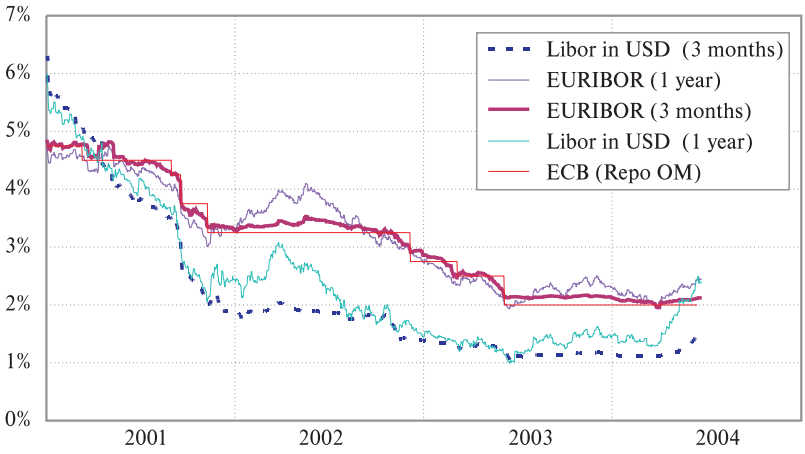
By 2003 economic growth was already strengthening in the USA and Japan, but lagged behind in the EU. Inflation remained moderate in both the USA and the EU last year, while the euro rose strongly

against the dollar. In line with moderate growth in the European Union, Slovenia's main trading partners also saw weak growth. Growth in certain eastern European countries was considerably higher than that in Slovenia. The eurozone economy has recently shown signs of recovery (current growth of 0.6% in the first quarter of this year, or 1.3% year-on-year). Economic growth in the USA also remained significant in the first quarter of this year.

The world's two largest economies have also seen inflation rise in recent months. In the eurozone it rose to 2.0% in April and 2.4% in June, and there was a similar rise in the USA, to 2.3% in April and 3.3% in June. Higher inflation was expected given the rises in oil prices; rising oil prices remain a significant factor in the risk of rising inflation. In 2003 the average oil price reached USD 29 per barrel, but this had risen to USD 33.5 by April 2004 and close to USD 40 by the end of May. Uncertainties in supply and higher demand for this commodity fuelled primarily by higher economic growth in east Asia could bring further increases in global inflation.

The ECB and the Fed cut interest rates to a historic low in 2003. Having been cut twice in 2003 in a total amount of 0.75 percentage points, the ECB refinancing rate has been 2.0% since June last year. Interest rates in the eurozone remain unchanged, this level having been assessed as no threat to the inflation targets with the recovery of the European economy. However interest rates on long-term financial markets are already rising, which points to expectations of an interest rate rise in the near future. Potential inflationary pressures remain, particularly because of oil prices. With strong economic growth and rising inflation in the USA, the Fed raised its main interest rate by 0.25 percentage points at the start of July 2004 to 1.25%.

Figure 1.2: Leading interest rates: Libor and ECB refinancing rate (in %)



Source: Statistical Office of the Republic of Slovenia; Bank of Slovenia, Analysis and Research Centre

Having gained against the dollar throughout 2003 to average USD 1.13 for the year, the euro moved above USD 1.25 at the beginning of 2004. The euro fell below USD 1.2 in April and May, under the influence of the figures for American economic growth and the expectation of an interest rate rise. In June and early July the euro was again above the USD 1.2 mark. The rise in stock exchange indices, which reflects the strengthening economy, has stalled recently.

Economic Activity in Slovenia

Economic growth was lower last year than in previous years, but rose again in the last three quarters. In 2003 exporters were unable to fully compensate for weaker demand from traditional trading partners with exports to other markets. Net foreign trade made a negative contribution to economic growth, but a high level of activity on state infrastructure projects in the first half of the year and an expansion of

housing construction in the second half of 2003 saw domestic demand strengthen. Gross capital formation and consumer spending showed the largest rises last year.

In the first quarter of 2004 economic growth was higher than had been forecast, rising to 3.7%. This substantial growth was the result of domestic consumption (growth of 4.8%), to which the expansion of investment activities made the most significant contribution (growth of 9.7%). Consumer spending contributed much to the rise in final domestic consumption, and strong exports in the first quarter of 2004 reduced the negative contribution to economic growth made by foreign trade.

Table 1.1: Annual growth in GDP and components (in %)

	2001	2002	2003	2004/Q1
Real GDP	**2.7**	**3.4**	**2.3**	**3.7**
Household consumption	2.3	0.4	2.9	3.7
State consumption	3.9	2.5	1.9	0.6
Gross investment	-4.3	6.6	8.8	9.7
Exports of goods and services	6.3	6.8	3.1	8.8
Imports of goods and services	3.0	4.8	6.4	10.4
Contribution of foreign trade*	1.7	1.0	-2.0	-1.1

* in percentage points
Source: Statistical Office of the Republic of Slovenia; Bank of Slovenia, Analysis and Research Centre

Outlook

Future economic activity and inflation will depend on factors abroad, domestic circumstances and the responses of economic policy. The most important external factors are rising oil prices and rising prices for other raw materials, the change of the dollar against the euro, the economic outlook and economic growth in the EU, and the rise in interest rates again anticipated on foreign financial markets.

Economic indicators in Slovenia were reasonably good in the second quarter of 2004, with export orders being the most important factor. Improvements in economic activity are anticipated in the autumn, thanks to forecasts of stronger output in the automotive industry. Following Opec's decision in the first half of June to increase the quantity of oil pumped, the price fell below USD 36 per barrel, having almost reached USD 40 per barrel in May 2004. New price rises would trigger additional inflationary pressures.

Within domestic consumption, it is primarily consumer spending whose growth is continuing for now, connected to low bank interest rates for deposits and loans and higher investment in the construction of housing. Growth in general government expenditure remains moderate.

With Slovenia joining the ERM II, its monetary policy is now concerned with meeting the important exchange rate stability criterion, and the burden of reducing inflation will therefore fall on fiscal policy and incomes policy. The greatest dangers of higher inflation come from excessive spending and pressure on wages. They can both adversely affect the balance of payments and increase the public sector deficit. The Bank of Slovenia's monetary policy is strongly determined by the fluctuation of interest rates inside the EMU, and a rise in interest rates abroad could have a favourable influence on slowing any excessive spending.

With the right combination of domestic consumption and investment activities, and good export demand, higher economic growth than last year can be expected this year. The negative contribution to economic growth made by foreign trade will continue to fall. With the coordinated action of economic

policy the inflation rate in Slovenia can be expected to approach the level demanded by the Maastricht criterion.

Effects of Slovenia's Accession to ERM2 and the Eventual Adoption of the Euro on Slovenia's Banking and Financial Sector

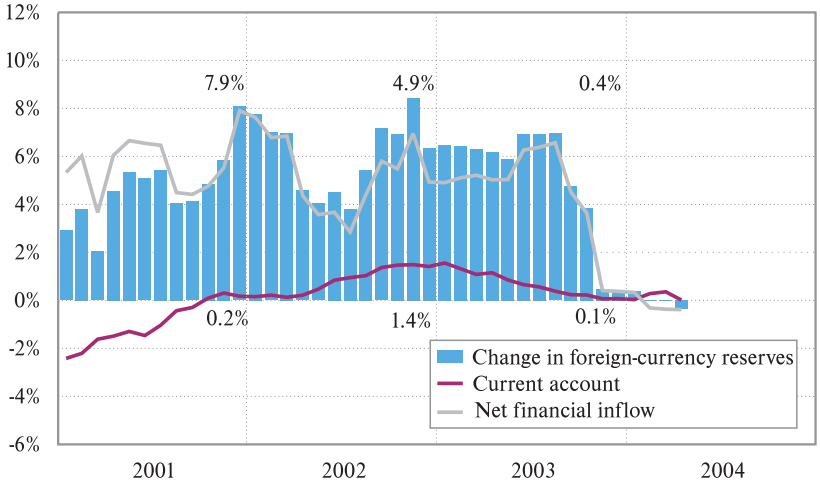
Slovenia's accession to the EU is supposed to accelerate further harmonisation of business cycles of the European and Slovenian economies, and lead to a higher degree of financial integration of the Slovenian economy into the European economy. An important issue related to common monetary policy in the EMU is an adequate level of interest rates, which will be set by the ECB. As in other new member states, Slovenia will continue to achieve higher average economic growth rates in the coming years. This is why unified nominal interest rates set for the EMU area as a whole will lead to lower real interest rates in countries with higher economic growth and therefore to higher inflation rates.

The article entitled "Effects of Slovenia's Accession to ERM2 and the Eventual Adoption of the Euro on Slovenia's Banking and Financial Sector" deals, in the second part of the Report, with certain aspects of the real convergence impact on the Slovenian economy.

1.3. Balance of Payments

The current account of the balance of payments is in balance, and has shown a moderate surplus for three years in a row. In 2003 the surplus was 0.1% of GDP, and was smaller than in the previous year. The main factors in the reduction in the current account surplus were unfavourable trends in foreign goods trade in the context of higher domestic spending, and a fall in the surplus in trade in services. In the first four months of this year there was a deficit in the current account of 0.3% of GDP owing to the deficit in trade in goods.

Figure 1.3: Current account and financial account of balance of payments as proportion of GDP (average for previous 12 months)



Source: Bank of Slovenia

There was also a small surplus in the financial account in 2003, but in the second half of 2003 and the year to April 2004 financial transactions with the rest of the world showed a net outflow. The net financial inflow of 0.4% of GDP from the rest of the world in 2003 was significantly smaller than in previous years. The primary reason is lower foreign direct investment in Slovenia. By the end of April 2004 the net outflow in the financial account had reached 2.2% of estimated GDP.

With the exception of net trade credits, all the more important items in the claims side of the financial account rose in 2003. Foreign direct investments abroad more than doubled. There is also a sustained rising trend in financial outflows from households. The accumulation of foreign currency was linked to the uncertainty seen when entering the ERM II and low interest rates at banks. Net trade credits to April this year were significantly behind those in the same year last year, which coincides with the deficit in the balance of payments for goods.

Table 1.2: Flows in capital/financial account (EUR millions)

	2002	2003	last 12 months	Jan-Apr 2003	Jan-Apr 2004
Net financial flow	1,149	92	-95	10	-177
- % of GDP	4.9	0.4	-0.4	0.1	-2.2
Private sector	1,297	185	45	47	-92
Direct investment	1,608	-109	-46	-71	-8
Investment in securities	-117	-127	-218	-2	-93
Net commer. Credits	-413	-235	-140	-106	-11
Net loans	692	937	947	267	277
Bank deposits	130	428	328	204	105

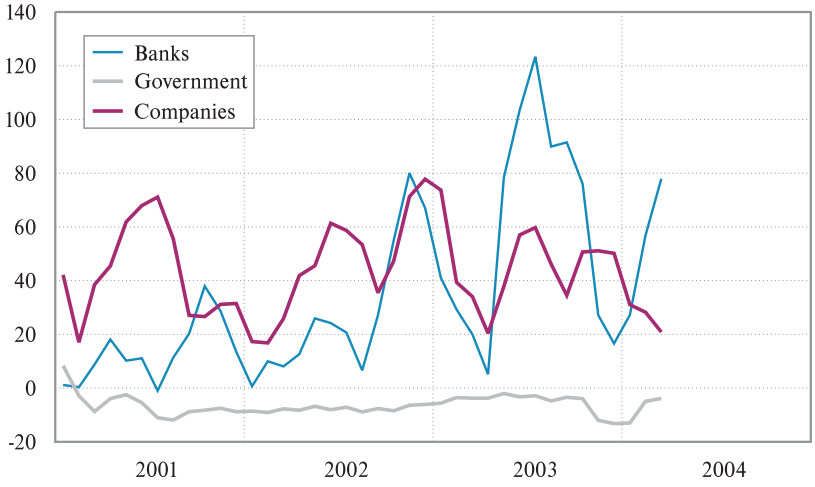
Signs: inflow or increase liabilities (+), outflows or increased receivables (-).

Source: Bank of Slovenia, Analysis and Research Centre

On the liabilities side, there was a fall in inflows of foreign direct investment in 2003, as there were no significant takeovers or investments by foreign entities. Borrowing activity abroad by companies and banks remains relatively high. Here the structure of borrowing abroad has changed recently in favour of banks, as they have access to foreign sources at more favourable interest rates. The investment portfolio continues to remain insignificant in terms of the flows involved.

Banks' and Companies' Liabilities to the Rest of the World

Figure 1.4: Flows in liabilities of banks, companies and state to rest of world (EUR millions; 3-months moving average)



Source: Bank of Slovenia, Analysis and Research Centre

The currency structure of the lending market is changing in favour of foreign currency loans, with the tolar lending market becoming ever narrower. Foreign currency lending to the non-banking sector by domestic banks is growing in importance. In the recent year companies are less often choosing to access sources abroad and are more often borrowing foreign currency at domestic banks in order finance economic expansion. This trend is the result of the abolition of the final restrictions on domestic foreign currency lending in 2003, and the differences between tolar and foreign currency interest rates. Slovenian banks can borrow abroad under more favourable terms than companies; according to the latest figures banks can conclude long-term foreign currency loan agreements at an interest rate of 2.3%, which is around 0.5 percentage points better than companies are able to.

Prevalence of Foreign Currency Lending to Companies

The relatively high level of foreign currency lending to companies, which has been going on for a lengthy year, is permanently raising the proportion of total bank loans accounted for by foreign currency loans, which is now approaching one-third. Last year almost 60% of new net loans approved for companies by banks were in foreign currency. Comparing company financing abroad and inside Slovenia, the former accounts for approximately one-third this year. Thus of total lending to companies in 2003, more than 70% of new net loans were in foreign currency.

Table 1.3: Financing of companies and banks abroad (net new loans taken out, SIT billion)

	2000	2001	2002	2003	2004 (April**)
Companies* at home	172.1	235.8	140.5	337.4	320.2
.....of which tolars	105.5	143.9	28.8	152	98.2
.....of which foreign currency	66.6	91.9	111.7	185.4	222
Companies abroad	184.5	108.1	127.6	257.9	114.8
Banks abroad	137.9	33.1	83.9	115.4	204.4
Total	**494.5**	**377.0**	**352.0**	**710.7**	**639.4**
Currency structure in %	100%	100%	100%	100%	100%
tolar	21.3%	38.2%	8.2%	21.4%	15.4%
foreign currency	78.7%	61.8%	91.8%	78.6%	84.6%

* together with other financial organisations
** in the 12 months to the end of April
Source: Bank of Slovenia

1.4. Country Risk

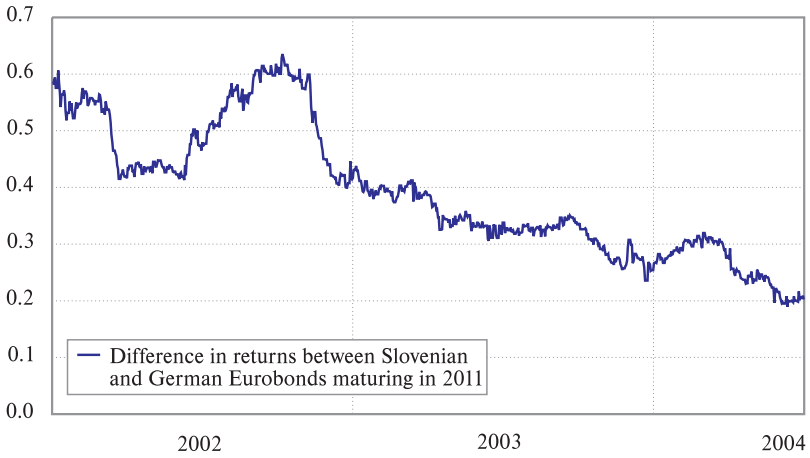
Slovenia's credit ratings by the international agencies who assess country risk are improving further. S&P, which last raised its rating in May 2004, believes that Slovenia will be among the first new EU members to enter the EMU, before 2008. This is of course under the condition that a prudent fiscal policy and a policy of reducing inflation will be maintained. Convergence with the EMU will also contribute to an improvement in the exchange rate rating. Among the advantages that are contributing to the current improvement in Slovenia's rating are the level of diversification and the open economy, the political stability and consensus among political forces regarding EU and Nato membership, the country's sound fiscal policy with a low budget deficit and low public debt, the balanced current account and moderate external debt. The potential weak points include the uncertainty regarding further sustained falls in inflation and the need to further encourage a more competitive environment by promoting privatisation and foreign direct investment.

S&P raised its rating for Slovenia from A+/A-1 to AA–/A-1+. In comparison with similar countries (the new EU members, and Portugal and Greece), Slovenia's ratings are good, as it has so far succeeded in maintaining an external balance and a low fiscal deficit. Moody's also raised Slovenia's rating from A2 to Aa3 as part of a rise for eight accession countries.

Differences in Yields for Slovenian Eurobonds and German Government Bonds

Since the end of 2002 there has been a notable trend of falling country risk premiums. The main reasons are EU membership, the low public debt, the low budget deficit and the relatively balanced current account and low external debt. The difference between the yield on domestic eurobonds maturing in 2011 and that for the comparable German bonds has fallen below 25 basic points. The country risk premium for this instrument is also low when compared to that in other countries that joined the EU in May 2004. Hungary (0.35), Cyprus (0.39) and Poland (0.43) have higher country risk premiums, while Estonia's is lower.

Figure 1.5: Country risk premium for investments in domestic eurobonds maturing in 2011 (in percentage points)



Source: Bank of Slovenia, Analysis and Research Centre

The difference in the yields for domestic tolar government bonds and German government bonds in euros, which in addition to country risk reflects exchange rate risk, fell in recent months to reach a single percentage point in May 2004.

1.5. Comparison of Interest Rates for Financing Companies Inside and Outside Slovenia

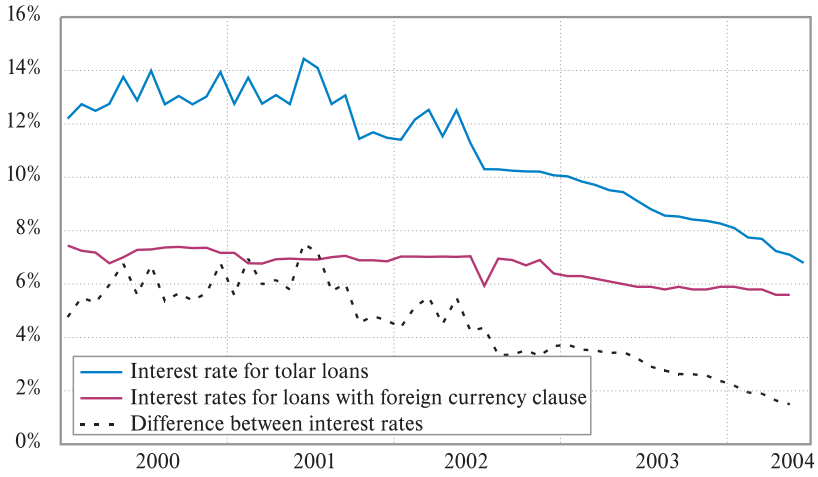
A comparison of the interest rates for domestic tolar loans and loans with a foreign currency clause or loans taken out abroad shows that the difference between the interest rates is decreasing in all the segments of the same type on the lending market inside and outside Slovenia.

Lending Rates for Companies Inside and Outside Slovenia

Just over one-third of domestic loans in the twelve months to May were short-term foreign currency loans, with long-term foreign currency loans accounting for a somewhat higher proportion. Foreign currency loans accounted for a total of 76% of all new domestic lending. Over 90% of company borrowing abroad was long-term. Comparing the minimal interest rate for short-term loans and the

interest rate for loans with a foreign currency clause, there was a difference of 1.5 percentage points, which was the annual equivalent of the May rate of growth in the foreign currency exchange rate.

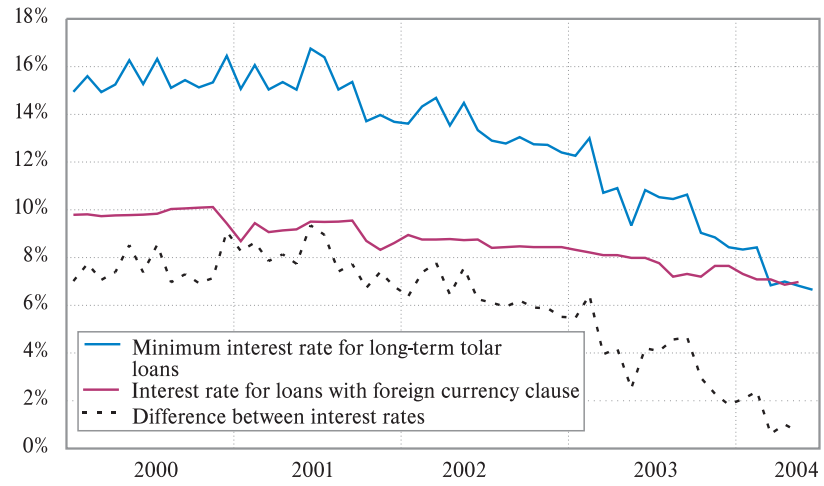
Figure 1.6: Comparison of costs of financing companies with short-term tolar loans with minimal interest rate and interest rate for loans with foreign currency clause at Slovenian banks



Source: Bank of Slovenia

Comparing the minimal tolar interest rates for long-term loans and the rates for loans with a foreign currency clause also shows the difference to have been constantly narrowing, owing to the fall in tolar interest rates for long-term loans since the middle of 2001, reaching just 0.6% by the end of May. This was under the current dynamic of a rise in the foreign currency exchange rate on an annual basis, but was more or less in line with the expectations of the change in the foreign currency exchange rate during the loan repayment year. This indicates that banks and companies have been anticipating Slovenia's relatively rapid entry into the ERM II for a significant time.

Figure 1.7: Comparison of costs of financing companies with long-term tolar loans with minimal interest rate and interest rate for loans with foreign currency clause at Slovenian banks



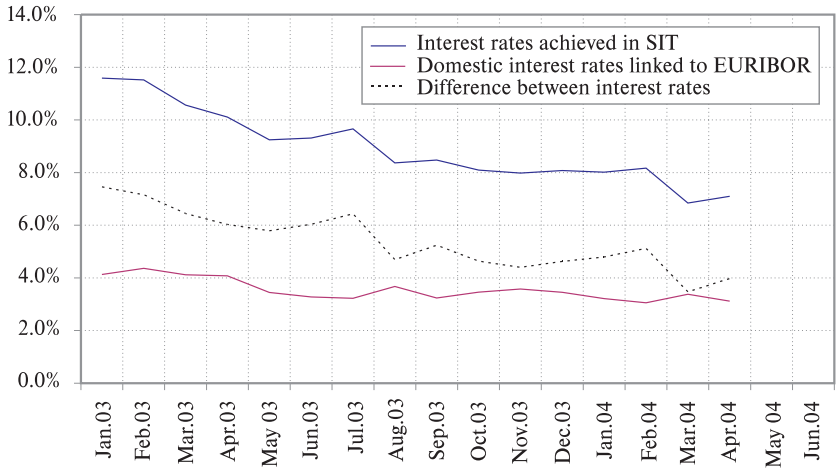
Source: Bank of Slovenia

A more precise explanation of the motives for companies borrowing foreign currency from Slovenian banks is given by a comparison of the interest rates for the agreements concluded[1] for long-term tolar

[1] Calculation of actual interest rates based on figures from eight banks in April 2004.

loans and foreign currency loans tied to EURIBOR. It can be seen that companies can borrow foreign currency inside Slovenia at an interest rate of 3.4%, which is 4 percentage points lower than the tolar interest rate for long-term loans. Taking the costs of converting foreign currency loans into tolars and the fact that interest rate rises are expected on European financial markets into account, this difference is comparable to the differences in interest rates in other segments of the lending market. This difference nevertheless currently remains an important motive for foreign currency borrowing on the domestic lending market, given the significantly lower average tolar depreciation expected during loan repayment.

Figure 1.8: Comparison of costs realised for financing companies with long-term tolar loans and foreign currency loans tied to EURIBOR at Slovenian banks (%)



Source: Bank of Slovenia

Companies were also able to borrow abroad at lower interest rates than on the domestic tolar lending market, the average rate standing below 3% in the first four months of 2004. Comparing the minimal long-term tolar interest rate in Slovenia for companies and the interest rate for loans abroad, the difference was more than 4 percentage points in March 2004.

Risk Premium for Domestic Banks' Foreign Currency Loans in Respect of Debtor's Credit Rating

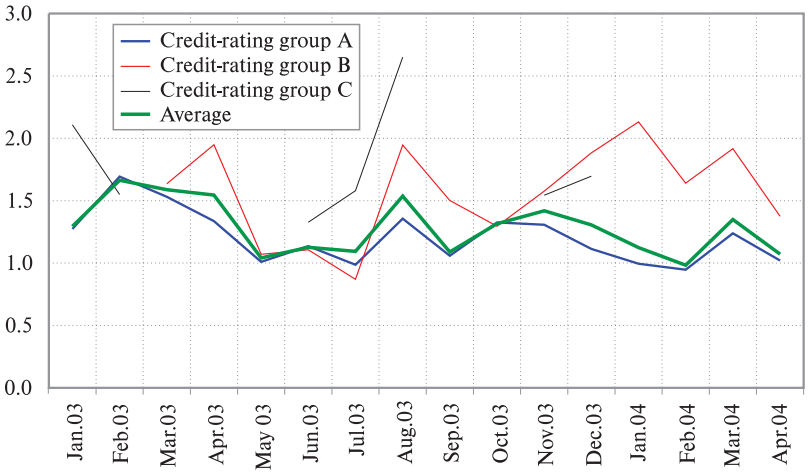
A comparison of the interest rates for long-term foreign currency loans approved for customers with different credit ratings reflects the different levels of premium for credit risk at banks in Slovenia. The average premium in this segment of the lending market is relatively stable, and since January 2003 has fluctuated between 1 and 1.5 percentage points above EURIBOR For category A the average risk premium in the same year was 1.2 percentage points, for category B it was 1.6 percentage points, and for category C it was 1.8 percentage points. The overall average premium was 1.3 percentage points above EURIBOR. The change in the premium for category B points to greater variation in the premiums for this category than for the risk premiums for category A. In the last months of 2003 and the first quarter of 2004 banks raised the premium for category B, which could reflect the first expectations of a change in credit risk in the direction of a mild deterioration.

The premium for short-term foreign currency loans remains more stable, at just over 1 percentage point above EURIBOR for category A, 1.4 percentage points for category B and 1.7 percentage points for other categories (C and D). There was also a rise in the risk premium in this segment of the lending market in the last months of 2003 and the beginning of 2004.

Comparing the premiums above EURIBOR for long-term and short-term foreign currency loans, there was almost no difference according to the April 2004 figures. This is at least partly a reflection of

greater competition between banks on the lending market, as given the uncertainty larger risk premiums (liquidity and credit) would otherwise be expected in the long-term segment than in the short-term segment.

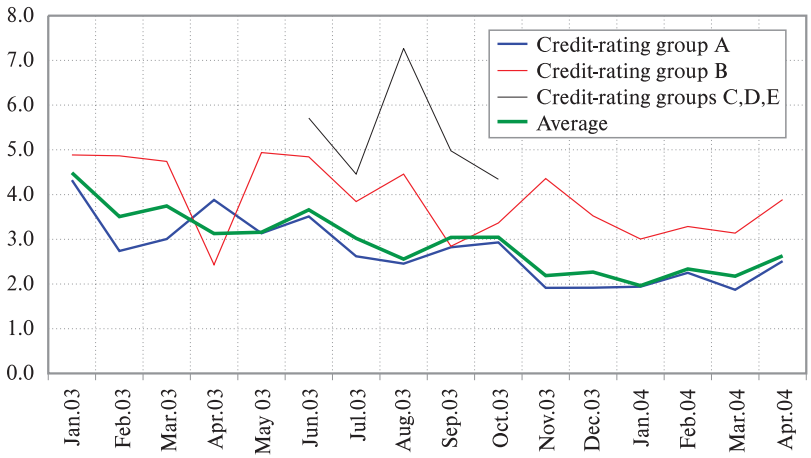
Figure 1.9: Risk premiums above EURIBOR for foreign currency loans for investments, by customer credit rating (percentage points)



Source: Bank of Slovenia

Risk Premium for Domestic Banks' Tolar Loans in Respect of Debtor's Credit Rating

Figure 1.10: Risk premiums above three-monthly SITIBOR for tolar loans for investments, by customer credit rating (percentage points)



Source: Bank of Slovenia

In the long-term segment of the tolar lending market risk premiums were relatively stable between January 2003 and April 2004, with a moderate falling trend. The average premium above the three-monthly SITIBOR[2] was 2.9 percentage points. In the months prior to April 2004 it fluctuated just over 2 percentage points above the three-monthly SITIBOR.

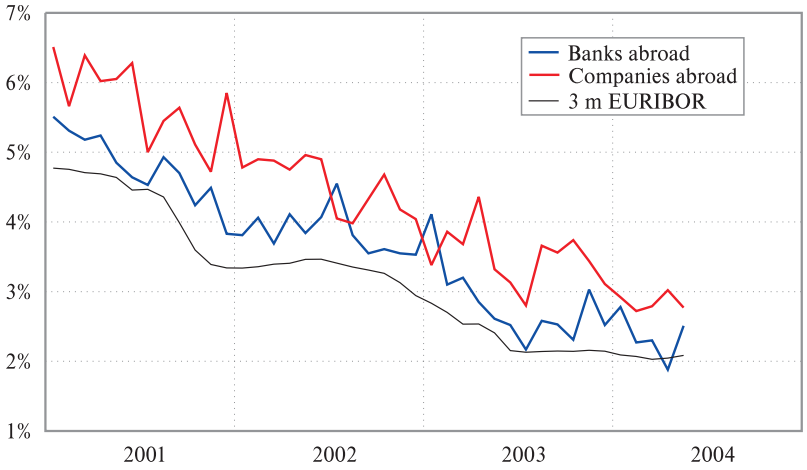
The risk premium in the short-term tolar loans segment is lower, averaging 1.7 percentage points between January 2003 and April 2004, with a level of 1.4 percentage points for category A, 2.4 percentage points for category B and 2.5 percentage points for other categories (C, D and E). The most recent

[2] Three-monthly SMOM to July 2003.

figures for premiums for short-term tolar loans to companies in category A point to a moderate rising trend. The overall risk premium for April 2004 amounted to 1.9 percentage points above the three-monthly SITIBOR, up 0.2 percentage points from the average in the aforementioned year. The risk premium for category A was also 0.2 percentage points higher than the average for this category at 1.6 percentage points. The premiums for the other categories in April 2004 were below the average for the aforementioned year.

Risk Premiums Above EURIBOR for Financing of Slovenian Banks and Companies Abroad

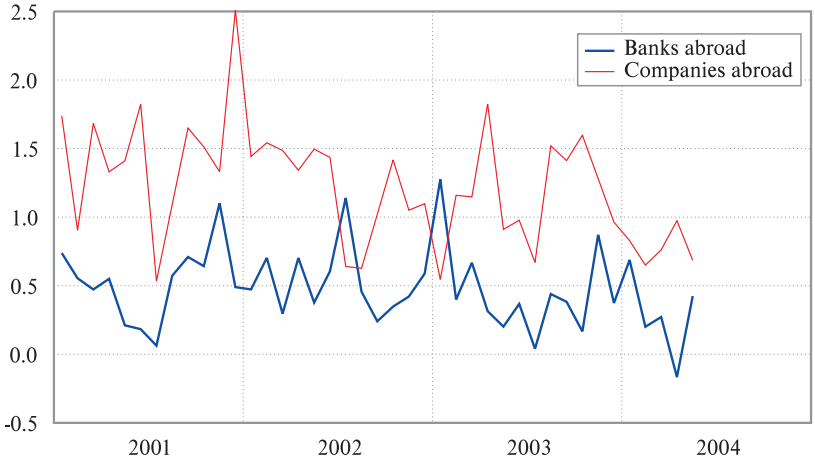
Figure 1.11: Foreign interest rates realised for long-term loans for Slovenian banks and companies above three-monthly EURIBOR (in %)



Source: Bank of Slovenia

Given the smaller premium, recently the role of banks that make use of sources abroad, and thus mediate between foreign banks and Slovenian companies, has grown. The lower interest rates for Slovenian banks are a consequence of the lower risk in the financial sector compared with the commercial sector. Thus the average premium above EURIBOR since the start of 2000 for long-term loans has been 0.5 percentage points for banks and 1.2 percentage points for companies. For banks there has been a great deal of fluctuation in the premium, having stood as high as 1.5 percentage points and as low as 0 percentage points above EURIBOR.

Figure 1.12: Risk premiums above three-monthly EURIBOR for long-term loans for Slovenian banks and companies taken out abroad (percentage points)

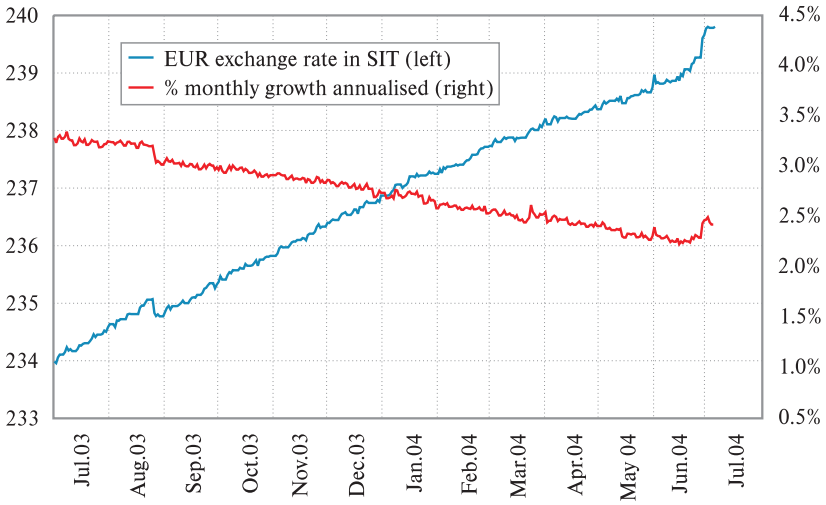


Source: Bank of Slovenia

1.6. Foreign Exchange Market

Movements on the foreign exchange market determine movements in the balance of payments and the decisions by domestic entities regarding the currency structure of their investments and liabilities. Given the net outflow via the financial account of the balance of payments in the months leading up to April 2004, the demand for foreign currency exceeded the supply. In the year to June there was a net sale of foreign currency realised by banks, primarily because of a shortfall on the futures market, while banks made net purchases on the spot forex market. On the spot market foreign currency purchases from foreign entities made a contribution to this, while banks made net sales of foreign currency to companies. The net sale of foreign currency in exchange offices also strengthened, reaching almost 60% of last year's sales by the end of June 2004.

Figure 1.13: Euro exchange rate and monthly growth rate



Source: Bank of Slovenia

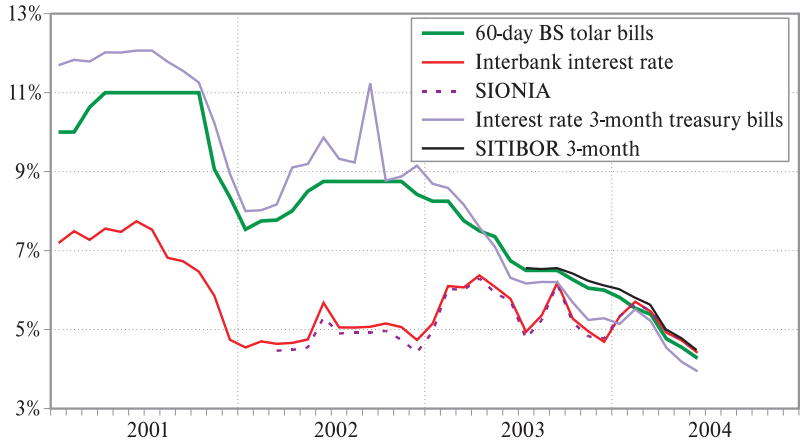
The rate of growth in the foreign currency exchange rate slowed throughout the year leading up to entry into the ERM II. In May 2004 the ex post monthly growth in the foreign currency exchange rate amounted to approximately just 1.6% on an annual basis, but in June it rose again merely because of the minimal difference between the tolar parity exchange rate of 239.64 to the euro and the final market value of 239.3 prior to Slovenia entering the ERM II.

The Bank of Slovenia occasionally slowed the current rate of growth in the euro exchange rate by setting the growth rate for the intervention exchange rate, and in June it reduced it to 1% on an annual basis before the tolar parity exchange rate was set at the end of June 2004.

1.7. Money Market

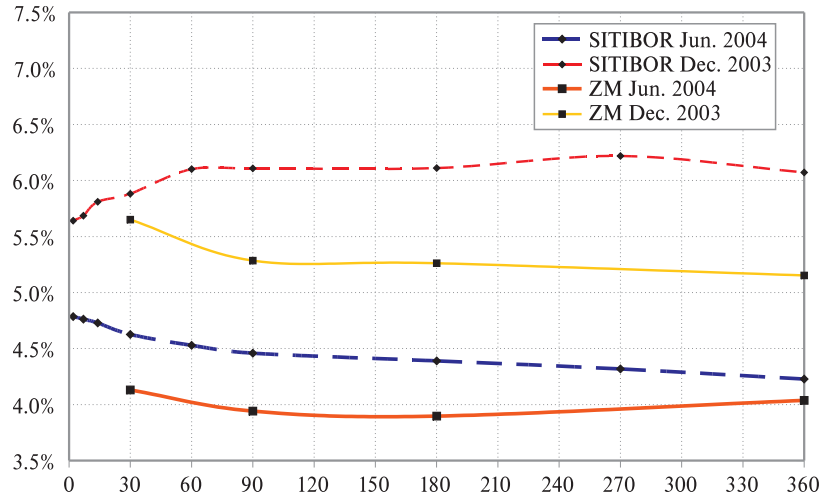
Owing to the process of nominal convergence there has been a lowering of interest rates on the money market, as on all other markets. With the fall in inflation and the constantly falling level of tolar depreciation against the euro prior to entry into the ERM II at the end of June 2004, the Bank of Slovenia cut its interest rates over a long year. A similar trend also holds for the interest rates on treasury bills of Republic of Slovenia. The Bank of Slovenia's interest rate cut was reflected relatively rapidly and fully in a reduction in interest rates on treasury bills of Republic of Slovenia.

Figure 1.14: Interest rates on Bank of Slovenia and government securities and money market interest rates (in %)



Source: Bank of Slovenia

Figure 1.15: Yield curve for treasury bills on primary market and money market interest rates (in %)



Source: Bank of Slovenia

The reduction in interest rates is also illustrated in the downturn of the yield curve. The yield curve for treasury bills on the primary market fell by over one percentage point for all maturity years between December 2003 and June 2004. The interest rate in June for all maturity years was around 4%. However a slight upturn in the yield curve can already be seen, which can be interpreted at least as a temporary halt in money market interest rates at an inflated level. There is a similar situation with the timeframe of interest rates on the SITIBOR interbank market, except there the slope is negative.

1.8. Capital Market

Primary Market

The primary market in Slovenia has not managed to evolve, which is largely the consequence of the manner of ownership transformation of companies. In addition to other economic elements, such as high credit dependency of companies on banks as regards external financing, a high level of household savings in the form of bank deposits, and the absence of institutional investors, the slow pace of

primary market development was influenced by tax policies with different approaches to taxing various forms of savings.

The 23 public offerings of shares between 1994 and 2000, when the last public offering was held, generated a sum of SIT 9.4 billion, of which 13 issues or 75% of the total funds pertain to bank issuers. Companies in Slovenia primarily finance themselves through bank loans, and only rarely through the primary securities market. With institutional investors (insurance companies, investment funds, pension funds) developing rapidly in Slovenia, given the lack of suitable investments on the domestic market they are forced to seek them abroad.

The primary market for debt securities has had somewhat more success in developing itself than the equity market, and is primarily used by the state and the financial sector. Between 1994 and 2003 a sum of SIT 62 billion was generated in 48 public offerings of bonds (excluding government bonds), of which banks were responsible for 38 issues and 79% of the total sum. The government issued seven bonds in a total value of SIT 161 billion on the domestic market in 2003, and three bonds in a total value of SIT 98 billion in the first three months of 2004. Of the bonds registered with the Central Securities Clearing Corporation (KDD), at the end of March 2003, there was SIT 958.6 billion in government bonds, of which 2.9% were under foreign ownership.

Apart from government bonds only occasional (closed) issues of bank bonds can be expected on the domestic capital market, with the banks passing the funds generated to companies in the form of loans.

Secondary Market

Despite some significant takeovers that resulted in a total withdrawal of company shares from listing on the exchange, market capitalisation on the organised securities market in Slovenia has risen each year. In the five years to the end of 2003 market capitalisation rose by 165%, reaching 46% of GDP in May 2004. Of total capitalisation, shares account for 30%, while bonds account for 16%, with government bonds prevalent among them, and bank bonds primarily making up the remainder.

Table 1.4: Overview of organised securities market

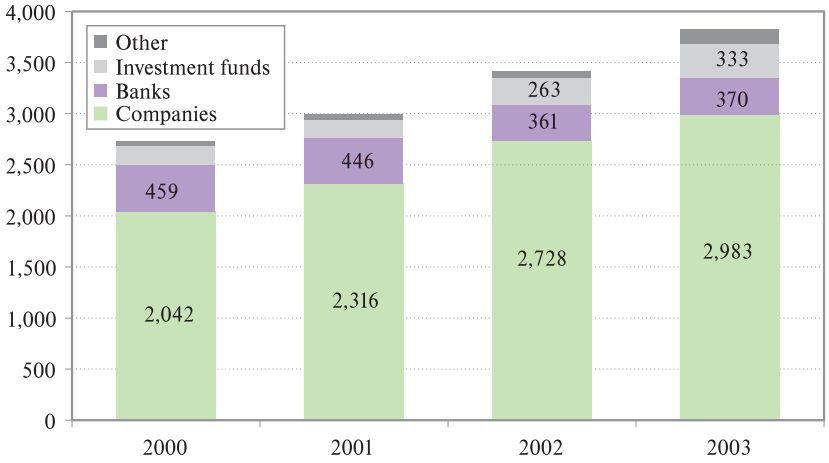
	Market capitalisation SIT billion	Market capitalisation % of GDP	Market capitalisation shares as % of GDP	Turnover SIT billion	Turnover % of GDP
1999	920	24.0%	18.2%	266	6.9%
2000	1,138	27.0%	20.9%	270	6.4%
2001	1,380	29.1%	21.5%	348	7.4%
2002	2,174	41.2%	28.1%	481	9.1%
2003	2,442	43.1%	27.6%	340	6.0%
(to) May 2004	2,692	46.2%	29.8%	332	5.7%

Source: Ljubljana Stock Exchange

At the end of December 2003 there were 913 shares entered in the central securities register at KDD, of which just 162 or 18% were listed on the organised securities market, and 120 bonds entered, of which 77% were listed on the organised securities market. The value of the shares registered with KDD, at market value or book value, reached SIT 3,826 billion at the end of December 2003, which is equivalent to 68% of GDP, while the market capitalisation of shares at the end of 2003 on the organised market was equivalent to just 28% of GDP.

Non-financial companies account for the largest proportion of shares issued, namely 78% of the total share value at the end of 2003, followed by banks and other financial intermediaries, among whom investment funds are prevalent.[3]

Figure 1.16: Shares registered with KDD, by issuer (SIT billion at market/book value)



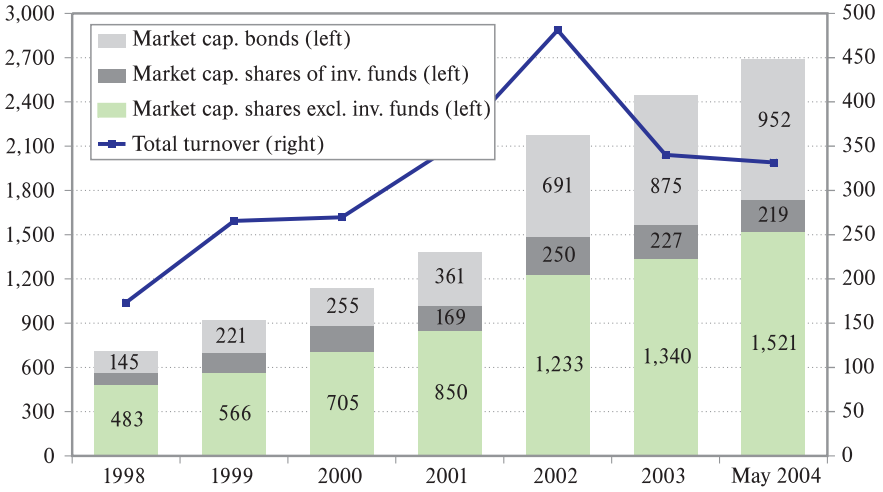
Source: Central Securites Clearing Corporation, Bank of Slovenia conversions of financial statistics

The value of bonds registered with KDD, at market value or nominal value, reached SIT 1,115 billion or 20% of GDP at the end of 2003, while market capitalisation of bonds on the organised securities market was equivalent to 15% of GDP. These figures indicate the lack of interest Slovenia's financial and non-financial companies have in being listed on the stock exchange, which could be the result of the significant costs of the listing procedure itself and the bank financing used primarily by Slovenian companies.

A significant factor in the stable growth of market capitalisation was the stable and reliable rise in the prices of shares traded on the organised market. After takeovers and the subsequent withdrawal of shares from stock exchange listing, there were fewer company shares on the exchange, but generally the rise in the stock exchange index compensated for this loss, and it was thus not reflected in market capitalisation. The rise in stock exchange indices was also partly encouraged by the sustained and relatively rapid fall in interest rates and the expectation of more company takeovers with Slovenia joining the EU. Another significant factor in the rise were mutual funds, their number having risen in the last year from 18 to 27, and the value of their assets reaching SIT 147.8 billion in May 2004. Given the large rise in stock exchange indices, it could be said that Slovenia's capital market was undervalued in the past, but with securities prices at their current levels analysts at some stockbroking companies suspect that certain shares may be overvalued. In certain years investors in the Ljubljana stock exchange have achieved annual returns of more than 50%. Recently, with the high indices entailing greater risk, there has been much interest in investing abroad.

[3] For more detailed securities market statistics see Financial Markets, drawn up by the Bank of Slovenia's Financial Statistics Department.

Figure 1.17: Market capitalisation and volume on organised securities market (SIT billion)



Source: Ljubljana Stock Exchange

Table 1.5: Annual growth in main stock exchange indices

	Annual growth rate of indexes				
	SBI 20	BIO	IPT	PIX	MF unit value
2001	19.01%	0.20%	8.49%	4.42%	23.04%
2002	55.24%	1.57%	49.26%	71.90%	54.55%
2003	17.71%	5.69%	29.48%	23.53%	16.59%
April 2004	45.98%	3.40%	49.29%	68.13%	30.75%

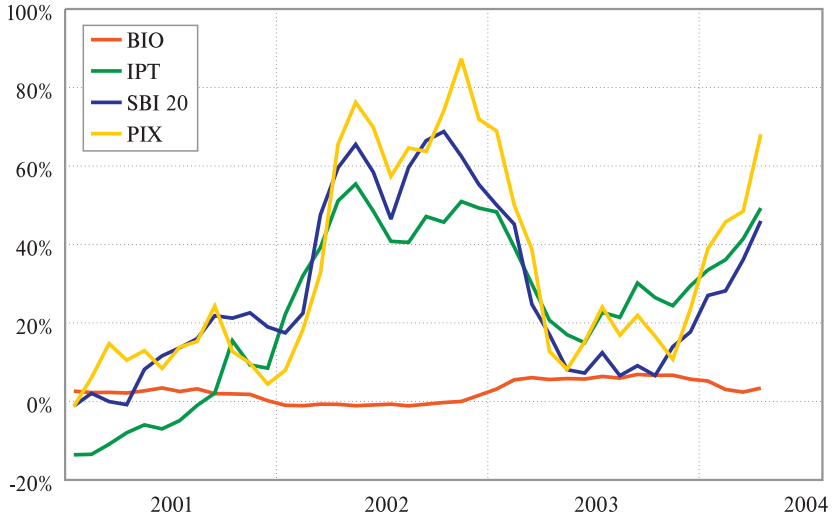
Source: Ljubljana Stock Exchange

At the end of May 2004 Slovenian investors held investments of SIT 205.4 billion in foreign securities, up 43% from the end of 2003, and SIT 56 billion of investments in eurobonds. The outflow of money into foreign stock exchanges will probably continue, as the number of attractive shares on the Slovenian stock exchange has fallen in recent years, with the added influx of fresh money into the exchange, primarily through mutual funds, having put great upward pressure on share prices for some time.

Given the somewhat low level of activity by foreign investors, a feature of the Slovenian capital market is its relative independence from world developments during years of both rising and falling prices. Purchases by foreign entities were highest in 2002, when they reached SIT 352.2 billion with the sale of Nova Ljubljanska banka to the Belgian banking and insurance group KBC, and Lek's takeover by Switzerland's Novartis. In 2003 foreign entities purchased SIT 52.2 billion of securities on the organised market and non-organised market, down 84% from 2002.[4]

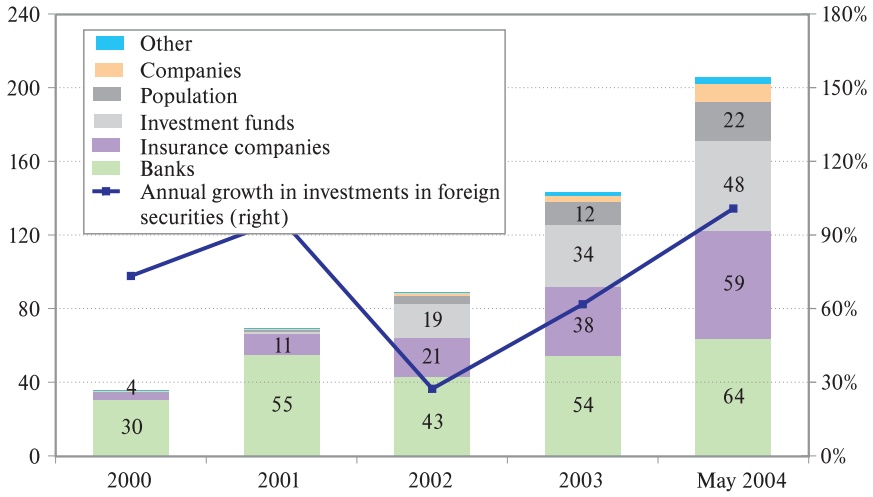
[4] Monthly statistics from Ljubljana Stock Exchange, December 2003.

Figure 1.18: Annual growth in main stock exchange indices (in %)



Source: Ljubljana Stock Exchange

Figure 1.19: Residents' investments in foreign securities (SIT billion)



Source: Bank of Slovenia

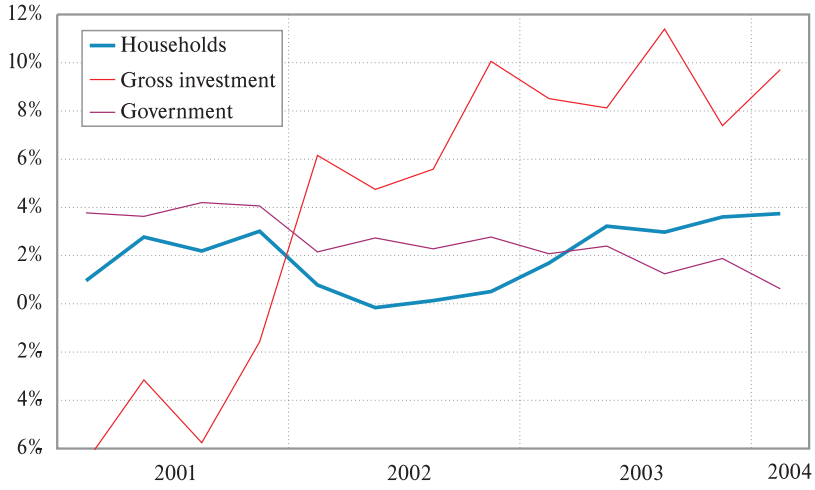
2. HOUSEHOLDS

2.1. Consumer Spending

The strengthening of consumer spending, which began in the second quarter of last year, and by the end of the first quarter of 2004 had reached a rate of 3.7% on a year-on-year basis, coincides with several factors:

- cuts in bank interest rates, as a result of the nominal convergence of domestic interest rates, are an incentive against bank saving and an incentive in favour taking out loans.
- the cycle of loan repayments from when consumers purchased durable goods when value added tax was introduced in 1999 is coming to an end.
- the fall in the rate of depreciation against foreign currency prior to June 2004 had a favourable effect on prices and on higher consumption of imported goods.
- the release of funds saved in the national housing saving scheme will bring increased demand for housing and for purchases of consumer durables.

Figure 2.1: Year-on-year growth in domestic consumption (in %)



Source: Bank of Slovenia

Higher consumer spending is linked with potential risks that could bring about a rise in prices and trigger an imbalance in the balance of payments. However it should be noted that spending was low throughout previous years, which coincided with an extremely small rise in the loans to households. The recent higher spending can also be seen in certain indicators that reflect the structure of households' assets or debt.

2.2. National Housing Saving Scheme

In 1999, via the Housing Fund of the Republic of Slovenia, the government began using the National Housing Saving Scheme (NHSS) as an instrument of housing policy to exert a positive influence on long-term saving and to expand the amount of favourable housing credit available.

Maturity of First Generation of Five-Year NHSS Contracts in 2004

In terms of effects on lending activities, it is the first generation of the NHSS that is currently of importance, 19,635 savers having been involved in it after July 1999. By the end of December 2003,

some SIT 29.8 billion had been paid in as part of the five-year saving scheme, making a total of SIT 37.4 billion of savings when real interest and indexation interest are included. Taking the growth in these assets based on the valid interest rates TOM* and the premiums paid by the state into consideration, the assets had grown to around SIT 43 billion by the end of June 2004.

Table 2.1: Saving within National Housing Saving Scheme at the end 2003 (SIT billion)

	Saving period	Number of savers	Number of sav. cont.	Percentage interruption	Volume of funds saved			
					paid in	premiums	interest	total
1st scheme (1999)	5 years	19,635	20,271	16.9	29,800	2,073	5,521	37,394
	10 years	1,920	1,959	16.4	2,468	213	560	3,241
	total	21,555	22,230	16.9	32,267	2,286	6,081	40,635
Other four schemes	5 years	53,716	56,75	-	30,314	1,606	2,932	34,853
NHSS	10 years	5,020	5,344	-	2,641	185	327	3,152
	total	58,.736	62,319	-	32,955	1,791	3,259	38,005
Total	5 years	73,351	77,246	9.7	60,114	3,679	8,453	72,247
	10 years	6,940	7,303	10.5	5,108	398	887	6,394
	total	80,291	84,549	9.8	65,223	4,077	9,341	78,640

Source: Bank of Slovenia

With an anticipated exploitation rate of 70%[5] by savers and the possibility for households to borrow up to 2.1 times the amount saved, the total bank lending would amount to SIT 63 billion between July 2004 and July 2005, as savers have one year to raise loans on the basis of the assets saved. The next generation, the second five-year NHSS, which is due for release in November 2005, is considerably smaller. The amount of funds saved by the end of 2003 was only just over one-third that of the first scheme.

The effects of the NHSS will be seen both in deposits, which in July 2004 will be transferred to demand deposits, and in loans to households and companies. There will not be significant changes in the structure of deposits, as the assets based on the first scheme of SIT 43 billion account for just 2% of the total deposits of the non-banking sector of SIT 2,140 billion. At maturity the take-up of long-term loans by households could cause certain changes in the structure of banks' assets balances: the proportion of securities could fall and the proportion of loans could rise, which would leave banks with a greater proportion of higher-risk assets.

Changes in Balance Sheet Structure and Effect of Growth in Lending

With their current lending potential banks will have no problems in meeting their contractual obligations to savers from the first generation of the NHSS. A relatively high proportion of their balance sheets is in the form of Bank of Slovenia and government securities, which is the result of the net financial inflows in previous years. The potential release of approved loans in the amount of SIT 63 billion represents a significant proportion of total household loans (11%), but is less significant as a proportion of total loans to the non-banking sector (less than 2%).

There could also be changes in the structure of loans. When households transfer the revenue to investors, the latter could release themselves from debt, which would see the proportion of loans to the private

* TOM - Tolar Indexation clause is officially determined indexation rate for claims and liabilities computed as average monthly inflation for the recent 12 months.

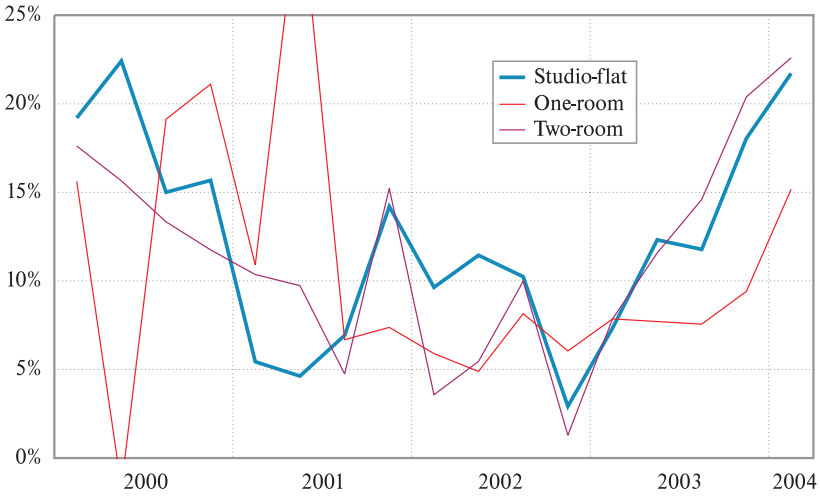
5 This is the proportion of savers that would opt for housing loans according to a survey conducted in 2004. The Housing Fund survey was sent to addresses for 5,000 savers in the first and second schemes, with 1,794 responses being received.

sector accounted for by loans to households rise and the proportion accounted for by loans to companies fall. However this is less likely, as additional investments can be anticipated because of the expansion of activity in the construction sector.

Given the change in the structure of banks' balance sheets in favour of loans, credit risks will increase. Increased lending will reduce the proportion of investments banks have in non-risk Bank of Slovenia and government securities. The risks could rise primarily for households, which would later be reflected in the higher costs of the provisions that banks would have to create. There is also a risk that banks would have greater recourse to securing loans with mortgages than they have done to date, which would make a positive contribution to greater diversification in forms of loan collateral. Of course, loans secured by mortgages would result in an increase in banks' exposure to price fluctuations on the real estate market.

Additional demand on the real estate market linked to the first generation of the NHSS could also bring about a merely temporary rise in prices on the real estate market in 2004, although given the rise in housing prices since the end of 2002 it could be presumed that the real estate market has already partly anticipated the influx of funds this year. With the maturity of the next, albeit smaller, scheme in 2005, the cyclical nature of the NHSS could result in a greater level of variation in real estate prices and thus a change in the percentage of loans covered by the value of real estate throughout the year.[6]

Figure 2.2: Year-on-year rise in housing prices in Ljubljana (in %)



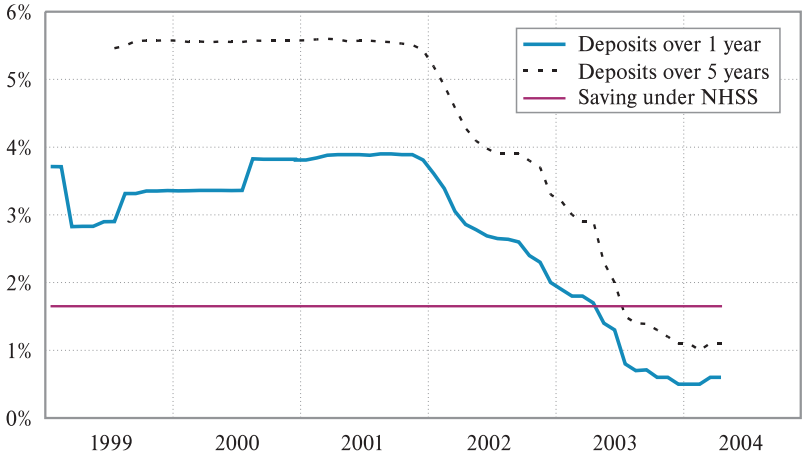
Source: Nepremičnine Slonep

Interest Rates for Deposits and Loans and Risk of Them Changing

When the first NHSS was concluded in 1999, an interest rate of the TOM + 1.65% was set for five-year deposits. The funds thus generated represented a resource that was favourable to banks in expenditure terms, as the market interest rates were considerably higher. For example, in 1999 the interest rate for deposits committed for more than year was the TOM + 4.2%, or the TOM + 5.5% for deposits committed for more than five years. These interest rates only began to fall in 2002. They only fell below the level of the rates in the saving scheme in the middle of 2003. The lower interest rates for the first generation of the NHSS entailed lower interest expenses for banks than they would have had from deposits of a similar maturity year for the greater part of the lifetime of the first generation in the case of ordinary instruments available on the market.

[6] The calculation for the second NHSS, which expires in autumn 2005, indicates that under the current conditions and current inflation rate savers will have a sum of SIT 23.6 billion, based on which they could take out loans of up to SIT 49.5 billion. A further three five-year saving schemes will mature in the year to 2008.

Figure 2.3: Movement of interest rates above TOM for deposits and five-year saving in first NHSS



Source: Bank of Slovenia

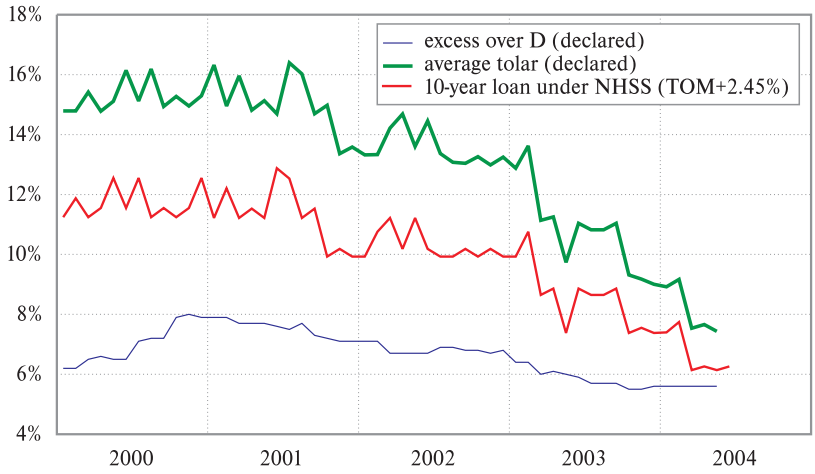
The interest rate at which banks are obliged to offer savers loans after the saving scheme expires (TOM + 2.45%) was set when the contracts for the first NHSS were being concluded at a lower level than the interest rates then valid on the housing loans market. In the middle of 1999 there was a difference of more than 3.3 percentage points between the interest rate above the TOM and the interest rates declared for housing loans.

In the subsequent years, particularly since the beginning of 2002, there has been a fall in inflation and in real interest rates. Banks avoided the potential unfavourable consequences of changes in interest rates and thus interest rate risk primarily thanks to the fall in interest rates. With the liberalisation of financial flows, interest rates have fallen to a level comparable to the NHSS loans. When interest rates stabilise around a new level, banks that have liabilities from other housing saving schemes will be exposed to greater interest rate risks. Given the timeframe mismatch between the sums deposited and the amounts of the loans, banks could also be exposed to specific liquidity risk. Savers obtain loans on the basis of the NHSS with a maturity year twice as long as the saving period.

A factor hindering the setting of interest rates for deposits and loans might be the TOM indexation clause, to which the other four schemes are linked. By joining ERM2 the level of interest rates in Slovenia will converge with the level of interest rates in the EU, and by adopting the euro, Slovenia will be integrated in the unified money market with the unified ECB refinancing interest rate. Because inflation still outpaces productivity growth rates, the rate of inflation in Slovenia will remain higher than the EU.

Under the conditions in July 2004, NHSS savers could take out a housing loan at banks at an interest rate of 6.1%. However banks currently offer five-year to ten-year housing loans with a foreign currency clause at a rate equivalent to the three-monthly EURIBOR plus 2.5 to 3.0 percentage points. Given the depreciation of the exchange rate in June following entry into the ERM II, this rate is entirely comparable or even slightly better. With the anticipated rise in the EURIBOR interest rate in the year ahead – it should be borne in mind that it is at a historic low – and further falls in inflation in Slovenia, housing loans under the NHSS conditions will have an advantage.

Figure 2.4: Comparison of interest rates for households for housing loans (in %)



Source: Bank of Slovenia

2.3. Households Borrowing at Banks

The annual rise in loans to households reached 15% in May 2004, and has been increasing since the second half of the previous year. Housing loans made a significant contribution to the rise in loans to households. The proportion of loans to households that they account for rose between 2000 and summer 2003, reaching close to 60%[7] last July, then fell below 40% by the end of June 2004. The sum of housing loans also consequently rose as a proportion of all loans to households. At the end of 2000 it stood at 17.4%, but had risen to one-quarter by June 2004. Housing loans are growing faster than other loans to households. The release of funds from the first NHSS and certain other related factors outlined below will have a significant impact on the further growth in household borrowing, whether large or small:

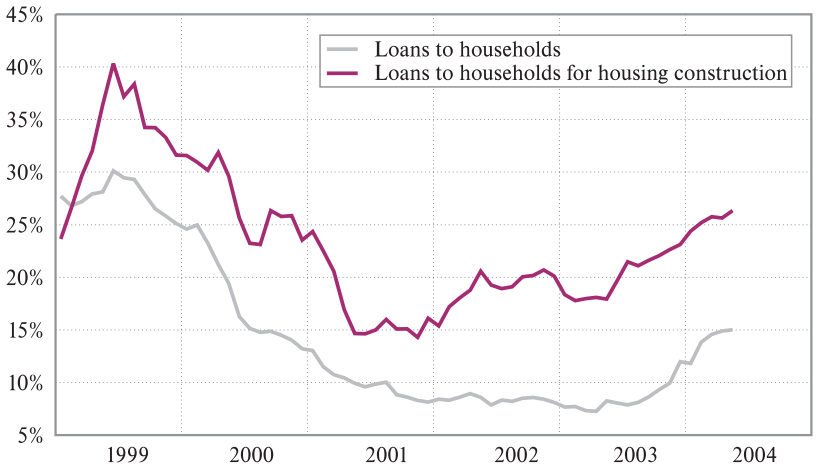
- The supply of housing (construction of housing is expanding).
- The general state of the economy (economic growth is again strengthening).
- Household borrowing and the credit capacity of households: the ratio between borrowing by households and their earnings or personal income improved in 2001 and 2002 after the increased borrowing at the end of the nineties. In the last year and a half it is has again been deteriorating owing to increasing enthusiasm for taking out loans.
- The potential redirection of savings into purchasing consumer durables (cars, for example): it should however be borne in mind that households will earmark an increasing proportion of their income for savings and for other foreseen purposes such as pensions, insurance, healthcare and schooling.
- Loans comparable to loans under the NHSS have an entirely comparable interest rate. With major rises in real estate prices this could be a reason for deferring the purchase of housing.
- The renewal of saving and partial migration of savings into mutual funds.

Recently lending to households has strengthened again, coinciding with increased spending. Last year the net growth in loans amounted to SIT 59 billion, but the figure for this year was already SIT 40 billion by the end of May. The release of funds from the first NHSS and the possibility of taking out loans on the basis of saving will have an additional impact this year on the growth in loans, in

[7] Calculated each time as the flow of loans in the last 12 months.

particular of the flow of loans between July 2004 and July 2005. However neither the growth rate nor the flow of lending are comparable to the figures in 1999, when the annual flow reached SIT 82 billion and the growth rate was close to 30%.[8]

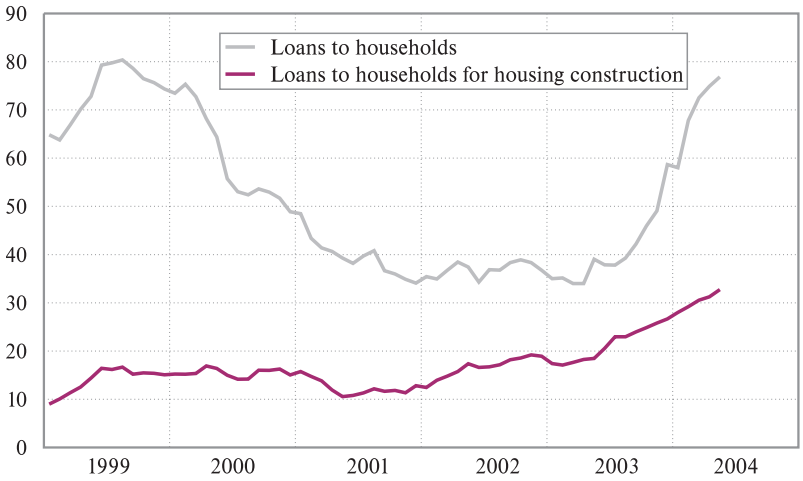
Figure 2.5: Year-on-year growth in loans to households (in %)



Source: Bank of Slovenia

If the dynamic of lending were to remain similar to that in the year to May this year, the year-on-year growth rate in household loans would reach 17% by the end of the year. In the event of an additional flow in the amount of SIT 32 billion it would be raised to 23%, while a flow of SIT 40 billion would see it reach close to 25%. Considering the possibility that only a very small proportion of savers would opt to take out loans (only those who responded to the survey, and even then only 70% responded in the affirmative), the additional flow of lending on this account would be relatively small, just SIT 16 billion this year, which when the current dynamic of lending is taken into consideration would raise the year-on-year rate for the end of the year to over 20%.

Figure 2.6: Net flow of loans to households and housing loans as part thereof in SIT billion (12-month moving average)



Source: Bank of Slovenia

[8] The reason for the high growth rates in bank loans to the consumer sector in 1999 lay in the change in indirect taxation on consumption, namely the introduction of value added tax.

2.4. Forms of Financial Assets and Net Household Borrowing at Banks

Household financial assets[9] include bank deposits, household claims in the form of equity and debt securities, the estimated balance of foreign currency cash held by households,[10] investments in mutual fund investment coupons, investments in the rest of the world by private individuals, life insurance and voluntary supplementary pension insurance held by households at insurers and voluntary supplementary pension insurance at pension companies and mutual pension funds.

Table 2.2: Forms of household financial assets (SIT billion)

	Households bank deposits	Shares and bonds	Estimated foreign cash	Mutual funds	Investments abroad	Life insurance	Additional pensions insurance	Total "assets"
Dec.00	1,274	691	-	10.7	0.7	86.8	-	2,063
Jun.01	1,432	453	-	11.0	1.0	-	-	1,898
Dec.01	1,731	663	17.0	14.7	1.4	116.2	5.0	2,548
Jun.02	1,824	885	82.3	32.8	2.4	131.7	-	2,958
Dec.02	1,944	1,000	147.5	55.4	4.6	150.9	18.8	3,321
Jun.03	2,032	1,008	216.7	62.4	7.5	164.5	-	3,491
Dec.03	2.097	921	285.8	93.1	12.1	182.9	39.7	3,632

Source: Central Securites Clearing Corporation, Securities Market Agency, Bank of Slovenia, Insurance Supervision Agency

Table 2.3: Structure of household financial assets and financial assets as proportion of GDP

	Households bank deposits	Shares and bonds	Estimated foreign cash	Mutual funds	Investments abroad	Life insurance	Additional pensions insurance	Total "assets"	
								share	% of GDP
Dec.00	61.7%	33.5%	0.0%	0.5%	0.0%	4.2%	0.0%	100%	48.9
Jun.01	75.5%	23.9%	0.0%	0.6%	0.1%	0.0%	0.0%	100%	42.4
Dec.01	67.9%	26.0%	0.7%	0.6%	0.1%	4.6%	0.2%	100%	53.8
Jun.02	61.7%	29.9%	2.8%	1.1%	0.1%	4.5%	0.0%	100%	58.9
Dec.02	58.5%	30.1%	4.4%	1.7%	0.1%	4.5%	0.6%	100%	63.0
Jun.03	58.2%	28.9%	6.2%	1.8%	0.2%	4.7%	0.0%	100%	63.9
Dec.03	57.7%	25.4%	7.9%	2.6%	0.3%	5.0%	1.1%	100%	64.1

Source: Central Securites Clearing Corporation, Securities Market Agency, Bank of Slovenia, Insurance Supervision Agency

At the end of 2003 households held most assets in bank deposits (57.7%) and in domestic shares and bonds (25.4%), while the estimated balance of foreign currency cash also accounted for a significant proportion of the assets (7.9%). Household assets in alternative financial forms (mutual funds, direct investments in foreign securities, life insurance, voluntary supplementary pension insurance) account for a less significant proportion, but it is rising. Loans taken out at banks account for most household

[9] This overview of forms of household assets is nevertheless limited to financial assets. It does not include real estate or the estimated value of real estate, whereby it should be noted that in Slovenia there is a high proportion of owner occupiers. The liabilities do not include liabilities from leasing or the various loan liabilities households have with entities other than banks. Consumer durables (e.g. cars) can also be financed directly through leasing companies.

[10] According to Bank of Slovenia estimates, the amount of foreign currency cash held by households was SIT 285.8 billion at the end of 2003.

liabilities. Liabilities from leasing[11] and household borrowing from loan providers other than banks are not included in the liabilities.

Households' financial assets are equivalent to 64% of GDP and have recently been rising. At the end of 2003 financial assets were equivalent to 128.2% of year-long disposable income.[12] The proportion accounted for by deposits, which represents a significant part of financial assets, has recently stalled after rising sharply at the end of 2001.

Household financial assets minus liabilities for bank loans are equivalent to more than 54% of GDP, but the growth in this figure has slowed in the last year. The ratio of the balance of household loans at banks to the average monthly household earnings fell to 2.6 in the second half of 2000 and to 2.4 at the end of 2002. Recently it has risen again and is now approaching 2.6.

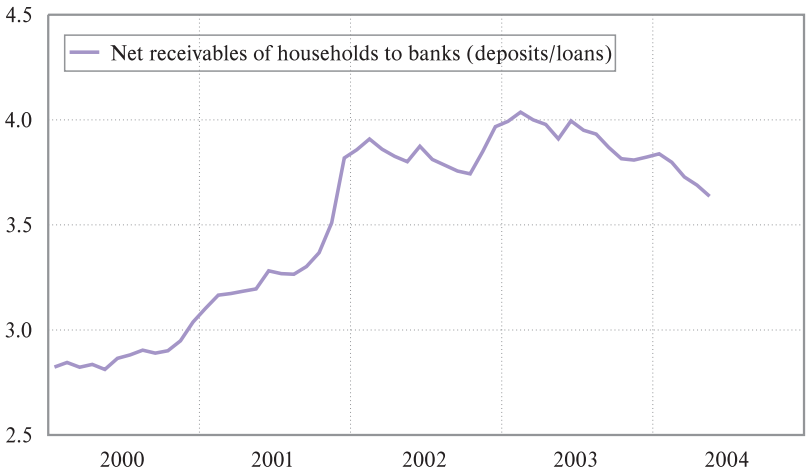
Table 2.4: Household loans and deposits at banks (SIT billion)

	Bank loans to households (1)	Households bank deposits (2)	Net bank savings of households (2-1)	Net saving % of GDP
Dec.00	419.2	1,273.6	854.4	20.1
Jun.01	436.5	1,432.1	995.6	22.1
Dec.01	453.3	1,730.9	1,277.6	26.8
Jun.02	470.8	1,823.7	1,353.0	26.8
Dec.02	490.1	1,.944.1	1,454.0	27.4
Jun.03	508.6	2,032.0	1,523.3	27.6
Dec.03	548.7	2,097.4	1,548,7	27.0

Source: Bank of Slovenia

Owing to the rapid fall in interest rates, the rate of growth in household deposits at banks is falling (a year-on-year rate of 7% in May), and household loans are increasing. The slowing of the rate of growth in household deposits is also coinciding with increased net payments into mutual funds. All these processes together are being reflected in a fall in the ratio of net claims that households have against the banking sector.

Figure 2.7: Net household claims against banks (deposits / balance of loans taken out)



Source: Bank of Slovenia

[11] Figures on household leasing are unreliable or unavailable.
[12] Household disposable income includes net wages, other employment earnings and social security benefits.

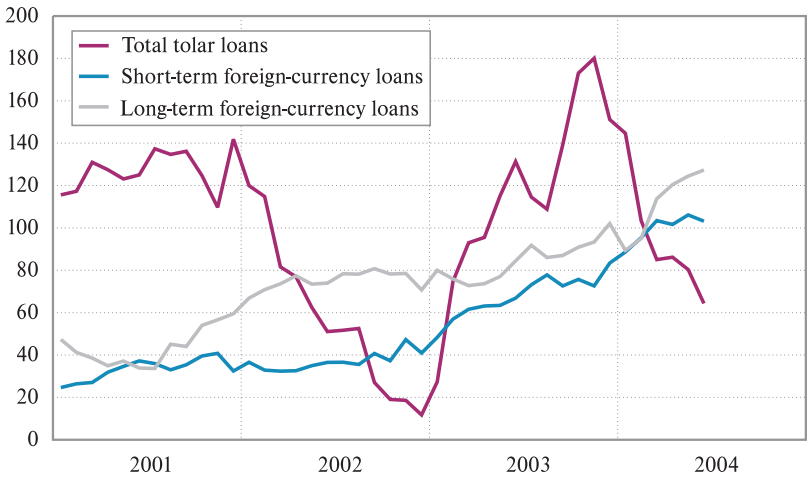
3. CORPORATE SECTOR

3.1. Financing of Companies at Domestic Banks and Net Borrowing by Companies

Lending to Companies

Borrowing by companies began to strengthen in 2003, the rate of growth reaching around 25% by the end of the year. The rise in borrowing by companies, particularly since the middle of last year, is the result of stronger economic activity. Companies are primarily financing their expanding commercial activities by taking out loans with domestic banks. Foreign sources of company financing are being replaced by domestic foreign currency loans, which is a result of the fall in domestic interest rates and the abolition of restrictions on domestic foreign currency lending. In the first half of 2004 foreign currency loans accounted for 88.6% of all new loans taken out by companies at domestic banks. The rate of growth in foreign currency lending to companies reached approximately 45% on a year-on-year basis in the months leading up to June 2004, while that for tolar lending fell below 10%.

Figure 3.1: Net flow of domestic bank loans to companies in SIT billion (12-month moving average)



Source: Bank of Slovenia

Company Borrowing at Banks

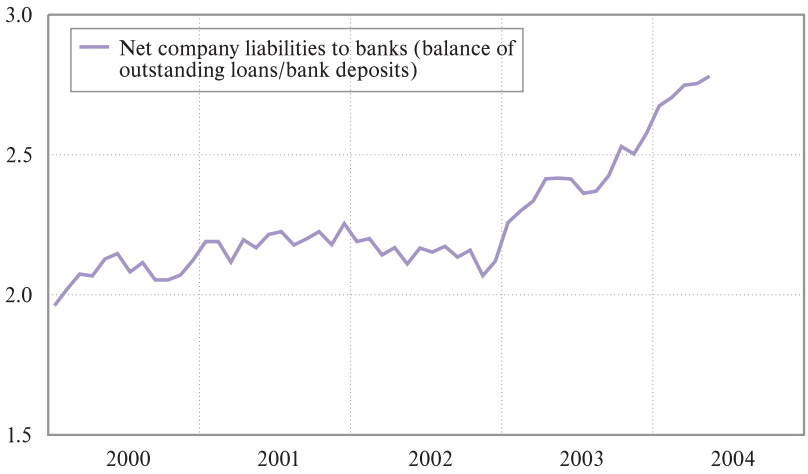
Table 3.1: Company loans and deposits at banks (SIT billion)

	Company loans from banks (1)	Company bank deposits (2)	Net company borrowing at banks (1-2)	Net borrowing % of GDP
Dec.00	938.3	441.8	496.5	11.7
Jun.01	1,048.5	473.2	575.3	12.8
Dec.01	1,167.1	517.7	649.4	13.6
Jun.02	1,204.2	555.7	648.5	12.9
Dec.02	1,282.8	605.0	677.8	12.8
Jun.03	1,467.6	608.1	859.5	15.6
Dec.03	1,596.9	619.6	977.3	17.1

Source: Bank of Slovenia

In contrast to households, companies represent a net deficit sector from the point of view of the finances of the national economy. At the end of 2003 the sum of loans taken out by companies at banks exceeded their deposits by about 160%. Over the last year and a half net borrowing from banks by companies has risen, reaching SIT 1,085 billion in June 2004. The increase in net company borrowing at banks coincides with greater economic activity. Net company borrowing at banks as a proportion of GDP is also increasing, having risen from 11.7% at the end of 2000 to 17.1% at the end of 2003.

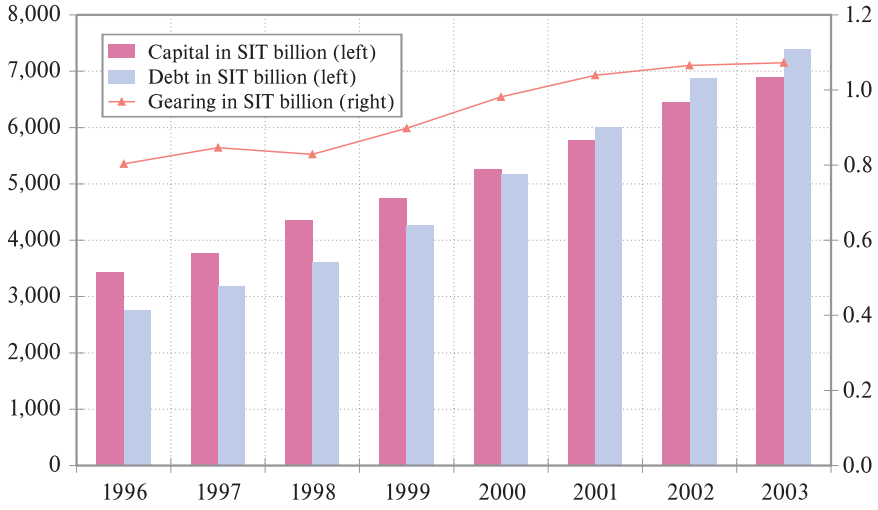
Figure 3.2: Ratio of net company borrowing at banks (balance of loans taken out / deposits)



Source: Bank of Slovenia

Risks Associated with the Corporate Sector

Figure 3.3: Company borrowing (ratio of debt to equity)



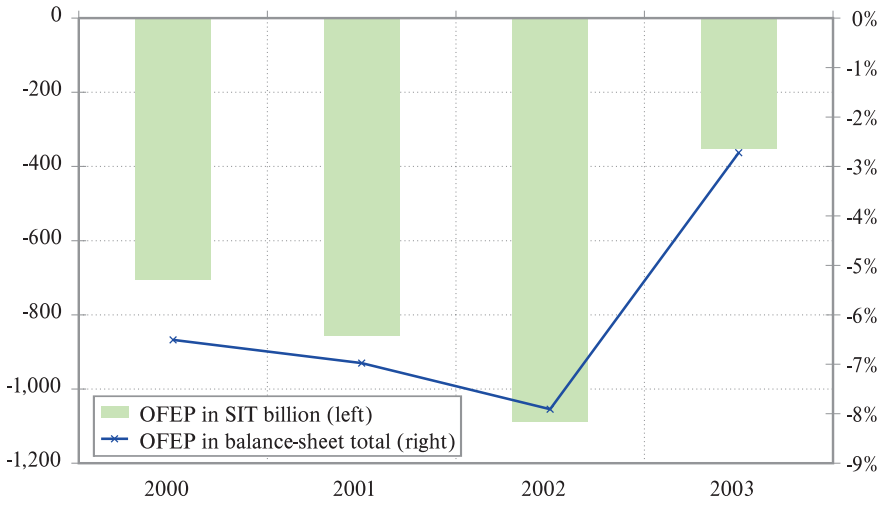
Source: Agency of the Republic of Slovenia for Public Legal Records and Services, Companies' closing accounts

After 1995 there was a notable trend of growth in financial gearing in the commercial sector, but since 2000 it has been gradually easing. In 2003 companies' financial gearing remained at the level it was in 2002 (1.07), which was a result of matching growth in the two components of the indicator. The financial gearing of the 20 largest bank customers in the corporate sector fell from 2.0 to 1.9 in 2003.

Companies' Open Foreign Exchange Position

Foreign currency liabilities in the corporate sector exceed foreign currency claims. In 2003 companies' open foreign exchange position (OFEP) fell from 8% to 2.7% of assets owing to higher investments by companies in foreign currency.

Figure 3.4: Companies' open foreign exchange position



Source: Agency of the Republic of Slovenia for Public Legal Records and Services, Companies' closing accounts

That major customers prefer to borrow in foreign currency is confirmed by the figures on the open foreign exchange position for the companies that are banks' largest customers, which at the end of 2003 was short, in the amount of 6.3% of total assets. The 20 largest customers account for 20% of the total assets of all companies, and their open position represents 46% of the open position of all companies, the majority of this being accounted for by a public company guaranteed by the Slovenian government. In 2003 the growth in the total assets of the 20 largest bank customers in the corporate sector was mostly financed in foreign currency. Because the increase in foreign currency investments by these companies was larger than the growth in foreign currency liabilities, the short foreign exchange position closed from 6.9% to 6.3% of total assets.

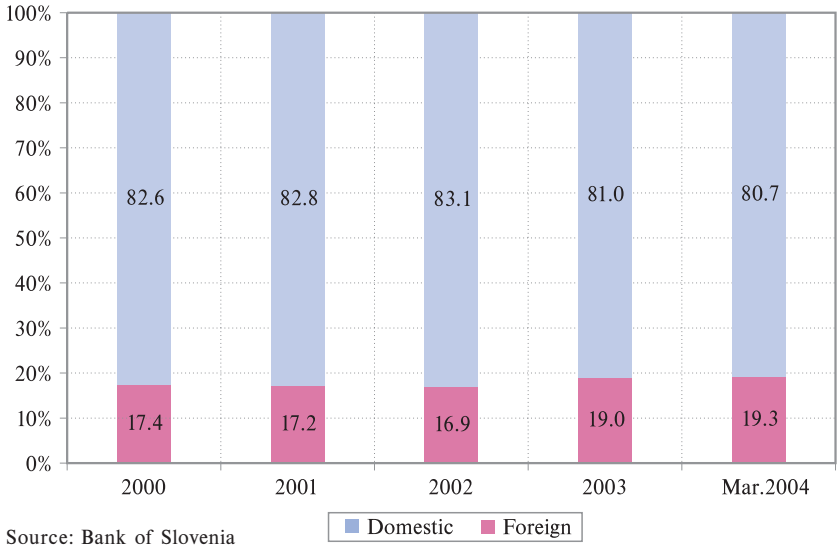
4. STABILITY OF THE BANKING SYSTEM

4.1. Monetary Financial Intermediaries (General)

There were no major changes in the ownership structure of banks in 2003. At the end of the year 2003 there were 20 banks operating in Slovenia, the same as at the end of 2002. With liquidation proceedings being initiated against one bank in January 2004, the number of active banks fell to 19. Consolidation in the banking sector is proceeding. The largest bank increased its capital holdings in the three banks in its banking group, so that at the end of 2003 it had exceeded the threshold interest of 50% in all three banks. On 1 May 2004 Slovenia joined the European Union, and several foreign banks notified the Bank of Slovenia that they would commence direct operations in the country. By the end of August 2004 there were 39 such banks, with Austria, the United Kingdom and Germany accounting for most.

Of the 19 active banks, five are under majority foreign ownership and one is a branch of a foreign bank. The banks under majority domestic ownership have a large market share, but with the rapid growth in foreign banks' total assets it is constantly shrinking. The market share of banks under majority foreign ownership, as measured by the proportion of the total assets for all banks, rose from 19% at the end of 2003 to 19.4% at the end of April 2004, and the market share for lending to the non-banking sector rose from 21.1% to 22% over the same year.

Figure 4.1: Market shares of domestic and foreign banks as proportion of total assets of banking system (in %)



Source: Bank of Slovenia

The proportion of total capital held by foreign entities increased slightly in 2003 to 33.7%. Although the central government's stake in bank ownership fluctuates around 20%, its influence remains relatively large, as it also maintains an interest in banks via Pension fund management (KAD) and the Slovenian compensation company (SOD), and via ownership of companies in the insurance sector.

Table 4.1: Ownership composition of banking sector (proportion of equity)

	2000	2001	2002	2003
Non residents	12.0%	16.0%	32.5%	33.7%
Central government	36.8%	37.0%	20.3%	19.6%
Other domestic entities	51.2%	47.0%	47.2%	46.7%

Source: Bank of Slovenia

Of the 20 banks, 18 were under majority private ownership at the end of 2003, with the two that remained under majority state ownership accounting for a total market share of 12.8% of the total assets of all banks.

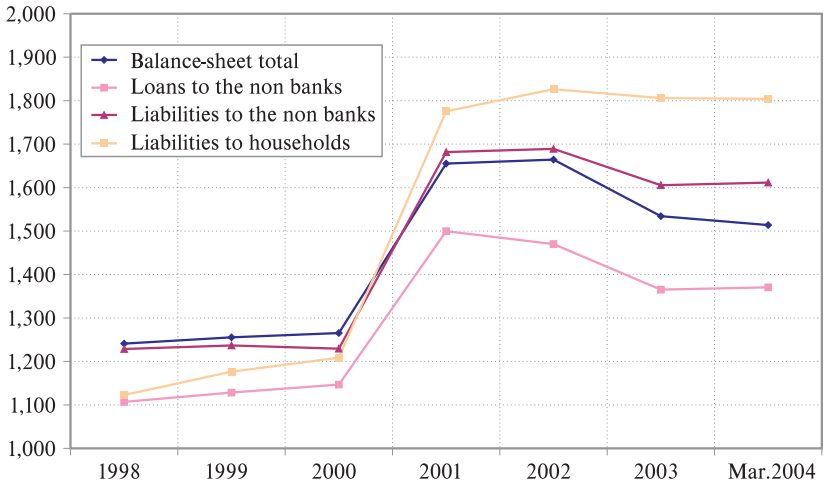
Ownership Structure of Banks in Slovenia and Their Optimum Owners

In the last five years the capital ownership structure at Slovenian banks has changed to a varying degree with regard to majority domestic or foreign ownership. A comparison of the ownership structure at banks and the identity of their most suitable owners in the article entitled Ownership Structure of Banks in Slovenia and Their Optimum Owners in the second section of the report was made on a group of the six largest domestic banks in terms of market share, and a group of four banks under majority foreign ownership. In line with the principles of effective banking supervision, during the licensing process the bank licensing authority must ensure that a newly established bank has suitable owners (shareholders), adequate financial strength, a legal set-up in line with its purpose, and management with sufficient experience and the integrity required for the safe and sound functioning of the bank. The Basel principles also speak of the need to clearly define in advance criteria for granting licences, as licensing is the most effective method for reducing the potential entry of instable institutions into the banking system.

Concentration in the Banking Sector

The Slovenian banking market is considerably concentrated. The greatest market concentration is in the area of household deposits, while distribution is more equal for loans to the non-banking sector. Since 2001, when bank consolidation within the largest banking group caused market concentration to rise strongly, the rapid rise in the market share of banks under majority Austrian ownership has seen concentration on the banking market gradually fall, with the exception of household deposits, where market concentration remains very high.

Figure 4.2: Concentration of Slovenian banking market as measured by Hershman-Herfindahl index



Source: Bank of Slovenia

Structure of Financial Market

The depth of financial intermediation is consistently growing in Slovenia, but in comparison with the more developed countries it is still relatively small. At the end of 2003 the total assets of all monetary and non-monetary financial institutions was equivalent to 122% of GDP. Banks have a dominant role on the financial market, with the banking sector accounting for 73% of the entire financial sector at the end of 2003.

Table 4.2: Structure of financial sector and GDP equivalents

	Share of GDP				Share of financial sector			
	2000	2001	2002	2003	2000	2001	2002	2003
Monetary financial institutions	**75%**	**83%**	**87%**	**89%**	**71%**	**73%**	**73%**	**73%**
Banks	73%	81%	86%	88%	70%	72%	72%	72%
Savings banks and savings and loans undertakings	2%	2%	1%	1%	2%	1%	1%	1%
Non-monetary financial institutions	**31%**	**31%**	**32%**	**33%**	**29%**	**27%**	**27%**	**27%**
Insurance institutions	8%	8%	10%	11%	7%	7%	8%	9%
Securities market institutions	23%	22%	22%	22%	22%	20%	18%	18%
Total	**106%**	**114%**	**119%**	**122%**	**100%**	**100%**	**100%**	**100%**

Source: Bank of Slovenia, Insurance Supervision Agency, Securities Market Agency, Agency of the Republic of Slovenia for Public Legal Records and Services

Structure of Assets and Liabilities

Table 4.3: Structure of banking system's assets and liabilities

ASSETS	Percentage of assets	Annual growth % 2003/2002	Cumul. growth % to May 04	LIABILITIES	Share of liabilities 2003	Annual growth % 2003/2002	Cumul. Growth % to May 04
Cash and investments at banks	9.6%	-7.2%	-4.5%	Liabilities to banks	16.5%	42.9%	13.0%
Credits to the non-banking sector	50.2%	16.3%	7.1%	-of which to foreign banks	14.0%	51.5%	14.9%
- of which the government	2.8%	-34.3%	0.3%	Liabilities to others	65.1%	4.6%	2.5%
- of which the private sector	47.4%	21.9%	7.5%	- of which to the government	3.1%	-23.9%	18.8%
Securities	34.0%	11.2%	1.2%	- of which to the private sector	62.0%	6.6%	1.6%
- of which RS and BS	30.1%	10.0%	2.7%	Liabilities from securities	4.3%	22.6%	-17.1%
- of which others	3.9%	20.6%	-10.2%	Other liabilities	1.8%	-11.8%	29.4%
Investments in capital	1.6%	17.1%	4.4%	Long-term reserves	1.5%	3.1%	6.5%
Other	4.6%	-0.7%	3.5%	Provisions for general banking risk	0.5%	45.1%	4.5%
				Subordinated liabilities	1.9%	40.2%	6.1%
				Capital	8.3%	10.6%	-0.1%
Total assets	100.0%	11.0%	3.8%	Total liabilities	100.0%	11.0%	3.8%
Overdrafts, guarantees issued etc.	22.2%	-6.9%	-2.2%				

Source: Bank of Slovenia

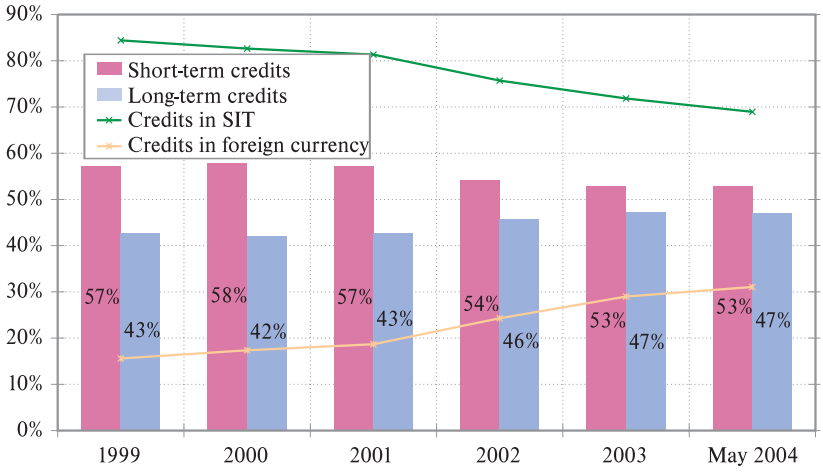
With the rise in lending in 2003, the proportion of banks' investments accounted for by credit for the non-banking sector began to increase. Credit for the non-banking sector represented 50% of banks' total assets at the end of 2003. The largest proportion of the credit was in the form of credit for non-financial companies (63%), households (25%) and the state (6%). The proportion of credit in foreign currency is constantly rising, accounting for 29% of total credit for the non-banking sector at the end of 2003 and 31% in May 2004. The rapid increase in foreign currency lending is a consequence of Slovenia's involvement in European integration and the expectation of relatively rapid adoption of euro, whereupon some of the repayments of long-term loans would be made in euros. At the same time, given the gradual convergence process for tolar interest rates and with low interest rates on world markets, foreign currency loans are advantageous in price terms for customers of Slovenian banks.[13]

[13] The rise in foreign currency lending is also linked to the relaxation of regulations on foreign currency transactions. In October 2003 regulations on the conditions for conducting transactions in foreign currency were amended, which allowed banks to approve credit in foreign currency for residents

Despite the rise in the proportion of long-term credit, at the end of 2003 the majority (53%) of credit for the non-banking sector was short-term.

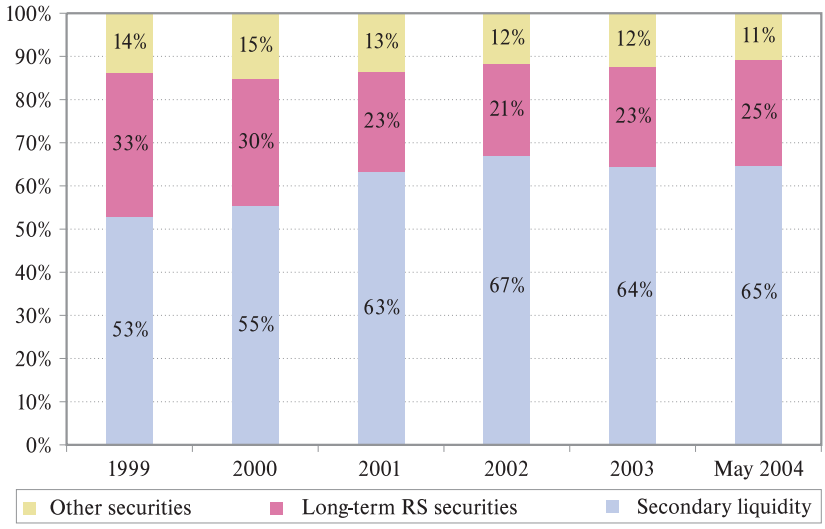
The proportion of the balance sheet accounted for by investments in securities is high: 34%. Of the investments in securities, investments in securities for the purposes of secondary liquidity account for the largest proportion (64%), and these are almost entirely Bank of Slovenia securities. They are followed by investment in long-term government securities and investments in other securities, which account for 12% of all investments in securities, investments in shares accounting for the majority of these.

Figure 4.3: Structure of credit to non-banking sector (in %)



Source: Bank of Slovenia

Figure 4.4: Structure of securities (in %)



Source: Bank of Slovenia

At the end of 2003 deposits from the non-banking sector accounted for the largest proportion of sources, namely 65% of liabilities. With 65% of the total, household deposits represent the largest proportion of deposits from the non-banking sector. Approximately two-thirds (67%) of the deposits from the non-banking sector are in tolars. Of the total non-banking sector deposits, 34% were demand deposits, 57% were committed to short-term maturities and 9% had long-term maturities.

The proportion of liabilities accounted for by liabilities to banks was 17% at the end of 2003. Liabilities to foreign banks are prevalent, accounting for 84% of all liabilities to the banking sector. Capital accounts for 8% of liabilities.

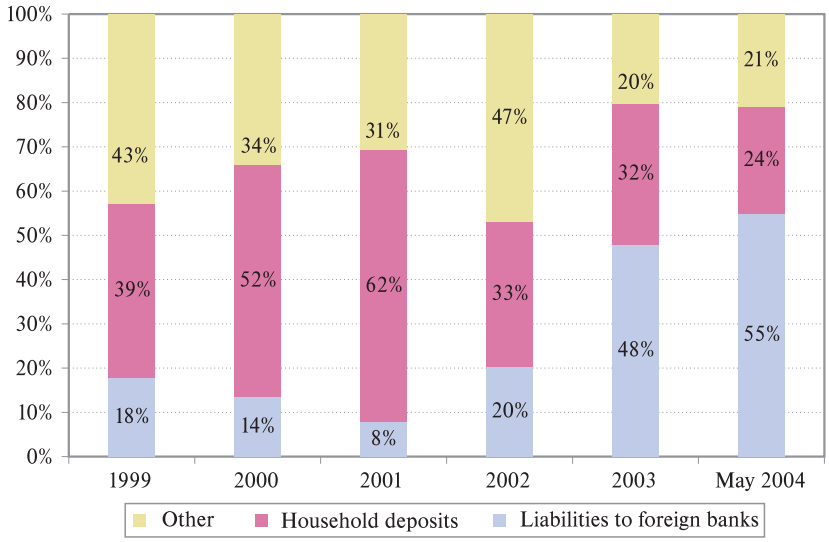
4.2. Balance Sheet

Banks' Sources of Financing

The growth in banks' total assets in 2003 was the lowest in the last six years. There was real growth in banks' total assets of 6.1%,[14] while in 2002 growth was 9.6%. The reason for the slow growth in total assets was the absence of any growth in deposits from the non-banking sector. The most significant contribution to this came from the real fall in deposits from the government sector,[15] which were mostly invested in the largest banks, and from non-financial companies, and a real rate of growth in household deposits that was significantly lower than in previous years.

The main source of growth in banks' total assets was an increase in liabilities to foreign banks, which rose strongly in 2003 in comparison with previous years; the largest increase was at banks under foreign ownership, where they contributed 72% of the growth in total assets, compared to just 34% at domestic banks. The majority of banks under majority foreign ownership replaced more expensive deposits from non-financial companies with sources from the parent banks. Of the domestic banks, only the large banks took on significant borrowing abroad. In 2004 growth in liabilities to foreign banks has strengthened further.

Figure 4.5: Structure of sources of growth in banks' total assets (in %)



Source: Bank of Slovenia

Table 4.4: Change in structure of household deposits

	Structure of deposits			Annual growth %
	2002	2003	Apr.2004	2003/2002
Sight deposits	37%	39%	41%	13.4%
Deposits to 90 days	16%	17%	18%	12.7%
Deposits 90 days to 1 year	31%	30%	28%	4.2%
Current maturities	9%	9%	8%	0.2%
Long-term deposits	6%	5%	5%	-5.1%
Total household deposits	100%	100%	100%	8.1%
Tolar	59%	60%	60%	11.5%
Foreign currency	41%	40%	40%	3.3%
Total household deposits	100%	100%	100%	8.1%
Total household deposits SIT billion	1,979	2,139	2,173	

Source: Bank of Slovenia

[14] Applying a consumer price index of 4.6%

[15] The government sector includes central and local government, social security funds, etc.

The rate of growth in household deposits in 2003, which amounted to just 3.4% in real terms, was the lowest in the last six years, and was the result of falling interest rates on deposits. By the middle of 2003 banks had cut interest rates to a level that occasionally no longer ensured the real value of savings was being preserved.

Table 4.5: Average monthly growth in household deposits at banks and inflows into mutual funds (SIT billion unless stated)

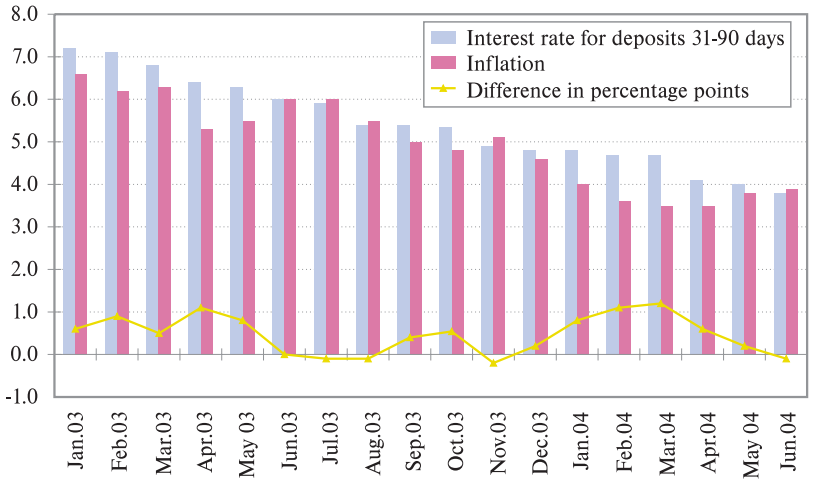
	Mutual funds	Household deposits in banks	Total	Average inflow to mutual funds / average increase in household deposits
	1	2	1+2	1/2
2002	2.3	18.5	20.9	13%
2003	2.1	13.3	15.5	16%
to April 2004	6.1	8.6	14.7	72%

Source: Bank of Slovenia, Securities Market Agency

Owing to the fall in interest rates on tolar deposits the maturity year of household tolar deposits began to shorten, with the proportion of demand deposits beginning to rise significantly. At the same time savings were diverted from tolar deposits into foreign currency deposits, so much so that the increase in foreign currency deposits in the first four months was equivalent to 89% of the entire increase in household deposits.

Households began to seek alternative forms of investment with a better return, particularly on the capital market, where the ratio of inflows into mutual funds to the increase in household deposits at banks rose from 16% in 2003 to 72% in the first four months of 2004. It is interesting that given the favourable movement of stock exchange prices banks have not decided to increase their investments in Slovenian shares and bonds.

Figure 4.6: Lower limit of declared interest rates for 31- to 90-day tolar deposits of five largest banks (average) and year-on-year inflation in 2003 and 2004 (in %)



Source: Bank of Slovenia

Lending to the Non-Banking Sector

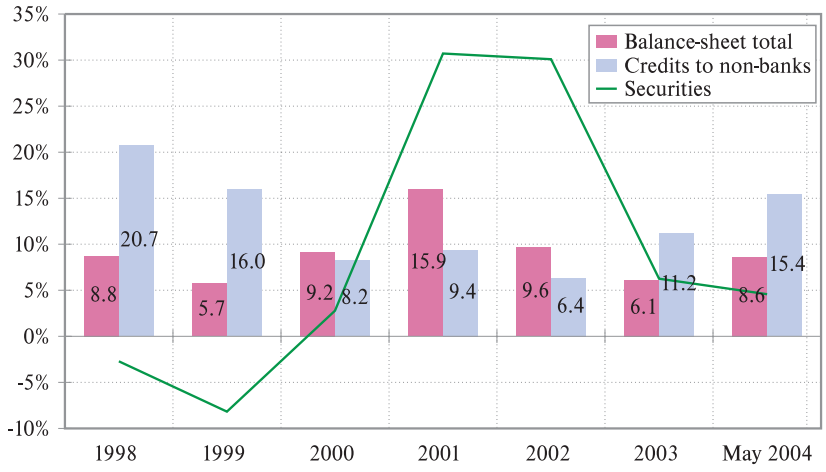
For the first time since 1999 growth in lending to the non-banking sector was larger than growth in banks' total assets, as owing to the fall in interest rates banks began to increase the amount of credit

provided to the non-banking sector, non-financial companies seeing the largest increase. Higher credit growth is also a reflection of the greater demand for credit because of low interest rates and economic recovery.

In 2003 competition between banks in lending increased. Foreign banks in particular began to aggressively expand their market share. The figures on average interest rates for tolar loans to the non-banking sector[16] for the last quarter of 2003 show that foreign banks had a lower average lending rate (8.1%) than domestic banks (9.6%) and all banks together (9.3%).

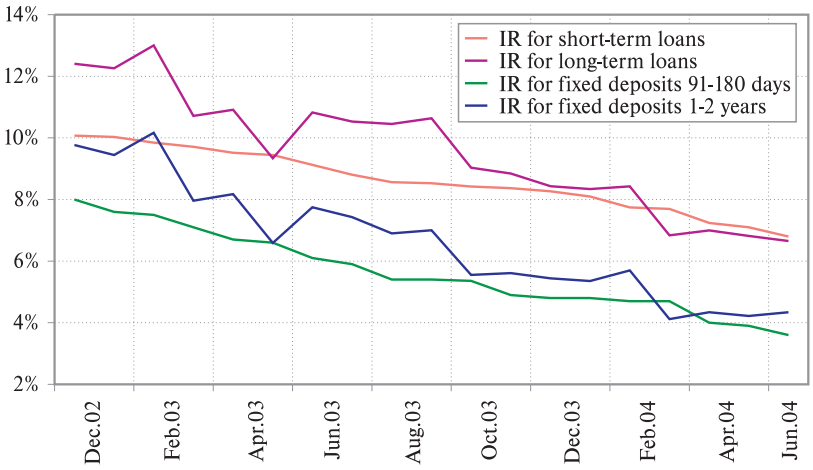
The proportion of total assets accounted for by credit for the non-banking private sector rose by 4 percentage points to 47.4%. The trend of the rising proportion of such credit continued in 2004, and they reached 48.6% of assets by April 2004. The nominal year-on-year rate of growth in credit for the private sector was around 20%.

Figure 4.7: Growth in total assets, credit to non-banking sector and investments in securities (real terms, in %)



Source: Bank of Slovenia

Figure 4.8: Banks' declared interest rates for loans and deposits (in %)



Source: Bank of Slovenia

[16] The average interest rate is calculated as the ratio of the sums of interest received and the average balance of investments from tolar loans to the non-banking sector in an individual quarter. The average for foreign and domestic banks is calculated as a weighted average of the interest rate and the total assets of the individual group of banks.

Under conditions of falling interest rates banks have tried to maintain net interest at the level it was in 2002 by increasing the amount of credit provided and extending the maturity years of the credit. Growth in credit has started to increase. The increase in lending was connected to the rise in economic growth and the process of the nominal convergence of Slovenian interest rates. Loans to the non-banking sector grew by 11.2% in 2003 in real terms (compared with 6.4% in 2002). With banks reorienting towards longer-term lending, the proportion of long term lending in total lending to non banking sector rose from 45.9% to 47.2%.

Table 4.6: Structure of growth in credit to non-banking sector

	Non-banking sector			Term of loans		Currency of loans	
	non-fin. companies	households	OFO*	short-term	long-term	SIT	foreign
Foreign banks	59%	35%	2%	35%	65%	54%	46%
Domestic banks	95%	13%	10%	53%	47%	36%	64%
Total banks	84%	20%	8%	48%	52%	42%	58%

* OFO stands for other financial organizations
Source: Bank of Slovenia

Lending to households increased, reaching its highest real growth rate (6.9%) since 1999.[17] In 2003 the trend of higher lending to households became more prominent, with the proportion of the total increase in credit accounted for by increases in household credit rising constantly. The reasons for this can primarily be found in better terms of lending, particularly at foreign banks, which with a market share of approximately 20% are contributing approximately 50% to the increase in household credit, and are consistently widening their market share in this segment.

During 2003 and the first four months of 2003 foreign banks focused on household lending, with the increase in household credit accounting for 35% of their credit growth, while for domestic banks the proportion was just 13%. Foreign banks were also ahead of domestic banks in expanding their long-term lending and credit in domestic currency with a foreign currency clause. The focus of banks under majority foreign ownership on household lending is in line with the trends in EU countries, where in conditions of low interest rates banks have strengthened their household lending.

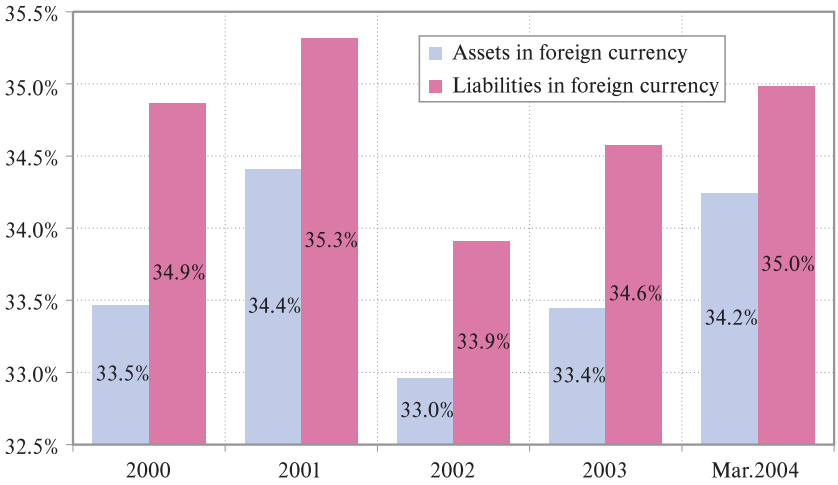
A review of growth in lending by sector shows that in 2003 banks' largest expansion of credit was for non-financial companies, with approximately 90% of all credit growth in this sector. With the fall in interest rates at home many Slovenian companies now prefer to borrow inside Slovenia rather than outside.

Currency Structure of the Balance Sheet

After a relatively significant fall in the proportion of foreign currency assets and liabilities in 2002, the proportion of foreign currency liabilities in banks' total liabilities began to rise in 2003. This was a result of higher foreign currency inflows from foreign banks, which were more prominent at banks under majority foreign ownership. Thus foreign currency liabilities amounted to 34.6% of total assets at the end of the year. The trend of rising foreign currency liabilities at banks strengthened further in the first quarter of 2004.

[17] In 1999 there was large growth in lending to households (34.5% in real terms) because of the introduction of value added tax.

Figure 4.9: Assets and liabilities in foreign currency as proportion of banks' total assets (in %)

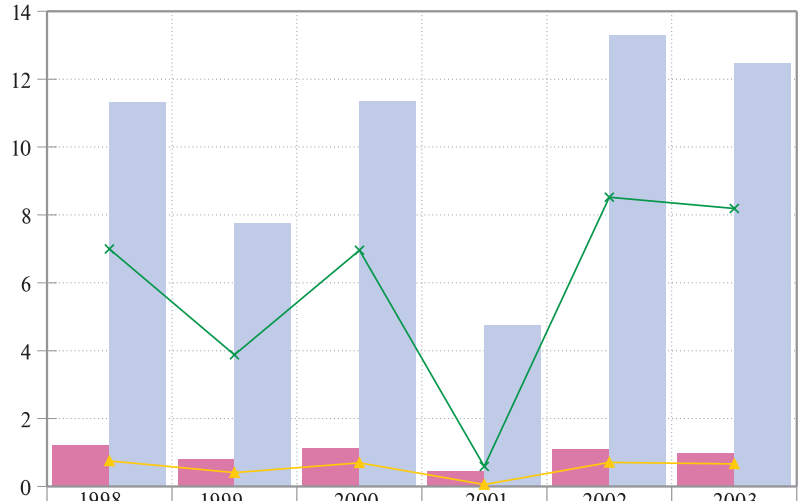


Source: Bank of Slovenia

4.3. Profitability and Performance Indicators

Last year the banking sector generated SIT 31.3 billion of profit after tax, which was up 1.5%[18] in real terms from 2002. The after-tax return on average assets was 0.66% and on equity was 8.2%. Both bank performance indicators were a little lower than in 2002.

Figure 4.10: ROE and ROA before and after tax, 1998 to 2003 (in %)



	1998	1999	2000	2001	2002	2003
ROA pre-tax	1.22	0.82	1.14	0.45	1.11	1.00
ROE pre-tax	11.32	7.77	11.36	4.77	13.30	12.47
ROA after tax	0.76	0.41	0.70	0.06	0.71	0.66
ROE after tax	7.00	3.88	6.96	0.59	8.52	8.19

Source: Bank of Slovenia

[18] Applying a year-on-year inflation rate of 4.6%.

The lower return on average assets was primarily a result of a decline in net interest. Banks mitigated the fall in net interest revenues by cutting operating costs and creating smaller provisions.

The rise in net profit after tax was primarily the result of the creation of smaller provisions and a higher item net other.[19] That the additional net provisions created in 2003 were SIT 6.4 billion lower than those created in 2002 can be explained by the size of the provisions created by banks in 2002, which was large and was connected to a change in accounting standards, the write-off of claims against the government for corporate income tax paid in previous years, the creation of additional provisions pursuant to a Bank of Slovenia order and standardisation in the classification of customers during mergers.

Table 4.7: Income statement of Slovenian banks

	Amounts in SIT billion			Annual growth %	Structural shares		
	2002	2003	Jun.04	2003/2002	2002	2003	Jun.04
Net interest	143.4	145.7	70.2	1.6%	64%	64%	59%
Net fees and commissions	54.0	54.9	29.7	1.8%	24%	24%	25%
Net financial transactions	21.2	19.5	15.3	-8.1%	9%	9%	13%
Net other	5.8	8.9	3.1	52.6%	3%	4%	3%
Gross income	224.4	228.9	118.4	2.0%	100%	100%	100%
Operating costs	133.9	143.2	68.4	6.9%	60%	63%	58%
Net income	90.5	85.8	50.0	-5.2%	40%	37%	42%
Net provisions	-44.5	-38.0	-20.3	-14.5%	-20%	-17%	-17%
Profit/loss before-tax	46.0	47.8	29.7	3.8%	21%	21%	25%
Profit/loss after tax	29.5	31.3	-	6.2%	13%	14%	-

Source: Bank of Slovenia

In contrast to previous years, when the profit in the banking system was reduced owing to the belated recognition of credit losses from previous years, in 2003 only two smaller banks with a total market share of 1.8% operated at a loss.

The number of banks whose profitability was higher than the average in the banking system as measured by post-tax return on average assets was the same both years, and it was the same nine banks that enjoyed above-average performance both years. The market share of banks with above-average profitability was 35.1% in 2002, but rose to 36.1% in 2003. The market share of the highly profitable banks[20] fell from 12.5% in 2002 to 4.9% in 2003, a reflection of the reduction in inflation profits and the effects of the change in the accounting standards that brought higher profitability in 2002.

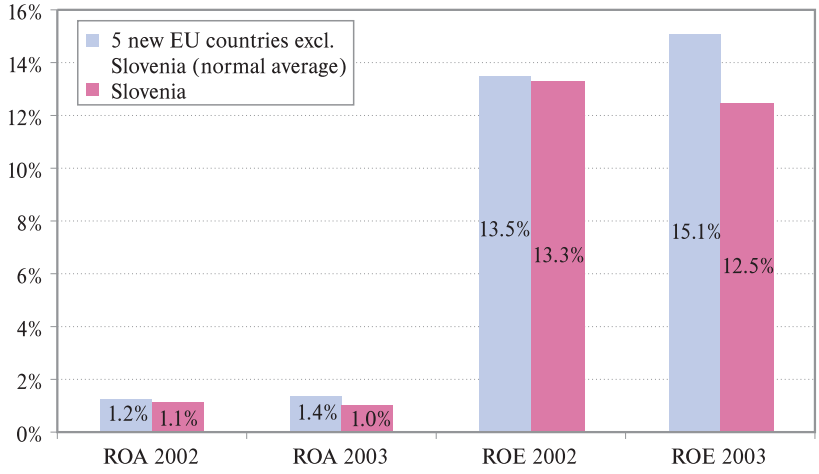
International Comparison of Profitability

The profitability of Slovenian banks is considerably higher than the average in the EU, where after-tax profit per average assets in 2002 amounted to 0.36% for all banks[21] and 0.42% for banks of medium size, but lower than in comparable countries that have just joined the EU.

19 The net other item includes other operating revenues and expenses and extraordinary revenues and expenses.
20 Banks whose pre-tax profits per average assets are more than 2% are considered highly profitable.
21 Source: ECB, EU Banking Sector Stability, November 2003.

Figure 4.11 illustrates the pre-tax return on assets of Slovenian banks in comparison with five other new EU* members. The profitability of Slovenian banks was lower than in the comparable countries. In 2003 only one of the five countries recorded lower values for ROA and ROE than Slovenia.

Figure 4.11: International comparison of bank profitability (ROA in ROE)



Source: Bank of Slovenia, ECB

Net Interest Revenues and Interest Margin

Net interest revenues in 2003 were SIT 2.3 billion more than in 2002, but fell in real terms by 3%. The net interest margin[22] fell in 2003 from 3.46% to 3.04%. The falling trend has continued in 2004, the margin declining to 2.71% in the first four months of the year. This is occurring because of a faster fall in interest revenues than interest expenses, which is the result of the faster fall in the return on bank investments in comparison to the fall in deposit interest rates.

With the fall in interest rates in 2003 banks' interest revenues and expenses both fell. In the struggle for market share banks cut interest rates for credit, which encouraged credit growth. Thus interest revenues from credit in the banking system fell in particular at banks with smaller credit growth. The increase in foreign currency lending, with banks charging lower interest rates than on tolar lending, also contributed to the decline in interest revenues. In respect of securities, rather than investing in government securities banks preferred to increase their investments in central bank securities, but in 2003 they increased their investments in Bank of Slovenia and government securities less than in previous years. Banks were obliged to retain many securities representing secondary liquidity in order to meet regulations on matching the maturity structure of liabilities with investments.

Recently increased lending has to a large degree been a consequence of the process of the nominal convergence of Slovenian interest rates with the level of interest rates in EU countries. Between mid 2002 and May 2004 the Bank of Slovenia cut its interest rates by more than 4 percentage points, which brought about cuts in market interest rates, particularly on the government securities market. However, there were not the same level of cuts in banks' deposit and lending rates. Deposit rates fell more quickly and more deeply: in the two years after mid 2002 they fell by more than 4.5 percentage points, while interest rates for short-term tolar loans fell by just 3.2 percentage points over the same year.

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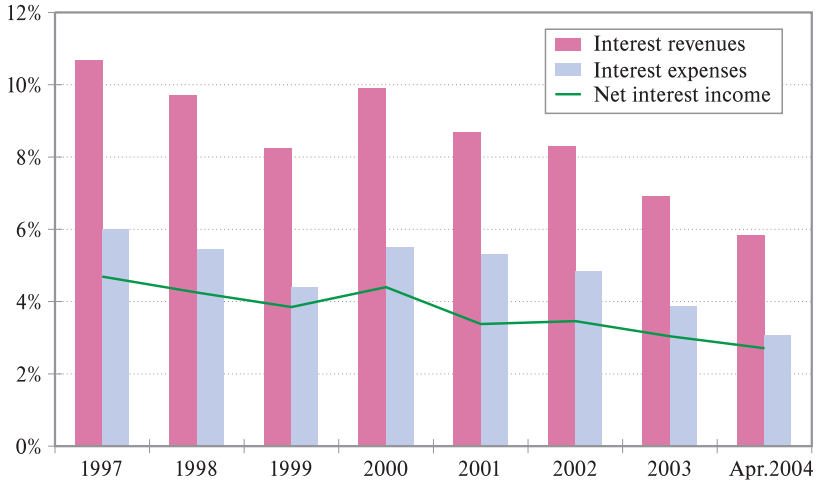
* Poland, Hungary, Latvia, Lithuania and Slovakia.

22 The net interest margin is expressed as the net interest per average assets.

Banks were forced into this adjustment of interest rates by the fall in inflation profits, which was a result of the successful reduction of inflation, and the existing structure of banks' assets, which in terms of investments were overburdened with investments in securities whose return was falling fastest.

Figure 4.12: Interest revenues, interest expenses and net interest per average assets (in %)



Source: Bank of Slovenia

Among interest expenses, because of the shortening of maturity years for deposits and migration to demand deposits the largest fall was in expenses for time deposits in the domestic currency, while expenses for securities issued in the domestic currency rose.

Interest expenses are also falling in 2004, and their structure is changing. With growth in household deposits significantly smaller than in previous years because of the low level of interest rates, which in certain cases have even become negative in real terms, and increased borrowing at foreign banks, the proportion of interest for bank borrowing abroad is rising and the proportion of interest expenses for time deposits is falling.

Interest Rate Spread

The movement of interest rates for tolar lending and deposits can be explained in greater detail by the movement of average interest rates for non-banking sector lending and deposits in the domestic currency.[23] Tolar credit for the non-banking sector represented 36% of average assets in 2003, while tolar deposits from the non-banking sector represented 45% of average liabilities.

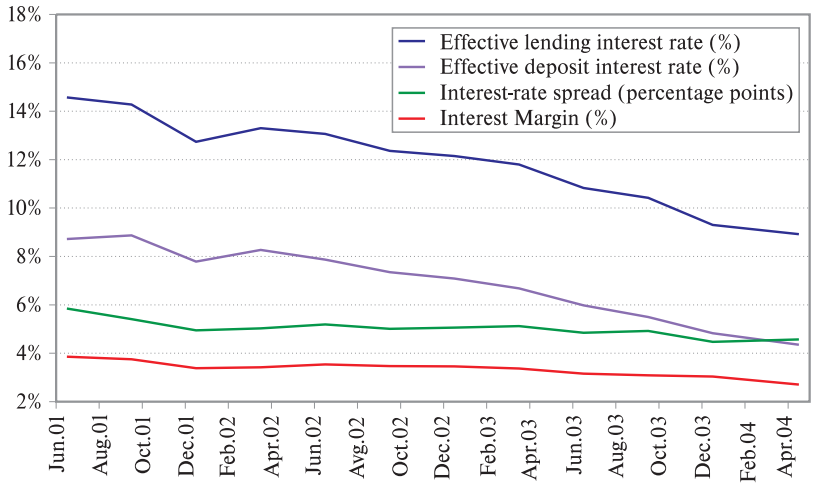
In 2003 the interest rate spread in tolar mediation narrowed by 12% owing to a sharper fall in lending rates than in deposit rates. The increase of competition and expansion of market shares was primarily dictated by foreign banks, who had the lowest lending rates. Interest rates on deposits were cut furthest by banks who wished to preserve a interest rate spread, having been less successful in retaining their market share. Only in this way were they able to sustain a favourable net profit.

In the first quarter of 2004 there was a halt in the narrowing of the interest rate spread, and it remained at a level similar to that in the last quarter of 2003, as cuts in lending and deposit rates were fairly coordinated. Foreign banks are the most competitive when it comes to tolar loans to the non-banking

[23] Average interest rates are calculated as the ratio of the amount of interest and the average balance investments / funds received. Charged and deferred interest revenues and expenses are included in interest. The average balance of investments / funds received is calculated from the sum of daily balances divided by the number of days in the quarter.

sector, as they have the lowest lending rates. On the liabilities side, the highest deposit rates come from smaller domestic banks with a low level of household deposits who do not borrow abroad and are thus trying primarily to attract deposits from non-financial companies and other financial organisations, with these deposits not being covered by the guarantee scheme.

Figure 4.13: Interest rate spread and interest margin[24] (in %)

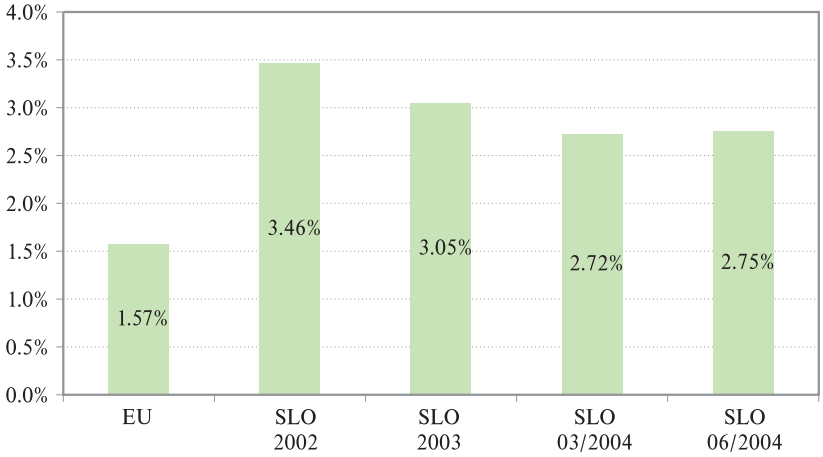


Source: Bank of Slovenia

International Comparison of Interest Margin and Future Trends

Although the interest margin of Slovenian banks has been falling constantly since 1996, it remains large in comparison with other countries, and it is therefore expected that in the future it will continue to fall and approach equalisation with the margin in other EU member-states.

Figure 4.14: Comparison of interest margin (net interest per average assets) with EU (in %)



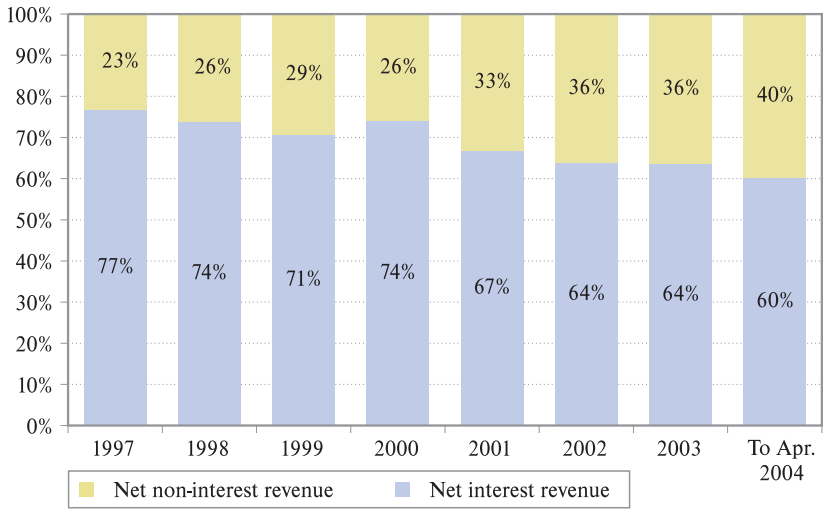
Source: Bank of Slovenia, ECB

With increasing competition, the proportion of banks' gross income accounted for by net interest revenues, banks' most stable source of revenues, is gradually declining.

[24] Interest margin is expressed as net interest per average assets.

In 2003 the proportion of gross income accounted for by net interest revenues fell by 0.3 percentage points to 63.6%. After the first four months of 2004, with a rise in net financial transactions and net fees and commissions, the proportion of gross income accounted for by net interest revenues had fallen further to 60.3%, which is lower than the average level in the EU in 2002 (61.5%).

Figure 4.15: Structure of gross income in terms of interest and non-interest revenues



Source: Bank of Slovenia

The decline in net interest revenues as a proportion of banks' gross income means that banks' most stable revenues, the basis for increases in capital, are falling. Bank profitability is thus becoming more dependent on conditions on other financial markets, the capital market in particular.

Banks ordinarily adjust their interest rates for loans to reflect changes in their costs of financing on the liabilities side. Therefore changes in lending rates usually lag behind changes in deposit rates. In circumstances of falling interest rates this lag is usually reflected as an increase in net interest. For Slovenian banks in 2003 the average lending rate fell more sharply than the average deposit rate, where interest rates are calculated as the ratio of interest revenues/expenses to the average balance of loans/deposits in a particular quarter for tolar loans and deposits from the non-banking sector. These trends also continued in 2004. This means that in a year of rising interest rates the pressures on net interest will probably increase further.

Table 4.8: Structure of income statement per average assets[25]

	% of balance sheet total			Change in share		EU
	2002	2003	Apr.2004	2002 - 2003	2003 -Apr.2004	2002
Net interest	3.46	3.05	2.71	-0.41	-0.34	1.57
Net fees and commissions	1.30	1.15	1.16	-0.15	0.01	0.67
Net financial transactions	0.51	0.41	0.50	-0.10	0.09	0.13
Net other	0.14	0.19	0.11	0.05	-0.08	0.17
Gross income	5.41	4.79	4.51	-0.62	-0.28	2.55
Operating costs	3.23	3.00	2.64	-0.23	-0.36	1.68
-labour costs	1.60	1.51	1.42	-0.09	-0.09	0.90
Net income	2.18	1.79	1.84	-0.39	0.05	0.87
Net provisions	-1.07	-0.80	-0.68	0.27	0.12	0.41
Pre-tax profit	1.11	1.00	1.15	-0.11	0.15	0.46

Source: Bank of Slovenia, ECB

[25] The figures for Slovenia are not wholly in line with the ECB methodology for reporting individual items. Slovenia will first use the EU methodology to report the figures for 2003.

Net Non-Interest Revenues

Net fees and commissions rose by 1.8% in 2003. Among revenues from fees and commissions the largest rise was in commission on payment transactions and administrative services, while fees and commissions from intermediation and brokerage in 2003 were significantly lower than in 2002, when they were raised by a major company takeover organised by one of the banks.

The proportion of revenues from net financial transactions per average assets fell slightly in 2003, with the revenues down 8% from the previous year, primarily as a result of lower revenues from capital investments in subsidiaries, which were high in 2002 because of the change in the accounting standards. In 2003 banks had lower revaluation expenses and lower revenues from derivatives than in 2002.

For one group of smaller banks, whose market share is 5% of the total assets of the banking system, there is a notable income dependence on revenues from financial transactions. Net financial transactions accounted for more than 20% of this group's gross income, the income originating from selling off the securities portfolio.

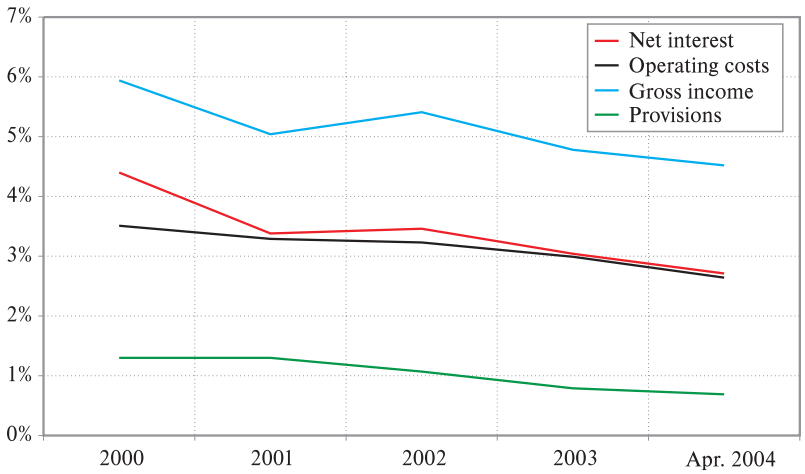
The largest proportions of net revenues from financial transactions in 2003 were revenues from securities trading (64%), revenues from foreign exchange trading (32%) and revenues from capital investments (42%), while the net revenues were reduced by the negative result from derivatives and translation differences, which were a result of the major use of Bank of Slovenia foreign currency swaps, which the Bank of Slovenia uses to conduct its exchange rate policy. Foreign currency swaps accounted for 11% of banks' total assets at the end of 2002 and 10% of total assets at the end of 2003, and were highly concentrated (60% to 80%) with a single bank. By the end of April 2004 the balance of foreign currency swaps had been reduced to 5.7% of total assets owing to the final purchase of foreign currency by the Bank of Slovenia, which contributed to a reduction in the open foreign exchange position.

Banks' Operating Costs

Operating costs rose by 6.9% in 2003, to which the largest contribution came from labour costs, which rose by 4% in real terms, and from depreciation costs primarily connected with information technology. Labour costs account for the majority of operating costs, and since 2001 the proportion of operating costs they account for has risen constantly, which in previous years was connected to the transfer of the payment system to banks, and in 2003 to the increased turnover and greater role for risk management at banks. The proportion of operating costs accounted for by labour costs rose to 50.3% in 2003, and to 53.9% after the first four months of 2004.

Because of the decline in net interest as the most stable source of revenue, banks were forced to cut their operating costs. Banks succeeded in covering their operating costs with net interest at the level of the banking system in 2003. However, a review of individual banks reveals that banks with a total market share of 68% failed to cover their operating costs with net interest. After the first four months of 2004 the number of such banks has fallen slightly.

Figure 4.16: Net interest, operating costs, gross income and net provisions (as proportion of average assets)



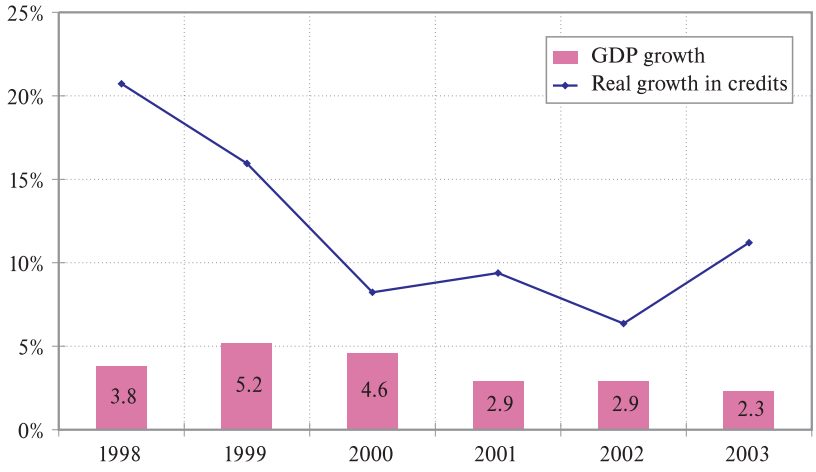
Source: Bank of Slovenia

4.4. Credit Risk

Credit Growth

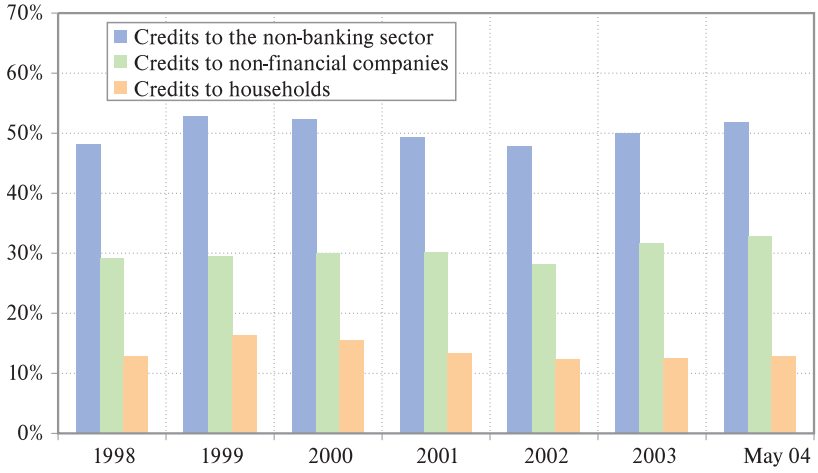
At all times between 1998 and 2003 the rate of growth in credit for the non-banking sector exceeded growth in GDP. In 2003 the real growth in this credit (11.2%) exceeded the real growth in total assets (6.1%), as banks changed their assets structure, reducing investments in banks and increasing credit for the non-banking sector, particularly non-financial companies. Lending to households has also strengthened. Owing to the rapid growth in credit, the proportion of the total assets accounted for by credit for the non-banking sector rose in 2003 by 2 percentage points to 50% and the proportion of credit for non-financial companies rose by 3 percentage points to 32%. The proportion accounted for by household credit remained at the same level as in 2002 at 12.4%.

Figure 4.17: Growth in GDP and loans (in %)



Source: Bank of Slovenia, Statistical Office of the Republic of Slovenia

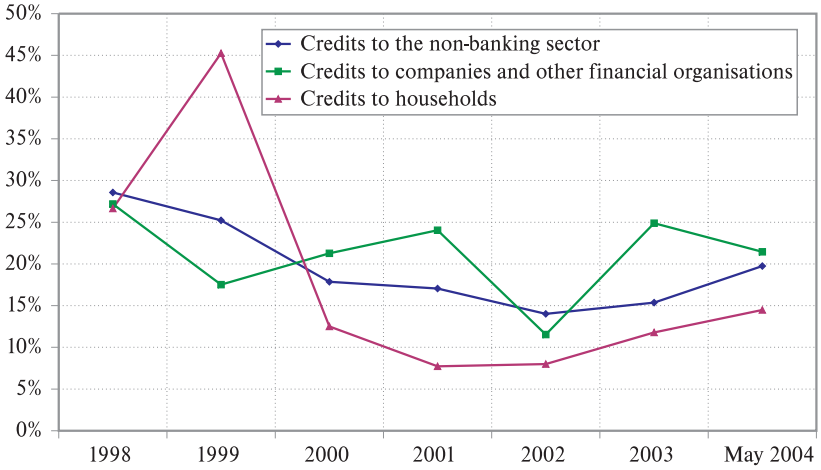
Figure 4.18: Credit to non-banking sector, non-financial companies and households (as proportion of assets)



Source: Bank of Slovenia

With economic recovery and the process of nominal convergence of interest rates, the rate of growth in credit for the non-banking sector increased further in 2004. The year-on-year nominal growth of credit to non-banking sector was about 20% in may 2004. The growth of credit for non-financial companies and other financial organisations was higher than the overall growth in credit for the non-banking sector, but a little lower than it had been at the end of 2003, but is increasing from month to month. Despite a clear growth trend, the rate of growth in credit for households still lags behind that of credit for the non-banking sector. Credit for foreign entities and other financial organisations, in particular in banks under majority domestic ownership, also began to rise in 2004.

Figure 4.19: Nominal growth in credit to non-banking sector, non-financial companies and other financial organisations, and households (in %)



Source: Bank of Slovenia

Large Exposures

The sum of large exposures in the banking system increased in 2003 to around 210% of capital. The total number of large exposures in the banking system remained at a level around 270. The figures for individual banks indicate that the concentration of exposure by bank is increasing, as after 2002 the number of banks with a total large exposure between 200% and 300% of capital rose from six to eight, with the number of banks with a total large exposure between 100% and 200% of capital falling. The

largest banks had a total large exposure between 200% and 240% of capital as at the end of March 2004. Approximately one-fifth, mostly smaller banks, had a relatively large concentration of exposure, with a total large exposure of more than 300% of capital.

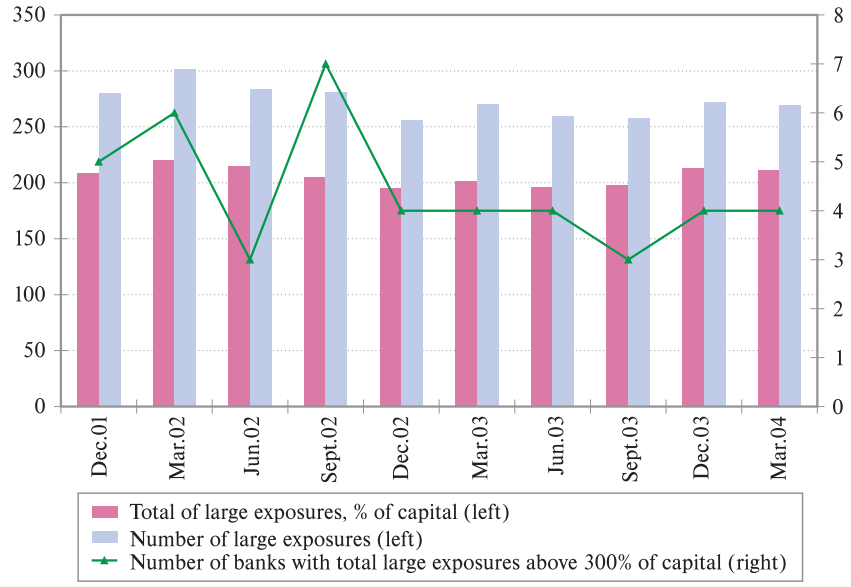
Table 4.9: Bank exposure as proportion of capital

	2001	2002	2003	Mar.2004	Dec. 2001 to Mar. 2004 min	max	average
Total of large exposures per capital (%)	209	195	213	211	195	221	206
Number of large exposures	280	256	272	269	256	302	273
Number of banks with total large exposure above 300% of capital	5	4	4	4	3.0	7.0	4.4

Source: Bank of Slovenia

Looking at the 20 largest debtors in the banking system from the commercial sector, the list of the largest customers as at March 2004 remains very similar when compared to that at the end of 2002, with the largest debtors from the commercial sector mostly being classified in the category with the lowest credit risk. Only one of the 20 operated at a loss in 2003. Although the banking system's exposure to the 20 largest companies increased, owing to rapid credit growth the proportion of all classified claims against companies they account for fell from 62% to 59%.

Figure 4.20: Total large exposure of banking sector



Source: Bank of Slovenia

Asset Quality

With the growth in lending the quality of banks' classified assets improved in 2003, with new exposures being classified mostly in the category A, which expanded to 80.9% of the total. As a result the proportion of low-quality claims classified into categories C to E fell in 2003 from 7% to 6.5%. The proportion of bad claims (D and E) fell by 0.2 percentage points to 3.7%. In 2003 category A accounted for 86% of the rise in classified assets and category B for 11%.

Table 4.10: Proportion of total classified claims (on- and off-balance-sheet) by credit risk category

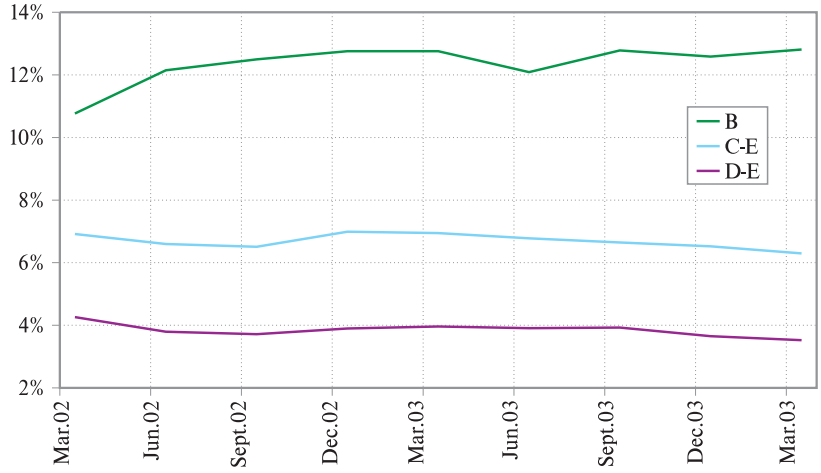
	Credit Risk category						
	A	B	C	D	E	C-E	D-E
2000	84.3%	9.3%	2.6%	1.9%	2.0%	6.5%	3.8%
2001	82.6%	10.4%	2.7%	1.9%	2.4%	7.0%	4.2%
2002	80.3%	12.8%	3.1%	1.7%	2.2%	7.0%	3.9%
2003	80.9%	12.6%	2.9%	1.7%	2.0%	6.5%	3.7%
Mar.2004	80.9%	12.8%	2.8%	1.6%	1.9%	6.3%	3.5%

Source: Bank of Slovenia

In 2004 the contribution made to growth in classified assets by category B rose to 21% primarily because of increases in exposure to foreign banks and the acquisition of new customers that were already placed in category B. The contribution made to growth in classified assets by category A therefore fell to 81%.

When making credit decisions, banks take into consideration the current circumstances and usually classify new customers as category A. The quality of credit is usually only downgraded in its duration. The current situation, when banks are opting to lend to new customers that are already classified as category B and when in individual cases they are reducing their requirements with regard to the amount of collateral, indicates that banks are ready to assume credit risk to a greater degree. There is a danger that during the downside of the economic cycle this credit will prove to be a bad investment. The experience of other countries indicates that many credit risk mistakes are made when the economic cycle is in expansion, and become clear when economic growth is lower.

Figure 4.21: Category B claims, category C to E claims and category D and E claims (bad claims) as proportion of total classified claims[26] (in %)



Source: Bank of Slovenia

[26] On- and off-balance-sheet claims are classified in line with national regulations. Securities are not classified.

Assessing and Analysing Risks in the Banking Sector

When banks provide credit to their clients, they lay down the terms for taking the credit. To help them define these terms they classify clients in terms of credit risk into credit risk categories. The article entitled Assessing and Analysing Risks in the Banking Sector in the second section presents an econometric method based on calculating the probability of an individual commercial entity being in a specific credit risk category with regard to the values of selected indicators. Both microeconomic and macroeconomic factors are included in the clarifying variables in a multinomal ordered probit model. The model presented with one selected latent variable (the commercial entity's credit rating) analyses the expected migration of commercial entities between more than five credit risk categories.

The results of the model are in line with expectations. A higher rank in capital distribution, a greater proportion of cashflow from operation in revenues, good liquidity, higher demand and a higher ratio of sales prices to input prices improve the entity's credit rating. Higher short-term borrowing by the entity in the previous year and an excessive increase in liquidity entail a worse credit rating. The precise results are presented in the article in the final section of the report.

The described model will probably be applied to the approval of the banking systems of commercial banks for Basel II, and to the calibration of models and stress tests. Using the available data, it will be possible to monitor the financial stability of the banking sector on a monthly or quarterly basis. All this will facilitate deeper analysis of the understanding of credit risk in the Slovenian banking sector.

Structure of Loans by Sector

At the end of 2003 Slovenian banks declared their greatest credit exposure to sectors whose products are cyclical consumer goods.[27] Loans to households are included in this figure. These sectors account for 43.2% of all loans. They are followed by finance and natural resources, industry and construction. It could be concluded from these figures that Slovenian banks are somewhat sensitive to the phase of the economic cycle.

Table 4.11: Loans by sector

	% of all loans			Quality of loans*	
	Slovenia		EU	Slovenia	
	2002	2003	2002	2002	2003
Cyclical consumer goods	41.6%	43.2%	27.1%	7.3%	7.1%
Finance	17.9%	15.6%	33.9%	2.1%	1.6%
Natural resources, industry and construction	12.9%	13.6%	11.4%	8.7%	8.5%
Other	10.8%	10.3%	7.2%	7.2%	6.1%
Non-cyclical consumer goods	7.6%	8.5%	10.4%	6.8%	6.1%
Technology, media and telecommunications	3.5%	3.3%	3.0%	6.2%	7.1%
Capital goods	2.7%	3.0%	4.5%	5.2%	3.4%
Energy etc.	3.1%	2.6%	2.5%	4.4%	3.7%
Total	100.0%	100.0%	100.0%	6.3%	6.0%

* Quality of loans = Provisions formed/loans outstanding, %

Source: Bank of Slovenia

In 2003 the proportion of loans for cyclical consumer goods increased, while the proportion of loans in the finance area, which is normally the least risky, fell. There was an increase in lending for cyclical

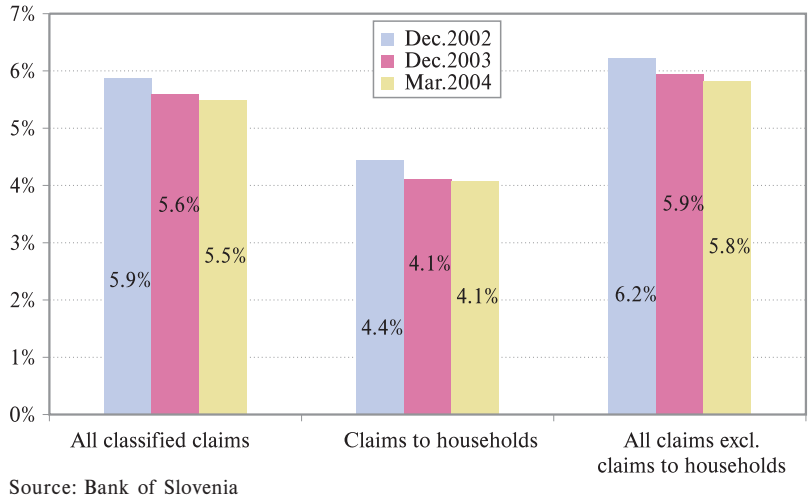
[27] Sectors whose products are defined as cyclical consumer goods by the ECB are the textile industry, the automotive industry, the furniture industry, etc.

consumer goods at both the banks under majority foreign ownership and the banks under majority domestic ownership, and it accounted for more than half of the rise in all loans at both groups of banks. Banks under majority domestic ownership also increased their loans to the natural resources, industry, and construction sector and the non-cyclical consumer goods sector.

The quality of loans as measured by the provisions formed as a proportion of the total amount of the loan improved in 2003. This applies to all sectors, with the exception of technology, media and telecommunications.

Exposure to Household Sector

Figure 4.22: Risk level of claims against households and risk level of total classified assets measured by value adjustments and provisions as proportion of classified assets



Source: Bank of Slovenia

A comparison of the average risk level of claims[28] indicates that exposure to households is less risky than exposure to other sectors and that it is falling. Claims against households fell as a proportion of all classified items from 19.6% at the end of 2002 to 18.9% at the end of March 2004.

Of loans to households, at the end of March 2004 the majority (52%) were secured with insurance companies, one in particular. Some 16% of loans were secured with real estate collateral, 6% with a surety and 9% with other forms of security. The proportion of household loans secured with a bank deposit or securities is low (1%). Some 14% of household loans are unsecured. The proportion of loans secured with insurance companies is gradually falling, with real estate collateral and sureties rising instead.

Exposure to the Rest of the World

Examining the balance sheet structure in terms of region, as at the end of 2003 banks were in receipt of assets from the rest of the world that were mostly invested in Slovenia. The surplus of assets over liabilities to the other former Yugoslav republics rose sharply in 2003, having stood at only SIT 4 billion on a consolidated basis at the end of 2002, but reaching SIT 38 billion at the end of 2003. Here the surplus on a consolidated basis was almost twice the size of that on a solo basis, which indicates the large degree to which banks act on the former Yugoslav markets via subsidiary banks and financial organisations.

[28] The average risk level of claims is calculated as the proportion of categories A to E weighted by the percentage provisions required for each category (1% for A, 10% for B, 25% for C, 50% for D and 100% for E), and entails the size of the potential loss from the claims.

Table 4.12: Balance sheet structure in terms of region as at 31 December 2003 (SIT billion)

	On solo basis			On consolidated basis		
	Slovenia	Abroad	Republics of Former Yugoslavia	Slovenia	Abroad	Republics of Former Yugoslavia
Five largest banks	169	-182	14	159	-160	28
Other banks	253	-263	10	253	-263	10
All banks	422	-445	23	412	-423	38

Source: Bank of Slovenia

4.5. Bank Solvency

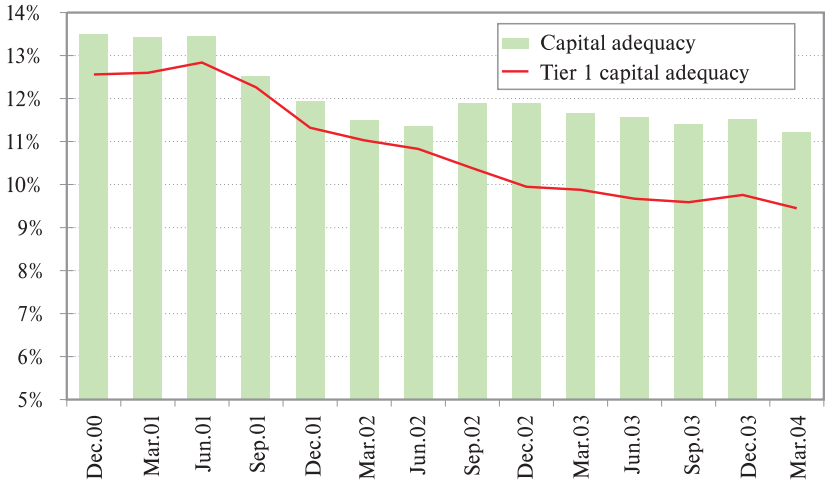
Numerous banks cite the retention or expansion of market share as their main strategic objective. Under conditions of increased lending, fiercer competition increases the pressures on capital adequacy and forces banks to seek new sources of capital that would allow them to continue to grow.

Capital Adequacy

The capital adequacy[29] of the banking system fell to 11.5% during 2003, and continued to fall to 11.2% in the first quarter of 2004.

Tier 1 capital adequacy[30] was 9.8% at the end of 2003 (compared with 9.95% at the end of 2002). The fall in capital adequacy in 2003 and the first quarter of 2004 was primarily the result of increased credit growth, and also a rise in the size of items adjusted to foreign exchange risk.

Figure 4.23: Capital adequacy and Tier 1 capital adequacy (in %)



Source: Bank of Slovenia

[29] Capital adequacy is calculated as the ratio of total regulatory capital to risk-adjusted assets.
[30] Tier 1 capital adequacy is calculated as the ratio of Tier 1 capital to risk-adjusted assets.

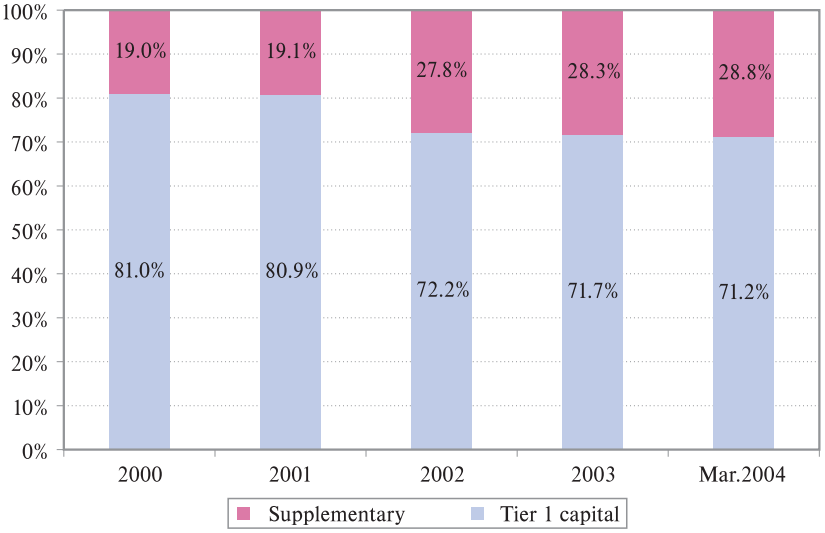
Table 4.13: Banks' capital adequacy

	Dec.2002	Dec.2003	Mar.2004
Share of the largest five banks in the balance sheet total of the banking sector	69.4%	67.4%	67.2%
Capital adequacy of the largest five banks	10.9%	10.6%	10.4%
Capital adequacy of the banking sector excluding the largest five banks	13.9%	13.4%	12.8%
Capital adequacy of the banking sector	11.9%	11.5%	11.2%

Source: Bank of Slovenia

The rate of growth in the banking sector's regulatory capital lagged behind the rate of growth in risk-adjusted assets by 1.6 percentage points. Tier 1 capital grew the most, owing to the reallocation of profits to reserves, bank recapitalisation and the creation of general provisions.

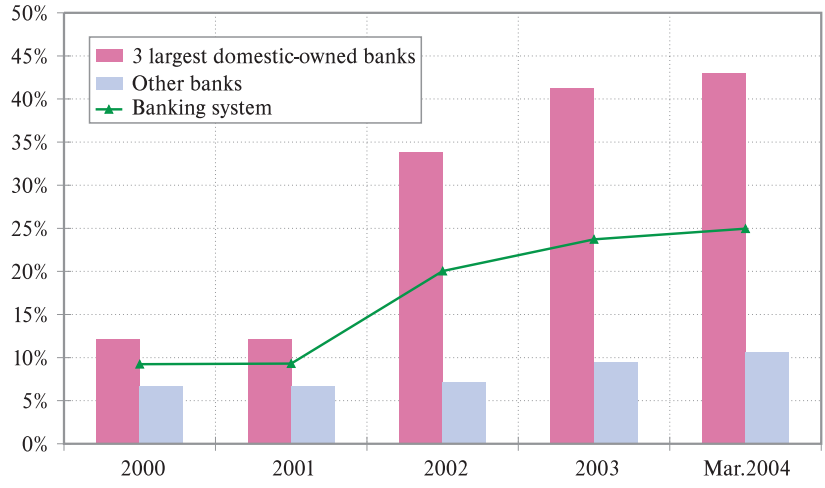
Figure 4.24: Banks' capital structure 2000 to 2003 (in %)



Source: Bank of Slovenia

The increase in Tier 1 capital was necessary at some banks, in order for them to be able to include instruments of subordinated debt in the calculation of regulatory capital to a greater extent. For now only one bank has opted to issue Tier 3 capital, used to cover capital requirements for market risks.

Figure 4.25: Ratio of subordinated debt to Tier 1 capital (in %)



Source: Bank of Slovenia

There was no significant change in the structure of banks' capital in 2003, although a trend of a decline in Tier 1 capital as a proportion of capital could be seen. At the end of 2003 Tier 1 capital accounted for 71.7% of capital, and supplementary capital for 28.3% of total regulatory capital.

The structure of the capital of the three largest banks under domestic ownership indicates that soon they will have to increase their Tier 1 capital or increase the size of the components of supplementary capital, with the possibility of issuing subordinated debt having already been exploited. Expectations are thus that Tier 1 capital adequacy will decline.

New Capital Regulation of Banks in Slovenia

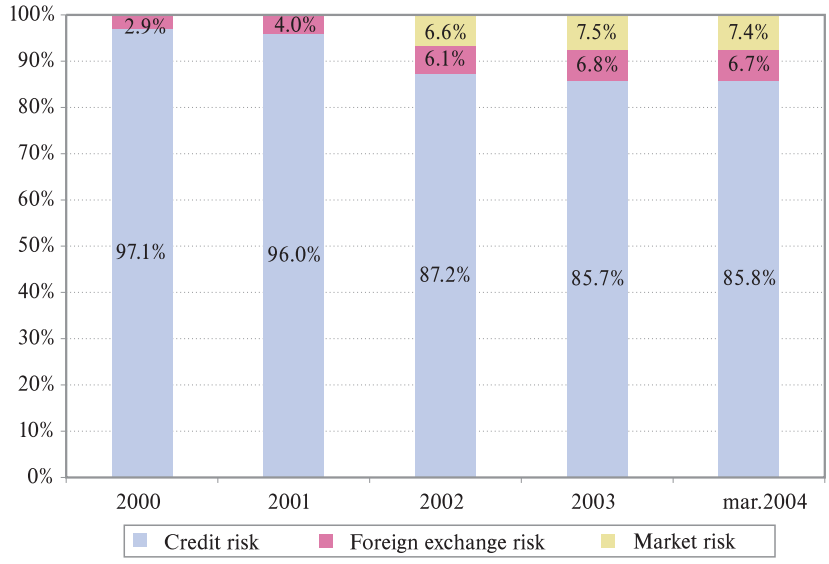
Following six years of numerous preparations and discussions, the final document of the new capital agreement (Basel II), which will replace the 1988 Basel Agreement, was released at the end of this June. The new scheme for measuring capital adequacy should rectify the majority of the deficiencies in the old agreement, by altering the quantitative measurement of the minimum required coefficient of capital adequacy and adding two qualitative pillars, namely the introduction of prudential supervision and more emphasised market discipline. The new capital scheme should retain the mission of the old capital agreement, which was to promote the principles of security and stability in the financial system.

More is written on the preparations for implementing the new capital rules in the Slovenian banking system in the article entitled New Capital Regulation of Banks in Slovenia in the second section of this report.

Risk-Adjusted Assets

In 2003 the rate of growth in risk-adjusted assets (18%) was higher than the rate of growth in total assets (11%), which can be explained by the increase in lending activities by Slovenian banks, and partly by a change in the regulations, with the deadline by which banks were required to apply a weighting of 100% (previously 50% for old transactions) to claims that are entirely secured in full with real estate collateral expiring on 31 December 2003.

Figure 4.26: Structure of risk-adjusted assets, plus items adjusted for other risks (in %)

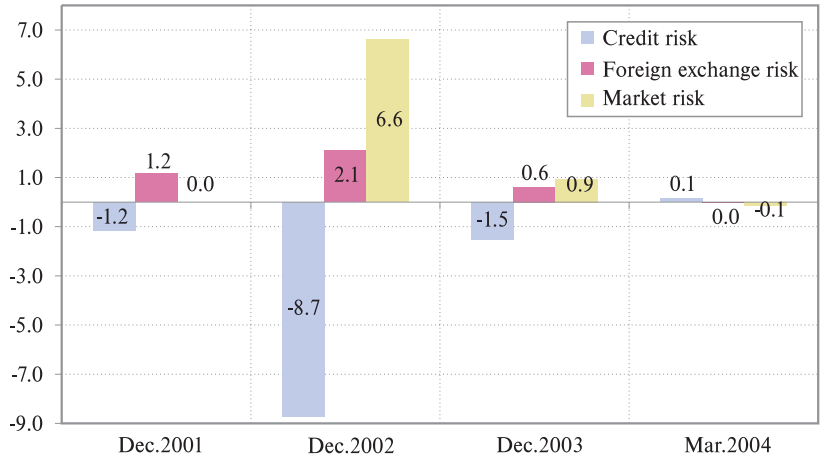


Source: Bank of Slovenia

The structure of risk-adjusted assets changed in 2003 in the direction of an increasing proportion of items adjusted for foreign exchange risk and market risk, while the proportion of items adjusted for credit risk fell.

The proportion of items adjusted for foreign exchange risk increased by 0.6 percentage points to 6.8%, with all of the growth coming at the banks under majority foreign ownership owing to a shortening of the foreign exchange position in the context of increased borrowing abroad. The proportion of items adjusted for market risk increased by 0.9 percentage points to 7.5%, with the increases in the capital requirements for market risk being almost entirely (90%) seen at domestic banks. The proportion of items adjusted for credit risk decreased by 1.5 percentage points, because the proportion of risk-adjusted off-balance-sheet assets fell more than the proportion of risk-adjusted balance sheet assets in the context of increased lending activity has risen.

Figure 4.27: Change in structure of risk-adjusted assets, plus other risk-adjusted items[31] (in precentage points, from December of previous year)



Source: Bank of Slovenia

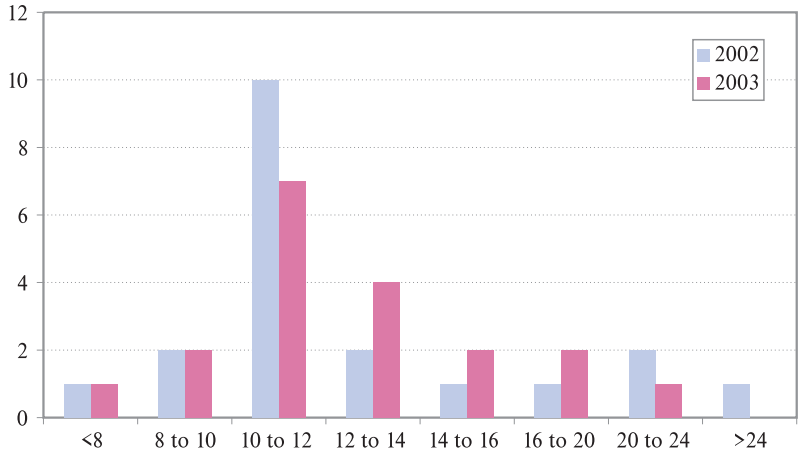
With the increase in credit growth, the trend of an increase in the proportion of risk-adjusted balance sheet assets continued in the first quarter of 2004. Despite the growth in the capital market, banks did not increase their investments on it. The proportion of items adjusted for market risk thus fell slightly, while the proportion of items adjusted for foreign exchange risk remained unchanged despite the rise in inflows of borrowing from abroad, which points to the improvement in the management of the position of items adjusted for foreign exchange risk at banks.

Distribution of Capital Adequacy

Comparing the distribution of capital adequacy in 2002 and 2003, it can be seen than it improved in 2003. One bank failed to achieve capital adequacy in both years, its capital adequacy being below 8%, which is the minimum level set by the Banking Act, while two banks had a capital adequacy of between 8% and 10%. At the same time the number of banks with capital adequacy of between 12% and 20% rose, while the number of banks with capital adequacy in excess of 20% fell.

[31] The major shifts in the structure of risk-adjusted assets in 2002 were the result of the introduction of capital requirements for market risk and changes in the capital requirements for foreign exchange risk.

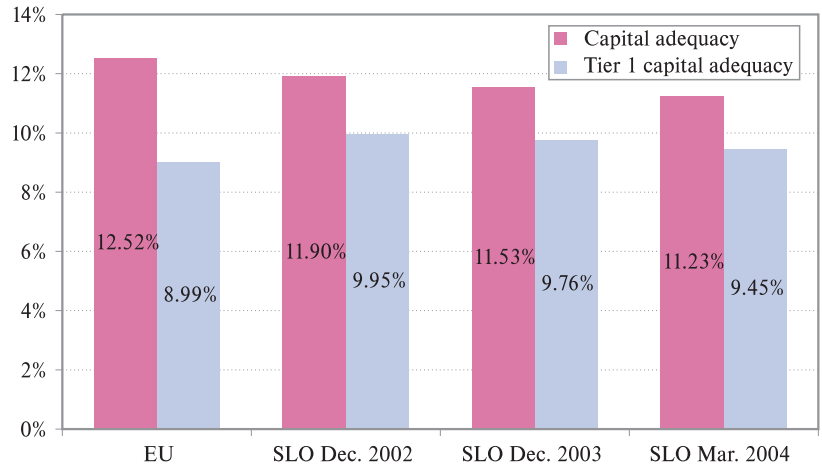
Figure 4.28: Distribution of capital adequacy indicator



Source: Bank of Slovenia

International Comparison of Capital Adequacy

Figure 4.29: Comparison of capital adequacy of Slovenian banking system with EU countries in 2002



Source: ECB, Bank of Slovenia

A comparison with the EU average for medium/size banks (2002 figures[32]) shows that at 11.53% the capital adequacy being achieved by the Slovenian banking system at the end of 2003 was lower than that in the EU in 2002 (where it was 12.52%). Slovenian banks did have a higher-quality capital structure, with the Tier 1 capital adequacy achieved by Slovenian banks in 2003 (9.76%) being higher than that in the EU (8.99%).

Looking at the capital adequacy of eight new members of the EU, it can be seen that, as in Slovenia, capital adequacy in the new countries[33] fell in 2003. The capital adequacy of the Slovenian banking system was lower than the average of these eight countries, and was the lowest of the countries examined.

[32] Source: ECB, EU Banking Sector Stability, November 2003.
[33] Slovakia, Malta, the Czech Republic, Cyprus, Poland, Lithuania, Hungary, and Latvia were included.

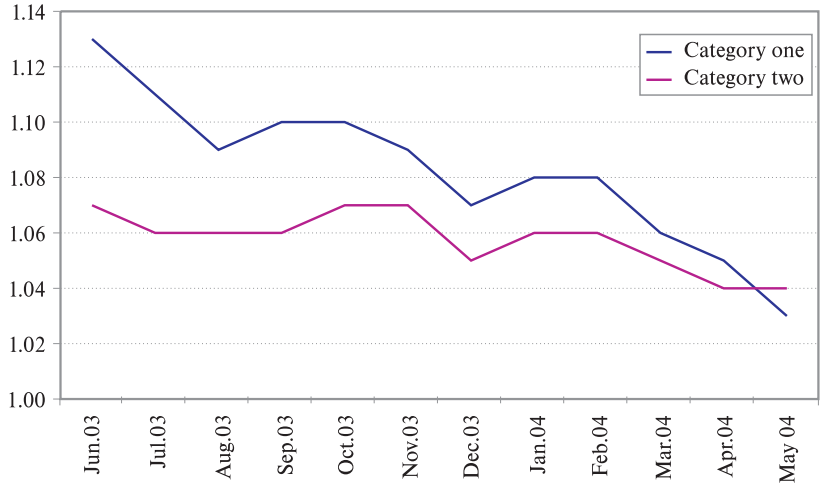
Figure 4.30: Comparison of capital adequacy of Slovenian banking system with that of other new EU member-states (in %)

Source: Bank of Slovenia, ECB

When making these comparisons it should be emphasised that countries declare capital adequacy in line with national regulations, which allows them numerous discretions. The different accounting practice in individual countries, which also has an impact of the level of capital adequacy declared, also reduces the comparability of the indicator.

4.6. Liquidity Risk

Figure 4.31: Liquidity ratios



Source: Bank of Slovenia

The changes in the structure of the banking system's balance sheet was also reflected in banks' liquidity. The fall in the liquidity ratios achieved was the result of rapid credit growth on the assets side and an extension of maturity years for credit, and also the changes in liabilities caused by the fall in deposit interest rates. Lower interest rates on deposits brought changes in the behaviour of households, who began to reduce the maturity years of deposits and to seek alternative forms of investment. The sale of Bank of Slovenia foreign currency bills and the reduction of the balance of foreign currency swaps at the Bank of Slovenia also contributed to the fall in the liquidity ratios achieved. Under the current regulations in the area of liquidity, these two items allow banks to include tolar investments in category

A (with the lowest credit risk) and credit in foreign currency with a maturity year of more than 180 days in the calculation of liquidity ratios. Obliged to meet the liquidity regulations, banks were forced to seek liabilities with longer maturity years, in particular at banks abroad. The rise in borrowing abroad was also reflected in a change in the concentration of depositors. The proportion accounted for by the largest depositor at the level of the banking system rose by 5 percentage points between the end of 2002 and the end of May 2004, the largest rise being seen at banks under majority foreign ownership and fast-growing domestic banks.

As at 31 May 2004 in all banks under majority domestic ownership investments in Bank of Slovenia bills and Slovenian government securities exceeded household demand deposits. The proportion of all investments with a maturity year of up to 30 days accounted for by investments in Bank of Slovenia bills and government bills at the level of the banking system was 51%, and varied between 46% and 61% at major domestic banks.

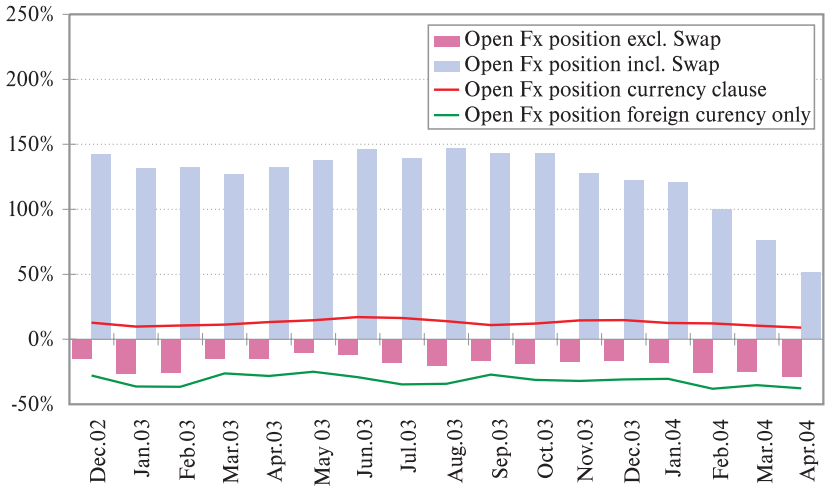
4.7. Foreign exchange risk

Table 4.14: Open foreign exchange position and open foreign exchange position including Bank of Slovenia swaps, as at April 2004

	SIT billion			as percentage of capital		
	System	Foreign	Domestic	System	Foreign	Domestic
Open foreign exchange position	-106.9	-69.5	-37.4	-29%	-98%	-12%
Open foreign exchange position including swap	190.4	-5.4	195.8	51%	-8%	65%

Source: Bank of Slovenia

Figure 4.32: Movement of open foreign exchange position (proportion of regulatory capital)



Source: Bank of Slovenia

The rise in the foreign currency exchange rate has remained behind the rise in prices in 2003 and 2004. Under the conditions of the rise in the foreign currency exchange rate lagging behind inflation, the movement of the exchange rate being reasonably predictable, and with differences between domestic and foreign real interest rates, the short open foreign exchange position brought positive income effects. Banks' open foreign exchange position[34], excluding Bank of Slovenia swaps, was short at the end of

[34] The open foreign exchange position is defined as the sum of all on- and off-balance-sheet assets minus the sum of on- and off-balance-sheet liabilities in foreign currency and with a foreign currency clause. Both spot and futures positions are included.

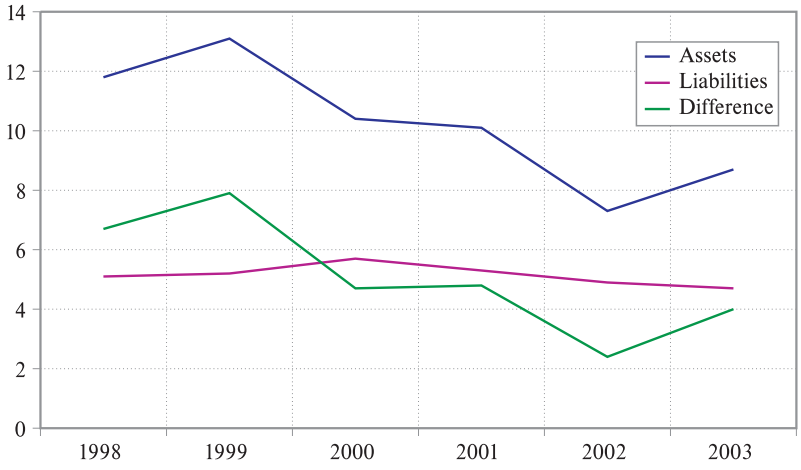
April 2004, in the amount of -29% of the capital of the banking system. Banks under majority foreign ownership made the largest contribution to the short open foreign exchange position, owing to financing at the parent banks, whose short position represented 65% of the banking system's overall short position.

However it should be noted that the above calculation of banks' open position in foreign currency does not include the balance of Bank of Slovenia foreign currency swaps, which generally involve the temporary purchase and sale of foreign currency, usually for seven days, between a bank and the Bank of Slovenia, in line with the agreement between the bank and the Bank of Slovenia on cooperation in foreign exchange market intervention. If this Bank of Slovenia instrument is included, the banking system's open foreign exchange position is long SIT 190 billion or 51% of the banking system's capital. Banks under majority foreign ownership closed their foreign exchange position when Bank of Slovenia swaps are included, and domestic banks did so without including the swaps.

4.8. Interest Rate Risk

In the past interest rate risk did not represent a prominent risk for banks, as they had the change in interest rates for the majority of their liabilities and assets linked to a generally adopted indexation factor TOM. Conditions changed with the abolition of indexation, and interest rate risk has become an area that will require more active management. Banks report to the Bank of Slovenia on their exposure to interest rate risk, covering balance sheet items and the assumptions that they have made.

Figure 4.33: Exposure to interest rate risk



Source: Bank of Slovenia

A simplified calculation of the average year of change in interest rates for the banking system shows that in 2003 the year in which the interest rate on assets changed lengthened by 1.4 months to 8.7 months, while that for the interest rate on liabilities shortened to 4.7 months. The difference between the year of change for interest rates on assets and that for liabilities rose for the majority of banks; for the banking system as a whole it rose from 2.4 months to 4 months. With the exception of two smaller banks, the vast majority of banks have a longer year of change in interest rates for their assets than for their liabilities, which means that the Slovenian banking system is more exposed to the risk of rising interest rates.

5. NON-MONETARY FINANCIAL INSTITUTIONS

5.1. Insurance Companies

5.1.1. General Features

The first insurance law in an independent Slovenia was adopted in 1994, being replaced with a new law in 2000. Since 2000 oversight of insurance companies and reinsurance companies has been conducted by the Insurance Supervision Agency (ISA).[35]

After the transitional introduction of the market system, being predominantly under private ownership insurance companies rehabilitated themselves at the start of the nineties, unlike banks, where assistance from the government was required. The ownership transformation process for insurance companies only began in 2003, and had an impact on the retention of great concentration on the insurance market. The market share of the largest insurance company as measured by gross premiums was still above 42% at the end of 2003 (as high as 55% if health insurance is excluded), with the three largest having a share of more than 75%, but in 2003 there was a notable rise in the market share of five other insurance companies at the expense of the largest. The two reinsurance companies are equally represented on the market.

Eight of the 12 insurance companies are composite, having been established pursuant to the old law, and are therefore able to provide life and non-life insurance services. Of the four others, three are non-life insurance companies, of whom two specialise in health insurance, and one is a life insurance company. The largest insurance company covers 82% of the voluntary health insurance market, 50% of the life assurance market and 58% of the non-life insurance market. The relatively high market concentration in the insurance sector also draws attention to the relatively low level of competition, at least in certain types of insurance.

EU entry opened the market to foreign competitors on the insurance services market. By July 2004 the Insurance Supervision Agency had received notification from 45 foreign insurance companies about their intention to enter the Slovenian market.

Premiums in 2003 amounted to SIT 285.4 billion, or 5% of GDP, while the volume of securities trading on the stock exchange was 6% of GDP and the increase in bank deposits (by the banking sector and non-banking sector) was 6.6% of GDP, or 1.6 percentage points more than the total generated by insurance premiums. Banks have a considerable advantage over insurance companies in respect of total bank deposits, which amounted to something over 57% of GDP, compared with insurance companies technical provisions, which amounted to 7.8% of GDP. However the difference is smaller if capital is compared. At the end of the year insurance companies had SIT 80 billion of capital, equivalent to 1.4% of GDP, while capital in banks amounted to the equivalent of 7.3% of GDP. Comparing the total assets of the two sectors, insurance companies total assets equivalent to 9.2% of GDP are just over one-tenth of the banks' total assets.

Insurance Premiums Collected by Insurance Companies

Insurance premiums as a proportion of GDP in Slovenia rose by 55% during the eleven years after 1992 to reach an equivalent of 5% of GDP, which is still significantly lower than in other EU countries, which took insurance premiums equivalent to 8.6% of GDP in 2001.[36] The difference primarily originates in life assurance premiums, which were equivalent to just 1% of GDP in Slovenia in 2003 but 5.4% of

[35] The Office for Insurance Supervision was established in April 1995 as a component body of the Ministry of Finance; since June 2000 the insurance regulatory authority has been the Insurance Supervision Agency.

[36] Križanič, Ivanušič, Erker: Assessment of the Behaviour of the Slovenian Insurance Market Using an Econometric Model, 11 Days of the Slovenian Insurance Sector, June 2004.

GDP in the EU,[37] which means that there are still huge opportunities in the Slovenian life assurance market. The percentage of year-round disposable income that households earmark for insurance is also rising, and will soon exceed 11%; the total expenditure the average inhabitant of Slovenia earmarks for insurance had reached SIT 143 thousand by the end of 2003, of which SIT 30 thousand was for life assurance.

Slovenian insurance companies collect most premiums for voluntary health insurance (24.3% in 2003), followed by motor vehicle liability insurance and life assurance, which together account for about 40% of the annual premiums collected. The other classes of insurance account for less than 10% of premiums.

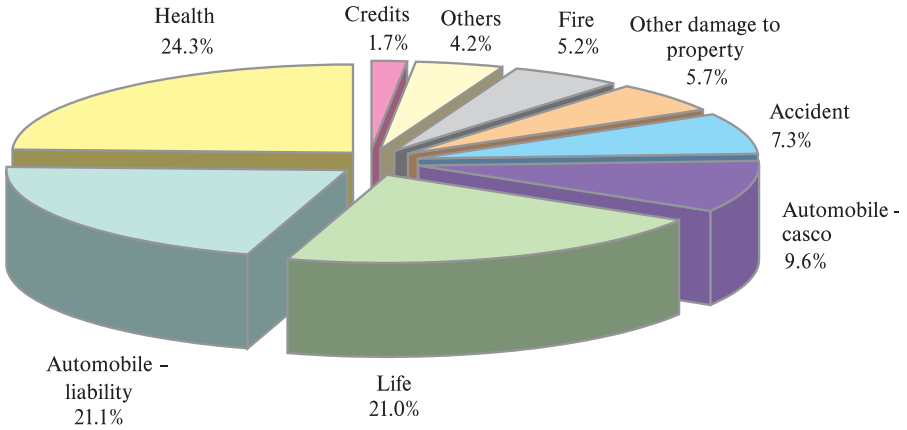
Table 5.1: Insurance premiums, premiums as proportion of GDP, per capita premiums, and premiums as proportion of disposable income

	Premius SIT billion	Structure of premiums		
		Life assurance	Health insurance	Non-life insurance
2000	191	18.44%	26.15%	55.41%
2001	223	19.09%	26.02%	54.89%
2002	255	19.61%	25.68%	54.71%
2003	285	20.98%	24.32%	54.70%

	Premiums as % of GDP	Life assurance premiums as % of GDP	Premiums per capita SIT thousands	Life assurance premiums per capita SIT thousands	Premiums as % of disposable income
2000	4.52%	0.83%	95.8	17.7	9.67%
2001	4.69%	0.90%	111.7	21.3	10.21%
2002	4.84%	0.95%	128.0	25.1	10.59%
2003	5.03%	1.06%	142.9	30.0	10.94%

Source: Insurance Supervision Agency

Figure 5.1: Structure of premiums in 2003 (in %)



Source: Insurance Supervision Agency

[37] Križanič, Ivanušič, Erker: Assessment of the Behaviour of the Slovenian Insurance Market Using an Econometric Model, 11 Days of the Slovenian Insurance Sector, June 2004.

Life Assurance

In the last four years total life assurance premiums in Slovenia have risen on average by 18% per year, and in 2003 exceeded 20% of the total earned premiums, which is still considerably less than the proportion of EU insurers' premiums accounted for by life assurance premiums, the figure being around 60% of total premiums.[38]

Table 5.2: Total premiums, number of policies and life assurance policyholders at insurers

	2002			2003		
	Total life asssurance	Life asssurance linked to investment funds units	Voluntary supplemnentary pension insurance	Total life asssurance	Life asssurance linked to investment funds units	Voluntary supplemnentary pension insurance
Premiums (SIT m)	50,102	251	2,965	59,871	4,782	3,544
No. policyholders	650,954	6,393	37,745	739,003	40,264	45,801
No. policies	561,033	5,764	37,745	665,792	37,990	45,801

Source: Insurance Supervision Agency

Life assurance with investment risk linked to mutual fund units (unit-linked products) first appeared in Slovenia in 2001. Last year the premiums earned by these products had reached SIT 4.8 billion, which represents 8% of all life assurance premiums. This insurance product with investment risk promoted links between insurance companies and banks, in part thanks to the further-reaching sales network of banks, and links between insurance companies and the management companies that manage the mutual funds. With the creation of financial conglomerates there is a danger that guarantees could become blurred and that the controlling power of regulatory authorities could be reduced, as regulatory jurisdiction and responsibility would be demarcated between individual financial products.

Insurance Companies' Income Statement and Balance Sheet

In 2003 insurance companies declared a total SIT 5 billion of net profit, down SIT 3.5 billion from 2002. The reasons for the fall lie primarily in a deterioration in profits from non-life insurance and health insurance, a decline in revenues from investments and an increase in investment expenses, an increase in extraordinary expenses from non-life insurance and a considerable deterioration in the net profit outside ordinary non-life insurance operations. The technical result was in the black, although down from 2002, for all three basic types of insurance, namely non-life insurance (excluding health insurance), life assurance and health insurance. A loss in the amount of SIT 2.8 billion tolars was declared in 2003 by five insurance companies, their market share in terms of total assets being just under 8%, while only three insurance companies declared a loss in 2002, in the amount of SIT 941 million. The two reinsurance companies declared profits in the amount of SIT 2.3 billion in 2003, up 42% from the previous year.

Insurance companies' total assets rose 19% during 2003 to reach SIT 522 billion, while those of the reinsurance companies rose by 10% to SIT 66.4 billion.

[38] Križanič, Ivanušič, Erker: Assessment of the Behaviour of the Slovenian Insurance Market Using an Econometric Model, 11 Days of the Slovenian Insurance Sector, June 2004.

5.1.2. Stability of Insurance Sector

5.1.2.1. Underwriting Risk

Among the significant causes of insurance companies insolvency are technical risks, that is the risk of liabilities deriving from risk in the underwriting insurance. When setting their premium levels and estimating their liabilities, insurance companies use actuarial and statistical calculations based on probability theory and on individual judgements. Overly optimistic judgements can lead to inadequate premiums, excessively rapid growth and consequently insolvency, to which catastrophic claims can also make a significant contribution.

The overall claims ratio[39] has not changed in recent years and stands around the 0.64 mark. Owing to the maturity of ten-year life assurance policies, the claims ratio for life assurance "deteriorated" significantly in 2003. There was no significant change in the claims ratios for non-life insurance and for health insurance.

Table 5.3: Claims ratios for significant classes of insurance (claims paid out / collected premiums)

Insurance class	2001	2002	2003
Life assurance	0.31	0.38	0.42
Voluntary health insurance	0.83	0.81	0.83
Motor-vehicle liability insurance	0.62	0.57	0.57
Land motor-vehicle insurance	0.85	0.80	0.80
Accident insurance	0.62	0.62	0.61
Other demage to proparty insurance	0.73	0.65	0.64
Fire and natural disaster insurance	0.38	0.31	0.55
Credit insurance	0.94	1.03	0.85
Other non-life insurance	0.67	0.67	0.70
Total	0.64	0.63	0.64

Source: Insurance Supervision Agency

Insurance companies also use coinsurance and reinsurance to balance risks, and in so doing can take out reinsurance directly with foreign reinsurance companies. The figure for net premiums as a proportion of gross premiums charged remains unchanged for insurance companies at 87%, but rose from 52% in 2002 to 64% in 2003 for reinsurance companies, which indicates the fall in the proportion of retrocession at reinsurance companies. The claims ratio for the two reinsurance companies improved from 0.51 in 2002 to 0.49 in 2003.

5.1.2.2. Investment Risks

Insurance companies' investment risks or assets risks relate to the value, return, liquidity and structure of investments and include the risk of devaluation of the investment owing to changes in prices on capital markets, interest rates, changes in exchange rates and the contractual partners' ability to pay.

At the end of the year insurance companies had SIT 422.1 billion investments of assets covering technical provisions, of which a little more than half was investments of assets covering mathematical provisions. Insurance companies' investments as a proportion of GDP rose from 4.7% in 2000 to

[39] The claims ratio is the ratio of claims paid out to collected premiums during the year in question.

7.8% in 2003,[40] which despite the considerable growth is still significantly less than the figure in the European Union, where insurance companies held investments equivalent to 52.6% of GDP[41] in 2001. The growth can primarily be ascribed to the growth in life assurance, which from the point of view of investments is also much longer-term than non-life insurance. Despite the considerable growth in life assurance assets they lag behind the growth in mutual funds' assets, which by the end of April 2004 had reached 65% investments of the assets covering mathematical provisions in 2003.

Table 5.4: Insurance companies' provisions and investments of assets covering technical provisions (SIT billion and ratios)

	Mathematical provisions (MP)	Assets covering mathematical provisions	Assets covering mathematical provisions in MP	Assets covering mathematical provisions in GDP
2000	86.82	90.94	1.05	2.15%
2001	116.16	123.78	1.07	2.61%
2002	150.03	168.82	1.13	3.20%
2003	186.39	221.93	1.19	3.91%

	Other technical provisions (OTP)	Assets covering technical provisions	Assets covering technical provisions in OTP	Assets covering technical provisions in GDP
2000	140.85	107.10	0.76	2.54%
2001	169.94	127.96	0.75	2.70%
2002	192.34	165.24	0.86	3.13%
2003	212.62	220.82	1.04	3.89%

Source: Insurance Supervision Agency

Up to 2001 insurance companies declared a deficit in investments of assets covering technical provisions, which was partly a consequence of the financing of tangible fixed assets for insurance activities and claims associated with these assets, and partly a result of adjustments and write-downs in the value of investments and operating losses. It was in 2002 that they first declared satisfactory coverage of the technical provisions by the investments of technical provisions, and this improved further in 2003.

Assets Covering Mathematical Provisions Investments

In the last four years the coverage of the mathematical provisions by investments of assets covering mathematical provisions has increased particularly strongly, and in 2003 investments exceeded provisions by 19% or SIT 35 billion, which indicates the level of security in the life assurance segment. The mathematical provisions are also rising with regard to the collected life assurance premiums; in 2003 insurance companies' investments of mathematical provisions were 2.7 times the sum of life assurance premiums earned throughout the year, and 2.1 times the amount of mathematical provisions created. The rise in the latter ratio was 5.6 percentage points lower in 2003 than in the previous year, primarily because of the payouts required for matured policies, but nevertheless the ratio still indicates that the portfolio of collected premiums is relatively "young".

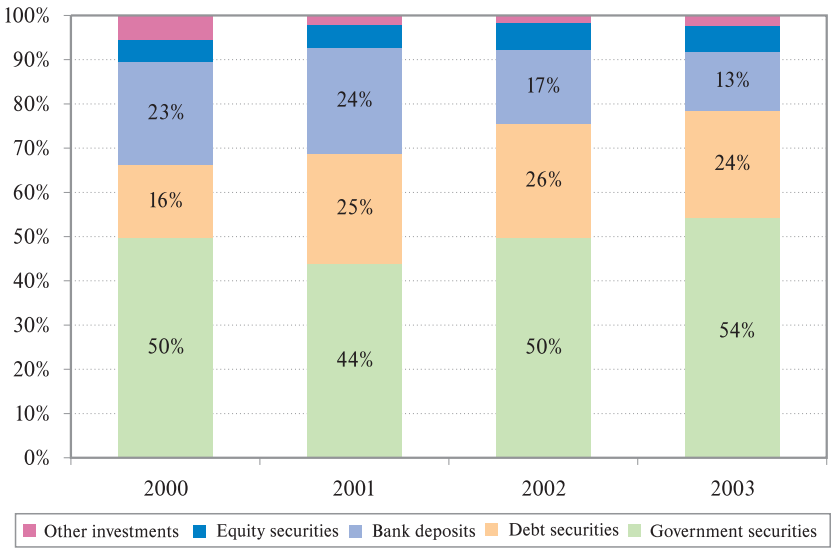
Investments in government securities and securities with government guarantee are prevalent in the structure of assets covering mathematical provisions, and their proportion rose by 4.8 percentage points in 2003 to 54.3%. They are followed by investments in debt securities, primarily those of banks,

[40] The investments of reinsurance companies and insurance companies' own free resources are not included.

[41] Križanič, Ivanušič, Erker: Assessment of the Behaviour of the Slovenian Insurance Market Using an Econometric Model, 11 Days of the Slovenian Insurance Sector, June 2004.

with 24%, and bank deposits with 13.4%. At the end of 2003 some 92% of assets covering mathematical provisions was invested in relatively low-risk financial forms: bonds and bank deposits. Equity securities, primarily corporate equity securities, accounted for 5.8% of assets covering mathematical provisions. Investments in mutual funds rose from 0.2% in 2002 to 1.7%, which was a result of the introduction of life assurance with investment risk. This investment structure ensures assets covering mathematical provisions has great stability, as it is relatively immune to changes in the stock market prices of equity securities.

Figure 5.2: Structure of insurance companies' assets covering mathematical provisions (in %)



Source: Insurance Supervision Agency

In their investments of mathematical provisions insurance companies must also concern themselves with currency matching with insurance policies.[42] In 2003 they held 56.3% of assets covering mathematical provisions in euros, which is 4.8 percentage points more than in the previous year, and indicates the growing interest in euro-policies on the part of insured persons.

In 2003 insurance companies generated revenues of SIT 17.3 billion from life assurance investments, which was only half a percentage point more than in 2002. This small rise in revenues was brought about by the fall in interest rates of instruments with a fixed yield, in which insurance companies hold the majority of their mathematical provisions.

Assets Covering Technical Provisions Without Assets Covering Mathematical Provisions

In 2003 investments of assets covering technical provisions, excluding assets covering mathematical provisions, first attained coverage of other technical provisions, exceeding the provisions by 4%. In part this was brought about by a change in methodology, which allowed claims[43] to be included among assets covering technical provisions, and at the end of 2003 these accounted for 9.4% of all investments of assets covering technical provisions excluding assets covering mathematical provisions. The ratio of other technical provisions to collected premiums from non-life insurance has remained unchanged in the last three years at 0.94, while the ratio of assets covering technical provisions excluding assets covering mathematical provisions to annual collected premiums from non-life insurance is rising and in 2003 almost attained coverage of the investments with the collected premiums.

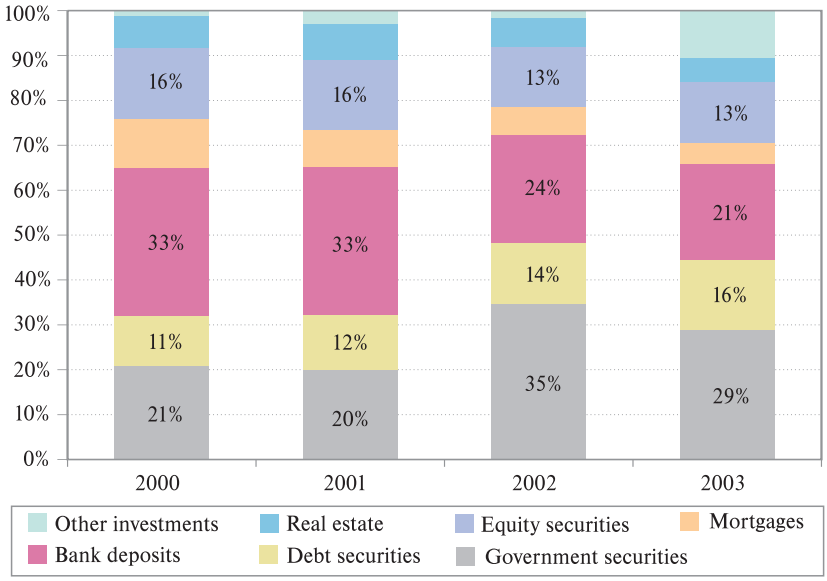
[42] Pursuant to Article 123 of the Insurance Act, insurance companies may match investments of assets covering mathematical provisions with their liabilities on the basis of insurance policies whose size depends on changes in foreign currency exchange rates up to a level of 80%.

[43] Claims against policyholders deriving from non-life insurance with maturity up to 30 days and claims for interest accrued on investments in bonds and other debt securities and bank deposits.

Investments in government securities are also prevalent in the structure of the assets covering technical provisions excluding assets covering mathematical provisions, i.e. investments aimed solely at covering non-life insurance, but the proportion they account for is much smaller than for assets covering mathematical provisions, where it is a matter of very long-term investments. Also prominent are investments in bank deposits and in debt and equity securities, from non-life insurance insurance companies holding 13.5% of their investments in the latter.

Another reason why a focus on foreign markets is vital for domestic insurance companies is that the domestic capital market cannot absorb all of their investments, as in the event of greater realization in investments insurance companies could exert a more significant influence on the stability of stock exchange prices. Insurance companies' total assets covering technical provisions at the end of 2003 were equivalent to 50.6% of the market capitalisation of debt securities on the stock exchange. Of the assets covering technical provisions excluding assets covering mathematical provisions, at the end of 2003 insurance companies held SIT 4 billion in securities of foreign issuers, and SIT 24 billion or 11% of the assets covering mathematical provisions in the same. They held SIT 15.4 billion in eurobonds.

Figure 5.3: Structure of insurance companies' assets covering technical provisions (in %)

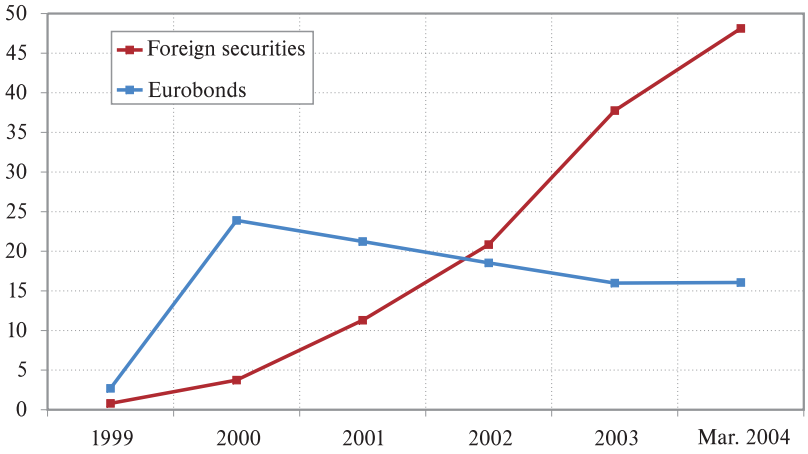


Source: Insurance Supervision Agency

Insurance Companies and Pension Funds' Investments Abroad

The insurance sector's investments abroad, including pension funds, are rising. At the end of 2003 they totalled SIT 37.7 billion, and prominent among them were investments in the Netherlands (20%), Croatia (11%) and Germany (10%). Of the investments, 40.3% were in foreign bank securities, 33.4% in corporate securities and 26.3% in government securities, while the remainder were in the securities of financial companies other than banks. Of these 77.5% were in bonds. In recent years the insurance sector has in particular increased its investments in securities of foreign issuers, while at the same time its investments in eurobonds have declined.

Figure 5.4: Investments of insurance sector (insurance companies, reinsurance companies, pension funds) in foreign securities and eurobonds (SIT billion)



Source: Bank of Slovenia

5.1.2.3. Capital Adequacy

Insurance companies improved their capital adequacy as measured by the surplus or deficit of available capital above or below the required minimum capital in 2003, declaring a surplus of SIT 20.3 billion tolars.

At the end of 2002 a deficit in available capital was declared by three of the eleven insurance companies, with one eliminating the deficit by increasing subscribed capital through equity inputs, a second succeeding in restoring capital adequacy by transferring its entire life assurance portfolio to another insurance company, and the third again declaring a deficit at the end of 2003. Thus at year end only one of the twelve insurance companies and two reinsurance companies failed to declare a surplus of available capital.

Table 5.5: Surplus of available capital in calculation of capital adequacy (SIT billion)

	Insurance companies		Reinsurance companies	
	Required min. capital	Surplus	Required min. capital	Surplus
2002	34.20	11.51	3.31	8.23
2003	38.46	20.32	4.09	6.98

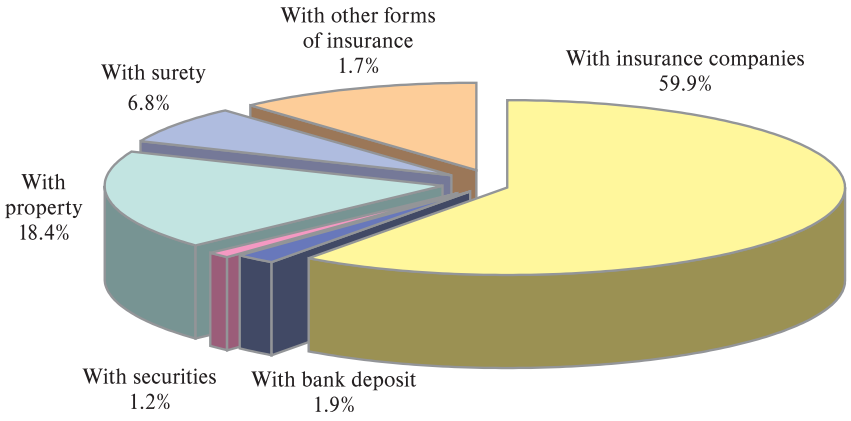
Source: Insurance Supervision Agency

5.1.3. Insurance Companies' Influence on Stability of Banking Sector

5.1.3.1. Security for Bank Loans

The majority of loans provided to households by the banking sector are secured with insurance companies. At the end of March 2004 banks and savings banks had provided SIT 565.2 billion of loans to households, of which 14% were unsecured. Of the secured lending almost 60% was secured with insurance companies. The proportion of lending secured with insurance companies is falling, as the proportion secured with property collateral, sureties and securities collateral is increasing. Nevertheless the securing of bank lending at insurance companies remains a potential flashpoint of systemic financial risk, particularly given the large concentration of such security at a single insurance company.

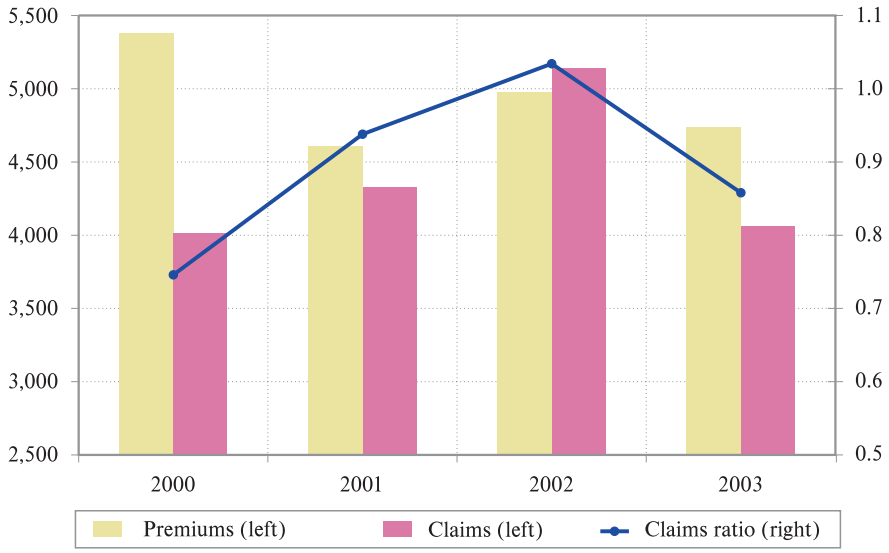
Figure 5.5: Structure of types of security for lending to households by banks (March 2004 in %)



Source: Bank of Slovenia

In terms of collected premiums, credit insurance is among the less important classes of insurance, accounting for only about 2% of insurance companies' total collected premiums. In 2003 insurance companies (including the Slovene Export Corporation) collected premiums of SIT 6.1 billion tolars and paid out claims of SIT 5 billion.

Figure 5.6: Premiums, claims and claims ratio from credit insurance (SIT billion unless stated), excluding Slovene Export Corporation

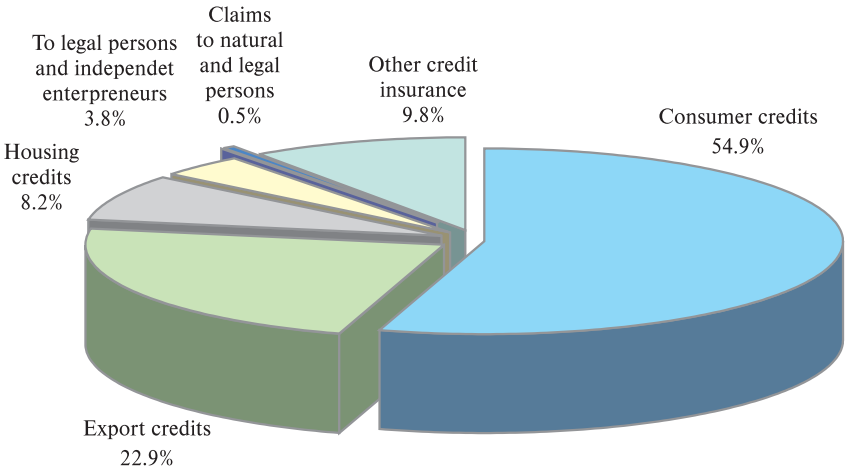


Source: Insurance Supervision Agency

Security for Consumer Loans

At insurance companies (excluding the Slovene Export Corporation) there was noticeably less interest in credit insurance in 2003. The claims ratio improved to 0.86 from 1.03 in the previous year, when credit insurance brought insurance companies a major loss. Within credit insurance security for consumer loans is prevalent in terms of collected premiums, accounting for 55%; the claims ratio improved from 1.10 in 2002 to 0.78 in 2003. One of the reasons for the decline in premiums collected from security for consumer loans in 2003 was the lower growth in short-term credit provided by banks.

Figure 5.7: Premium composition of insurance companies' credit insurance (including Slovene Export Corporation) in 2003 (in %)



Source: Insurance Supervision Agency

Security for Housing Credit

The premiums collected from housing credit in 2003 were also lower than those in the previous year. The claims paid out reached 48% of the premiums collected from secured housing credit. The premiums collected by insurance companies from housing credit was lower, even though long-term credit at banks for housing construction rose. The balance of long-term credit for housing construction for households was 25.4% higher at the end of 2003 than at the end of 2002.

An alternative for banks to security for housing loans provided by insurance companies is mortgage lending. In Slovenia these loans depend primarily on the monthly earnings of the borrower, and less on the value of the mortgaged real estate. This can partly be attributed to the land register not being up-to-date and the long collection proceedings. To date banks have therefore primarily opted to secure loans with insurance companies, as when debtors fail to settle their liabilities banks can immediately get their money from the insurance company, and collection is the insurance company's responsibility; banks thus transfer the risk of the failure to repay the credit to insurance companies.

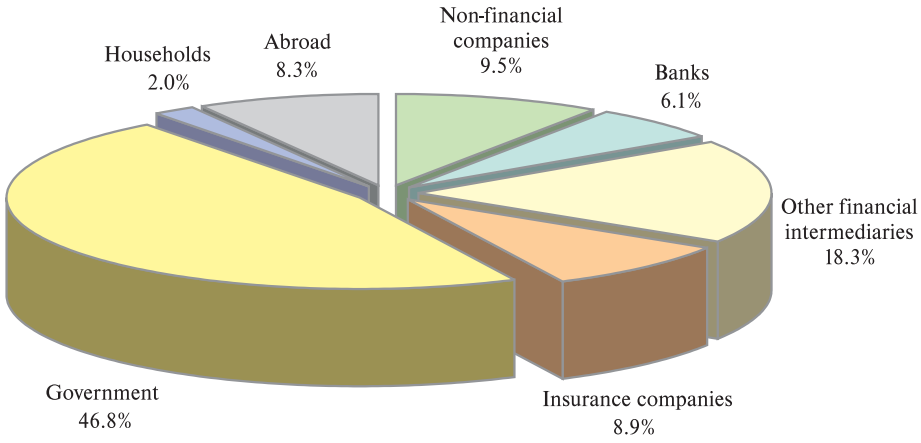
Security for Export Credit

The premiums collected by insurance companies other than the Slovene Export Corporation from securing export credit accounted for less than 2% of the total premiums collected by insurance companies from credit insurance in 2003. The Slovene Export Corporation collected premiums of SIT 1.35 billion in 2003 for securing export credit (up 33% from 2002).

5.1.3.2. Insurance Companies' Ownership Structure and Links with Banks

The majority of Slovenian insurance companies are still under domestic ownership (foreign capital accounted for 20.9% at the end of 2003), unlike the ownership structure in the majority of new EU members such as the Czech Republic, Hungary, Poland and Slovakia. At the end of 2003 four insurance companies were under majority foreign ownership, while foreign capital has also appeared to a lesser extent in certain other insurance companies and one of the reinsurance companies.

Figure 5.8: Structure of investors in insurance sector shares by market/book value as at end of March 2004



Source: KDD, Bank of Slovenia conversions

None of the insurance companies is listed on the stock exchange, which is primarily a result of their late ownership transformation. At the end of March 2004 the government held 47% of the issued shares via the Slovenian Reinbursement Fund as a consequence of the ownership transformation. Non-financial companies hold 9.5% of insurance companies' shares, with other financial intermediaries (primarily Capital Fund) holding 18%. Insurance companies' themselves hold 9% of the shares in the insurance sector. According to Central Securities Clearing Corporation (KDD) figures, 8% of the issued shares were held by foreign entities.

Capital Links Between Slovenian Banks and Insurance Companies

The capital links between Slovenian banks and insurance companies are still weak for the moment. At the end of 2003 only the largest insurance company held a qualifying holding in one of the Slovenian banks, namely 24%, while three banks had interests of more than 5% in four insurance companies, namely a 50% interest in two insurance companies, a 17.7% interest in one and a 5% interest in one of the reinsurance companies.

For the moment insurance companies' major involvement with banks is via investments, with bank deposits accounting for 14.7% of insurance companies' total assets at the end of 2003, up 0.77 percentage points from the end of 2002. At the end of 2003 insurance companies held 16.8% of their total assets in debt securities other than government securities, among which bank bonds are prevalent, down 1.7 percentage points from the end of 2002. Insurance companies did not declare any liabilities to banks at the end of 2003, while at the end of 2002 there were liabilities in the amount of SIT 700 million. Recently insurance companies have expanded their links with banks much further, by offering insurance services via the banks' branch networks.

Contractual Cooperation Between Banks and Insurance Companies

There is growing development of contractual cooperation between banks and insurance companies, which is manifesting itself via the sale of insurance products at bank counters. This is a feature of markets where bank assurance services are only just being introduced. Banks are thus expanding their range of services (in particular they are opting to market long-term personal insurance, such as pension insurance, annuity and life assurance) and generating additional non-interest revenues, while insurance companies have access to a better sales network. In the middle of 2003, in conjunction with Nova Ljubljanska banka, the newly established life insurance company NLB Vita was the first to begin selling life assurance policies with investment risk via bank counters. Other insurance companies have responded by strengthening their commercial links with banks.

Mixed banking/insurance services are also appearing, and these are bringing even greater risk interconnection between insurance companies and banks, and a need for more demanding consolidated oversight. The flourishing of contractual cooperation between banks and insurance companies shows that their common interests in Slovenia are currently more powerful than the anticipation of the closer capital links that should lie ahead when the financial system is consolidated.

EU entry has made it even more important to create financial groups linking banks, insurance companies and other financial institutions. The first was formed around Nova Ljubljanska banka; the second should be formed around Zavarovalnica Triglav and Abanka Vipa, the third around NKBM and Pozavarovalnica Sava. In order to ensure effective and coordinated oversight by regulatory institutions, a new Financial Conglomerates Act is being drafted on the basis of Directive 2002/87/EC on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate.

5.2. Voluntary Supplementary Pension Insurance

Pension reform began in Slovenia in 2000 with the new pension act (the ZPIZ-1), which introduced a second pillar of pension insurance, and with it certain new financial institutions. The law defines the following as providers of voluntary supplementary pension insurance:

- mutual pension funds who are not legal persons and may be managed by banks, insurance companies, pension companies or Capital Fund and are under the financial oversight of the Securities Market Agency.
- pension companies and insurance companies who hold an authorisation to provide life assurance services, are legal persons and are under the financial oversight of the Insurance Supervision Agency.

Given the relatively small size of the Slovenian market, initially too many providers appeared for them all to be able to successfully provide supplementary pension insurance in the long term. The number of pension companies has already fallen from six to four, and the number of mutual pension funds from six to five. The closed-end mutual pension fund for civil servants (the ZVPSJU), managed by Capital Fund[44], also began operations this year, taking the number of mutual pension funds back to six.[45] Three are managed by banks, two by Capital Fund and one by an insurance company. Supplementary pension insurance was also offered by three insurance companies, but one has already transferred its insured persons to a pension company, and another is likely to do so.

Market Concentration

Concentration on the voluntary pension insurance market is diminishing in respect to collected premiums. It is still very high among the mutual pension funds, as the largest has a market share of over 77%. Among the pension companies and the insurance companies, the market share of the largest provider is smaller at 31%. Given the potential market for supplementary pension insurance in Slovenia, it is expected that in order to safeguard their efficiency of operations the providers will link up intensively in the year ahead.

[44] Supplementary pension insurance has been charged by civil servants since August 2003, with the first premium paid into their personal accounts in April 2004 and the government paying the premium monthly thenceforth.

[45] This ignores the First Pension Fund, which is not originated as an ordinary pension fund, having been created by The First Pension Fund and Transformation of Authorised Investment Companies Act in the middle of 1999; it is a closed fund, and no new payments into the fund are envisaged. It is managed by Capital Fund and comes under the oversight of the Insurance Supervision Agency. Capital Fund also manages the Fund of Compulsory Supplementary Pension Insurance, which is classified as compulsory additional pension insurance.

Table 5.6: Proportions of insured persons, premiums collected and investments by individual type of voluntary supplementary pension insurance provider

	Mutual pensions funds			Insurance companies			Pensions companies		
	Members	Premiums	Assets	Policyholders	Premiums	Assets	Policyholders	Premiums	Assets
2001	19.4%	-	19.3%	25.1%	-	27.3%	55.4%	-	53.4%
2002	18.2%	-	24.8%	21.8%	-	20.0%	60.0%	-	55.2%
2003	16.8%	24.1%	25.0%	21.6%	15.8%	18.2%	61.6%	60.1%	56.8%

Source: Insurance Supervision Agency, Securities Market Agency

At the end of 2003 there were 212,000 individuals covered by voluntary supplementary pension insurance in Slovenia, which is 27.4% of the actively working population.[46] The majority (61%) were insured with pension companies, who thus manage the most assets. The value of all providers' assets rose last year by SIT 25 billion to SIT 49 billion, but is still barely equivalent to 1% of GDP. There were SIT 22.5 billion of premiums collected in 2003. At the end of the year there were 2,850 companies included in voluntary supplementary pension insurance. For now only a few people opt for individual insurance, and its total extent thus lags well behind collective insurance, as the terms for collective insurance are more favourable from an individual viewpoint.

Table 5.7: Number of persons covered by voluntary supplementary pension insurance and providers' assets

	Number of policyholders	Policyholders as % of active working population	Assets SIT million	Assets % of GDP
2001	81,895	10.5%	6,000	0.1%
2002	173,089	22.1%	23,722	0.4%
2003	212,060	27.4%	48,904	0.9%

Source: Insurance Supervision Agency, Securities Market Agency

Pension Companies

Pension companies had losses of SIT 14 million in 2003, which was significantly less than in 2002. However, all the pension companies declared a surplus of available capital at the end of 2003. The pension companies' mathematical provisions were covered by the investments of assets covering mathematical provisions. In 2003 pension companies had assets covering mathematical provisions that were twice the size of the premiums collected from voluntary supplementary pension insurance. The figures indicate that the pension companies are solvent as providers of voluntary supplementary pension insurance.

Table 5.8: Pension companies' performance indicators (SIT million)

	2002	2003
Technical account	-611	-14
Required min. capital	1,920	1,428
Surplus	617	1,610
Mathematical provisions (MP)	13,065	27,693
Assets covering mathematical provisions in MP (ratio)	1.003	1.002

Source: Insurance Supervision Agency

[46] Of the actively working population, 82% were employed at companies and other organisations, of whom 21.6% were civil servants (employees in the sectors of public administration, defence, social security, education, healthcare, social care, and other public, collective and personal services as defined by the standard classification), and 18% were self-employed or employed by them (independent enterpreneus, farmers, etc.).

Collective Supplementary Pension Insurance for Civil Servants

The introduction of collective supplementary pension insurance for civil servants is a significant contribution to the establishment of an integral system of pension and disability insurance. At the end of April 2004 the existing insured persons were joined by about 155,000 civil servants, which represents a total of approximately 48% of the actively working population. The government paid about SIT 8.5 billion of premiums for them into the closed-end mutual pension fund for civil servants; from now it will earmark about SIT 1 billion each month for voluntary supplementary pension insurance for civil servants.

Given that half of the actively working population included in collective insurance do not yet have supplementary pension insurance, it is anticipated that the number of persons covered will increase.

5.2.1. Guaranteed Rate of Return and Investments Structure

Pension law defines a minimum guaranteed rate of return for providers of voluntary supplementary pension insurance of 40% of the average annual interest rate on government securities with a maturity year of more than one year; the Ministry of Finance publishes the rate every month.

Table 5.9: Minimum guaranteed return

		Min. guaranteed return % annual
2002		7.02%
2003		5.56%
2004	Jan.	5.61%
	Feb.	5.45%
	Mar.	4.59%
	Apr.	4.51%
	May	4.38%

Source: Ministry of Finance

The minimum guaranteed rate of return should at least partly limit the risks assumed by insured persons and transfer them to the pension insurance providers. The risk of losing the principal and the minimum guaranteed return is transferred to providers of voluntary supplementary pension insurance by virtue of the minimum guaranteed rate of return being defined.

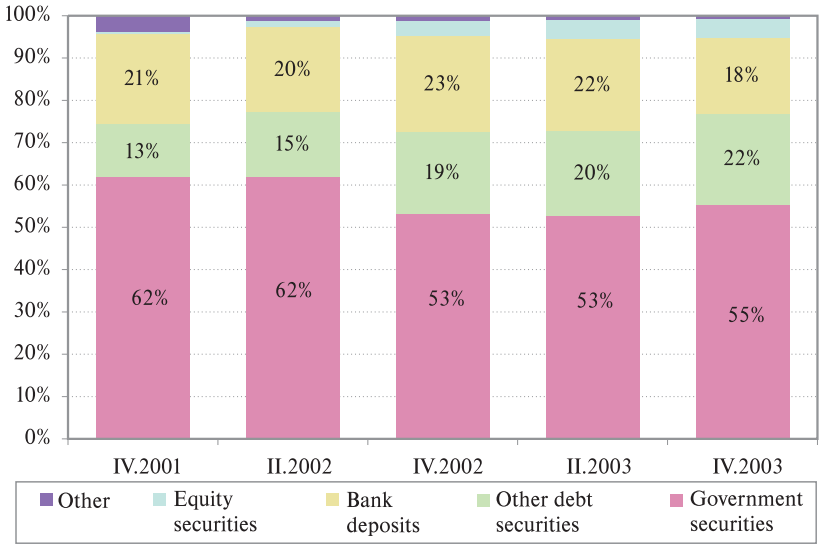
The actual annual returns of mutual pension funds[47] at the end of March 2004 varied from 10.3% to 14.0%. The average annual return for all mutual pension funds at the end of March exceeded the guaranteed rate by 7 percentage points, amounting to 11.5%.

Providers primarily opt for investments in government securities, as they should provide them with the minimum guaranteed rate of return. In the last two years the proportion of all investments they account for has fallen by 7 percentage points, but the total proportion of government bonds and other debt securities among investments did not change significantly and stood at 77% at the end of 2003. Providers held 55% of their investments in government securities at the end of 2003, accounting for 3.7% of the market capitalisation of government bonds on the organised securities market. Given the projected rise in collected premiums, also from collective insurance, additional demand for government securities can be expected, and thus an extra upward influence exerted on their prices, with a consequent fall in yields, which are already declining because of falling interest rates. Because of the method of calculation, in certain circumstances this could endanger the chances of the minimum guaranteed rate of return being provided.

[47] The figure only covers mutual pension funds and not other providers of voluntary supplementary pension insurance.

The problem is the actual calculation of the guaranteed rate of return, the basis of which is the previous return on government bonds, which applies as the guaranteed rate required for year ahead. Here there is also a difference in the way providers themselves guarantee the return: pension companies and insurance companies must provide the guaranteed return within one year, mutual pension funds within one month.

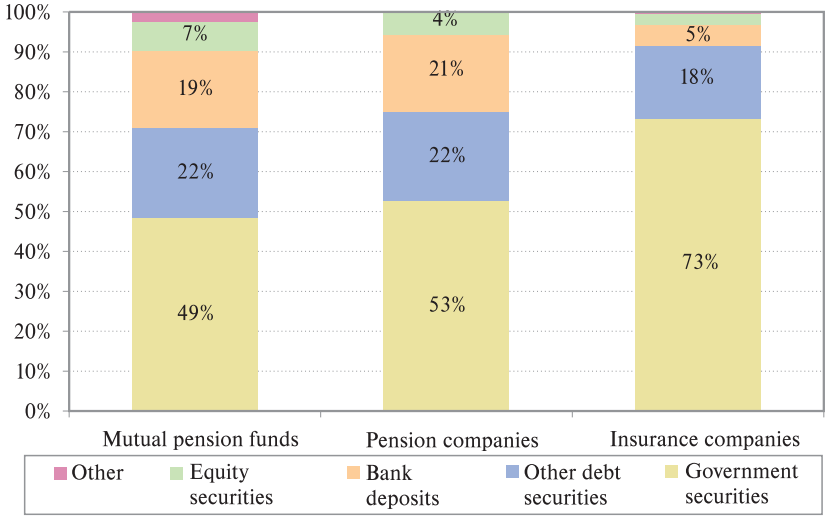
Figure 5.9: Investments structure for assets from voluntary supplementary pension insurance (in %)



Source: Insurance Supervision Agency, Securities Market Agency

In addition to investments in government securities providers are also in particular opting for investments in other debt securities and bank deposits, which together accounted for 40% of all investments. With their conservative investment policy, which is a consequence of the required level of security in the long-term saving of their insured persons, it is rare that they opt to invest in equity securities: at the end of the year these amounted to 4% of their investments. Among the different types of providers, insurance companies have the most conservative investment policy, and hold the highest proportion of government securities, while mutual pension funds have the least conservative policy.

Figure 5.10: Structure of investments of individual providers of voluntary supplementary pension insurance at end of 2003 (in %)



Source: Insurance Supervision Agency, Securities Market Agency

According to forecasts by providers of voluntary supplementary pension insurance, investments abroad should increase. At the end of 2003 pension companies held investments of SIT 2.14 billion or 7.7% in foreign securities and 45% of investments in financial instruments in foreign currency, primarily euros. The value of the investments in foreign securities had risen to SIT 3.4 billion by the end of March 2004. Among the mutual pension funds, only the largest fund opted to invest abroad, with investments of SIT 567.2 million or 4.6% of total mutual fund investments held in foreign securities at the end of 2003.

The minimum guaranteed return means that providers of voluntary supplementary pension insurance primarily invest assets in government securities and other debt securities that generate a return similar to that of government securities, which allows them to provide the legally defined minimum guaranteed return by the prescribed deadline. This can be a significant burden on the long-term investment policy of providers.

There is also the question of who actually covers the minimum guaranteed return if it is not achieved and if the pension company, mutual pension fund manager or insurance company providing the voluntary supplementary pension insurance does not have sufficient capital available to cover the shortfall in the guaranteed return.

5.2.2. Voluntary Supplementary Pension Insurance Providers' Ownership Links with Banks

Only one of the four pension companies had no bank equity at the end of 2003, while the others were at least partly owned by one or more banks. Thus one pension company was 45% owned by one bank, a second pension company was 54% owned by three banks, and 12% of the third pension company was owned by two banks with interests of 7.4% and 4.4%. In terms of collected premiums the three account for a market share of 80% among pension companies. Banks also manage three of the six mutual pension funds, which together account for a market share of 15% among mutual pension funds in terms of assets.

Voluntary supplementary pension insurance providers are also linked with banks via investments, as in addition to investments in government securities they mainly opt to invest in bank deposits and bank bonds.

The percentages cited above indicate the powerful interest banks have in controlling such long-term saving, but at the same time draw attention to the relatively high possibility of reallocating risk between the two segments of the financial sector, namely banks and voluntary supplementary pension insurance providers.

5.3. Investment Funds (Mutual Funds and Investment Companies)

5.3.1. Features

The first investment funds appeared in Slovenia with the transition to a market economy following independence in 1992. The adoption of the Ownership Transformation of Companies Act that year saw the creation of the authorised investment companies (AIC) (also known as privatisation funds), which are now in the final phase of transformation into appropriate market-based organisational forms. The first mutual fund (MF), now the largest Slovenian mutual fund, began operating in 1992. Genuine investment companies (IC) only arose after the transformation of the AICs in 2002, and even today there is not a single investment company in Slovenia that did not originate as a AIC.

The 1994 Investment Funds and Management Companies Act (the ZISDU) also gave investment funds their legal framework; since then oversight has been the responsibility of the Securities Market Agency. In 2002 a new Investment Funds and Management Companies Act was adopted (the ZISDU-1), which is transparent with European legislation and also stipulates that investment funds that are not yet harmonised with the ZISDU-1 must carry the designation "special" in their titles.

Table 5.10: Investment funds' (IF) assets and returns

	Net payment to MF SIT million	Assets of MF SIT million	Annual growth of MF unit value %	Assets of AICs SIT million	Assets of ICs SIT million	Annual growth PIX %	Assets of IFs SIT million
2000	1,232	10,744	3.7%	573,513	-	2.5%	584,257
2001	1,785	14,686	25.1%	548,096	-	4.4%	562,782
2002	29,345	55,422	54.2%	324,052	138,500	71.9%	517,973
2003	25,747	93,118	16.8%	131,804	214,259	23.5%	439,181
(to) Apr. 2004	24,568	143,176	30.8%	29,416	267,428	68.1%	440,020

Source: Association of Management Companies, Vzajemci.com, Ljubljana Stock Exchange, Bank of Slovenia conversions

At the end of April 2004 investment funds held SIT 440 billion of assets, equivalent to 7.6% of GDP, while market capitalisation on the stock exchange was equivalent to 48.4% of GDP and bank deposits were equivalent to 58% of GDP, i.e. almost eight times more than investment funds' assets. In asset terms, investment companies prevail among investment funds with 60.8%, followed by mutual funds with 32.5%. The remaining 6.7% is accounted for by AICs who have failed to meet the deadline for transformation set by law, which was the end of 2003.

Figure 5.11: Investment fund assets (SIT billion)

Source: Association of Management Companies

Management Companies

At the end of March investment funds were managed by 15 management companies (DZUs). The largest of these held a market share of 21.8% in terms of assets under management, primarily owing to its management of the two largest mutual funds, while the second-largest mainly manages the assets of investment companies and untransformed AICs. The five largest management companies manage 73.4% of investment fund assets. With EU membership bringing greater market openness and new domestic competitors appearing, there should be greater competition among management companies.

At the end of 2003 only half of the management companies had no bank equity, while the others were at least partly under bank ownership. One bank owned two management companies, the first with a

100% interest and the second with an interest of 84%, with 12% of the latter being held by three other banks. Another bank had three management companies in its portfolio, maintaining almost 100% ownership in two and an interest of 44% in the third, with another 44% of the third being held by another bank. Three other management companies were under bank ownership, one under 100% ownership, a second under 68% ownership and the third under 7% bank ownership.

Table 5.11: Market shares of management companies in terms of assets under management as at end of March 2004

	Market share
KD Investments	21.8%
N F D	16.7%
Triglav	14.9%
KBM Infond	11.5%
Probanka	8.4%
LB Maksima	6.0%
PDU	4.3%
DUS Krona	3.2%
Krekova družba	3.1%
Primorski skladi	2.9%
AVIP	1.8%
ABančna DZU	1.7%
Ilirika DZU	1.4%
Perspektiva DZU	1.3%
Medvešek Pušnik DZU	0.9%

Source: Association of Management Companies

Banks Seeking Control of Alternative Forms of Saving

Banks' capital investments in management companies rose by 69% in 2003. There is particular interest in the management of mutual funds.

The fall in interest rates on bank deposits is causing a slowdown in the growth of bank deposits, and banks are therefore seeking addition financial sources in conjunction with other actors on the capital market. At the end of 2003 banks held capital investments of SIT 7.5 billion in almost half of the management companies, and given the increasing link between banking services and financial instruments on the capital market it can be anticipated that banks will expand these capital links further. The largest Slovenian bank established a management company in 2004, which began marketing four mutual funds at the beginning of May.

Table 5.12: Management companies' assets under management (SIT million) and relative proportion of investment funds managed by management companies* under majority bank ownership

	2002		2003		Mar. 2004	
	Funds under management by DZU	Funds under management by majority bank-owned DZU, in %	Funds under management by DZU	Funds under management by majority bank-owned DZU, in %	Funds under management by DZU	Funds under management by majority bank-owned DZU, in %
Authorised inv. companies	324,052	43.6%	131,804	17.6%	33,861	69.5%
Investment companies	138,500	50.6%	214,259	60.3%	256,494	54.9%
Mutual funds	55,422	27.5%	93,118	25.2%	131,471	23.0%
Total investment funds	517,974	43.7%	439,181	40.0%	421,826	46.1%

* Management companies (DZU)
Source: Association of Management Companies

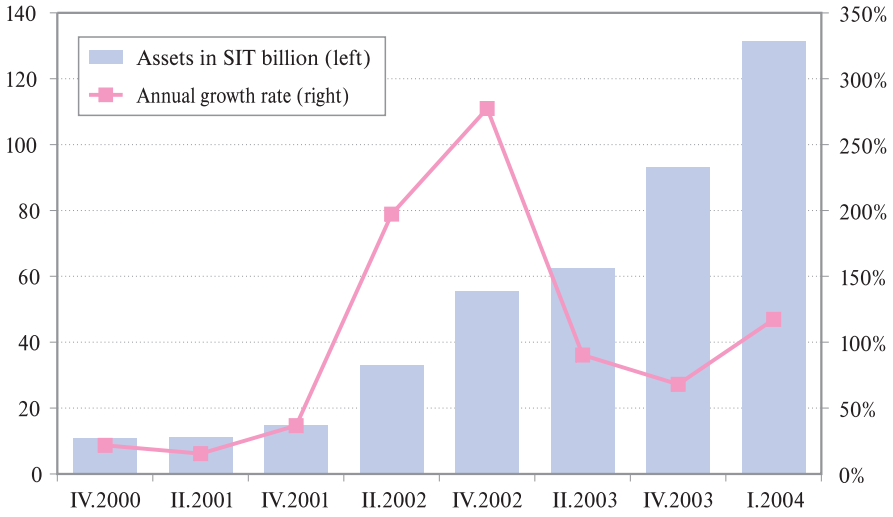
Management companies under majority bank ownership manage approximately 46% of investment funds' total assets, primarily investment companies and AICs. Owing to the legally complicated process of transforming AICs, they have begun to lag behind in the development of mutual funds, and they wish to make up for this by establishing new management companies and mutual funds. The proportion of mutual fund assets under their management in March 2004 was 2 percentage points lower than at the end of 2003.

5.3.2. Review of Mutual Funds' Performance

At the end of 2001 there were 18 mutual funds operating in Slovenia, managing total assets of SIT 14.7 billion, but by the end of May 2004 the number of funds had risen to 25 and the assets they manage had risen to SIT 147.8 billion. Eight of the funds are share funds, four are based on bonds and 13 are mixed funds. Their returns in the last 36 months vary from 37% to 165%. When the SBI 20 stock exchange index began to rise significantly in 2002, more money began to flow into the funds.

In comparison with bank saving there are still relatively few assets in mutual funds: equivalent to just 4.7% of all the time bank deposits in domestic currency and foreign currency deposits owned by the non-banking sector at the end of March 2004. However, their rate of growth is significantly higher than the rate of growth in bank deposits: in the first three months of this year it was 40%, while time bank deposits in domestic currency and foreign currency deposits grew by just 3.4%.

Figure 5.12: Quarterly overview of mutual fund assets (SIT billion)



Source: Association of Management Companies

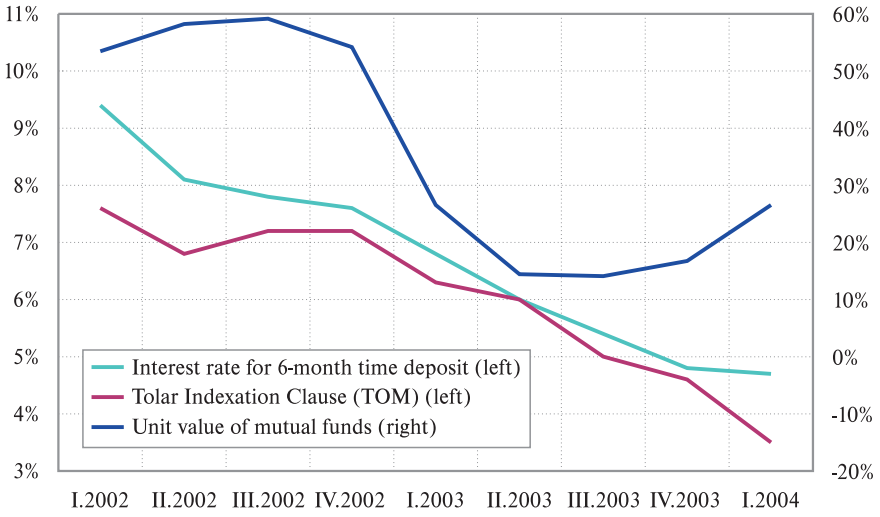
Table 5.13: Proportions and rates of growth of assets in time bank deposits in domestic currency, foreign currency deposits and mutual funds

	Structure of financial assets			Annual growth rate		
	Time deposits in domestic currency	Deposits in foreign currency	Mutual funds	Time deposits in domestic currency	Deposits in foreign currency	Mutual funds
2001	57.4%	42.0%	0.7%			-
2002	59.7%	38.2%	2.1%	21.9%	6.7%	277.4%
2003	58.6%	37.9%	3.4%	2.7%	3.7%	68.0%
Mar. 2004	57.2%	38.1%	4.7%	2.8%	6.9%	117.3%

Source: Bank of Slovenia, Association of Management Companies

Interest was only really shown in mutual funds in 2002, which was also a turning point in their development. Large returns on the stock exchange and the fall in bank interest rates gradually began to encourage investors to make use of alternative forms to bank deposits. Real interest rates have fallen constantly since 2000, and more and more people are therefore opting to invest on the capital market. At the end of March the annual rate of growth in mutual funds' unit value was 26.6%, while the interest rate on a deposit committed for up to 6 months was 4.7%, the tolar indexation clause (TOM) being 3.5%.

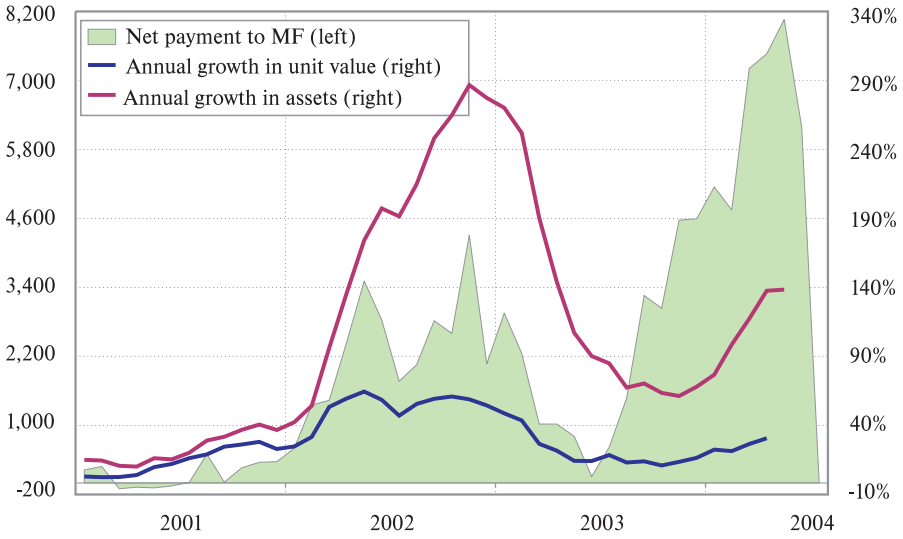
Figure 5.13: Interest rate for 6-month time deposits, tolar indexation clause (TOM), and growth in mutual fund unit value (in %)



Source: Bank of Slovenia, Vzajemci.com, Bank of Slovenia conversions

The somewhat poor performance in the summer of 2003, when there was a notably sharp decline in the net payments into mutual funds (in the summer of 2002 the net payments also fell), and also in the unit value, was followed by a recovery in the autumn, which continued in the first four months of 2004. The large growth in mutual funds' assets is the result of both new payments (of which there were SIT 24.6 billion in the first four months of this year), and the return on their investments as expressed via the unit value.

Figure 5.14: Net payments into mutual funds (SIT million), annual rate of growth in mutual fund unit value, and annual rate of growth in mutual fund assets

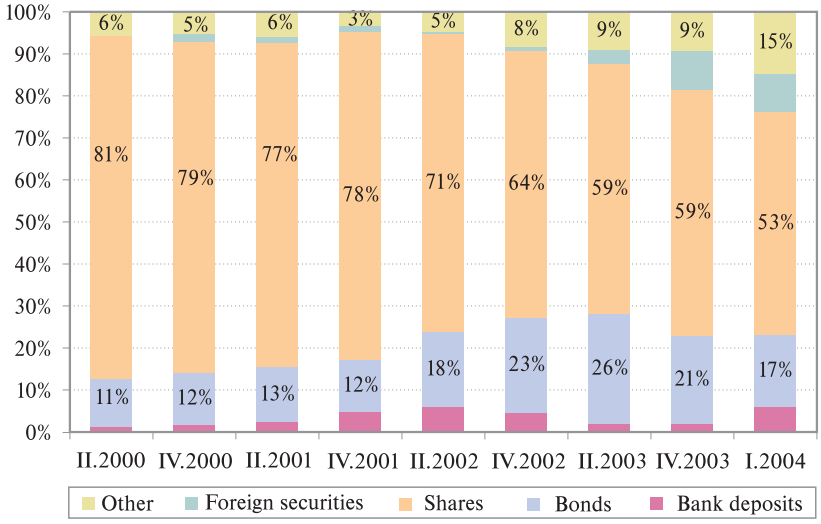


Source: Vzajemci.com, Bank of Slovenia conversions

Mutual Funds Achieving High Annual Growth

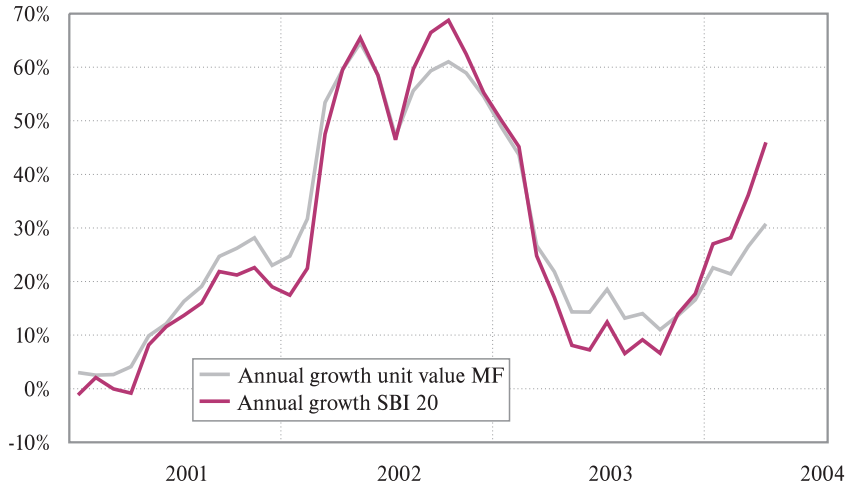
At the end of March 2004 the year-on-year rate of growth in the mutual fund unit value was 26.6%. With 53% of mutual funds' assets in domestic shares, the movement of the unit value is similar to that of the SBI 20. Investment in mutual funds is also encouraging demand for shares on the domestic capital market, and is consequently driving up stock exchange prices and the unit value of mutual funds. Since November 2003 the SBI 20 has achieved a higher annual rate of growth than the unit value, the gap being 9.5 percentage points at the end of March, primarily because of changes in the structure of mutual funds' investments. However, care should be taken when comparing the SBI 20 and the unit value, as they have different content and different risks. The proportion of domestic shares in mutual funds' investments fell by 6 percentage points from the end of 2003 to reach 53% at the end of March 2004.

Figure 5.15: Structure of mutual funds' investments (in %)



Source: Association of Management Companies

Figure 5.16: Annual rate of growth in SBI 20 and mutual fund unit value (in %)

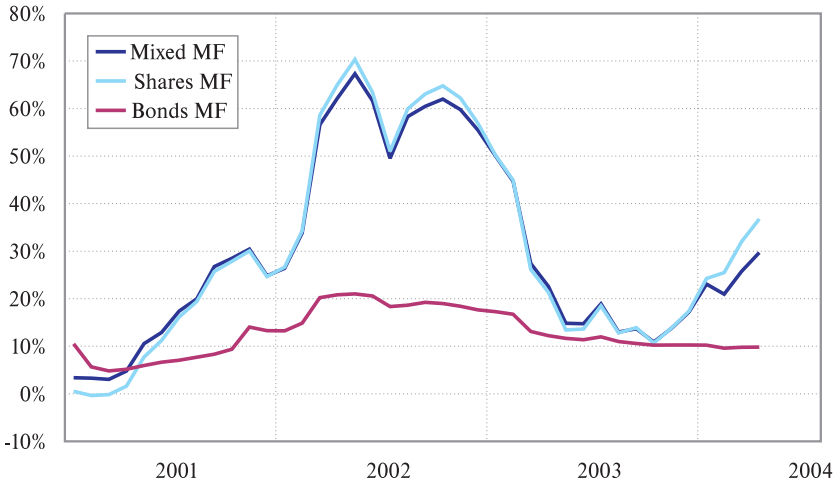


Source: Ljubljana Stock Exchange, Vzajemci.com, Bank of Slovenia conversions

In 2003 seven mutual funds out of 21 had an average annual return higher than the overall average for mutual funds, and nine mutual funds had an average annual return higher than the rise in the SBI 20. None of the mutual funds had an average annual return higher than the rise in the SBI 20 during the first four months of 2004. Nine mutual funds enjoyed a return that was higher than the overall average for mutual funds.

Between January and April 2004 there was less variation in the rate of growth in the mutual fund unit value than in that of the SBI 20, with a coefficient of variation of 0.17 for the former and 0.26 for the latter. The variation in the rate of growth in the mutual fund unit value in the first four months of this year was significantly lower than in the same year last year, which is primarily a result of the stable growth of the stock market, as illustrated by the lower variation in the SBI 20.

Figure 5.17: Annual rate of growth in unit value of individual types of mutual fund



Source: Vzajemci.com, Bank of Slovenia conversions

Comparing the annual rates of return for individual types of mutual fund,[48] as expected the highest rates are achieved by the share funds, with 32% at the end of March, followed by the mixed funds with 25.8% and then the bond-based funds with an annual rate of growth in the unit value of 9.8% at the end of March. The greatest variation in returns during the first four months of this year was shown by share funds, with a coefficient of variation of 0.20, followed by mixed funds with a coefficient of 0.15 and bond-based funds with a coefficient of 0.03.

Mutual Fund Investment Coupons as Collateral for Bank Loans

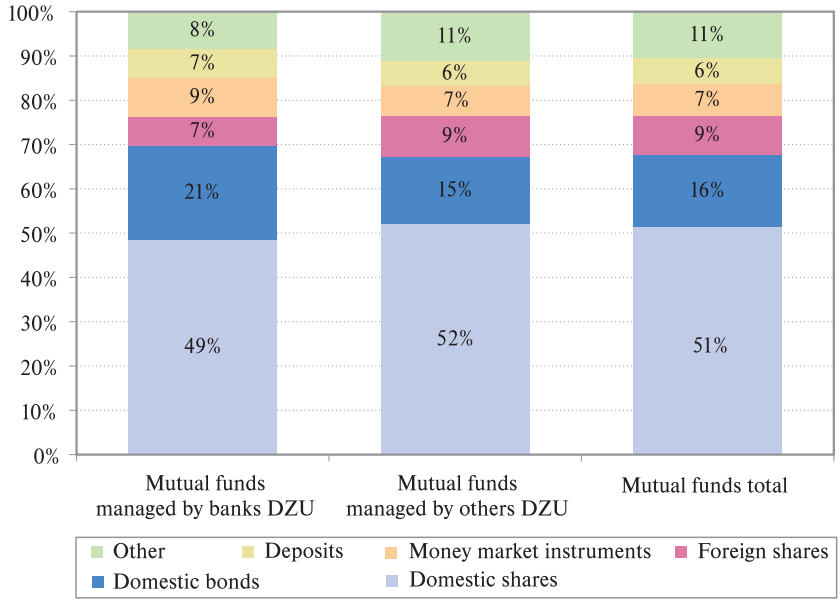
A new feature appearing on the banking market is the possibility of securing loans using mutual fund investment coupons as collateral, although the volume is not as yet significant. The opportunity to secure loans using mutual fund investment coupons as collateral could also encourage net payments into mutual funds, which could lead to a rise in prices on the stock exchange and thus growth in mutual fund unit value, thanks to which the value of the assets pledged as collateral would also rise, and with it the possibility of increased bank lending. It is questionable that some banks offer credit where the collateral is investment coupons of mutual funds managed by management companies under their majority ownership. There is potential for the confusion of the seller's interests (the mutual fund investment coupons) and the buyer's interests (lending to the buyer). The problem is the connection between a bank and a management company that is under the majority ownership of the bank and manages the mutual fund whose investment coupons are being used as collateral for the bank's credit risk.

At the end of March there were SIT 30.3 billion of mutual fund assets being managed by management companies under majority bank ownership, or 23% of the total assets value. In the investments structure

[48] The classification of mutual funds was according to the situation in April 2004.

shares accounted for SIT 14.7 billion or 48.6% of the total, equivalent to less than 1% of the total market capitalisation of shares on the stock exchange. However, it is the level of supply and demand that is more important to the movement of stock exchange indices, and this is reflected in the turnover on the securities market. Mutual funds managed by management companies under majority bank ownership had net payments of SIT 4.4 billion in the first three months of this year, which was equivalent to 8% of the turnover of shares on the organised securities market.

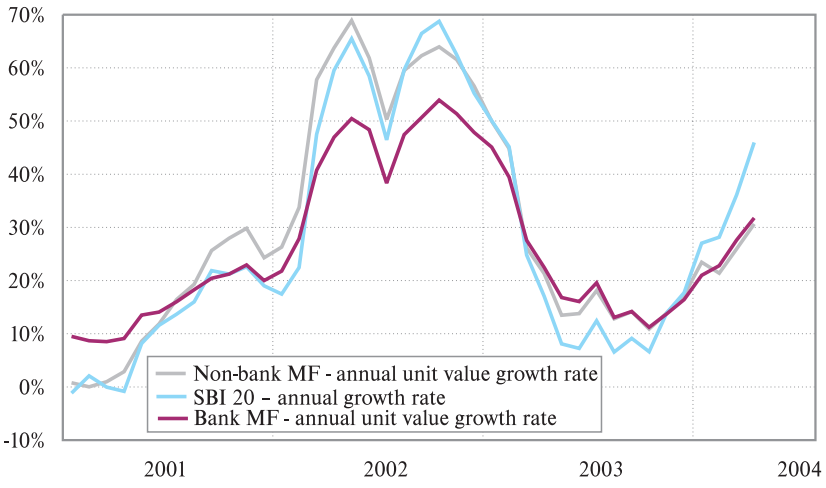
Figure 5.18: Structure of investments of mutual funds managed by management companies under majority bank ownership, mutual funds managed by other management companies, and all mutual funds as at end of March 2004



Source: Association of Management Companies

Banks offer consumer credit using securities as collateral, while credit using mutual fund cupons as collateral is offered by just three banks. At the end of March 2004 credit of SIT 570 billion had been approved for households. Consumer credit secured using securities or mutual fund cupons as collateral accounted for 0.56% of all household credit or SIT 3.1 billion at the end of 2003, and 0.84% or SIT 4.8 billion at the end of March 2004. In the summer of 2003 it had accounted for 1.06% of all household credit, which indicates the cyclical nature of its fluctuation.

Figure 5.19: Annual growth in unit value of mutual funds managed by management companies under majority bank ownership and mutual funds managed by other management companies, and in SBI 20 (in %)



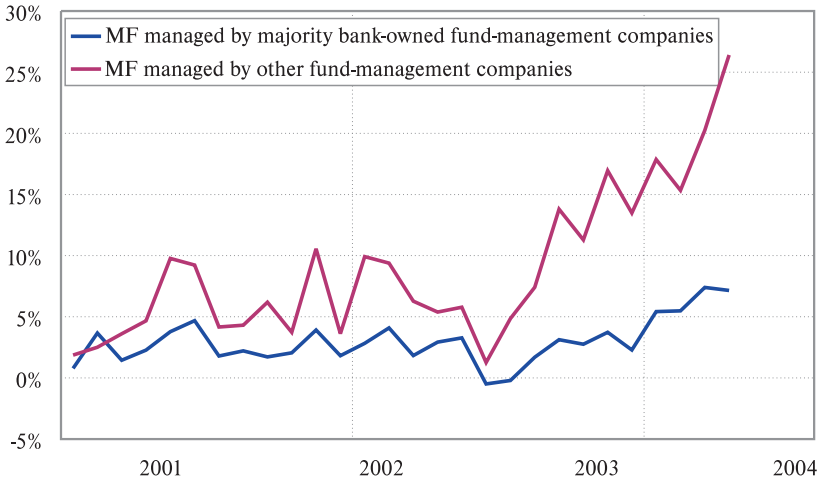
Source: Vzajemci.com, Bank of Slovenia conversions

Consumer credit with mutual fund investment coupons as collateral does not yet account for a significant proportion of total volume, and neither do the net payments into mutual funds managed by management companies under majority bank ownership. The potential danger of banks and management companies under their majority ownership manipulating securities prices in order to increase the value of the collateral will grow as there is an increase in the amount of lending secured using the investment coupons of mutual funds managed by management companies under the majority ownership of banks who approve credit for investors to invest in these mutual funds using the investment coupons of those very funds as collateral.

Comparing the fluctuation in the rate of growth in the unit value of mutual funds managed by management companies under majority bank ownership and the unit value of mutual funds managed by other management companies to the rate of growth in the SBI 20, no systemic discrepancies can be found in the recent past, so the aforementioned potential manipulation cannot be confirmed as taking place.

At the end of March 2003 mutual funds together held SIT 70 billion in domestic shares, which is equivalent to 4.57% of the market capitalisation of shares on the organised market, and SIT 22.4 billion in bonds, equivalent to 2.45% of the market capitalisation of bonds. The net payments into all mutual funds in the first four months of this year were SIT 24.5 billion, which is equivalent to 17.8% of the total turnover in the securities market. Even though some of the net payments were invested in other assets, this still represents a significant influence on the upward motion of the prices of domestic securities.

Figure 5.20: Net monthly payments into mutual funds as proportion of turnover of shares on organised securities market (in %)



Source: Ljubljana Stock Exchange, Vzajemci.com

Structure of Mutual Funds' Investments

Domestic shares and bonds prevail in the structure of mutual funds' investments. The enactment of the new Investments Funds and Management Companies Act (the ZISDU-1) changed the restrictions on the structure of mutual funds' investments. The final deadline for mutual funds to bring themselves into line with the new law is the beginning of January 2005; by May 2004 only six of the 25 mutual funds had done so.

The 10% legal limit on investments in foreign securities no longer applies to mutual funds that have brought themselves into line with the new law. However, after having brought themselves into line with the new law, if they wish to modify their investment policy or opt to increase the level of investment

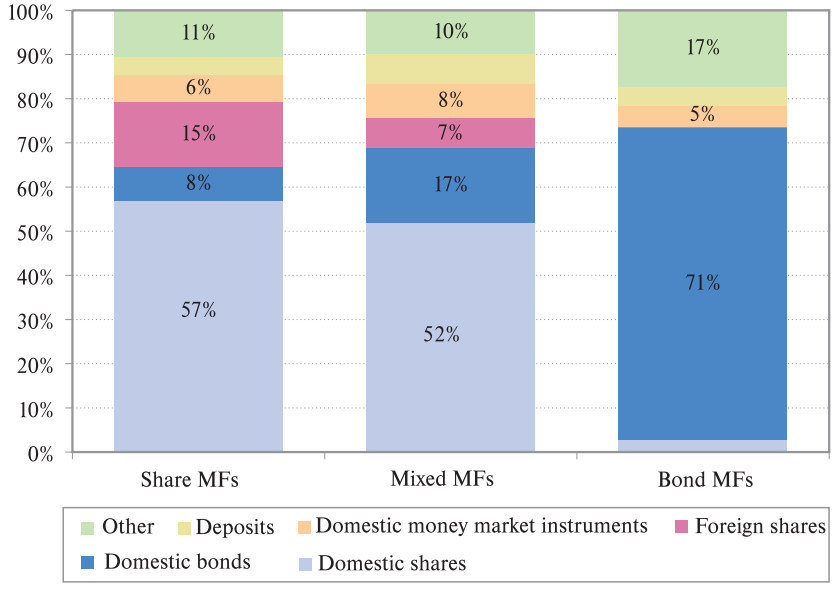
abroad, they must also modify their fund rules or statute and the prospectus that sets out the investment policy. Therefore, irrespective of there no longer being any restriction on investments abroad, mutual funds must first bring themselves into line with the new law and then modify their fund rules before actually increasing their investments abroad to more than 10% of their assets, which is a rather complicated procedure. At the end of March 2004 mutual funds held 9.1% of their assets in foreign investments.

Table 5.14: Proportion of foreign investments at mutual funds

	Share of foreign investment	
	2003	Mar. 2004
MP-Plus.si	85.9%	88.0%
MP-Global.si	86.8%	76.6%
PVS Vizija	3.9%	9.5%
Živa	7.4%	9.4%
Alfa	7.2%	8.9%
Galileo	8.9%	8.8%
Rastko	9.2%	8.8%
VS SPD	9.7%	7.8%
Zajček	1.9%	7.3%
VS Delniški	7.5%	6.1%
Skala	6.6%	6.0%
VS Hrast	9.9%	5.4%
Modra Kombinacija	3.2%	4.2%
Vipek	1.3%	3.0%
Pika	0.0%	2.8%
Total	9.1%	9.1%

Source: Association of Management Companies

Figure 5.21: Structure of assets of individual types of mutual fund as at end of March 2004 (in %)



Source: Association of Management Companies

Share-based mutual funds hold most of their investments in domestic shares, namely 57%. The proportion accounted for by shares is 5 percentage points lower for mixed funds, and that for bonds is consequently 10 percentage points higher. Bond-based funds hold 70.6% of their assets in domestic bonds.

New Foreign and Domestic Mutual Funds Expected

The advent of new domestic and foreign mutual funds is expected to bring a fall in market concentration. The market share of the largest mutual fund as measured by total assets fell by 5 percentage points in the first three months of this year. Apart from the new domestic mutual funds and the arrival of foreign funds, investment companies (and PIDs) that are opting to convert into mutual funds are also bringing about a lowering of market concentration and an increase in mutual funds' assets.

In February 2004 Pomurska investicijska družba 1, a PID that held SIT 11.4 billion in assets at the end of January 2004, equivalent to 11% of the assets of mutual funds at that time, transformed into the mutual fund Primus. The investment company Triglav Steber 1, which held SIT 59.3 billion in assets at the end of May 2004, equivalent to 40% of the assets of mutual funds, is preparing to transform into a mutual fund.

With Slovenia having joined the European Union, foreign management companies can establish a branch in Slovenia or provide mutual fund management services directly. Foreign competition will also see different forms of mutual fund offered on the market, such as funds of funds, index funds, money market funds, hedge funds and real estate funds. Slovenia's membership of the EU has given domestic management companies better access to markets in EU member-states.[49] There is thus a greater opportunity for capital to leave the country, but also to enter the country. Some management companies have now established subsidiaries in the markets of eastern Europe in particular.

Table 5.15: Market concentration of mutual funds in terms of assets

	2003	Mar. 2004
Gallileo	38.4%	33.6%
Rastko	15.1%	14.3%
Alfa	12.0%	10.2%
Primus*	-	8.9%
Modra kombinacija	4.3%	4.5%
Other	30.3%	28.4%

* Primus transformed from PID status in February 2004
Source: Association of Management Companies

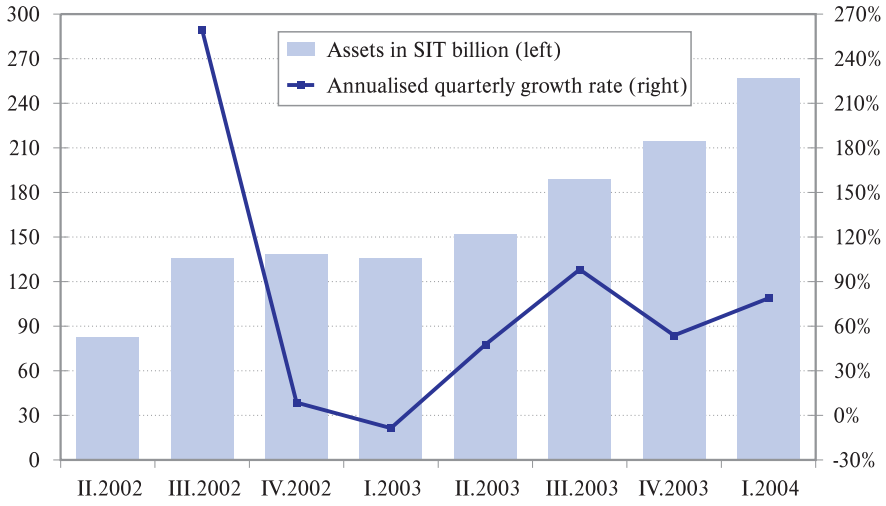
[49] Management companies that wish to provide services of managing investment funds in a country that is not a member of the EU must first establish a branch there and then obtain an authorisation from the Securities Market Agency. The same applies to management companies that are not from EU member-states and wish to provide services of managing investment funds in Slovenia. To provide services of managing investment funds in an EU member-state a management company can either establish a branch or provide the services directly.

5.3.3. Review of Investment Companies' Performance

The first genuine investment companies were only created in the middle of 2002, from transformed AICs. By the end of March 2004 there were ten investment companies on the Slovenian market, with assets of SIT 256.5 billion, equivalent to 4.5% of GDP. Each is managed by a different management company, half of whom are under majority bank ownership and have 55% of the total assets of investment companies at their disposal.

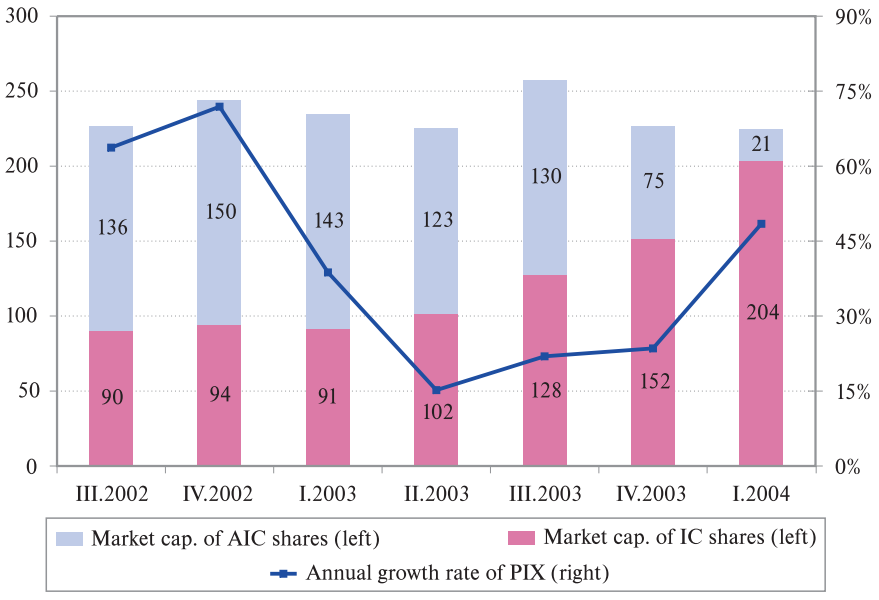
The market capitalisation of investment company shares had reached SIT 203.6 billion by the end of March 2004, which is 7.6% of the total market capitalisation on the stock exchange. Between April 2003 and April 2004 it rose 151%, a result of the new investment companies created from AICs and also the return on their investments as expressed by the PIX, the index rising by 86% over the same year.

Figure 5.22: Investment companies' assets and quarterly growth in assets on annual basis



Source: Association of Management Companies

Figure 5.23: Quarterly market capitalisation of shares in investment companies and AICs, and annual growth in PIX



Source: Ljubljana Stock Exchange

In the first four months of this year the turnover of investment company shares was up 119% from the same year last year. Turnover ratio of investment companies' assets[50] reached 0.21 at the end of 2003, compared with 0.12 for other shares on the OTC market, where there was greater interest in trading investment company shares in 2003. This can be attributed to speculation, owing to investment companies being listed at a discount to their book value.

Discounting of Investment Company Shares

The listing of investment company shares at a discount can have an impact on their transformation into mutual funds. Under the new law (the ZISDU-1), investments companies created from transformed AICs should transform into mutual funds within four years of being granted the ruling on transformation into an investment company by the Securities Market Agency. There is no need for them to transform if the shareholders decide so at the general meeting with a three-quarters majority of the entire capital.

At the end of March 2004 the market value of investment companies' shares varied from 73% to 87% of the book value, which means they are listed at a discount to the book value ranging from 13% to 27%. If they are transformed into mutual funds, the value of the shares when transformed into cupons will be equal to the book value. Although the ZISDU-1 stipulates that mutual funds can charge investors who withdraw penalty charges of up to 20% in their first year after transforming from investment companies, and up to 10% in the second year, it is likely that because of the danger of a mass withdrawal of investors a significant number of investment companies will not opt to transform into mutual funds.

Of the ten investment companies, to date (July 2004) only one is preparing to transform into a mutual fund (Triglav Steber), and it expects to do so in the autumn.

Table 5.16: Quotient of the average daily price (market value) and the net asset value (book value) of an investment company share (T/KV) and proportion of securities not traded on the organized market in investment companies

	2003		Mar. 2004
	T/KV	Proportion of securities not traded on the organized market	T/KV
Infond ID	0.65	22.3%	0.77
KD ID	0.63	29.7%	0.73
Maksima ID	0.72	9.3%	0.74
NFD1 I S	0.70	15.9%	0.79
Triglav Steber I	0.79	16.7%	0.87
Vipa Invest ID	0.74	4.2%	0.80
Zlata Moneta I	0.70	23.1%	0.76
Zvon Ena ID	0.70	11.5%	0.77
Modra linija	-	-	0.77
Krona senior	-	-	0.75
Total	0.70	17.9%	0.78

Source: Ljubljana Stock Exchange, Association of Management Companies

By March 2004 the average discount on investment company shares had fallen by 8 percentage points from the end of the year. Investment company shares can be expected to listed on the stock exchange rate at a discount of 10% to 25% to the book value. The size of the discount depends on the quality of

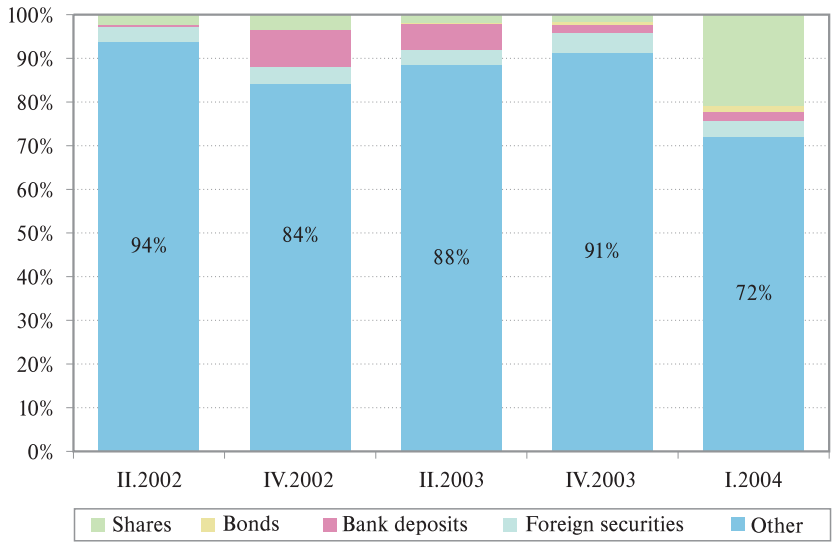
[50] Turnover ratio is calculated as turnover in year devided by market capitalisation at the end of year.

the investment company's assets: a greater proportion of securities traded on the organized market means a smaller discount is more likely, which in turn means greater value on the stock exchange.

Most Investment Company Assets in Domestic Shares

As for mutual funds, it is also the case for investment companies that they cannot hold more than 10% of their investments in foreign securities until they have brought themselves into line with the new law (the ZISDU-1) and carry the designation "special" in their title. None have reached the limit yet, as foreign securities accounted for only 1% of their assets at the end of March 2004. Most are held in domestic shares, which accounted for SIT 193 billion or 75% of total assets at the end of March 2004, which is approximately 23 percentage points more than for mutual funds. At the end of 2003 investment companies still held 18% of their assets in securities not traded on the organised market, which have a significant bearing on the discount in the market value of the shares.

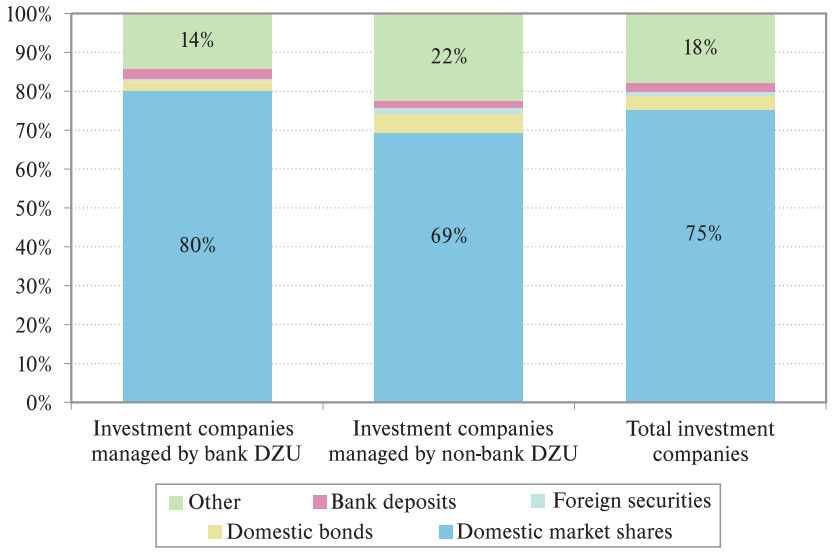
Figure 5.24: Structure of investment companies' investments (in %)



Source: Association of Management Companies

The structure of the investments of investment companies managed by management companies under majority bank ownership differs from that of others primarily in the greater proportion of investments in domestic marketable shares. Investment companies together held only 2.2% of their assets (SIT 5.7 billion) in bank deposits; for investment companies managed by management companies under majority bank ownership this proportion was 0.7 percentage points higher than for other investment companies.

Figure 5.25: Structure of investments of investment companies managed by management companies under majority bank ownership, investment companies managed by other management companies, and all investment companies together as at end of March 2004 (in %)



Source: Association of Management Companies

Market Concentration

Recently the creation of new investment companies from transformed AICs has seen market concentration fall. At the end of March the largest investment company held 23% of the total assets of investment companies, and the three largest held 57%. Given the number of AICs yet to transform, market concentration can be expected to fall further in the future.

Table 5.17: Market concentration of investment companies

	Market share	
	2003	Mar. 2004
NFD1 I S	25.3%	23.2%
Triglav Steber I	25.5%	23.0%
Infond ID	11.9%	10.6%
KD ID	10.9%	9.8%
Maksima ID	10.3%	9.5%
Zlata moneta I	9.5%	8.6%
Krona senior	-	5.3%
Modra linija	-	4.0%
Zvon ena ID	3.3%	3.0%
Vipa invest ID	3.2%	2.9%

Source: Association of Management Companies

5.4. Leasing Companies

General Features

Specialist leasing companies began to be set up in Slovenia after independence. The reasons lie in the development of private enterprise, restrictions on lending and the complicated legal procedures for acquiring fixed assets. At first leasing was primarily seen in connection with cars and equipment, but in recent years it has increasingly been developed for real estate. Slovenian Leasing Association was established in 1993, and is a member of Leaseurope, the European federation of leasing company associations.

Slovenia did not regulate leasing at a legislative level, except where leasing activities are undertaken in a bank and are subject to supervision under the Banking Act. In countries where there are no regulations that refer directly to leasing contracts, the rules applying to traditional nominated contracts under civil and commercial contractual law apply to leasing.

There is a high degree of concentration on the market for leasing services in Slovenia, with the largest leasing company having a market share of 38% of the volume of leasing transactions, and the largest five taking almost 70% of the market.

Volume of Leasing

Leasing transactions worth SIT 232.7 billion were concluded in 2003, equivalent to 4.1% of GDP. The volume of newly concluded transactions in 2003 was SIT 134 billion more than in 1998, or 3.2 times higher. The average annual rate of growth in leasing transactions has been almost 40% over the last six years, and a still high 34% over the last four. An important turning point in this sector was the introduction of value added tax in 1999, which allowed leasing to compete with other forms of financing. Comparing the first quarter last year and this year, it is clear that despite major growth in recent years the leasing market has not yet stalled, the volume of transactions rising from SIT 44.4 billion to SIT 50.8 billion.

Leasing is increasingly able to compete with bank credit; the volume of leasing transactions concluded in 2003 was 69.5% of the growth in credit provided by banks to the non-banking sector.

Table 5.18: Volume of leasing business

	Volume of transactions SIT billion	Annual growth rate in transactions	Share of transactions in GDP	Share of transactions in banks' credit growth	Share of real estate	Share of equipment leasing	Share of consumer leasing
2000	98.5	36.2%	2.3%	39.7%	15.4%	84.6%	24.3%
2001	124.6	26.5%	2.6%	44.7%	20.8%	79.2%	20.1%
2002	171.7	37.8%	3.3%	64.0%	29.7%	70.3%	20.0%
2003	232.7	35.6%	4.1%	69.5%	34.5%	65.5%	20.2%

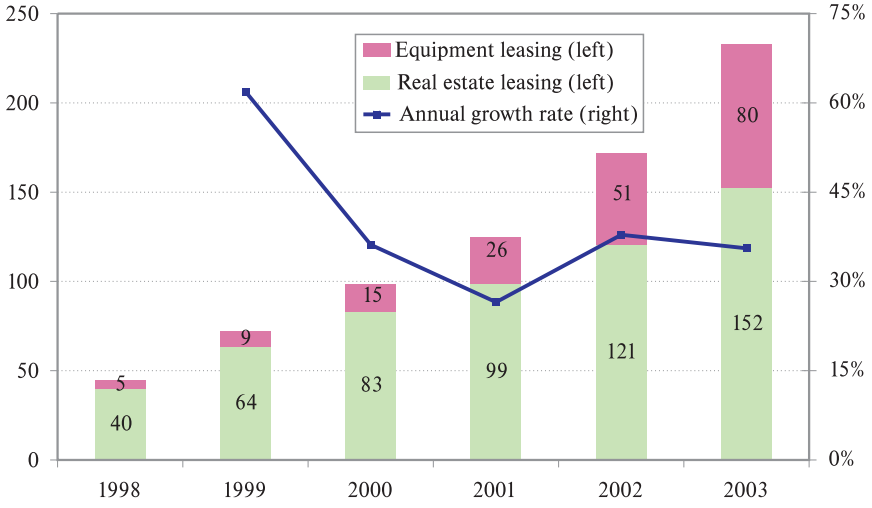
Source: Slovenian Leasing Association

In recent years it is real estate leasing in particular that has grown in importance, particular for office buildings, which account for 42% of real estate leasing. Half of the movable property leasing transactions involve leasing for cars.

Consumer leasing accounts for approximately 20% of all leasing. In 2000 it accounted for almost one-quarter of leasing business, but this was only a short-lived consequence of the introduction of value added tax. Consumer leasing is retaining its share of the overall leasing market by achieving annual

growth rates similar to those achieved by other leasing segments, the growth rates having fluctuated around 37% in the last two years.

Figure 5.26: Volume of leasing business (SIT billion)



Source: Slovenian Leasing Association

Ownership of Leasing Companies

Of the 32 leasing companies that are members of the association, 21 are primarily under domestic ownership, two are primarily under foreign ownership, and nine are branches of foreign financial companies. Austrian and French banks and international corporations focused primarily on financing car deals have a capital presence on the leasing market. Of the eight largest companies in Slovenia in terms of market share, three were owned by foreign banks, even though the banks have subsidiaries or branches in Slovenia. The reasons for this lie in the potential reduction in the capital adequacy of the subsidiary banks in the event of consolidation.

Seven leasing companies with domestic bank capital in the amount of SIT 4.7 billion held a market share of 21.8% at the end of year. Among them were five companies under 100% bank ownership, with domestic banks maintaining interests of 55% and 15% in the other two. These figures indicate the substantial level of capital links between leasing companies and banks, and the accompanying need for consolidated monitoring of the operations of banks and leasing companies in order to monitor the exposure of related parties to financial risks.

Two banks also hold an authorisation to pursue leasing business, despite both having leasing companies under 100% ownership at the end of 2003. It is questionable whether the dual nature of the criteria for overseeing banks that hold an authorisation to pursue leasing business and conduct leasing transactions and for overseeing leasing companies is reasonable. There are no specific regulations for such companies in Slovenia, and in the event of disputes the appropriate provisions of the Code of Obligations apply. Given that leasing is growing in importance, it would be sensible to move in the direction of specific regulations to cover the operation of leasing companies in full.

Various publications and material from the following institutions:

- Bank of Slovenia
- Insurance Supervision Agency (ISA)
- Securities Market Agency
- Association of Management Companies
- Ljubljana Stock Exchange
- Slovenian Leasing Association
- Central Securities Clearing Corporation (KDD)
- Ministry of Finance

Websites:

- http://www.vzajemci.com
- http://www.finance-on.net/skladi.php
- http://www.zdu-giz.si/
- http://www.ljse.si/

Expert papers on financial stability

The opinions and decisions presented in the expert papers in this section of the Financial Stability Report do not necessarily reflect the official positions of the Bank of Slovenia and its bodies.

Assessing and Analysing Risks in the Banking Sector

Matejka Kavčič, Ph.D.

1. Introduction

When banks make loans to their clients, they set the terms under which loans can be taken out. In setting these terms, they classify clients into different credit rating categories with regard to the credit risk they pose. They classify each client on the basis of objective and subjective criteria. A client's credit rating is determined by external evaluators, and it constitutes an assessment of the client's quality and his ability to discharge his liabilities.

Credit risk means the risk of loss due to failure by a bank's debtor to discharge his liabilities. The bank must divide on-balance sheet and off-balance sheet items into risk groups and estimate the potential loss resulting from credit risk. The classification into such groups is based on the assessment of a debtor's capacity to discharge his liabilities to the bank when such debts fall due and on the assessment of the quality of the insurance.

The purpose of this paper is to develop a model that would make it possible to assess and analyse risks in the banking sector, determine the credit ratings of business entities and their variations, and increase the understanding of credit risks in Slovenian banking system.

The literature has so far dealt only with analyses of company bankruptcies and the solvency[51] of the economy. Hunter and Isachenkova (2002) analysed 539 British companies from 1988 to 1993. They focused on the probability of a company going bankrupt. They used panel data. Lower liquidity, lower turnover and lower profitability are linked to a higher risk of inability to pay one's liabilities and a higher risk of bankruptcy. The authors' findings confirmed the view that it was current cash flow rather that companies' promises that determined whether companies would go under during the recession of the early 1990s.

We are not interested only in illiquid and insolvent companies but also in the migration of business entities among all credit rating categories. The probabilities of business entities moving among individual credit rating categories are presented by means of transition matrices.

Šuler (2001) showed in her paper that a transition matrix changes over time. Changeability of the transition matrix should also be taken into account when assessing the expected number of business entities in a particular credit rating category and their total exposure. In this analysis we intend to assess the anticipated number of business entities in a particular credit rating category in the year ahead. In doing that, it is important to take both microeconomic and macroeconomic factors into account.

In this paper we will present indicators by means of which we can determine the credit rating assessments of business entities and their variations. Our aim is to improve the understanding of credit risk in Slovenian banking system. Banks assess the quality of their credit portfolio and credit risk on the basis of the credit ratings of their clients. Through such credit ratings a bank provides an assessment of the quality of the client and his ability to discharge his liabilities.

[51] Solvency refers to the ability to discharge one's liabilities.

We will employ a method based on the calculation of the probability of a particular business entity of being in a certain credit rating category with regard to the value of the selected indicators. In our assessment we will also take into account the credit ratings of the same business entities provided by different banks. We will first conduct the analysis on a sample of data.

The presented model with one selected latent variable (the credit rating of a business entity) can analyse the anticipated migration of business entities among more than five credit rating categories. We can use it to predict which credit rating category a business entity will probably belong to in the future. That is not all. By calculating and including additional critical points we can classify business entities into nine categories, specified under Basel II[52], rather than the current five categories.

The creation of this model has included the following steps: preparing the data bases, analysing the data in the sample, selecting the indicators and estimating the equations. We assessed the model by means of a random-effect multinomial ordered probit model for panel data.

In the remainder of the paper we will describe and analyse the data sample, present the model and selected indicators, describe the results, propose further work and, finally, sum up the main findings.

2. Description of the sample

Our sample was based on data from the credit portfolios of banks from which we randomly selected 14,658 business entity-bank pairs. For these selected pairs we collected data on the credit portfolio, the receipts and expenses of legal persons, the export and import of goods and services, the line of business in accordance with the Standard Classification of Activities (SKD), the balance sheet, the income statement and the ownership of the business entity – credit recipient. We had annual data for the 1995-2002 period at our disposal. In this way, we received 41,622 records. An element of the sample is the credit rating of a business entity at a specific bank in the relevant year. The business entity-bank-year trinity uniformly determines the elements of the sample. In our assessment we thus also took into account the credit ratings of the same business entities in a particular year at different banks. The subject of our interest was the operation of companies and small trade enterprises, so that we restricted our sample to them. Among these, we selected the records for companies and small trade enterprises for which we had balance sheet data[53]. Namely, we required indicators calculated from balance sheet data for assessing the probability of variation in the credit ratings of business entities. Our sample dropped to 20,351 records, of which we had ownership data for 1,504. Our sample included 33 banks and 6,206 business entities, and the period was 8 years. There were 203 different bank-year pairs, 7,070 bank-business entity pairs and 18,890 business entity-year pairs.

Most business entities in our sample had debts with only one bank in the relevant year. One exception was a company which had debts with as many as six banks in the relevant year. A more detailed distribution of indebted business entities in the relevant year by number of banks is presented in Table 1.

[52] Basel ll is a new capital accord being prepared by the Bank for International Settlements in Basel.

[53] We have no balance sheet and income statement data for small trade enterprises (the data base contains information only for the 19 largest small trade enterprises, or in our sample only for 8 different small trade enterprises, and only from 2001 on). Since 1994, public institutions (e.g. RTV Slovenia) have not been obliged to publish their balance sheets in this form, which is why we excluded them from the sample.

Table 1: Distribution of indebted business entities in the relevant year by number of banks

Number of banks with which business entities had debts in the relevant year	Number of business entities
1	17,622
2	1,108
3	134
4	20
5	5
6	1

The business entities in our sample had on average debts with 1.1 banks in the relevant year.

Table 2: Distribution of the duration of business cooperation between a bank and a business entity

Number of years during which a relationship existed between a bank and a business entity	Number of business entities
1	2,571
2	1,411
3	885
4	679
5	526
6	381
7	265
8	352

The average duration of business cooperation between individual banks and business entities in our sample was 2.9 years.

In assessing the migration of business entities among the credit rating categories it is important to establish the duration of the business relationship between a particular bank and a business entity. The average duration of business cooperation between individual banks and business entities in our sample was 2.9 years. Table 2 shows a more detailed distribution of the duration of business cooperation between individual banks and business entities.

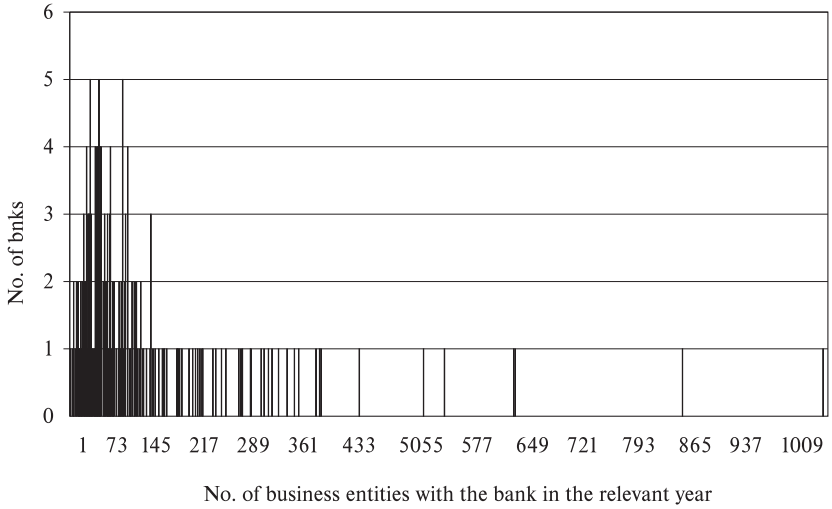
The distribution of business entities by banks is shown in Figure 1. We can see that most banks have up to 115 business entities in the relevant year and that banks with more than 350 business entities are an exception rather than the rule.

In order for commercial banks and savings banks to appropriately regulate investment risks, the Bank of Slovenia requires that they monitor the credit risks to which they are exposed in their operation (Regulation on the Clasification of On-Balance Sheet and Off-Balance Sheet Assets of Banks and Savings Banks, Official Gazette of the RS no. 24/02).

The clients and their debts are divided into five categories, from A to E, on the basis of the assessment and evaluation of the debtor's ability to discharge his liabilities to the bank, which is done on the basis of:

- the assessment of the financial status of an individual debtor;
- the debtor's capacity to provide adequate cash flow for the regular discharge of liabilities to the bank in the future;
- the type and volume of insurance for claims against the particular debtor;
- the discharge of the debtor's liabilities to the bank in previous years.

Figure 1: Distribution of business entities by banks



Category A includes those for whom no problems with the payment of liabilities are predicted. Category B includes companies whose financial status is temporarily weak but not likely to deteriorate significantly in the future and which have repeatedly paid their liabilities with a delay. Category C includes companies which do not have enough long-term sources of funds to finance investments, and from which banks do not receive satisfactory current information on their debt. Category D comprises companies which are illiquid and insolvent and which are very likely to default on the payment of their liabilities. Category E includes companies which are considered unable to pay their liabilities. Banks thus divide companies into credit rating categories. In this way they determine their expected solvency and carry out their credit policy accordingly.

Table 3: Credit rating structure of the sample

(number)	A	B	C	D	E	Total
Entire period	13,429	4,672	1,096	670	484	20,351
1995	1,426	176	75	28	49	1,754
1996	1,425	252	94	45	48	1,864
1997	1,421	336	75	55	40	1,927
1998	1,390	574	120	101	63	2,248
1999	1,763	575	90	80	58	2,566
2000	1,868	731	150	83	62	2,894
2001	1,837	890	174	103	85	3,089
2002	2,299	1,138	318	175	79	4,009

(share)	A	B	C	D	E	Drop in companies c. r.	Rise in companies c. r.
Entire period	0.66	0.23	0.05	0.03	0.02	0.137	0.047
1995	0.81	0.10	0.04	0.02	0.03		-
1996	0.76	0.14	0.05	0.02	0.03	0.143	0.031
1997	0.74	0.17	0.04	0.03	0.02	0.124	0.031
1998	0.62	0.26	0.05	0.04	0.03	0.212	0.040
1999	0.69	0.22	0.04	0.03	0.02	0.103	0.123
2000	0.65	0.25	0.05	0.03	0.02	0.145	0.026
2001	0.59	0.29	0.06	0.03	0.03	0.137	0.038
2002	0.57	0.28	0.08	0.04	0.02	0.111	0.039

The credit ratings of companies and small trade enterprises deteriorated between 1995 and 2002, with the exception of 1999. In 1995, 81% of the companies were in category A, compared to only 57% in 2002. The number of companies and small trade enterprises in categories B and C went up. The number of companies and small trade enterprises in the bottom two credit rating categories, D and E, did not change significantly. The credit rating structure of the sample is shown in Table 3. Over the entire period, credit ratings deteriorated on average for 13.7% and improved for 4.7% of the companies and small trade enterprises in our sample each year.

It is also interesting to examine how business entities move between different credit rating categories. Table 4 shows the structure of company migration among the credit rating categories in the sample. Presented are the numbers and shares of companies and small trade enterprises which remained in the same credit rating category in the current year as in the previous year, as well as those whose category rating either improved or deteriorated.

Table 4: Structure of company migration among the credit rating categories in the sample

	(number)	A	B	C	D	E	Total
previous year	A	7,530	851	174	65	20	8,640
	B	367	1,999	244	127	31	2,768
	C	47	80	281	92	33	533
	D	18	24	17	196	74	329
	E	8	18	1	10	223	260
	Total	7,970	2,972	717	490	381	12,530

	(share)	A	B	C	D	E
previous year	A	0.872	0.098	0.020	0.008	0.002
	B	0.133	0.722	0.088	0.046	0.011
	C	0.088	0.150	0.527	0.173	0.062
	D	0.055	0.073	0.052	0.596	0.225
	E	0.031	0.069	0.004	0.038	0.858

The rather wide variations in credit ratings in 1998 may have resulted from the Russian or Asian crisis, and those in 1999 from increased consumption before the introduction of VAT, but that is not very likely. Other reasons for this increased activity, i.e. the greater variations of credit ratings include inspections by central bank supervisors with requests for a greater build-up of reserves. One of the highly probable reasons is also the more conservative policy of assessing clients at a time of greater profits and preparations for new investments, which is an indicative of the procyclic behaviour of Slovenian banks.

3. Description of the model

We assessed the relationship between the independent variable y_{it} and the dependent variables x_{it} by means of a random-effect multinomial ordered probit model for panel data. The estimates of the parameters were obtained by maximizing the "log-likelihood" function of y_{it}. This function was estimated for each unit by means of the Gauss-Hermite method.[54] "Ordered" models are used when the values of the discrete dependent variable y_{it} correspond to the intervals into which falls the continuous latent dependent variable y_{it}*.

[54] For details of the calculation of integrals by means of the Gauss-Hermite method, see Butler and Moffitt (1982), and for information on the evaluation of the basic ordered probit model see Green (2000).

"Ordered" models assume that the variable y is ordinal in character and naturally ordered (e.g. bond ratings, degree of insurance of the insured person[55]). In our example, the ordinal variable is the credit rating of a business entity. Credit ratings have values from A to E, which we changed to variable values ranging from 0 to 4[56]. For business entities with the best credit rating, A, the value of the dependent variable y equals 0, while the value of the dependent variable y equals 4 for business entities with the worst credit rating. The ranking of the credit ratings of business entities is shown in Table 5. The fact that a value of 0 reflects a higher credit rating than a value of 1 constitutes useful information regardless of the fact that the credit rating variable has an ordinal meaning.[57]

Our model also assumes a panel structure of data or the decomposition of error into two parts, namely $\varepsilon_{it}=\alpha_i+\upsilon_{it}$, where α_i is the unobserved specific effect of a business entity (e.g. specific characteristics of book keeping in each company), and υ_{it}[58] is the remaining error, which comprises other unidentified factors of deviation of the current value from the latent variable measured.

Table 5: Ranking of credit ratings

Credit rating of a business entity	Value of the dependent variable
A	0
B	1
C	2
D	3
E	4

The model is built around latent regression similarly to the binomial probit model. We can express the latent variable in the following form:

$$y_{it}^*=\beta' x_{it}+\varepsilon_{it}, \text{ where } y_{it}^* \text{ is unobserved.}$$

In our example, we have:

$$y_{it}=0, \text{ if } y_{it}^* \le \mu_1$$
$$y_{it}=1, \text{ if } \mu_1 < y_{it}^* \le \mu_2$$
$$y_{it}=2, \text{ if } \mu_2 < y_{it}^* \le \mu_3$$
$$y_{it}=3, \text{ if } \mu_3 < y_{it}^* \le \mu_4$$
$$y_{it}=4, \text{ if } \mu_4 < y_{it}^*$$

where for i = 1, 2, 3, 4 μ_i are unknown parameters, which are estimated within the model.

In calculating the equations, we employed a method based on the calculation of probabilities that a particular business entity will be in a credit rating category with regard to the values of the selected indicators. For all probabilities (y_{it} = 0, 1, 2, 3, 4) to be positive, we must have $0 < \mu_1 < \mu_2 < \mu_3 < \mu_4$.

In selecting the indicators we used the results of the following studies: Prašnikar et al. (2003), Bole (2003), Zavodnik and Šušterič (2003), and Performance Indicators published by the Chamber of Commerce and Industry of Slovenia (2003).

[55] An insured person may be without insurance or have partial or full insurance.

[56] It should be noted that the selection of the values is not important – only the order of the values is.

[57] This means that we cannot say that the difference between the values of 0 and 1 is equally significant as the difference betwen 1 and 2.

[58] Let us assume that υ_{it} are normal, mutually independent and equally distributed.

The dependent variable in the relevant year was defined by the credit rating of the business entity with the relevant bank. Table 6 shows all the independent variables – selected indicators – we used in assessing the model.

Table 6: Independent variables in the model

Variable	Description
dis_kap	business entity's rank in the distribution of capital
lik	liquidity
s_lik	change in liquidity
kaz21	share of cash flow from operations in revenue
l_krat_zad	short-term borrowing in the previous year
s_povp	change in demand
l_povp	demand in the previous year
rel_cena	ratio of selling and input prices
leto4-leto8	dummy variables for years

The rank of a business entity in the distribution of capital illustrates the size of the business entity. Liquidity (net cash flow per unit of sale) represents the capacity of a business entity to pay its liabilities. A change in liquidity is the first difference of the liquidity variable and represents the rate of change in liquidity.

The share of cash flow from operations in revenue (depreciation and profit reduced by lost revenue) makes it possible to deduce what share of revenue indicates cash inflows from operations. These inflows are one of the best indicators of a company's good performance. All stable, mature and profit-making companies are expected to create sufficient cash flows from operations with which to repay their owners and creditors. It should be noted that the share of cash flow in revenue is a relative number, which means that it is not claimed that a company with a high value of this indicator creates ample cash inflows in absolute terms.

Short-term borrowing in the previous year is the share of short-term financial and business liabilities in funds in the previous year and indicates short-term liabilities per unit of funds.

Demand (sale per unit of production) is the variable of the volume and stability of demand. The variable of demand in the previous year illustrates the size of demand in the previous year, and the variable of change in demand illustrates the rate of decrease or increase in demand.

The ratio of selling prices and input prices represents the ratio of selling prices by SKD areas[59] to purchase prices by SKD areas. Selling prices by SKD areas are assessed with the producer price index and the consumer price index. Purchase prices by SKD areas are calculated by means of input-output tables and selling prices by SKD areas.

We included dummy year variables for the control of macroeconomic factors which were common to all clients and loans and which varied over time.

[59] Areas are activities according to the double-digit Standard Classification of Activities (SKD).

4. Results

For each of the selected independent variables in the model we expected a certain influence on the dependent variable – the credit rating of the business entity. A high ranking of the business entity in the distribution of capital, a higher share of cash flow from operations in revenue, good liquidity, higher demand and a higher ratio between selling prices and input prices improve the credit rating of a business entity. Higher short-term borrowing by the business entity in the previous year and an excessive increase in liquidity indicate a lower credit rating of a business entity. The results of the model are collected in Table 7, which, in addition to the values and characteristics of individual coefficients, also shows the critical values of the latent variable, the number of data effectively taken into account in the assessment and the reciprocal test of coefficients of explanatory variables.

Table 7: Results of the model

Variable	Coefficient	Standard error	z	P >|z|
dis_kap	-0.02174783***	.0013885	-15.66	0.000
lik	-0.00450065 *	.0025109	-1.79	0.073
s_lik	0.00477508 **	.0023015	2.07	0.038
kaz21	-0.07989677***	.0274205	-2.91	0.004
l_krat_zad	0.2275287***	.0493795	4.61	0.000
s_povp	-0.03149762 **	.0156831	-2.01	0.045
l_povp	-0.06825053 **	.0302075	-2.26	0.024
rel_cena	-0.19089284 *	.1091001	-1.75	0.080
leto4	0.87796446***	.0781359	11.24	0.000
leto5	0.59655936***	.0807745	7.39	0.000
leto6	0.96268004***	.0811144	11.87	0.000
leto7	1.2392607***	.0826790	14.99	0.000
leto8	1.3380045***	.0840005	15.93	0.000
μ1	0.4006334***			
μ2	2.2719069***		N = 7886	
μ3	3.0591289***		χ^2 (13) = 664.32***	
μ4	4.1314180***			

Note: *, ** and *** indicate the statistical significance of the coefficients at the 10%, 5% or 1% level of confidence, respectively.

The results of the model confirm our expectations. The coefficients of two explanatory variables – the rank of a business entity in the distribution of capital and the share of cash flow from operations in revenue – are negative and highly significant. Companies and small trade enterprises with a higher value of this variable have on average a better credit rating. The coefficient of the explanatory variable of short-term borrowing in the previous year is positive and highly significant. In this case, companies and small trade enterprises with a higher value of the variable have on average a lower credit rating. All the variables have the expected signs. The more indebted companies and small trade enterprises will have more difficulty obtaining additional loans. The liquidity variable and the liquidity variation variable are included in the model because the more low liquidity is reduced the greater they are. The coefficient of the explanatory variable of "liquidity variation" is positive and statistically significant, while the coefficient of the explanatory variable of "liquidity" is also statistically significant, though negative. On the one hand, good liquidity improves the credit rating of business entities; on the other, the speed of increase in liquidity makes it worse. Also significant and negative are the coefficients of the explanatory variables of demand variation, demand in the previous year and ratios of selling and input prices. The model is assessed with random individual effects.

All four critical values of the latent variable μ_1, μ_2, μ_3 in μ_4 are highly statistically significant. This means that, with regard to the value of the latent variable, we can place a business entity at a 1% level of

confidence into the credit rating category to which it belongs. It is important to emphasise that our model makes it possible to differentiate among all five credit rating categories in terms of the value of the latent variable.

Figure 2: Distribution of the latent variable for the entire period

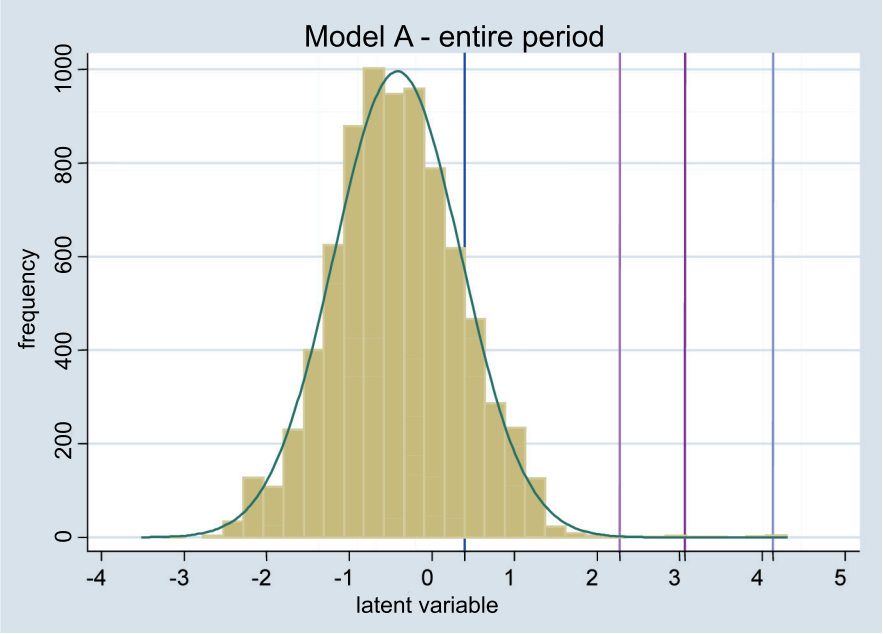
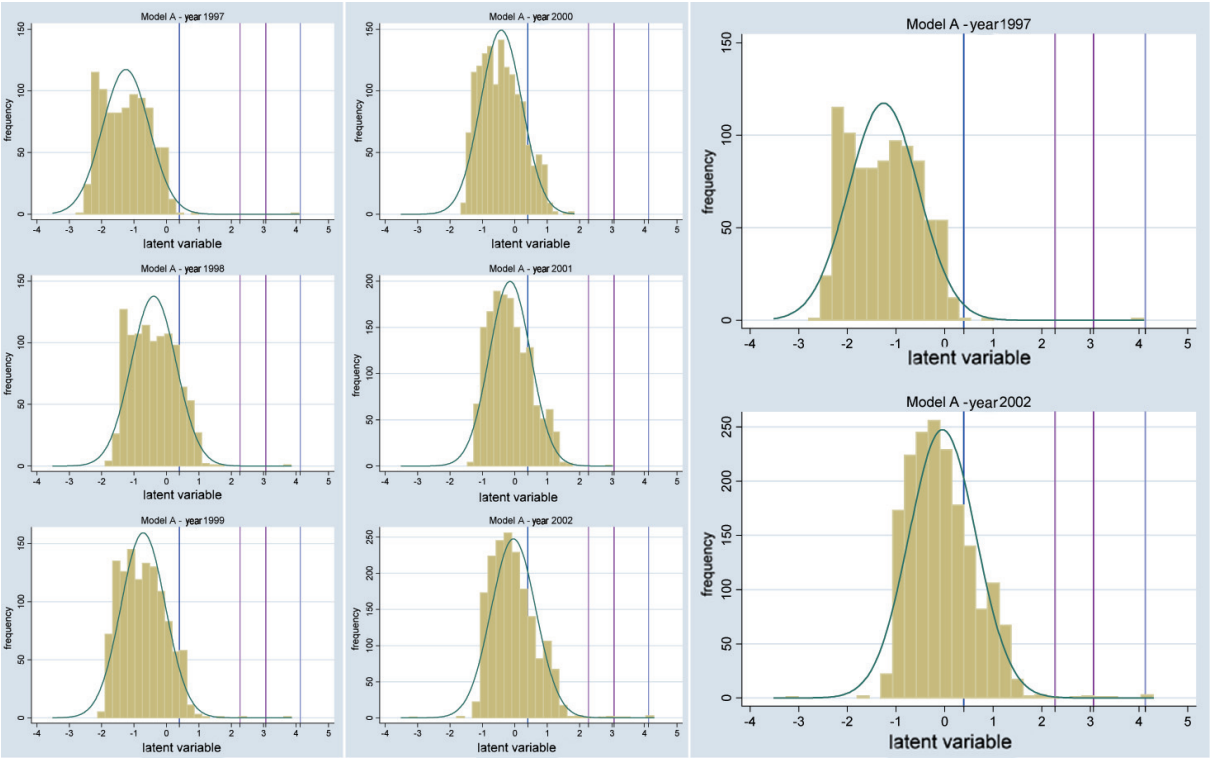


Figure 3: Distribution of the latent variable by years



As we assessed the model, we tested different ranges of indicators and various specifications of the deferral structure, including such deferred levels as current variations in the variables. In presenting the results, it should also be noted that in the random-effect multinomial ordered probit model for panel data the limiting effects of the independent variables on the dependent variable (probability) are not equal to the values of the coefficients.

The frequency distribution of the latent variable by companies for the entire period analysed, from 1996 to 2002, is shown in Figure 2. We can see in Figure 3 how the latent variable by companies is distributed by individual years.

By comparing the frequency distributions of the latent variable by companies among themselves for individual years, we can see that the bell shifts to the right, which means that on average the credit ratings of business entities were deteriorating year after year. As already mentioned, the only exception was 1999.

In the next step we expanded the model to a degree. We wanted to know what would happen if we excluded the large banks, if we excluded the banks under majority foreign ownership or if we treated each bank separately. To that end, we compared the results of four models:

- Model A: basic model,
- Model B: a dummy variable for large banks added,
- Model C: a dummy variable for banks under majority foreign ownership added,
- Model D: dummy variables for each bank added.

The dummy variable for the five largest banks refers to the following banks:
NLB, d. d., NKBM, d. d., Abanka Vipa, d. d., SKB banka, d. d. and Banka Koper, d. d. The dummy variable for foreign banks refers to: SKB banka, d. d., Bank Austria Creditanstalt, d. d., Raiffeisen Krekova banka, d. d., Volksbank-Ljudska banka, d. d., Hypo Alpe-Adria-bank, d. d., and Kaerntner Sparkasse AG, Celovec, the branch in Slovenia.

If we compare the results of all four models, we can see that there were no significant changes in assessing the coefficients of the original variables. The distributions of the latent variable in different models are very similar. The dummy variable for large banks in Model B is positive and not significant. The dummy variable for banks under majority foreign ownership in Model C is negative and highly significant. The dummy variables for individual banks in Model D are significant, which indicates individual deviations from the average when ranking the business entities of individual banks.

If we compare the classification of the clients with all the banks taken together with banks under majority foreign ownership, we can see that the latter assess their clients better (placing them into higher credit rating categories) than do other banks. This may indicate that they do not take risk sufficiently into account and underestimate the share of irrecoverable debts as they want to acquire a higher share of the market. Foreign banks are less careful about the risk of their claims. They rather place emphasis on acquiring new clients and increasing their share of the market, and their reserves for irrecoverable claims are smaller than they should be when taking into account the average classification of the clients of all banks.

5. Further use of the model and further work

The new capital accord, which is being prepared by the Bank for International Settlements in Basel, tentatively called Basel II, should be adjusted to the most complex operation of banks on money

markets and capital markets. There will be a redistribution of capital in individual banks with regard to the different degrees of risk in individual banking operations. In some banks capital savings will probably be made in relation to credit risks, while at the same time it will be necessary to raise more capital because of operational risks. The more banks are able to resist all types of banking risks, the more competitive and successful they will be on the European financial market as well. The Bank of Slovenia will adjust the internal and external credit ratings of Slovenian companies according to universal standards or capital requirement directives to Slovenia's specific circumstances. The main problem in using standardised procedures for measuring capital adequacy in Slovenian banks is the shortage of external ratings for companies, as at present a negligible number of companies in Slovenia have such ratings. A more detailed division of credit rating categories has been planned, i.e. their number will increase from five at present to nine. This is where the direct application of our model will prove itself in determining the credit ratings of Slovenian companies according to the standards of the new capital accord, Basel II, as we will have nine new categories instead of the current five, having included additional four critical values of the latent variable. We can also use this model to calibrate models: a commercial bank will submit its internal model for assessment by the Bank of Slovenia, where the results of that model will be compared to the results of the model described above.

The analysis of annual data showed that without a further analysis of data at a quarterly level we cannot reliably determine the reasons for an increase in activity, i.e. for greater variations in the credit ratings of business entities. The balance sheet data is available at an annual level only. That is why we can look for similar data in a monthly database of company receipts and expenses. Banks make quarterly assessments of the quality of their credit portfolios and credit risks on the basis of the credit ratings of their clients, which facilitates monitoring of the financial stability of the banking sector at a monthly or quarterly level.

If we limit the model to a certain SKD area and include the significant variables in it, we may arrive at a better understanding of the operation of that area. Such studies allow us to analyse performance by individual SKD areas. They also allow us to learn about the structure of a business sector and serve as the basis for evaluating and locating the positions of individual activities and regions, and we also use them in analysing a particular company by comparing it to an activity, region and the highest achievers. Such analyses are already well developed at the ECB.

The presented model may also be employed in stress tests as we can use it to assess the influence of expected shocks on the liquidity and indebtedness of companies – e.g. we expect the foreign-exchange rate to go up 5 per cent: we will analyse how that shock will impact the variables in the model and then use the model to assess the effects on the banking sector.

6. Summary

When banks grant loans to their clients, they set the terms under which loans can be taken out. In setting these terms, they assign credit ratings to their clients with regard to credit risks and classify them into credit rating categories.

The purpose of this paper is to develop a model that would make it possible to assess and analyse risks in the banking sector, determine the credit ratings of business entities and their variations and improve the understanding of credit risks in Slovenian banking system.

In contrast to the existing literature, which primarily focuses on the bankruptcies of companies, we are not only interested in illiquid and insolvent companies but in the distribution and migration of business entities among all credit rating categories.

We assessed the model by means of a random-effect multinomial ordered probit model for panel data. The presented model with one selected latent variable (credit rating of a business entity) with regard to the value of the selected indicators places business entities with a certain degree of risk into credit rating categories and analyses the expected migration of business entities among the credit rating categories. We first conducted the analysis on a sample of data.

In our further work we will apply the model to the entire data base. We will continue to develop the model with respect to the needs of the departments of the Bank of Slovenia. We will probably use it in approving the credit models of commercial banks for Basel II, calibrating models and stress testing. By using data available in the data base of company receipts and expenses and credit portfolios we can monitor the financial stability of the banking sector at a monthly or quarterly level. All this will facilitate a deeper analysis and greater understanding of credit risks in Slovenian banking system.

7. Bibliography

- Bole V.: Eksogeni šoki in solventnost gospodarstva [Exogenous Shocks and the Solvency of the Economy], study prepared for the MF, 2003
- Butler J. S., Moffitt R.: A Computationally Efficient Quadrature Procedure for the One-Factor Multinomial Probit Model, Econometrica 50, p.p. 761–764, 1982
- Green V. H.: Econometric Analysis, Prentice Hall, New Jersey, p.p. 875–878, 2000
- Hunter J., Isachenkova N.: A Panel Analysis of UK Industrial Company Failure, ESRC Centre for Business Research, University of Cambridge, Working Paper No. 228, March 2002
- Prašnikar J., Bole V., Koman M., Ahčan A.: Občutljivost izvoznega gospodarstva na zunanje šoke [Sensitivity of the Export Economy to External Shocks], study prepared for the MF, 2003
- Šuler T., Bonitetne ocene podjetij (Analiza prehodnih matrik) [Credit Ratings of Companies (Analysis of Transitional Matrices)], Bank of Slovenia, December 2001
- Zavodnik E., Šušterič M.: Priprava slovenskih bank na spremembe kapitalskega sporazuma – Basel II [Preparation of Slovenian Banks for Amendments to the Basel II Capital Accord], Bančni vestnik, 11/2003
- Performance of Companies in 2002, project – Chamber of Commerce and Industry of Slovenia Indicators, Vol. 6, year 10, SKEP Chamber of Commerce and Industry of Slovenia, August 2003
- Regulation on the Clasification of On-Balance Sheet and Off-Balance Sheet Assets of Banks and Savings Banks, Official Gazette of the RS no. 24/02

New Capital Regulation of Banks in Slovenia

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1. Introduction

After six years of intensive preparations and discussions, the end of June 2004 saw the publication of the concluding document of the new capital accord (Basel II) with the official title "International Convergence of Capital Measurement and Capital Standards," which will replace the 1988 Basel accord. The new scheme of measuring capital adequacy should thus remove the majority of the flaws of the old accord by revising the quantitative measurement of the minimum required capital adequacy ratio and by adding two qualitative pillars, i.e. introduce supervisory review and enhance market discipline. In so doing the new capital scheme should retain the mission of the old capital accord, i.e. the promotion of the principles of safety and stability of the financial system. It should, however, continue to be directed into equalising competition conditions for bank operations all over the world; its merit is that banking risk assessment should be more comprehensive. Although the new scheme focuses on internationally active banks, as do all Basel documents, its main principles should be applicable to all banks irrespective of the level of their complexity.

2. Why a new capital accord?

Financial markets have experienced major changes in the last ten years, which is why the capital adequacy indicators calculated in accordance with the old methodology were no longer a good indicator of real bank risks, i.e. also their capital power. When the old capital accord came into force it was revolutionary mainly because it introduced the weighting approach in the calculation of bank operation risks, including their off-balance operations. Today, however, the weighting applied in the calculation of the risk-weighted bank assets no longer enables sufficient differentiation between different bank borrowers, therefore it is often a poor approximation of the actual economic risk assumed by banks. The 8% minimum capital adequacy ratio was also said to have been determined arbitrarily. The "club" approach was also strongly criticised, i.e. the claims weighting system's reliance on the distinction between OECD and non-OECD countries, which was supposed to have been politically motivated.

The old methodology thus promotes capital arbitration, which may lead to higher concentration of bad bank assets. This method of measuring credit risk does not give incentives in the form of capital facilities to banks and at the same time does not recognise many financial innovations (e.g. credit derivative financial instruments), with which the banks effectively control the risks to which they are exposed. It does not take into account sufficiently other, i.e. non-credit risks, whose role has increased in recent years (mainly the operational risk because of the increasing information technology support of business processes in banks). Since it focuses only on quantitative measurement of capital adequacy, the old regulation neglects the qualitative aspect, which is in practice many times even more important.

Because the old capital accord has become the de facto universal international standard for assessing capital adequacy of banks in the ten years since its appearance, the adoption of its amendments plays a very important role for the international banking-financial system. The content of the new capital regulation is thus summed up in three complementary pillars: minimum capital requirements (first pillar), supervisory review (second pillar) and market discipline (third pillar).

The three-pillar system for determining the adequacy of capital of banks represents a revision and at the same time an upgrade of the 1988 capital accord. The central part is still the establishment of minimum capital requirements (first pillar), which according to the revised measurement methodology should be more sensitive to different degrees of credit risk in banks and more adapted to the real situation on financial markets, which have been marked by many financial innovations and more complex financial business between market participants. From among the three alternative methods of risk measurement the final document adopts two (the standardised approach and internal rating approach) since the application of credit models in practice has not yet become reality to the extent that they could be applied for reliable forecasts of potential losses from various risks. Capital requirements for credit and market risks are supplemented by special requirements for covering operational risk. Such an approach will also formally take into account a larger range of actual and potential bank exposure when determining the required amount of capital.

Being aware of the importance of competition in the financial sector and of the differences in national, accounting, legal, tax and supervision regulations, the two new qualitative pillars are added to the basic pillar in the new capital scheme. The second pillar (supervisory review) represents a shift from non-flexible regulation to a process approach of monitoring capital adequacy in banks, since the main task of the supervisors is now verification of whether the bank correctly assesses and effectively controls the risks to which it is exposed in banking and financial services. Supervisors must therefore have the authorisation to require higher capital adequacy than that determined by the bank itself or calculated by the standardised methodology. The banks must be proactive in their assessments while the supervisors must act preventively. But it should not be forgotten that the provision of adequacy of capital is mainly the task and responsibility of the bank management, which must be able to prove the set capital goals of the bank are justified by a solid, realistic basis.

An increasingly important role in the promotion of a stable and safe financial system is played by market discipline. One of the levers to achieve better market discipline (the third pillar) is better transparency of banking operations, which means a larger extent of public disclosure and publication of data and information relating to banking operations (e.g. capital structure, bank exposure, capital adequacy). The main goals of the third pillar are emphasising the role of market participants by ensuring sound and safe operations and establishing appropriate mechanisms of market discipline. Better market discipline requires an active role of market participants, who by their business decisions reward banks whose operations are transparent and penalise “undisciplined” banks.

3. The Basel Accord and EU directives

The European Commission followed the Basel Accord and since November 1999 has issued many documents presenting its views on the future development of the regulatory system and supervision of capital adequacy of banks and stock-broking companies from EU member states. In its 1999 action plan the Commission undertook to draw up proposals of new directives on changing the existing capital regulation in accordance with the development in Basel. From the very beginning it has been in the interest of the Commission that EU directives be harmonised with Basel standards to the greatest extent, or that in the starting point they do not put EU credit institutions into a poorer competitive position compared to non-EU G-10 banks. The Commission has thus already published a proposal of the final text of directives representing an upgrade and change of the existing directives relating to capital regulation in accordance with the Basel document. This is Directive 93/6/EC (Directive on capital adequacy of banks and investment companies) and Directive 2000/12/EC (consolidated banking directive), which will also have to be implemented in our legislation. It is clear in advance that the two directives will not be identical to the Basel document. Since directives are legal sources the Commission was much less flexible in their drafts in comparison with the Basel Committee, and the process of their

adoption is lengthier and more complicated and often influenced by the national economic and political interests of the member states.

The new (modified) directives will be binding on all banks and investment companies of the member states irrespective of their size, complexity and type of services. The difference between Basel and the EU is also in the treatment of investment companies and stock-broking companies. In the EU practically the same legislation applies to them as to the banks (a level playing field), which means stricter requirements as regards operations and thus weakening of the competitive position of these companies in comparison with those from non-member states.

The time schedule for formulation and implementation of the new capital regulation in the EU is closely connected to that of Basel, which has determined the end of 2006 as the date of entry into force of the new regulations, i.e. for the basic and standardised approaches for the calculation of credit and operational risks, which will be described in more detail below, while the date of the implementation for more advanced approaches for the calculation of these risks is postponed for one year, to the end of 2007. The decision on the one-year postponement of the implementation of advanced approaches was adopted because of the complexity of the approaches whereby the simultaneous bringing into effect in G-10 states and EU member states was ensured. Supervisory institutions and the financial industry should thus obtain the required additional time in order to prepare for the application of advanced approaches. Directive 2000/12/EC will also sum up the aforementioned changes of the Basel document.

4. Minimum capital requirements: first pillar

The first pillar will determine the calculation of minimum capital requirements. While the definition of capital as regards the old capital accord remains unchanged, the new capital scheme refers to a large extent to the method of measuring the risks, in particular the credit and operational risks. Capital requirements for credit risk should be more sensitive to the actual risk to which banks are exposed, which is achieved via a more defined standardised methodology for measuring the risk of individual borrowers or claims, or the application of internal systems for determining ratings.

4.1. Standardised approach to the calculation of capital requirements

The present standardised approach to determining capital requirements practically no longer allows for the differentiation of credit risks between various groups of counterparties. The weighting system applied in the calculation of risk-weighted assets is a very poor approximation of the actual economic risk assumed by banks. The flaws of the old capital accord certainly include the unsatisfactory consideration of different quality levels of companies in determining weights for treatment of claims on them, therefore, the new scheme introduces greater differentiation of risks within the standardised approach (35%, 75%, 150% and higher). The biggest change in the standardised approach for measuring capital requirements is most certainly the application of a borrower's external ratings as a criterion for determining the weight of credit risk when weighting claims and off-balance items of a bank.

The application of external ratings must be subject to a strict assessment of banks and their supervisors as regards the quality of the assessment methodology and data sources. Recognition of individual rating agencies to determine capital requirements will depend on their compliance with minimum criteria, such as objectivity, independence, transparency, credibility, adequacy of sources of rating agencies, etc.

In assessing the risk of countries, state bodies and central banks, external ratings should replace the existing differentiation between OECD and non-OECD countries. Assessment of banks in the capital accord in force now relates to the risk of a country where the banks have a head office. The new capital scheme offers two options for classification of claims on banks in the system of risk weights. In the first option the determination of weights relates to the rating of a country where the bank has a head office (the weight of the bank should be one degree less favourable than the weight of the country given its rating). The second option for determining the risk of banks is the reference of the weight on the independent external rating of banks.

4.2. Approach based on internal ratings for the calculation of capital requirements

Instead of the standardised method of measurement, more sophisticated banks should apply the approach based on internal ratings or internal systems of classifying counterparties for the measurement of capital adequacy, which should approximate the amount of regulating capital requirements to the actual risk profile of the bank. Sophisticated banks in this context are not necessarily the major banks but those whose internal systems comply with minimum qualitative and quantitative standards and who display a high degree of differentiation of credit risk.

The main goal of the approach based on internal ratings is to recover the real economic risk of individual investments, which is not provided by the present standardised model for determining high-risk assets. The advantages of the new approach are mainly in better differentiation between classes of risk, covering much larger number of borrowers (both major and the smallest not classified), consideration of additional risk factors (internal ratings include information of which rating agencies are imperfectly aware or even unaware in the formulation of their rating assessments) and the promotion of further development of techniques for measurement and management of risks in banks. The specified approach places the responsibility for risk management where it actually belongs: the banks and their management.

However, we have to be aware of some flaws and weaknesses of this approach. This is mainly the question of comparability between internal rating systems in different banks since they are fairly heterogeneous, and the role of subjective factors, which are a compulsory element in the assessment of every rating, differs as well. Specific elements of internal systems for classification and their operation can differ among banks to a large extent. The reason for this lies in different credit culture in individual banks and experience from the past reflected in the banks' credit policies. Internal rating systems in banks range from statistically conceived systems to assessment-based systems. Internal systems include different combinations of quantitative (measurable) and qualitative (difficult to measure) risk factors, weighted with different weights with respect to their role.

The new capital accord thus provides for two variations of the application of the approach based on internal ratings, which represents two developmental stages of classification of counterparties in banks, i.e. foundation and advanced. Upon the entry into force of the new regulations only certain banks will, however, be allowed to apply the most complex variation of the internal classification system, i.e. the advanced form of the internal rating approach. These banks will have to prove the integrity of their calculation of losses or non-payments and the amount thereof and will thus themselves determine the capital requirements for their counterparties. A lesser degree of independence in determining capital requirements will be provided for banks if they apply the basic approach where they calculate only the probability of loss or non-payment, while the supervisors determine which capital requirements correspond to this probability.

In assessing the adequacy of the approach based on internal ratings, the second and third pillars of the new capital scheme will also play a major role, since the option of applying an internal rating system depends on the discretion of the supervisor and the compliance with minimum quantitative and qualitative criteria for the calculation of capital requirements. In accordance with the High-level principles for the cross-border implementation of the New Capital Accord, individual national supervisors should cooperate to the greatest possible extent and thus avoid excess and uncoordinated approval procedures and consequently ensure wise introduction of the new capital regulations.

4.3. Other innovations in the first pillar

The decade following the entry into force of the old capital accord was marked by the development of techniques for reduction of and protection against credit risk and techniques for their management. Since these are of a central importance for safe and sound bank operation, the new capital regulation expands their recognition. The first condition for the exploitation of the options for reducing capital requirements by application of these techniques is solid legal grounding and internal control mechanisms in banks. The first amendments as regards capital treatment of techniques for risk reduction in the new scheme are likely to cause the greatest changes for banks.

In addition to credit, liquidity, interest and market risks, banks are exposed to a number of other risks, such as operational, legal, etc., which also require monitoring, measurement and control. These risks have so far not been subject to regulating capital requirements since capital requirements for credit risk within the 8% minimum weighting of capital adequacy should provide sufficient capital reserve for covering losses from various risks. Since the goal of the new capital regulation is also to attain a more precise bond between the actual risk and the required capital, some other risks are explicitly included in the new capital framework. Fulfilment of the new requirements will not necessarily trigger an increase of capital regulating burden, it will however induce reallocation of capital for covering various and several types of risks.

All specified risks are extremely difficult to measure but their role is too great not to be dealt with separately within the measurement of capital adequacy. This applies in particular to operational risk, which the banks today classify with regard to size immediately after credit risk, since the information technology era of today creates new operational risks which are larger than those we were used to in the past. Although the banks may insure a part of their operational risks with insurance companies, the majority of them remain uninsured, which justifies the introduction of new capital requirements within the first pillar of the new capital regulation.

The measurement of the operational risk is, however, linked to the issue of its qualification since determination of potential loss is possible only for certain areas to which this risk relates (e.g. loss due to fraud, loss due to breakdown of cash machines). Nevertheless, there are certain quantitative indicators suitable for approximations with which operational risk is measured in cases that are otherwise impossible to quantify. An important role in the analysis and measurement of operational risk is played by qualitative factors that the supervisors should deal with mainly within the second capital pillar. Within the first pillar of the new capital scheme the banks should apply one of the three approaches to quantitative determination of capital requirements for operational risk, in accordance with their level of development in this area, i.e. the simple, standardised and advanced approach, or the approach based on the internal system of operational risk measurement.

5. Supervisory review and market discipline: second and third pillars

An integral part of the new capital scheme is also supervisory review of capital adequacy of banks, i.e. efforts by supervisors to assess whether the banks correctly assess the risks to which they are exposed in their operations. Although this pillar contains many discretionary, i.e. subjective elements, it has to be understood as a critical, qualitative addition to the first, more quantitative, pillar of determining capital adequacy. The goal of supervisors in assessing capital power of banks and their strategy in this area is to ensure that the extent of capital is in accordance with the risk of their entire operations, that the process of capital allocation in determining minimum capital requirements within the first pillar in the bank is effective, reliable, fair and correct. The supervisors must furthermore encourage banks to achieve higher-quality risk management, ensure that the bank complies with minimum standards of advanced approaches to risk measurement from the first pillar, and ensure that the banks discloses data in accordance with the requirements of the third pillar.

Supervisors must take action immediately when there is a risk that the bank's capital may fall bellow the level designated as safe, or if they establish that the bank's risk management is inadequate.

With the third pillar of the new capital regulation, market discipline got an explicitly defined role in capital standards for the first time. It can thus additionally enhance capital regulation and other efforts by supervisors as regards the achievement of safety and stability in banking and financial systems. It encourages banks to have effective, safer and sound operations, a part of which is also the formation of a robust capital basis for protection against potential loss deriving from their operations. A bank regarded as more secure and successfully managed is indeed a more powerful negotiator with investors, credit takers, registered customers and other customers while market pressures force banks to more effective allocation of funds and use of capital.

The participants themselves can contribute to better market discipline. Effective market discipline is based on reliable and prompt information enabling market participants to make realistic judgements on the risk of bank operations and thus taking business decisions. Banks should thus publish data on their capital, capital adequacy and on what the capacity of the bank to absorb financial losses is, as well as data on the exposure of the bank as regards various risks. In their business reports they should disclose also all important quantitative and qualitative details on their financial situation, result, risk management process, etc.

6. Preparations for the implementation of new capital regulations in the Slovenian banking area

Slovenian banks and the Bank of Slovenia as their regulator and supervisor must follow the changes dictated by the most developed countries of the world. As an EU member state Slovenia will have to adjust its legislation and regulation to that of the EU, which follows the development in Basel. But even before certain activities were required in making the banks, their management boards and key employees were acquainted with the content of the new capital accord, which the Bank of Slovenia started to carry out in 2001.

In addition to addressing this topic on individual bank discussions a short survey was carried out in February 2002 showing that the acquaintance of Slovenian banks with Basel II was poor or average. Since the survey showed that the innovations have to be presented also to the highest levels of decision-making bodies in banks, the Bank Association of Slovenia (BAS) and the Bank of Slovenia drew up a brief topical presentation of the new capital accord for the members of banks' management boards in

March 2002. Support and understanding of the banks' management boards are of key importance for successful and timely cooperation of banks for Basel II, which will in the future increasingly define their competitive position on the increasingly global banking market.

One of the most important tasks and at the same time the first step in the introduction of new capital regulations into bank operations practice and the operation of bank supervisors is also the expansion of knowledge of Basel II and the increased awareness of the wider public of the consequences, opportunities and risks of Basel II. The Bank of Slovenia therefore started systematic activities in December 2002 with the purpose to build a basis for active dialogue with banks in individual stages of implementing Basel II in Slovenia. A sub-page was therefore designed on the website of the Bank of Slovenia (Basel II) for the purpose of monitoring the most important activities relating to the new capital accord in Slovenia and abroad.

Resulting from the activities of the Bank of Slovenia and the gradual enhanced awareness of the banks of the role of Basel II, a Basel II Committee was established in February 2003 with the Bank Association of Slovenia, including representatives of 14 banks, the Slovene Export Corporation, BAS and two representatives of the Bank of Slovenia. The work of the Committee is carried out within two working groups, i.e. the ratings group and the operational risk group. One of the first tasks of the Committee is to carry out the Slovenian Quantity Study of the influence of the new capital accord (SiQIS) together with the Bank of Slovenia, through which the first quantity assessments should be obtained on the influence of the changed rules for the calculation of capital adequacy on the Slovenian banks. The SiQIS will be a welcome guideline for banks and regulators and supervisors on what needs to be done for the most effective preparation for the establishment of the new capital accord in the Slovenian banking area, i.e. by 2007.

The purpose of the SiQIS is thus to evaluate the effect of changes in the standardised approach of the determination of capital requirements for credit risk and the effect of the newly defined capital requirements for operational risk calculated through a simple or standardised approach. It will thus be easier for the banks to assess what the ratios of their capital adequacy would be if they do not decide to apply one of the advanced and thus more complex approaches for the calculation of capital requirements. The application of simpler approaches will also call for certain changes in banks and their risk monitoring approaches as well as their management.

The second purpose of the SiQIS is to identify open issues and data on other requirements, on the basis of which it will be easier for the banks to find the necessary solutions. For the Bank of Slovenia, as the responsible regulator of Slovenian banks, the SiQIS results will be also an important mechanism in making national discretion decisions, which enable adaptations of the otherwise universal standards and directives to the specific conditions in any individual state. Furthermore, the SiQIS will be intended for verification of the effect of the use of the methodology for setting ratings of companies drawn up by the Basel II Committee of the BAS, which will be a basis for a systemic decision on the wisdom of the formation of independent external ratings of Slovenian companies from the aspect of capital adequacy of banks. Last but not least, the results of the study will be an important indicator for the Bank of Slovenia in its deliberations on the definition of the new Slovenian capital regulation, adjusted to the Slovenian banking reality to the highest extent, whereby it will take into account the legal framework of the new capital directive; furthermore it will clearly indicate to banks their advantages or weaknesses and where to direct their further activities in the preparation of new regulations for assessing the capital power of banks.

In addition to the stated activities of the Bank of Slovenia, a Consultative document on the introduction of internal rating systems was finished in June 2004 and sent to banks. It will provide for the assessment of the readiness of Slovenian banks to apply any of the advanced approaches to credit risk used for the calculation of capital requirements.

In the spring of 2003, the Bank of Slovenia had already carried out the first survey on operational risk in order to study the situation of the management of operational risk in banks, and at the same time draw attention to the importance of timely preparation for Basel II. Since this area exhibits an insufficient readiness of banks and in particular an insufficient awareness of management boards on the importance of setting up a framework for management of operational risks, in May 2004 the second survey was sent to banks in order to re-establish, by a short and targeted questionnaire, the situation of the management and measurement of operational risk. At the same time, the Bank of Slovenia will become acquainted with current standpoints of management boards on their envisaged approaches for the calculation of capital requirement for operational risk.

7. Conclusion

One of the most frequent issues appearing in discussions relating to the new capital scheme is whether the new capital regulation will present larger capital requirements for banks. It is the regulator's desire not to reduce the level of aggregate capital in banking systems below the present level after the entry into force of the new regulation, which, however, does not automatically mean larger capital requirements for all banks. Because of the improved methodology and two more flexible supplements to the quantitative method of measurement of the required capital, the level of regulating capital should be closer to the actual economic risk faced by the banks. The final result of the new capital scheme thus should be mainly reallocation of capital in individual banks and between them given the risk of their operations. For certain banks this would mean more necessary capital than that according to the old capital accord; for others, in particular those that effectively control their risks, the new regulation will provide the option to reduce the regulating capital. The absolute amount of the requirements of the present capital accord will be added by more or less subjective elements (or "pardons"), which will be determined by supervisors and market participants.

8. Bibliography and sources

- Basel II: International Convergence of Capital Measurement and Capital Standards (Revised Framework), Basel, Basel Committee on Banking Supervision, June 2004
- Continued progress toward Basel II (Press Release), Basel, Basel Committee on Banking Supervision, January 2004 and May 2004

Ownership Structure of Banks in Slovenia and Their Optimum Owners

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1. Ownership Structure of Banks in Slovenia

Over the past five years the ownership structure of equity capital in Slovenian banks has changed differently in banks under majority domestic ownership than in those under majority foreign ownership. A comparison of ownership structures was made for a group of six domestic banks with the largest market shares and a group of four banks under majority foreign ownership. The total assets of these ten banks accounted for 85.5% of the total assets of the banking system in September 2003. Up to 10 biggest owners were taken into account in the structure of an individual bank. As a result of the concentration of ownership in Slovenian banks, the ten biggest owners in 2003 owned at least 65% of all the equity capital of an individual bank, and on average 91% of the equity capital of the observed banks. Five years ago, the 10 biggest owners of banks owned on average 70% of the equity capital of the analysed group of banks.

1.1. Equity capital structure of banks under majority domestic ownership (six banks)

In the group of banks under majority domestic ownership, ownership by the central government (RS) has dropped by half since 1998, accounting for 36.1% of the equity capital of the banks in the sample in September 2003. In the same year, from 1998 until September 2003, the ownership share of financial institutions increased steeply, but it still accounted for only 25.2% of the banks' equity capital. On the other hand, the share of non-financial corporations remained unchanged (18%). In addition to ownership by financial institutions, the share of foreign equity also increased, reaching 20.5%, while the state's share dropped. Regardless of the more-than-fivefold increase of the share of financial institutions in the group of domestic banks over the past five years, this share exceeds the share of non-financial corporations in the group of banks under majority domestic ownership by only 7 percentage points.

Table 1: Equity capital structure in the group of domestic banks and in the group of foreign banks limited to the ten biggest owners (in %)

	Six largest banks under majority domestic ownership		Four largest banks under majority foreign ownership	
	1998	2003/09	1998	2003/09
Government	**77.0**	**36.1**	**0.1**	**0.0**
Financial institutions	**4.6**	**25.2**	**4.8**	**0.1**
- state funds	1.7	8.4	1.8	0.0
- banks	0.0	5.7	0.0	0.0
- insurance companies	0.8	5.0	0.0	0.0
- other financial institutions	2.1	6.0	3.0	0.1
Non-financial coroporations	**18.4**	**18.3**	**35.3**	**11.8**
Households (individuals)	**0.0**	**0.0**	**1.0**	**0.2**
Non-residents	**0.0**	**20.5**	**58.3**	**87.4**
	100.0	**100.0**	**100.0**	**100.0**

Source: Bank of Slovenia

The share of different financial institutions in domestic banks were equally represented at the end of the third quarter of 2003, ranging from 5.0% of bank equity capital owned by insurance companies to 8.4% of equity capital owned by state funds. Ownership by banks reached 5.7% of the equity capital of the banks in the sample. The household sector was negligible as a direct owner in the group of domestic banks among the ten biggest owners of an individual bank.

1.2. Equity capital structure in banks under majorty foreign ownership (four banks)

As expected, the ownership share of non-residents in the group of banks under majorty foreign ownership has increased steeply over the past five years, namely from 58.3% to 87.4%. Meanwhile, the share of non-financial institutions has dropped sharply. In September 2003, the share of non-financial corporations accounted for only 11.8% of the equity capital of foreign banks, while as late as 1998 it accounted for 35.3%. As the ownership share of non-residents in this group of banks has risen steadily, the share of financial institutions in them has dropped or completely disappeared. Such an ownership structure fully corresponds to expectations and is also characteristic of other countries in transition, where the number of foreign banks has increased greatly (MNB, 2003).

2. Reasons for the slow increase in the share of financial institutions as the most suitable banks' owners

Development of the financial system:
The reasons for the comparatively slow increase in the share of financial institutions in domestic banks, while the government's share has dropped dramatically, should be sought in the underdevelopment of the capital and monetary market and, consequently, the underdevelopment of other non-monetary financial brokerage. Financial brokerage in Slovenia is mainly taking place through the banking sector, whose total assets accounted for 73% of the assets of the financial system (without the Bank of Slovenia) or 88% of GDP at the end of 2002. The share of other financial brokers in 2002 accounted for 27% of all financial assets or 32% of GDP.

The huge dependency of companies on banks for credit financing and failure to use other forms of external financing have contributed to the slower development of institutional investors. We may expect an additional boost to the development of non-banking financial brokers from the process of meeting nominal standards for Slovenia's admission to EMU, which will require an accelerated reduction in bank interest rates and, consequently, substitution of banking saving schemes by other saving schemes with other financial brokers.

Method of financing Slovenian companies:
The structure of methods of financing companies in Slovenia indicates that non-financial corporations largely use their own sources of funding – capital, reserves and retained profit – and, only to a smaller degree, external sources of funds by borrowing from banks or business partners (Table 2). Of all the sources of company funds, capital, reserves and retained profits accounted for 58.7% and the credit financing of companies for only 37.3% (Groznik et al, 2003). The share of credit financing increases with the increase in the size of companies, yet this form of financing did not exceed 42.1% even in the group of large companies (with more than 1,000 employees) in 2002.

The aforementioned structure of company financing with own and borrowed sources of funds indicates a comparatively large dependence of companies on their own funds as the pre-eminent source of long-terms financing. This assumption is also confirmed by the term structure of the debts of Slovenian companies, with short-term debts accounting for 68% of the overall debt structure, which indicates that short-term credit sources are the dominant form of external financing (Groznik et al., 2003).

Table 2: Structure of the liabilities of Slovenian companies by sources of funds for Slovenian companies in 2002 (in %)

	Companies		
	All	Medium	Large
Total liabilities of companies	100.0	100.0	100.0
Capital and reserves	36.4	39.8	31.0
Retained profit	22.3	22.3	22.4
Debt (financial and business liabilities)	37.3	34.3	42.1
Other liabilities	3.9	3.6	4.5

Source: Business Conference in Portorož, Groznik et al., 2003.

The ratio of external and internal sources of financing for Slovenian companies suggests that credit financing will increase more intensively in the future, which means that banks will be able to increase their credit exposure to companies if acceptable and controllable exposure to credit risk makes this possible for them. This applies even more to medium-to-large companies as they are largely financed with their own capital, which in 2002 accounted for 39.8% of the sources of funds and exceeded the share of such financing in large companies by nine percentage points. The need for the credit financing of companies does not favour proprietary investments by non-financial corporations in the banking sector as non-financial corporations need banks to be able to finance their business activities on their own rather than the other way round. Changing the financing structure in non-financial corporations in terms of increasing the share of credit capital would require disinvestment of proprietary investments by non-financial corporations in banks, which means that they would become non-financial corporations known as unstable owners.

The presented tabular values of the ownership structure of banks under majority domestic ownership and banks under majority foreign ownership and the structures of the sources of funds in domestic companies indicate that the ownership structure of equity capital in domestic banks should primarily change by increasing the ownership share of financial institutions. The large ownership share of non-financial corporations, most of all in banks under majority domestic ownership, constitutes a potentially unstable ownership relationship if we take into account the aforementioned need for additional long-term credit sources of funds by companies.

The expected changes in companies' financing structure may also be linked to the yields of investment by non-financial corporations in bank shares. These are, as a rule, less risky than comparable investments in the shares of other activities – hence the lower yields. It can be demonstrated for non-financial corporations with investment capacity in their primary activity that "the opportunistic costs of investments in bank shares are too high and that such ownership is rare, although it is not prohibited" (Ribnikar, 2001). At this moment, this is more true of developed environments than of Slovenia as the yield rates for investments in bank shares were above average in the last year. The expected lower profitability of operations in Slovenian banks in the future and the possible investment capacity of non-financial corporations in their primary activities will have a discouraging effect on the ownership of bank shares. If we add to this even more constant supervision of non-financial corporations and their need for external sources of financing, we may conclude that in these circumstances non-financial corporations will be motivated to disinvest bank shares. An estimation with regard to expected economic benefits is key to deciding on investing in bank shares, and although in most European countries (with the exception of Italy) there is no prohibition regarding ownership by non-financial corporations in banks (more about regulatory limitations in Barth et al., 2000), such ownership is rare.

The significant dependence of non-financial corporations on banks in obtaining external financial sources is particularly evident in environments where other financial markets (e.g. the securities market)

are not developed enough to be an important alternative source of financing. In such circumstances, which are also characteristic of Slovenia, this dependence, due to the presence of companies in bank ownership, is even accentuated when banks must reduce their credit activity. Or non-financial owners fail to secure financial sources when the bank needs them. In accordance with the fundamental principles of effective bank supervision, financial power is one of the key criteria in assessing the suitability of the most important owners of a bank, as is their ability to secure financial sources if necessary (Basel Committee on Banking Supervision, 1997). As participants in financial markets, financial institutions have a greater capacity to obtain financial sources than do non-financial corporations either because of their links (by virtue of ownership or business operations) to other financial institutions or due to access to financing on the securities market. For both reasons, they are less dependent on bank loans and banks and are therefore more suitable as their owners.

3. Capital investments by banks and multilateral cross-ownership among financial institutions

While non-financial corporations are not optimum bank owners on account of the expected changes in the financing structure and their comparatively higher sensitivity to economic fluctuations, bank ownership by financial institutions is associated with multilateral cross-ownership, which is share ownership among financial institutions. It should also be noted that the term multilateral cross-ownership is taken to mean both share cross-ownership and possible inter-corporate share ownership.

Cross-ownership among financial institutions is even more important and more evident in the case of other comparatively capital-deprived financial brokers. Namely, cross-ownership or share ownership ensures the protection of a corporation against a hostile takeover. This form of ownership is quite frequent in European banking as in most Western European states – with the exception of Luxembourg – most banks, especially the largest ones, are under majority domestic ownership (Ribnikar, 2001).

Table 3: Structure of capital investments as of September 2003 for a group of six banks under majority domestic ownership and four banks under majority foreign ownership (in %)

		Banks under majority	
	total	domestic ownership	foreign ownership
Total investments in absolute amounts	SIT 69.6 billion	SIT 63.6 billion	SIT 5.9 billion
Total investments	**100.0**	**100.0**	**100.0**
Non-financial corporations	**14.1**	**9.5**	**62.9**
Financial corporations	**85.9**	**90.5**	**37.1**
- abroad	23.5	25.4	3.2
- banks	34.2	36.8	6.8
- insurance companies	5.0	4.9	6.6
- other financial institutions	23.1	23.4	20.5

Source: Bank of Slovenia

At the end of the third quarter of 2003, the assets of Slovenian banks included 1.6% of direct investments (SIT 78.3 billion). Investments in non-financial corporations accounted for 14.1% of all direct investments, and investments in financial institutions for 85.9% (estimated on the basis of the same sample of banks as with the ownership structure; the selected banks accounted for SIT 70 billion of direct investments). That this is primarily a characteristic of domestic banks is confirmed by the data in Table 3, in which the structure of investments is analysed for a group of banks under majority

domestic ownership and for a group of banks under majority foreign ownership banks. The banks under majority domestic ownership had 90.5% of all direct investments in the form of investments in financial institutions, mostly in other banks (36.8%) and least in the insurance sector (4.9%). The under majoriry foreign ownership banks directed the bulk of their direct investments towards non-financial corporations (63%) and a smaller part towards financial institutions (37%).

An important difficulty concerning cross-ownership by financial institutions is especially linked to the fact that a bank may thus become a part of the untransparent organisational structure of a financial conglomerate and expose itself to the danger of financial risks expanding from other areas to the banking sector. Greater organisational transparency and the need to identify and manage the risks is ensured by additional regulations and supervision of financial institutions. The latter should ensure the financial integrity of these institutions, their business reputation and thus also their advantage when assessing their suitability for bank ownership. At the same time, it should be noted that the greatest deficiency is the fact that the more intricate regulations and supervision do not extend to all financial institutions. At least formally, supervision in Slovenia is provided for the operation of insurance companies, investment and pension funds and management and bourse brokerage companies, but financial holdings[60] are not subject to supervision, unless the supervising authority of existing inspectors is also extended to their operation as they are linked to supervised financial institutions. In other words, a legal person (financial holding) may become a supervised institution if it is linked to a bank and supervision of it is required in order to exercise supervision of the bank (Article 123 of the Banking Act). With regard to the treatment of ownership in banks, financial holdings are also quite interesting as they may become major[61] shareholders, which, for instance, is not true of other supervised institutions, where due to the principle of dispersion of investments there is a direct limitation on investments in an individual issuer of shares (e.g. 10% in investment and pension funds), or such investments need to be covered by adequate regulatory capital (e.g. with insurance companies). Even more restrictive limitations apply to everyone when it comes to bank shares that are not traded on the stock market.

It is characteristic of non-banking financial institutions that they also obtain financial resources through the securities market, which makes both their ownership structure and trade in their shares more transparent. The institutions in question are public companies which issue securities traded on the organised (stock) market and are obliged to observe the rules for disclosing important business events. In the case of the operation of mutual funds these principles of information disclosure are even stricter and require that the prescribed parameters be made public daily. On the other hand, financial institutions (investment and pension funds and insurance companies) are themselves limited in investing funds raised. This concerns direct quantitative limitations whose level also depends on whether the securities that are being invested in are traded on the organised market. The latter constitutes the main restriction for a greater ownership presence by financial institutions in Slovenian banks, which, in this respect, are closed corporations, whose shares are not traded on organised markets. Banks with a core of solid shareholders could, without any risk of exposing themselves to hostile takeovers, make their shares available for trade on a stock market where only shares not held by solid shareholders would be traded (Ribnikar, 2001). In this way, small financial investors could replace non-financial corporations among the bank owners to a greater degree.

4. Which financial institutions in Slovenia are potential bank owners

In terms of the volume of funds invested in securities, the most important non-banking financial institutions are insurance companies, investment companies, authorised market participants (stock

[60] The term "financial holding" is used here as defined by Article 96 of the Banking Act.

[61] According to the BCBS definition, a major shareholder is one holding at least 10% of a bank's equity capital (BCBS, 1997).

brokers) and mutual and pension funds. Their total investment potential amounted to about SIT 600 billion, or as much as 11% of GDP, at the end of 2002. This potential does not include authorised investment companies, for which it is not quite clear what they will transform into (an investment company or a joint-stock company) by the end of 2003. The former authorised investment companies, which have transformed into financial holdings, are also potential future bank owners, whose suitability may only be evaluated after a sufficiently long year of stable operations. This group may also include those companies which, while disinvesting (selling) their primary activities, became involved in the management of proprietary investments which they had obtained by reinvesting purchases. A key element in this will be their strategic focus on managing proprietary shares of financial institutions.

5. Basic principles of effective bank supervision which concern ownership in the banking sector

An important guide for granting licences to potential bank owners in Slovenia, in addition to the Banking Act (Official Gazette of the RS nos. 7/99, 59/01 and 55/03) is the Core Principles for Effective Bank Supervision (Basel Committee on Banking Supervision, 1997), whose second and third principles support the policy of encouraging bank ownership by financial institutions.

In accordance with the principles of effective bank supervision, during the licensing process the bank licensing authority must establish that the newly established bank has adequate owners (shareholders), adequate financial power, legal arrangements in accordance with the intended activity and management with sufficient experience and integrity for the sound and prudent operation of the bank (Basel Committee on Banking Supervision, 1997). The Basel principles also underscore the need for defining licence-granting standards clearly beforehand as licensing is the most effective method of reducing possible admissions of unstable institutions to the banking system.

The basic licensing guidelines in the area of the ownership structure of banks are laid down in the following components (Core Principles for Effective Bank Supervision, Basel Committee on Banking Supervision, 1997, p. 16):

1. Assessing the ownership structure of banks includes direct and indirect controlling of a bank and direct and indirect majority shareholders in the bank. This means assessing shareholders from the standpoint of **past business ventures** in banking and non-banking practices, assessing them from the standpoint of **integrity** and **status in business practices** as well as the **financial power** of majority shareholders and their ability to secure additional financial resources (capital) if necessary. The supervising authority determines the sources of founding capital for investment on the basis of the assessed integrity and status of the majority shareholders.
2. If a bank is part of a larger business group (e.g. a financial holding), such a group must not be a source of weakness in the operation of the bank and must minimise risks for depositors arising from other activities of the wider business group. In that case, the bank must not be used for financing its owners, i.e. the activities in which they are involved.
3. During the licensing process, assurances have to be provided that the method of the bank's infiltration into a wider organisational form will ensure adequate transparency that will facilitate the identification of responsibility for the sound operation of the bank and that the individual responsible will have adequate autonomy within the conglomerate to respond quickly to recommendations and requests from the supervising authority.
4. The licensing authority must have a mandate to prevent corporate linkage hindering effective bank supervision, as stipulated by Article 20 of the Banking Act (Official Gazette of the RS nos. 7/99, 59/01 and 55/03).

The above-mentioned basic guidelines for granting licences to future bank owners (shareholders) are implemented and elaborated, along with the policy of the Bank of Slovenia with regard to desirable dominant bank owners, in the form of standards for issuing permits for direct or indirect acquisition of a qualifyng holding in a bank.

6. Bibliography

- Barth R. J., Caprio G. and Levine R., 2000. "Banking Systems Around the Globe: Do Regulation and Ownership Affect Performance and Stability?" http://econpapers.hhs.se/paper/wopwobadc/2325.htm
- Basel Committee on Banking Supervision, 1997: "Core Principles for Effective Banking Supervision". Consultative paper issued by the Basle Committee on Banking Supervision
- Groznik P. et al., 2003: "Financiranje srednjih podjetij – primerjava nizozemskega in slovenskega bančnega sistema". 5. poslovna konferenca v Portorožu ["Financing of Medium-Sized Companies – Comparing the Dutch and Slovene Banking Systems, 5th Business Conference in Portorož]
- Magyar Nemzeti Bank, 2003: "The Role of Foreign Banks in Five Central and Eastern European Countries". Magyar Nemzeti Bank
- Ribnikar I. 2001. "Lastništvo bank (v EU in Sloveniji) [Bank Ownership (in the EU and Slovenia)]." Slovenski bančni dnevi 2001. Association of Banks of Slovenia, Ljubljana

Effects of Slovenia's Accession to ERM2 and the Eventual Adoption of the Euro on Slovenia's Banking and Financial Sector

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By joining EMU member states are adopting a single monetary policy, for which the ECB is responsible. As a condition of accession, the economies of the new member states must be structurally sufficiently similar to those of the current members of EMU. That is why they must meet the Maastricht monetary and fiscal standards. In addition, they must prove their capacity to adjust by being members of the ERM2 exchange rate mechanism for two years. Meeting the Maastricht standards still does not mean that the economies of the new EU and EMU members are in harmony with the European average so that all measures taken by the ECB – which, in carrying out a single monetary policy, makes decisions on the basis of the average values of EMU macroeconomic aggregates – will fully correspond to the structural particularities of the new members. In other words, the single monetary policy will not be fully effective unless the average conditions on the European monetary market coincide with domestic conditions. The suitability and effectiveness of the single monetary policy more or less depends on meeting three conditions. The first condition is coordination between the direction of the changes in interest rates and the business cycle of a particular economy. Secondly, the changes in ECB interest rates must be adequately high in order to produce the predicted macroeconomic effects. This can only be achieved if the transmission mechanisms of monetary policy among the economies are similar. The third condition of suitability and effectiveness of the single monetary policy is the effective influence of fiscal policy on aggregate demand. Meeting this condition will, above all, help reduce possible difficulties due to the less than total compatibility of the transmission mechanism of the ECB's monetary policy in individual member states.

In the past, changes in nominal interest rates in Slovenia were not adjusted to such changes in EMU member states. This does not come as a surprise as Slovenia exhibited economic growth and inflation characteristic of transition. Slovenia's accession to the EU and EMU should encourage further harmonisation of the business cycles of the European and Slovenian economies and ensure an even higher rate of financial integration of the Slovenian economy into the European economy. One of the most important questions with regard to the single monetary policy in EMU is the suitability of the general level of interest rates set by the ECB. Just like other new members, Slovenia will keep reaching higher average economic growth rates for several more years. That is why the uniform nominal interest rates, set for the territory of EMU as a whole, mean lower real interest rates in the states with higher economic growth and, therefore, higher inflation. Lower interest rates have an asymmetric effect on aggregate demand, which causes GDP to rise above its potential level. We can already detect this economic phenomenon inside EMU if we observe inflation and economic growth trends in the less developed members of EMU. This is a process of real convergence, which is favourable from the standpoint of long-term unification, but may have adverse side effects in the short term. Namely, higher economic growth and inflation entail a rise in real wages and a convergence of relative prices towards the EMU average. This self-correcting process is implemented with a real appreciation of the domestic currency. Nevertheless, this self-correction involves the risk of the real appreciation of the domestic currency exceeding balanced appreciation, which is determined by a reduction in the cost of work per product unit or by an increase in productivity. Any exceeding of the balanced appreciation of the domestic currency may reduce the external competitiveness of a fast-growing economy. We can prevent such excesses in a fixed exchange rate regime – which is what ERM2 is – only by means of an appropriate restrictive fiscal policy.

Another source of potential danger and associated adverse effects of the incongruity between the processes of nominal and real convergence is the asymmetry in the operation of the transmission mechanism of monetary policy. Asymmetry arises when a change in the single ECB interest rate functions at a different speed and with a different force in a state which is not structurally adjusted to the EMU average due to the structural characteristics of its economy, which in this case results largely from a different level of development of the financial market. Early accession to the union may therefore cause the changes in ECB interest rates not to have sufficiently strong and stabilising effect in an economy with a structurally less developed financial market. Empirical studies of the transmission mechanisms from the year previous EMU showed that the EU states were quite heterogeneous, which accession to EMU has reduced. In this case accession, to the EU helped speed up real convergence through more rapid adjustment of financial markets and financial institutions.

In accordance with the factors affecting the speed of impact of the single monetary policy, we may conclude that in Slovenia[62] this impact is quite rapid due to the minor role of the non-banking financing of the economy and, most of all, the short-term structure of the financial market. From that point of view, the stabilising effect of the change in ECB interest rates may well be favourable. The most probable difficulties will concern the small effectiveness of the changes, which stems from the shallowness of Slovenian financial brokerage and the lack of long-term debt securities. However, we may expect a quick convergence of transmission mechanisms in EMU mainly for two reasons. First, admission to EMU is the most important factor of financial integration as domestic financial institutions will grapple with the competition of a single monetary area. Second, only one institution is responsible for monetary policy in EMU, which will increase the endogenous character of the changes in monetary policy instruments. This will also enhance the role of other economic policies in the mechanism of adjustment to possible asymmetric shocks in EMU.

1. Mechanisms of adjustment to asymmetric shocks in EMU

By asymmetric shocks we mean shocks on the demand and/or supply side with different effects on particular economies. In the case of a higher increase in demand for the goods of a particular country, which cannot be predicted on the basis of trends in macroeconomic variables, we speak of a demand shock. A supply shock may reflect accelerated technological progress in a state with regard to its neighbours or a change in prices that alters the cost structure of supply. With an independent monetary policy a state can adjust its interest rates and exchange rates so as to neutralise the influences of asymmetric shocks. Unfortunately, this neutralising capacity is not always self-evident because in a small open economy monetary policy cannot be completely separated from the international environment even given a fully floating exchange rate regime. In addition, when attempts are made to soften the shocks, an active monetary policy may also adversely affect other economic goals important in the long term such as price stability and economic growth.

Since an independent interest rate and exchange rate policy is not possible in EMU, it is important that there be alternative mechanisms of adjustment to asymmetric shocks. We can divide these into market mechanisms and institutional mechanisms. Market mechanisms mainly involve the flexibility of wages and prices and the mobility of labour and capital. Institutional mechanisms for adjusting economies to asymmetric shocks inside EMU include, first of all, the use of automatic stabilisers within a single budget and a discretionary policy of using various forms of non-refundable aid and loans within the framework of the EU structural and cohesion fund. The processes of real conversion therefore also facilitate the use of and an increase in the effectiveness of market and institutional mechanisms in EU and EMU members.

[62] For more information on the costs and advantages of Slovenia's accession to the EU and EMU, see Pavlič Damijan et al. (2003).

2. Is the Slovenian economy different from the European economy?

The probability of asymmetric shocks depends on structural similarity, the degree of economic integration and the dispersion of the production structure of GDP. Structural similarity increases the likelihood of harmonised, symmetric shocks, especially if extensive intra-industry trade is characteristic of states within the Union. An adequately dispersed production structure, on the other hand, makes monetary and exchange-rate policy intervention unnecessary for eliminating an imbalance in a particular industry. Intervention by the central bank is only required if the affected industry accounts for a very large chunk of the country's GDP.

Table 1: Shares of added value by sectors

	Slovenia	Hungary	Poland	Czech Republic	EMU12	EMU min	EMU max
Agriculture, hunting and fishing, forestry	3.1	4.4	6.4	5.3	2.9	0.8	8.9
Industry (with the energy sector)	31.6	28.0	33.4	36.8	23.2	15.2	32.8
Construction	6.0	4.8	7.9	4.6	5.5	4.2	7,9
Retailing and wholesaling, repairs, transport, tourism	22.8	22.3	28.1	25.2	21.3	17.7	28.3
Financial brokerage, real estate, business services	16.8	20.9	8.3	18.0	26.1	17.9	38.6
Other services	19.6	19.2	15.9	10.1	21.0	17.0	23.9

2001 figures for Hungary and Slovenia, 1999 figures for others.
Source: Statistical Office of the RS; OECD Annual National Accounts Database; Pavlič Damijan et al. (2003).

The data on the share of added value by sectors of the economy presented in Table 1 indicates that the structure of Slovenia's GDP departs significantly from the EU average only in the service sector, which is less represented, mostly by the financial sector. The development of the financial market and financial institutions in Slovenia is largely determined by the small size of the Slovenian economy and the characteristics of the privatization process. The active role of monetary and exchange rate policies since the gaining of independence has underscored the role of the banking sector and thus slowed down the development of other financial institutions required to support the growth of the corporate sector. The capital market is less developed due to the specific nature of the privatisation process, resulting in a slower development of the institutions that can exert greater competitive pressure on the banking sector and the building up of the financial market. With accession to the EU and EMU, the financial sector will probably experience the fastest and most radical changes, which will correspond to the continued reforms of social and health insurance, necessary for improving the functioning and increasing the effectiveness of fiscal policy in the EMU.

3. Will the asymmetric shocks be greater due to the loss of monetary independence?

The loss of monetary independence would increase the responsiveness of the economy to monetary shocks only if the independent monetary policy, which can influence the nominal exchange rate, proved successful in soften asymmetric shocks in the past. If this is not the case, the loss of capacity to influence the exchange rate or the eventual adoption of the euro will not increase the probability of

asymmetric shocks. On the other hand, a currency that is constantly losing value, also has adverse effects on the economy as it may cause higher inflation.

Various authors who have studied the role of monetary and exchange-rate policy in the transition economies before accession to the EU and EMU[63] have established that exchange rate policy was not effective in the absorption of nominal and real shocks as the exchange rate did not respond by protecting the transition economy against the impact of these shocks. Quite the opposite happened. Namely, data indicates that the active exchange rate policy may have caused additional shocks even as it attempted to soften them. This mainly concerns the reaction to the balanced real appreciation of domestic currencies, which is the consequence of Balass-Samuelson's effect on the resulting changes in the exchange-rate regime in most transition economies in the mid-1990s.[64] From this point of view, accession to EMU will not cause additional variability in the transition economies as the independent monetary policy did not help reduce these fluctuations in the past either.

The dispersion of the production structure, mentioned in connection with the probability of asymmetric shocks, also plays a key role with regard to the role of exchange rate policy in stabilising asymmetric shocks. If the affected sectors do not constitute a significant share of GDP, exchange rate policy will primarily improve the position of the sectors which were not affected, which may boost inflationary pressure. We may conclude that the loss of an independent monetary policy will not adversely affect the Slovenian economy as it will not increase the economy's exposure to asymmetric shocks.

4. Effect of lower real interest rates on economic growth

In EMU Slovenia will have an improved credit rating (lower country risk rating), its liquidity premium will drop in the single monetary area, and it will also avoid the premium for the risk of exchange rate variations and the cost of excessive volatility of the nominal exchange rate. Slovenian real interest rates will drop on account of both effects. Additionally, due to its better credit rating and a lower volatility of the exchange rate, its capacity to repay debts will improve. The latter means a higher level of balance-of-payments deficit that can be tolerated in the long term. Lower real interest rates and a higher sustainable deficit both have a favourable effect on economic growth.

Minor limitations on investment financing resulting from a balance-of-payments deficit can be illustrated on the example of a geographically large economy with a large number of regions. Empirical studies indicate that capital flows among the regions of a state are quite more stable, follow the rule of utilising the best possible investment opportunities and are not influenced by various risk factors which are encountered in the international environment. The introduction of a single currency achieves the same effect on an international level as capital flows become more stable, just as we can observe this at regional level in large states. In states with their own currencies this has been observed not to be true. Most economic reserves are invested within the same borders even though we would expect capital flows to follow the principle of the highest yield, i.e. to be independent of geographic borders. This phenomenon is called the Feldstein-Horioka Puzzle in the literature. Up to a degree we can certainly explain this in terms of limitations imposed by the balance of payments in international borrowing. If the deficit increases towards the limits which cannot be sustained in the long term, the risk of a devaluation of the currency increases, which diverts part of the inflows of capital. In a full monetary union this risk factor is eliminated; therefore, we can conclude that the level of capital flows in the union will be a significantly greater obstacle and the balance-of-payments deficit a smaller obstacle to utilising lucrative investment opportunities.

[63] See Habib (2002); Masten (2002); Coricelli, Jazbec, and Masten (2003).
[64] See Corker et al. (2001); Coricelli and Jazbec (2002).

From Slovenia's point of view, we can conclude that the first factor, the lower real interest rates, will have significantly greater influence as an effect on the sustainability of the balance-of-payment deficit as in the year of transition Slovenia was the only state with a practically stable balance of payments throughout that time. It will thus be more important for Slovenia to reduce real interest rates, which will result from its improved credit rating and a stable exchange rate. This effect will be very difficult, probably even impossible, to quantify as in the process of accession to EMU real interest rates will be dropping due to other factors as well, e.g. due to a general drop in inflation. In any case, we can say that all the factors which the process of accession to EMU will generate will considerably reduce long-term interest rates. This is evidenced by the experience of the European states which have traditionally had less success ensuring low inflation: Italy, Spain, Portugal and Greece. In the early 1990s, the difference between the yield of their ten-year state bonds and that of comparable German bonds amounted to 3 (Italy) to 10 (Portugal) percentage points. In Greece, for which it was clear in 1998 that it would not join EMU initially, this difference was still at a level of three percentage points at the time. It is characteristic of all these countries that in the year previous accession, when the financial markets concluded that accession would actually take place, the interest rate difference dropped to zero for all practical purposes. As has already been mentioned, we can attribute a great deal of this reduction to improvement in the general macroeconomic environment, notably to the lowering of the inflation rate. Nevertheless, we can say that for a short year of time previous accession to EMU, after the risk of exchange rate fluctuations had been removed, the debt securities risk premium dropped by an average of 100 basic points even in countries with a well-functioning and credible monetary policy (Italy, Finland, Spain and Portugal). If we also added to this a reduction in the state risk and a lower liquidity premium, the drop in real interest rates may be said to have been in the interval between 100 and 300 basic points. Similar assessments were also arrived at in the case of Portugal, before its accession to EMU (Pereira, 1999). The simulated favourable effects on economic growth during such a drop in real interest rates are of the order of magnitude of 0.1-0.2 per cent annually (Pereira, 1999; Cajbok and Csermely, 2002). The favourable effects on economic growth were the result of an increase in capital stock fuelled by an increase in investment activity. That is why aggregate supply and demand increase; in addition to that, a lower state risk stimulates the transfer of technology and direct foreign investment, which has a favourable effect on economic growth, also causing a certain – long-term, though not permanent – deterioration in the balance of payments.

5. Role of the banking sector

Sound financial institutions are essential to microeconomic restructuring, economic growth, enterprise, the level of insurance and investment and macroeconomic policy. A stable financial sector with a powerful supervising mechanism is key to the effective and transparent transmission of monetary policy. It reduces the possibility of a banking crisis and potential difficulties which may arise in free capital flows where short-term debt capital (Wyplosz, 2001) constitutes a larger share. According to the EBRD, in 2001 we were rated 3+ (on a scale from 1 to 4) with regard to the quality of financial markets and institutions for liberalising interest rates and carrying out banking reforms. Other association members ahead of us were Hungary (4) and Estonia (4-). We did rather poorly in terms of the quality of the securities market and non-financial institutions, and with the rating of 3- were only ahead of Slovakia, Romania and Bulgaria. In any case, the financial market has to be built up as we may expect, given the trend in Europe following the introduction of the euro, an increase in demand among companies after the issuing of bonds and shares as an additional source of financing.

A strengthening of foreign competition should be expected in non-banking services. This is particularly true of various forms of life insurance as the segment of insurance services in Slovenia where considerable reserves still exist for a major increase in the volume of operations. In the banking sector, renewed attempts at increasing the cost-effectiveness of operations should be expected under pressure from

competition and innovation, which will necessarily be linked to the process of continuing ownership consolidation and changes in the employee structure. Foreign providers of banking services will probably focus on providing comprehensive services to big companies and those with high credit ratings. In addition, they will probably start offering the Slovenian economy the same services which so far have not been available on our market or to which access has been restricted. One of such areas is certainly investment banking, and a very active role of foreign banks should also be expected in raising and investing Slovenian reserves in foreign securities.

6. Bibliography

- Cajbók A. and Csermely A. (eds.) (2002), "Adopting the Euro in Hungary: Expected Costs, Benefits and Timing", NBH Occasional Working Papers, No. 24
- Corker R., Beaumont C., van Elkan R., and Iakova D. (2001), "Exchange Rate Regimes in Selected Advanced Transition Economies: Coping with Transition, Capital Inflows, and EU Accession", IMF Policy Discussion Paper, No. 3, Washington
- Coricelli F., Jazbec B. (2001), "Real Exchange Rate Dynamics in Transition Economies". CEPR Discussion Paper No. 2869, London
- Coricelli F., Jazbec B., Masten I. (2003), "Exchange Rate Pass-Through in Candidate Countries". CEPR Discussion Paper No. 3894, London
- Habib M. (2002), "Financial Contagion, Interest Rates and the Role of the Exchange Rate as a Shock Absorber in Central and Eastern Europe", Bank of Finland Discussion Paper, No. 7
- Pavlič Damijan J., Jazbec B., Majcen B., Polanec S., Masten I., Jaklič M. and Cotič Svetina A. (2003), Ocena makro in mikro ekonomskih učinkov vstopa Slovenije v Evropsko unijo [Assessment of Macroeconomic and Microeconomic Effects of Slovenia's Accession to the European Union], Chamber of Commerce of the RS, Ljubljana
- Pereira A. M. (1999), "The Impact of the EURO on Long Term Growth in Portugal", Quarterly Economic Bulletin – Bank of Portugal, Vol. 5 No 2
- Wyplosz C. (2001), "How Risky Is Financial Liberalization in the Developing Countries?", CEPR Discussion Paper No. 2724, London

Significance of Risks in Interbank Payment Systems and their Influence on Financial Stability

Peter Černuta and Matjaž Južina

1. Introduction

The issue concerning risks, which banks are exposed to in mutual settlement, is considered very significant in interbank payment systems. The risks arising in these systems can roughly be divided into financial (settlement and systemic) and operational (human error, abuse, technical failure, legal risks) ones, whereby both the type and dimension of risks depend on the type or form of an interbank payment system. In particular the financial risks are those that have caused a transformation of interbank payment systems in the past; namely, from net systems with deferred settlement into those of real time gross settlement (RTGS). In addition to such a transformation, the consciousness of financial risks has also triggered the search and implementation of additional measures in order to provide settlement finality in interbank payment systems, thus preventing settlement and systemic risks.

The purpose of the present article is to set out the concept of payment systems, discuss the significance and types of financial risks in interbank payment systems, and present the significance of dividing domestic interbank payments into large and small value payments, i.e. from the point of view of their settlement in different (appropriate) payment systems by applying appropriate elements of financial risk management.

Hereinafter, an overall description of payment systems is set out first, followed by a theoretical description of two major forms of interbank payment systems and financial risks which could arise in such systems. Following the aforementioned basis, the significance of dividing domestic interbank payments into large value and small value ones is defined afterwards.

The last part contains a presentation of the analysis of systemic risk, that has been carried out for the Slovene Giro clearing system (intended for the settlement of small value payments of up to SIT 2 million) in the Bank of Slovenia for 2002.

2. Definition of payment systems

In the market economy, payment systems form an important part of a financial infrastructure, contributing much to overall economic stability by carrying out their operations in a reliable way. A core task of a payment system is to enable the settlement of monetary liabilities, arising from the business activities of economic entities in the market.

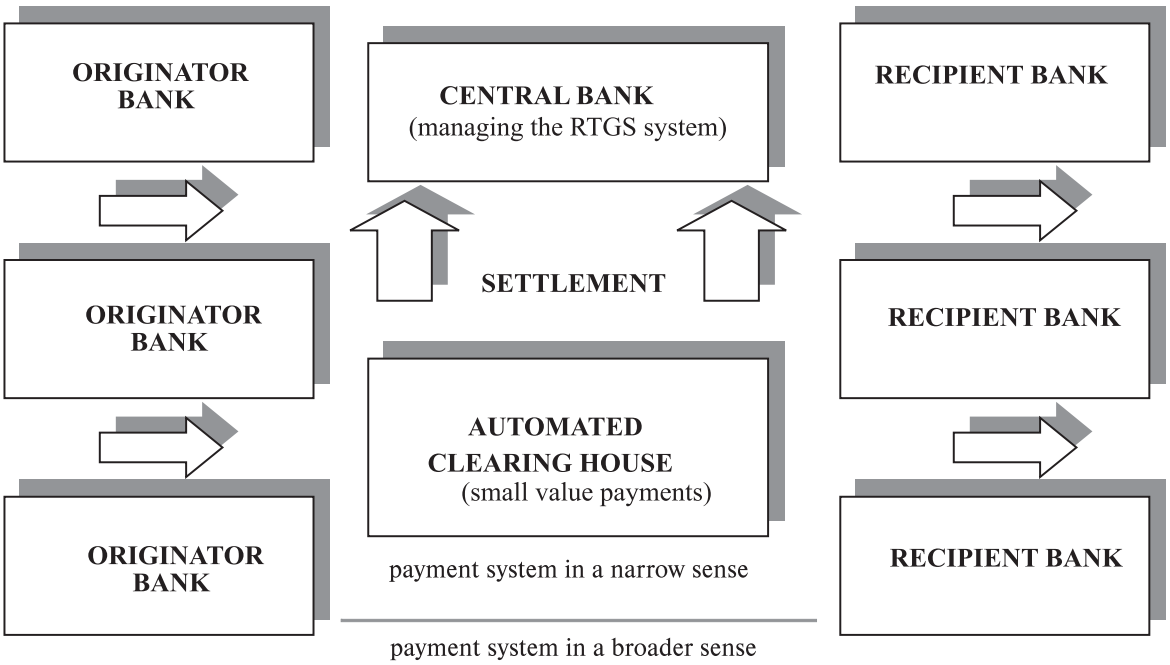
Economic entities want a payment system to perform its task uninterruptedly and in time, and to make it possible for a debtor to settle, through this payment system, settlement finality concerning his liabilities to a recipient with no risk involved in a transfer of funds, having already debited his account, to a recipient bank.

In accordance with a definition, taken from the glossary of the Committee for Payment and Settlement Systems, which acts within the framework of the Bank for International Settlements, a payment system in its broadest sense consists of instruments, procedures and interbank systems for a transfer of funds,

enabling monetary flow in an economy. The main elements of a payment system are then represented by the products of banks, banks offer to their clients, and interbank payment mechanisms for settling payments among banks (payment systems in a narrow sense).

In accordance with a definition in the Slovene Payment Operations Act, based on the EC Directive on settlement finality, payment system is defined in a narrow sense, namely as a relationship established on a legal basis among three or more banks as the providers of payment services (parties, participating in a payment system), whose content are their mutual rights and obligations with reference to the settlement among parties, participating in a payment system. The relation between both definitions can be inferred from the following chart.

Chart 1: Infrastructure of a tipical payment system



Source: own source.

Hereinafter, the management of financial risks in interbank payment systems (payment systems in narrow sense) is dealt with.

3. Definition of financial risks in interbank payment systems and their management

In different countries various forms of interbank payment systems have developed, characteristic of which have been different type and dimension of financial risks in interbank settlement. At the beginning, requirements for the effectiveness of payment systems primarily affected decision-making on their form, whereas recently, requirements for their security i.e. reliability from the perspective of financial and operational risk management have become more important. These requirements caused the introduction of mechanisms, enabling settlement finality among banks in net settlement systems, or even their transformation (introduction of real time gross settlement systems).

Generally, from the point of view of settlement finality, there are two models of the systems for effecting interbank payments and settlement. In the first model, each payment order is settled immediately upon its entry into a system in its entire (gross) amount. A payment order, sent by Bank A to debit its

account, is processed immediately, and provided that Bank A disposes of sufficient funds, its account is debited to credit the account of Bank B. Such a procedure applies to each payment individually. So, this is the case of a real time gross settlement system. Such systems are normally operated by national central banks, which commercial banks hold their settlement accounts with.

The second model operates according to the net principle, meaning that the debit transfer orders of originator banks are collected for some time, and at the end of this year, net positions are calculated and settled for banks participating in the system[65] . Netting thus means tranforming claims and liabilities, arising from mutual payments among parties participating in the system into one (or more in the event of a bilateral clearing) net claim, which must be settled to a participating party, or liability, which must be settled by a participating party. This net position is normally settled via accounts held with central banks. So, the model of netting can be applied on both bilateral (two parties) and multilateral (several parties concurrently) basis.

There is no assurance per se with regard to settlement finality concerning payments sent to the system which is operating according to the net principle. Payments become final only after the transfer of funds from the account of a net debtor to the account of a net creditor[66] .

In real time gross settlement systems, the settlement is also not guaranteed, however, in this case the bilateral relationships between two parties are in question (there is no participation of all parties in a system within one position of a party and vice versa, as is the case in a multilateral position in a net settlement system), and simultaneously, a payment order is not accepted into a system in case the funds of the sender are insufficient and it may also be turned down (either immediately or at the close of the system).

3.1. Financial risks in interbank payment systems

Financial risks in interbank payment systems are settlement (liquidity and credit) and systemic risks.

Settlement risks are referred to as the inability of a bank (or more banks) to fulfil its / their settlement liabilities, arising in two forms (Real time Gross Settlement Systems, 1997, p. 7):

- A liquidity risk is a risk of loss because of the temporary indisposability of funds and arises if a debtor does not completely settle his liabilities when he should or within the agreed year of time, but afterwards, instead. This could have an unfavourable effect on liquidity of other banks participating in a system, since they get less from settlement (or have to pay more) as they anticipated.
- A credit risk is generally related to a debtor's insolvency, if he cannot entirely settle his liabilities when they arise, or whenever afterwards. A credit risk means a risk of losing the total value of a transaction (principal risk).

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65 A net position is taken as a difference between the value of the orders put into the system and the value of the orders received from the system.

66 From the viewpoint of commercial banks, the principal advantage of net settlement systems (with regard to gross settlement systems) is lower liquidity requirement for the settlement of a particular value of payment transactions. Therefore, this feature is attractive to all commercial banks, since they need fewer funds to be kept in the accounts held with a central bank, where they bear little interest, thus representing opportunity costs for commercial banks. Their wish to hold as few funds in these accounts as possible, and consequently lower opportunity costs, is therefore understandable (Sheppard, 1996). Furthermore, such a system exposes participating parties to a settlement risk, since they grant one another implicite unsecured intra-day credits pursuant to payments with no immediate settlement finality. Such credits represent an impetus to the net system with deferred payment. They represent the readiness of counterparites to participate in such a system (receiving and sending payment orders), naturally on condition that a net debtor covers his net liabilities upon settlement (Folkerts-Landau et al., 1997).

Thus, a liquidity and credit risk concern individual parties participating in a payment system. Should these risks cause negative reaction (troubles) of other participating parties as well, a systemic risk might arise, which is the most important risk in payment systems from the point of view of a central bank.

A systemic risk arises in case the illiquidity/insolvency of one participating party causes also inability of other participating parties to settle their liabilities. Such errors can trigger general financial difficulties, which may endanger the stability of a payment system and an economy viewed as a whole. The possibility of the occurrence of such a systemic crisis arising from the realisation of credit risks for the Slovene Giro clearing system is given in Chapter 4.

3.2. Methods of financial risk management

To manage financial risks in interbank payment systems, various mechanisms were established, aiming at both a decrease in risks, which individual participating parties in payment systems are faced with, and a decrease in systemic risk.

They can be divided into those used in net settlement systems and those used in both forms of payment systems.

Group 1 consists primarily of the following:

- The cancellation of netting and the calculation of new positions, excluding an illiquid/insolvent participating party; in case a participating party is illiquid/insolvent when settling its multilateral net liabilities, a payment system might provide settlement in such a way, that the credit and debit transfers of a defaulted party, are partially or entirely removed from the system; however, this could result in unexpected and considerable changes in the net positions of other participating parties. Should their liquidity/solvency be severely endangered, consequences of systemic dimensions arise.
- A system of bilateral and multilateral limits, which enables participating parties to impose limitations on a bilateral or multilateral net debit positions of their counterparties.
- A guarantee fund and loss-sharing agreement: whereas the systems of bilateral and multilateral limits are intended for limiting the volume of financial risks, a guarantee fund is intended for solving the situation after the realisation of financial risks. In such a case, additional liquidity needed must be provided within a short year of time, so that settlement could be fully carried out, ensuring that payments remain irrevocable and final. Should financial risks be realised in a system, they are assumed by those who contributed their funds in a guarantee fund or entered into a loss-sharing agreement[67].

Group 2 consists primarily of the following:

- The instruments of a central bank, by means of which the central bank provides additional liquidity to the parties participating in a system; in this case, the secured credits of the central bank are offered to banks within its set of instruments. This source of liquidity,

[67] In the event of a loss-sharing, contrary to a guarantee fund where funds are put aside beforehand, only a commitment to provide funds after a loss has occurred exists. Should a loss-sharing agreement not include a guarantee fund, an additional liability may also endanger other participating parties which are unable to provide cover for it. This is why loss-sharing agreements are normally set up in tandem with a guarantee fund, and simultaneously also with the system of bilateral and multilateral limitats, which provide a key for loss-sharing (bilateral limits) and determine the amount of the funds of a guarantee fund (multilateral limits).

predominantly in the form of intraday credits or permitted overdrafts on settlement accounts by means of which a bank may make up for the missing liquidity in order to effect payments (and which must be recovered at the close of a day), plays an important role primarily in the real time gross settlement systems.

- Restriction of participation in a payment system by strict requirements applied for the entry and maintenance of the status of a participating party.

In the real time gross settlement systems, very advanced mechanisms are often used, enabling more efficient liquidity management of the participating parties and diminishing liquidity risks, for these systems are highly demanding from the point of view of liquidity requirements (large value payments, being settled on gross basis). An example of such a system is the German real time gross settlement system (RTGS^{plus} system).

The most important and basic method for managing financial risks in the interbank payment systems viewed as a whole is dividing payments by value and settling them through appropriate payment systems, which are suitable from the point of view of risk management measures. Namely, considering the extent and the consequences of financial risks and possibility of their management, the values of payments are very important. The systems for large value payments are more important to a financial system than the systems for small value payments, but they both require settlement finality. However, the mechanisms applied for achieving the settlement finality may differ between the large value payment systems and small value payment systems. Since large value payments entail relatively bigger risks, a larger investment made for managing them is justified (e.g. setting up a sophisticated system of limits, introduction of the real time gross settlement system and thus abolition of deferred settlement, introduction of a hybrid system).

Thus, large value payments are settled through payment systems, which are decreasing exposure among participating parties already by their structure and the method of settlement (real time gross settlement systems) and are, as a rule, much more expensive, whereas small value payments are settled through payment systems, where efficiency is more and financial risks management less emphasised.

For the Slovene payment systems, a demarcation line between large value payments (these are settled in a real time gross settlement system – the RTGS system) and small value payments (all other interbank payment systems, with the Giro clearing being the most important among them) was arbitrarily set at an amount of SIT 2 million, whereby urgent payments below SIT 2 million may also be settled within the more expensive and secure RTGS system. The distribution of payments by number and value between the RTGS and Giro clearing system is shown in the following table.

Table 1: Comparison between the number and value of the orders processed between the RTGS and Giro clearing system

	Year of 2002		Year of 2003	
	Number	Value (SIT billion)	Number	Value (SIT billion)
RTGS system	1,351,429	40,137.66	1,264,074	43,391.20
Giro clearing system	50,486,456	4,461.62	46,613,463	4,505.72

Hereinafter, a presentation of the analysis of a systemic risk in the most important Slovene payment system for small value payments, the Giro clearing system, operated by the Bank of Slovenia, is given. The aim of the analysis is to give grounds for a presumption that dividing payments into large value and small value payments in Slovenia effectively resolves a question of systemic risk in small value payment systems, whereby the implementation of effective and secure settlement is made possible in these systems, eliminating the need for expensive mechanisms of financial risk management.

4. Analysis of a systemic risk in a Giro clearing system

4.1. Concept of the analysis

As already mentioned systemic risk is defined as a risk of the occurrence of a domino effect – default of at least another one from the participating parties as a consequence of the default of the illiquid/ insolvent party in the payment system. The creation of intertwining relations, emerging in the process of establishing short-term mutual exposures of the parties participating in a system to credit and liquidity risks, is a channel of the expansion of disruptions throughout a system.

The principal aim of the analysis is to identify a relative size of mutual exposures to a credit risk (taking into account the size of capital of individual banks, participating in a system), arising within the year of time of deferred settlement, forming, along with such relations intertwined (exposures to a credit risk), a potential source of a systemic risk[68]. The first analysis conceived in this way was carried out for the American (CHIPS) net payment system in the second half of the eighties. The analysis, using a similar methodology, were also recurring in the payment systems of other developed countries, e.g. Agnellini (Systemic risk in the netting system, 1996) for the Italian net payment system.

This analysis provided reference for carrying out an analogous analysis in the Bank of Slovenia in 2002 for the Giro clearing system.

Relations intertwined in the Giro clearing system were shown in the statistical distribution of a mutual exposure of participating parties. Statistical distribution was obtained from the actual data for 2002 and by applying a statistical methodology of calculating existing values of the variables of a distribution function[69]. An example of the actual distribution of positions between two banks[70] and the function of the (theoretical) distribution described, which is most adjusted to the actual distribution because of applying optimisation, in given in the chart below.

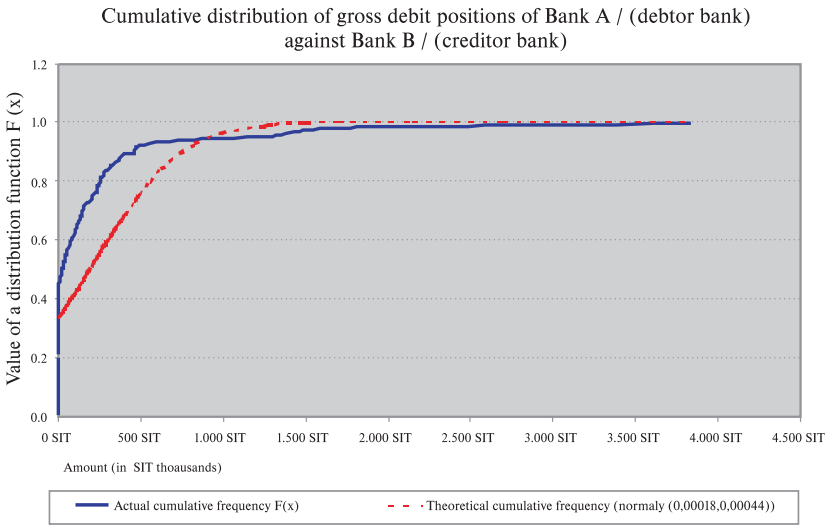
An event of initial insolvency is dealt with as an exogeneous event. The analysis does not provide an answer to the question of how initial insolvency arose. The aim of the analysis is to identify the consequences of the initial collapse of a bank for the solvency of an entire system. Thus, the dimension of a systemic risk is measured.

[68] The simulations of liquidity exposures are worked out equally; however, a basis of comparison is formed by the sources of liquidity (e.g. the bank balance of a settlement account), and not by the capital of a bank.

[69] The (log)-normal distribution function is used, with specific values of variables (μ,ó) constituting it, calculated according to the optimisation method.

[70] The value of a bilateral debit position is shown on Axis X, whereas the corresponding value shown on Axis Y is either an equal or a lower value of the one shown on Axis X.

Chart 2: Comparison between actual and adjusted theoretical distribution for gross positions between the two banks selected



4.2. Simulation and the results of the analysis

In setting up an environment, where the exogenegous shock is simulated, the most conservative approach was selected. The presumptions were formed in a way to set up the conditions, enabling the exogeneous shock to cause a systemic crisis most rapidly.

In carrying out the simulation, a bankruptcy of an individual bank was artificially (exogeneously) induced, followed by observing the impact of an initial shock on the solvency of other banks, participating in the system. The simulation is reiterated for so many times that a set of values obtained shows sufficiently transparent probability distribution. A set of distribution values obtained in this way for each bank in relation to another bank represents a systemic risk.

By reiteration carried out for a sufficient number of times, probability was estimated for each bank, that its gross debit position against each other bank is so large that this unsettled debit position causes a decrease in the solvency of a creditor bank. In this case, a gross claim represents a significant share in the capital of a participating party – a systemic risk emerges because of a realisation of a credit risk.

The results of the simulation carried out across all potential combinations are values obtained for a probable realisation of a systemic risk, which are, so to speak, equal to zero. Such a result means that, with regard to the present relations in the system, no individual bank is able to trigger any bankruptcy proceedings at another bank by not settling its debit position. The position of capital is so large (or debit positions among banks so low) that they are not (even theoretically) mutually endangered.

4.3. Justification of results

Such relative unimportance of debit positions in the Giro clearing system is a consequence of the characteristics of the domestic banking environment, and above all of a structure of domestic payment systems. The first analysis of this kind, which was carried out for the American net payment system (CHIPS) in the second half of the eighties, namely revealed that the net payment system with no restrictions in respect of payment value, is very risky. The analysis, having been carried out by applying the same method for the circumstances in the Italian net payment system, revealed a (negligible) degree of risk already markedly decreased.

The results of a simulation pertaining to the Slovene Giro clearing system, which was carried out with the equally conceived model in terms of concept, are even more extreme: for according to the results, the Giro clearing system makes imagining a systemic crisis, which would be triggered by the relations intertwined among the participating parties, hardly reasonable.

The most significant reason for such a result or such deviation from the results provided by the analyses stated for foreign net payment systems is, as already mentioned, the structural concept of domestic payment systems. These were also conceived under the influence of the results of such analyses in the payment systems of developed countries at the end of the eighties and at the beginning of the nineties. Namely, the results obtained upon carrying out such analyses in the payment systems of developed countries triggered the procedures of diminishing risks by taking various measures, given in Chapter 3.2. Also, the structure of the Slovene payment sytem is to a great degree (following the foreign examples set and the recommendations communicated by international financial institutions) the result of these processes. The core measure, which at most clarifies the results obtained from the analysis, is dividing payments into those of large value, which are send in the RTGS system, and into those of small value, which are mostly send in the Giro clearing system, as well as setting a relatively small amount of SIT 2 million as a demarcation line to be inserted in between.

5. Conclusion

Dividing of payment systems into the large value payment systems and small value payment systems is an efficient concept of payment systems in the economy, which gained grounds in all developed economies. Dividing is justified by seeking the equilibrium between the efficiency (favourable prices) and financial and operational security. Dividing the Slovene payment systems into the RTGS system as a large value payment system and into other payment systems for small value payments is equally justified, whereby an analysis was carried out in order to support this division with regard to systemic risk.

The analysis of financial risks in the Giro clearing system, carried out in the Bank of Slovenia in 2002, revealed, despite conservative assumptions, that there were no circumstances in this system, which could lead to a systemic crisis. The vital measure, which abolished systemic risk in the Giro clearing system most effectively, is the separation of large value payments from small value payments. Dividing payments enables the concentration of systemic risk in settling domestic interbank payments in the RTGS system, which is fully compliant with the international standards of secure and efficient payment systems, and the compliance of which is to be further assured. Furthermore, it needs to be highlighted that credit risks, still existing among the parties participating in the Giro clearing system, are properly managed by a simple mechanism of loss-sharing.

Despite successful financial risk management and the seemingly over-expanded present mechanisms of financial risk management, they are needed owing to the prevention of contingent arbitrages in a direction of less secure arrangements (and therefore potentially cheaper) payment systems, which would exist in the case of a unified economic area, but with an ununified arrangement of effecting payment transactions.

A set of all possible mechanisms is also needed owing to future transitions in economic environment, bringing about changes towards a direction of a different (higher) level and structure of risks. The existence of particular mechanisms enables a more flexible adjustment in the integration process in the economic area of the European Union and more flexible responses to changes in economic environment.

By setting up an efficient infrastructure of financial risk management in the domestic interbank payment systems, which is in line with the arrangements in the European Economic Area (EEA), operational risk management is getting a more significant role. Prevailent dealing with the problems of operational risk management is, after setting up reliable economic mechanisms of financial risk management, also noticeable in international environment. The process of operational risk management takes more time because operational risks are not structured, and takes place on an on-going basis, for it takes place in an unstable environment of growing payment flows and the changing (information) technology. The process of operational risk management cannot be, like the process of systemic financial risk management, set up merely centrally by taking simple systemic measures, but in the form of an ongoing co-operation of all participating parties and in compliance with varied mutually dependent elements (technological equipment, staff qualifications, procedures, regular performance of tests, introducing standards of securing information etc.).

6. References

- Angellini P., Maresca G., Russo D.: Systemic risks in the netting system. Journal of Banking & Finance. Year 20, No. 5. Amsterdam: North-Holland, June 1996, p.p. 853–868
- Balino Tomas J. T., Johnson Omotunde E.G., Sundararajan V.: Payment System Reforms and Monetary Policy. Washington: World Bank Group, 1996, p. 8
- Folkerts-Landau David, Garber Peter, Schoenmaker Dirk: The Reform of Wholesale Payment systems. Washington: World Bank Group, 1997, p. 7
- Folkerts-Landau David: Wholesale Payments and Financial Discipline, Efficiency and Liquidity. Washington: International Monetary Fund, 1997, p. 27
- Johnson Omotunde E. G.: The Payment System and Monetary Policy. Washington: International Monetary Fund, 1998, p. 30
- Južina M.: A Risk Analysis in the Payment Systems Department, Apprenticeship Thesis, Bank of Slovenia, 2002, p. 43
- Sheppard David: Payment systems. Handbooks in Central Banking. No. 8. London: Bank of England. 1996, p. 54
- Summers Bruce J. (ed.): The Payment system: Design, Management, and Supervision. Washington D. C.: International Monetary Fund, 1994, p. 211
- Core Principles for Systemically Important Payment systems. Basle: Bank for International Settlements, 2000, p. 76
- Committee on Payment and Settlement Systems: A Glossary of Terms Used in Payments and Settlement Systems, Bank for International Settlements, Basle, 2001
- European Parliament: Directive on Settlement Finality in Payment and Securities Settlement, 1998
- Rules on Administering the Giro Clearing System. Bank of Slovenia.
- Real time Gross Settlement Systems. Basle: Bank for International Settlements, 1997, p. 66
- Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries (Lamfalussy Report). Basle: Bank for International Settlements, 1990, p. 41
- Decision on Administering the Giro Clearing System. Bank of Slovenia
- Payment Transactions Act