An analysis of how the introduction of the euro will impact the Slovak financial market

Contents

Preface

The entry of Slovakia into the euro area will be reflected in the financial sector at several levels and will bring with it both opportunities and costs. The purpose of this analysis is to examine the costs of introducing the euro, changes in the risks to which Slovak financial market entities are exposed, and changes in the structure of profit generation and in the asset and liability structure of Slovak banks. The analysis also includes the results of a survey that the NBS conducted among entities in the Slovak financial market in order to determine what impact the introduction of the euro will have on that market.

The costs of introducing the euro cannot be quantified from the data currently available. Moreover, not even all the institutions have yet estimated their own costs in this respect. The major expenditure items include costs related to information systems, staff, communication with customers and, in the case of banks, cash operations. The introduction of the euro in other countries indicates that adoption of the currency does not impair the operational efficiency of the banking sector.

The introduction of the euro in Slovakia will eliminate foreign exchange risk in the development of the SKK/EUR exchange rate. Changes will also be seen in the characteristics of the domestic currency's exchange rate with other currencies and in the liquidity of the domestic interbank market and financial derivatives market. Because of these changes, financial market entities will find themselves exposed to different foreign-exchange and interest-rate risks.

Currency conversions in which banks generate income on the euro from the spread between its buy and sell price will cease to be included in gains on foreign exchange transactions; banks will also lose the possibility to mediate customer hedging of euro currency risk, which accounts for the majority of hedging transactions. Another problem will be the change in monetary policy implementation, which today has a substantial effect on the asset and liability structure of Slovak banks and also on their profitability. Given the nature of their business, the financial market entities that will be most affected by the introduction of the euro will be banks, and that is why this analysis devotes more attention to the impact on the banking sector.

Regarding the impact of the introduction of the euro on the Slovak financial market, the Financial Market Supervision Section conducted a survey of institutions in this market from 20 April to 11 May 2007. The questionnaire was sent to banks and branches of foreign banks, insurance companies and branches of insurance companies, asset management companies, pension fund management companies, supplementary pension companies, securities dealers, the Bratislava Stock Exchange and on the Central Securities Depositary. A total of 64 financial market entities, 63% of those addressed, took part in the survey and they accounted for 73% of total assets in the Slovak financial sector.

Most institutions are already at the preparatory stage for the euro introduction. The main problem has been identified as a lack of legislation, specifically the law on the introduction of the euro in the Slovak Republic (hereinafter 'the general law') and related secondary legislation.

1. Preparatory procedures for the introduction of the euro

A majority of the surveyed institutions said they had already begun preparations for the introduction of the euro, and 10 had not yet begun. A total of 28 entities are in the initial stage of preparations, most of them from the banking sector (10) and insurance sector (12); they are each preparing a project for the euro changeover in their own institution, as well as an introductory analysis of the impact of the euro changeover. Thirteen respondents are in the second, analytical stage, which involves conducting detailed analyses of their systems, preparing specific orders for suppliers and defining changes in work processes. The final, implementation stage has been reached by five entities.

According to the survey, working teams or groups for the euro introduction have been set up by 27 respondents, the majority of which are from the banking sector (12) and insurance sector (6). Twelve institutions have, or are preparing, a schedule for the euro changeover, while ten are preparing a work regulation as well as a plan of handling extraordinary events.

As for information system preparations, three entities are at the introductory stage, 27 are at the analytical stage – where systems are tested, the impact of euro introduction is analysed and communication with supplier organizations is taking place – and two entities are at the implementation stage for information systems.

Most respondents plan to commence the implementation of information systems at the end of 2007 or the beginning of 2008, and it is generally planned to test them in the first half of 2008. Most entities are keeping the last quarter of 2008 in reserve.

Problems related to the euro changeover were identified by 37 respondents, mainly banks and insurance companies. The majority of securities dealers do not expect any problems. The most pressing issue identified by the survey was legislation (it was stated by as many as 15 companies). Respondents noted the inadequate and slow preparation of the general law, the fact that the National Euro Changeover Plan has not been updated, and the absence of decrees and guidelines of the NBS and Slovak Ministry of Finance regarding the euro changeover.

Among the other frequently mentioned issues were the required modifications to IS and IT systems, the complexity of the conversion and testing of the systems, the shortage of capacity and dependence on IT system suppliers (14 responses), the staffing demands that the project places on each institution (7 responses) and the altogether insufficient information and experience regarding the euro introduction (7).

Another problem, pointed out especially by banking institutions, is that one day may not be enough for financial institutions to implement the actual changeover to the systems and that it would therefore be desirable to make 2 January 2009 a non-banking day. Among the other issues identified by more than one institution were the preparedness of other entities in Slovakia (outside the financial market) for the euro, the state bonus issue (raised by home savings banks), the practicalities of rounding and dual pricing, the time limitations of the euro introduction project, how to calculate the value of one share and the conversion of the historical performance of mutual funds.

As for receiving assistance in regard to the euro changeover, as many as 41 companies said that they were expecting support from a parent undertaking, while 15 were not receiving any help (largely because they did not have a parent undertaking). Assistance typically takes the form of applying the experience of a country that has already adopted the euro and is where the parent undertaking has its registered office (17 responses), the provision of advice, consultancy services and other information (17), the provision of technical assistance, IT and IS (15), project management (9), methodological support (7) and the holding of training courses, presentations and meetings on the given issue (4).

According to 44 respondents, some form of assistance would be required from the NBS. The issue which more than half of the respondents identified in this regard was legislation, specifically the need for fast-tracked approval of the general law, the timely publication of guidelines, explanatory statements, complete systematic training, an outline of the euro introduction process, and the adoption of a time schedule. Among other areas in which financial sector institutions would require cooperation from the NBS are the following: the information field, including the raising of public awareness; organization of training courses, consultations and joint meetings with financial market entities regarding the euro issue from the side of the NBS; support for efforts to make 2 January 2009 a public holiday or non-banking day; the TARGET2 system (more detailed information, cooperation in the implementation of membership); ensuring cash logistics and police cooperation in securing banks' premises when the euro currency is front-loaded and at the time of dual circulation; and the coordination of key decisions on proposals for cooperation with the financial sector.

2. Costs of introducing the euro

The costs related to the euro introduction can be divided into four main groups, which were also those most frequently stated by institutions in the survey:

- the modification of information systems (44 responses)
- administrative costs (21)
- communication with the public and different organizations (21)
- cash operations (4)

The change in information systems will concern mainly core applications, i.e. the systems used to administer customer 'accounts' (including bank accounts, insurance contracts, mutual funds and pension funds), credit systems, and insurance systems, in which it will be necessary to modify, for example, individual records on customer contracts, the conditions of account maintenance, loans and insurance contracts, fee payments, the calculation of how much fund shares are worth, regular instalments, etc. This is also related to the conversion of current and future financial flows, the conversion of each account item, as well as changes in statements issued to customers.

The core application systems are linked to a range of other supporting systems, including payment systems, systems for managing credit, market and insurance risks, customer profitability systems, and dealing applications.

The changeover to the single currency also concerns subsidiary fields, the most important of which is accountancy with the necessary conversion of all general ledger accounts, accounting documents and account balances. In the area of personnel, it will be necessary to modify, for example, the basic records on staff (rates of pay, contractual payments, insurance, etc.) and the wage accounting system, as well as matters such as the recording of business trips. Other areas that need to be considered are purchases and sales, supplying, invoicing, and so on.

The experience of other countries that have already gone through this process indicates that the key variable in this respect is time. What matters is how much time an organization has for the modification of information systems.[1]

Administrative costs include mainly funds that the organization has to spend on training staff and preparing them for the introduction of the euro. A hidden internal cost is the time that staff are required to spend on preparation for the euro changeover, since that is time they could have spent on other important activities in the organization. This applies to regular staff and members of management alike.

Communication costs are another large group, encompassing, for example, materials at all company operations, the sending of statements to customers, the dual display of prices, the disclosure obligation imposed by the general law, communication with the regulator and reporting activities. Some companies are

[1] In the case of SAP applications, the internal project for the euro changeover lasted between 6 and 12 months.

planning an information campaign in connection with the euro introduction.

A large part of the costs, especially in the banking sector, will be incurred by ensuring cash operations such as the distribution of euro cash to branches, the actual cash changeover both during and after the end of the dual circulation period, the modification of ATMs and physical protection.

It is difficult to quantify the costs. The euro changeover costs cannot in general be separated from a company's other current operational expenditure. Not even all of the companies that participated in the survey have yet made their own cost estimates for the introduction of the euro. A total of 38 companies gave a preliminary cost estimate in the questionnaire, and several others are currently working on estimates.

Table 1 Ratio of operating costs to income from banking activities in euro area Member States

	Preparation	Fixing of exchange rates			Euro	
Country	1998	1999	2000	2001	2002	2003
Belgium	73.96	66.50	59.89	62.88	67.85	62.05
Finland	86.24	70.70	56.90	37.72	61.06	50.08
France	67.67	67.62	66.01	62.12	64.75	64.00
Greece	59.25	41.61	53.28	58.41	68.15	62.67
Netherlands	70.78	67.91	70.50	69.62	70.91	67.23
Ireland	51.96	51.67	50.13	55.68	51.17	50.73
Luxembourg	39.31	46.04	45.07	46.71	39.84	41.22
Germany	57.60	67.76	68.70	69.87	63.79	72.56
Portugal	55.42	58.51	59.11	57.09	61.47	53.92
Austria	67.90	68.98	66.88	67.56	69.99	68.80
Italy	61.00	60.71	56.01	55.37	59.87	60.91
Spain	60.60	63.11	61.02	55.52	56.66	54.30
Average	**62.64**	**60.93**	**59.46**	**58.21**	**61.29**	**59.04**
Slovenia*	63.26	65.24	58.9	65.22	59.68	62.54

- Source: OECD
- Data are in per cent
- * Slovenia entered the euro area on 1 January 2007. The cost-to-income ratio in the Slovenian banking sector was 60.86% in 2004 and 59.53% in 2005. Source: Banka Slovenije.

Table 2 Ratio of operating costs to income from banking activities in certain non-euro area Member States

	Country	1998	1999	2000	2001	2002	2003
A	Denmark	59.78	62.07	59.54	53.06	54.33	51.53
	Sweden	68.74	73.28	66.62	64.34	71.04	64.33
	United Kingdom	56.51	54.56	55.54	57.39	60.83	56.82
B	Czech Republic	98.01	103.88	104.54	75.13	72.54	86.41
	Poland	62.19	63.22	63.23	61.56	63.83	68.28
	Hungary	115.77	87.00	74.91	64.58	65.29	59.88
	Slovenia	67.75	110.32	100.28	105.32	81.98	85.85
C	Norway	68.04	59.28	59.54	60.76	63.67	59.73
	Switzerland	52.47	55.01	55.94	60.02	58.91	60.67

- Source: OECD.
- Data are in per cent.
- A/ non-euro area Member States
- B/ New Member States preparing for entry into the euro area
- C/ European countries, which are members of neither the EU nor euro area.

In order to estimate the level of operating costs at banks, we used the ratio of these costs to income from banking activities, i.e. the sum of banks' net interest and net non-interest income. This indicator is similar in its definition to the cost-to-income ratio.

Table 1 shows how the cost-to-income ratio in euro area countries developed during the formation of the euro area. This is compared in Table 2 with the ratio in non-euro area Member States.

It is clear from the tables that the euro area countries did not experienc a sharp rise in the cost-to-income ratio during their preparations for euro adoption. In relation to the changeover in those countries whose currencies were pegged to the euro from 1999 (with information systems having to be prepared for the changeover), the ratio even reported a slight decline. Likewise when euro cash was introduced into circulation, costs did not rise significantly. The average cost-to-income ratio in 2002, when euro cash was introduced into circulation, rose by 3 percentage points in comparison with 2001, although it declined in three of the 12 countries concerned. Likewise in 1999, when the euro was introduced into non-cash transactions, some countries reported an increase and others a decline in the cost-to-income ratio. In Slovenia, which adopted the euro on 1 January 2007, there was also no increase in the ratio in 2004 and 2005.[2]

The situation is similar in those countries, which have not adopted the euro. These countries must, however, have prepared their payment systems and later cash systems for the new currency and ensured that they replace the currencies previously used by the euro area countries. The difference was in the scope of the change – not in the main domestic currency, but in the applications, which operated with the currencies of the countries introducing the euro. Even among these countries, it is not possible to identify a trend in the cost-to-income ratio.

In general, therefore, we cannot confirm the assumption that the costs of introducing the euro will be reflected in a substantial deterioration of operational efficiency of the banking sector, and that applies particularly where there is sufficient time to prepare for the euro introduction. It is also to the favour of cost savings that Slovakia reckons on a 'big bang' introduction of the euro and that it can draw on the experience of euro area countries.

According to the questionnaire responses, 29 institutions estimated the costs of the euro introduction at up to 5% of the institution's total costs for 2006, from which 11 institutions put the figure at up to 1%. In nine institutions, the costs of introducing the euro are expected to be between 5% and 35% of the total costs for 2006.[3]

3. Impact on the financial market

The introduction of the euro will be reflected in several aspects of the financial market. First, the foreign exchange risk arising from open euro positions[4] will be eliminated when the euro becomes the domestic currency. Likewise, however, foreign exchange risk against other currencies will also change. For example, financial market institutions in Slovakia are currently exposed to foreign exchange risk arising from the SKK/USD rate, but after the euro introduction date they will be exposed to the risk of the EUR/USD exchange rate. In general, it can be said that these two exchange rates have not developed in the same way – there is a different volatility and different variance in the spreads between the buy and sell price. Because of these differences between the SKK/USD and EUR/USD exchange rates, and despite the unchanged dollar exposure, the foreign exchange risk on this position will change. In the case of the Japanese yen, Swiss franc, Czech koruna, British pound and US dollar, the foreign exchange risk will decline. Exposure to the Polish zloty will remain unchanged and exposure to the Hungarian forint will even rise. A more detailed overview of the change in foreign exchange risk is given in

[2] Data for 2006 are not yet available.

[3] For securities dealers, the ratio to shareholders' equity was used instead of the ratio to total costs.

[4] Unless otherwise stated, it always refers to an open euro position against the Slovak koruna.

Chapter 4. The change in foreign exchange risk will also affect the structure, amount and price of derivatives traded in the Slovak financial market.

A second key aspect is the conversion of the Slovak currency to the euro and vice versa. Once the euro has been introduced, these currency conversions will no longer be necessary. Banks will therefore not be able to generate income on the spread between the euro's buy and sell price, and, by the same token, other financial market entities will save money. Interest rates are the third major aspect. The BRIBOR interbank rate will be replaced by the EURIBOR. The EURIBOR typically has a lower volatility than the BRIBOR, and this will be reflected in the change of interest rate risk.

Stock market

Given the insignificant capitalization of the Slovak stock market, it cannot be expected that the euro introduction will result in a substantial change in this segment. Most of the institutions that have shares in their portfolio (mainly mutual funds and pension funds) own shares in foreign companies which are denominated in foreign currencies and are hedged against the currency risk by means of currency derivatives. Following the euro changeover, there may be a sharp rise in investments in European shares since they will no longer be exposed to foreign exchange risk.

Bonds

The Slovak bond market is characterized by low liquidity, while spreads between offer and bid prices are quite large, fluctuating at 1–2% of the price. Most of the trading is in government bonds (in 2006, they accounted for fully 99.5% of bond transactions in absolute terms). Nevertheless, European bond markets are far more liquid – in the case of Slovak government bonds denominated in euros, the spread between offer and bid prices is only 0.2-0.4%, and for bonds of advanced countries the spreads are narrower still, ranging from 0.02% to 0.05%.

It may therefore be assumed that higher liquidity in the bond market will lead to a decline in bond trading costs for institutions that hold bonds in their portfolio (insurance companies, pension funds, and mutual funds). Conversely, the institutions mediating these transactions will lose a part of their income.

Financial derivatives

The most traded instruments at present are swaps (currency and interest-rate), options (currency) and forwards (currency and interest-rate). Those currency derivatives whose underlying asset is the currency pair SKK/EUR will lose their raison d'être. However, an increase may be expected in the trading of instruments that have been almost non-existent in Slovakia, either due to the size of the market or because access to them has been complicated by currency risk (e.g. futures or interest-rate derivatives).

Apart from payments, foreign exchange conversions are one of the aspects of banking activities that will be most affected, according to the questionnaire responses. The euro changeover will mean the end of a substantial part of the foreign exchange transactions that are currently an important source of income, although the issue of risk management will be simplified and clarified. The foreign exchange market will proportionally reflect foreign trade, or rather its net foreign exchange position. As for factors that will contribute to the impact of the euro introduction, the respondents mentioned the simplification of cross-border credit transfers, less expensive services, cheaper funds for the financing of the household and corporate sectors (leading to an increase in the volume of lending), the reduction of exchange rate risk, the simplification of internal company reporting, the easier implementation of parent company products and launch of new products, the greater scope for other countries to conduct business, the overall simplification of processes, the improved comparability of results within an international group, and the greater transparency and efficiency of services.

As for the downside of the euro introduction, they note a decline in the number of accounts opened, a fall in income from fees, time deposits and supplementary pension funds, a decrease in a certain part of foreign exchange transactions, a drop in income from financial market trading, a decline in the amount of payments, conversion and derivative products, the diversion of funds to the upgrading of IT and IS systems from funds for their further development, the reduced attraction of investing in mutual funds of pension fund management companies, and the greater demands on human and wage resources.

Risks identified by the respondents included the opening up of the market and the related increase in competition, the modification of all systems, the rate of error in daily conversions from Slovak koruny to euros, the year-on-year comparison of statements and plans, lower competitiveness, the decline in trading volume in the Slovak financial market upon the introduction of the euro and the shift towards trading with electronic matching systems, and the revaluation of securities portfolios and changes in interest income and expenses.

Change in competition

Whereas 22 respondents expect competition to increase, 17 say the euro introduction will not have a significant effect on the Slovak financial market. The effect of competition varies, however, between one segment of the financial market and another. Although a majority of banks do not expect a significant impact on competition, half of the insurance companies and all of the asset management companies, which took part in the survey, said they expected a strengthening of competition. Most pension fund management companies and securities dealers do not see the level of competition changing.

Another view expressed was that foreign banks will have easier access to the market, since the need to know the 'local market conditions' will be much less. In time, the local interbank market could be substantially reduced and transferred to large centres. Since the euro changeover will reduce their operating income, banks will come under pressure to change their strategies. Banks that are sufficiently large and focused on retail should compensate for the lost income with organic growth over the subsequent 2 to 4 years; medium-sized banks that have lower profitability and a higher dependence on trading income and fees will be more aggressively seeking to raise their total assets and market share, which will in turn put downward pressure on margins. The third group of banks, focused exclusively on corporate banking, cross-border transfer business and trading, will be the most affected by the drop in income, and this could result in either a scaling down of their operations or a fundamental shift in strategy, towards retail, SME business or electronic banking services.

The impact of the euro will, according to the respondent institutions, also be reflected in a greater variety of products for customers, the launch of new products, the cost of products being easier to compare with other countries, and the arrival of new entities in the market.

Insurance market

The euro changeover will eliminate the statutory currency matching restriction on assets and liabilities, which limits the extent to which technical provisions reported in Slovak koruny can be invested in securities denominated in euros, and vice versa. Nevertheless, as many as 11 of the surveyed insurance companies do not envisage a significant change in the way technical provisions are invested. The rest of the insurers expect a shift of investments into securities issued in other Member States (denominated in euros). None of the surveyed insurance companies sees a significant impact on the performance of assets in which technical provisions are invested, or a substantial change in income from time accounts, or that the removal of exchange rate risk will have a notable effect on their performance. In regard to investment life insurance, a majority of insurers expect there to be a positive effect for customers.

Collective investment market

Asset management companies are assuming that the euro changeover will not cause any, or only a slight, increase in costs or movement in returns on mutual funds. One asset management company expects a reduction in costs as a result of the small decrease in expenditure related to conversion and hedging exchange rate risk. Similarly, one company expects a change in the returns on those funds whose returns are substantially determined by the EUR/SKK exchange rate in accordance with the fund's investment strategy.

As regards money market and bonds funds denominated in koruny, the view is that the euro changeover will cause their long-term performance to diminish in comparison with their historical levels. The performance of funds whose assets are invested in foreign assets is not expected to be affected, except in a slightly favourable way owing to the absence of hedging costs. Asset management companies are predicting a slight decline in income on time deposit, though also a decline in their volatility.

Asset management companies are set for an increase in competition following the introduction of the euro, and therefore a possible decline in sales of domestic mutual funds. On the other hand, they expect the euro changeover to provide greater scope for product differentiation in the market, which in turn could have a positive effect on sales and on external sales of mutual funds in countries which will not be in the euro area (e.g. the Czech Republic). In that case, the most important development will be the value of the euro against the currencies in these countries.

As regards structural changes in the portfolio, except for the absence of hedging of the SKK/EUR exchange rate, the expectation is that euro cash and the bond market will offer opportunities for investments in standardized and liquid derivatives (e.g. bond futures, interest rate derivatives, credit derivatives) which will make for more efficient management of interest-rate and credit risk in the portfolio. These products will be obtainable at lower cost following the introduction of the euro. For investment in financial derivatives, the level of risk management is, in any case, a more important factor than the euro changeover.

Pension saving market

The majority of pension companies (pension fund management companies and supplementary pension companies) expect an increase, or rather a certain insubstantial change, in fees for securities management; at the same time, they predict a decline in other costs, also in relation to the cessation of hedging transactions for the currency risk of the SKK/EUR exchange rate. One company said that it did not foresee any change in accounting costs. Companies expect an increase in returns on investments in pension funds and bond funds, but, on the other hand, they do not see the euro changeover bringing about any changes in share investments, since koruna-denominated share investments constitute a negligible share of their portfolios. Two companies predict a decline in pension fund returns. Half of them take the view that the conversion of the Slovak koruna to the euro and the redenomination of koruna investments into euros will not bring substantial changes that would be adversely reflected in the performance of pension funds.

The vast majority of companies said they did not expect any changes in the proportion of share investments or that their portfolio is already diversified in a way that takes account of the euro introduction. Three companies said they expect slight changes regarding investments in debt securities. A change in hedging operations is also predicted, since foreign assets are predominantly denominated in euros. The vast majority of companies expect moderate growth in bond investments, or rather do not foresee any substantial change. As for time deposits, two companies have differing opinions, with one expecting income from them to rise and the other to decline; the rest do not expect any change in this type of investment.

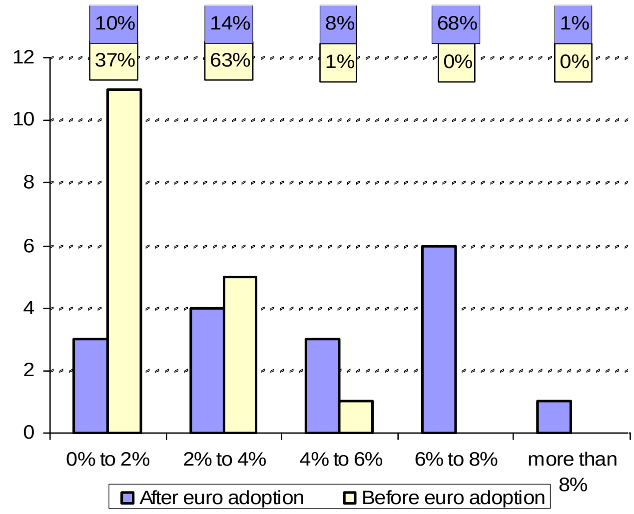
4. Impact on exposure to market risks

Euro adoption will result in a change in the primary factors that financial institutions will have to take into account when managing their risks (e.g. exchange rate of the euro against the dollar instead of the exchange rate of the koruna against the dollar, or rather the EURIBOR interest rates instead of the BRIBOR interest rates). As previously mentioned, this will affect the rise in liquidity in individual markets. On the other hand, given the differing variance and correlation values of market factors, there could also be a change in the exposure to market risk (i.e. a change in the risk of individual open positions without any change to the their size), which, in regard to the application of more advanced risk management models in banks, could also affect the minimum level of regulatory capital requirements for the coverage of market risks. Furthermore, financial institutions will cease to be exposed to foreign exchange risk on euro positions.

Looking at foreign exchange risk on the basis of historical data, the exchange rate of the euro against particular currencies has, in comparison with the exchange rate of the Slovak exchange rate against the same currencies, a lower ratio of standard deviation, based on the figures for 2006, and the value as at 31 December 2006. For several currencies (the Japanese yen, Swiss franc, Czech koruna, British pound, US dollar), this ratio ranges from below 30% to 60%. The exposure to foreign exchange risk arising from open positions in these currencies will therefore be reduced as a result of euro adoption. In regard to the Polish zloty, this ratio is approximately equal, and for the Hungarian forint it is actually higher. The decline in risk also extends to interest rate risk. For interest rates denominated in Slovak koruny, the said ratio is between 10% and 12% for short-term rates, 7% and 8% for medium-term rates and 4% for long-term rates, whereas for euro interest rates it represents between 3% and 4% for short-term rates, 2% for medium-term rates and 1% for long-term rates.

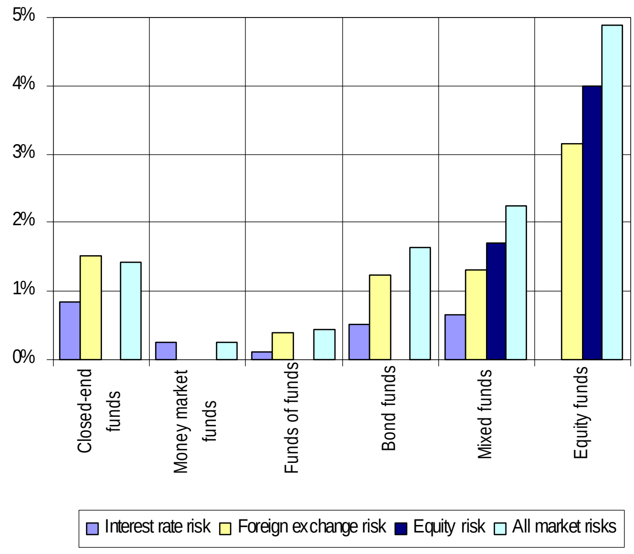
These changes in market risk exposure will, however, affect particular financial institutions in different ways. For banks, the change in interest rate risk will have a more significant impact. The VaR – as an expression of the loss on the revaluation of debt securities over a period of ten days which a bank would not exceed in 99% of cases – would decline following the introduction of the euro by between 55% and 80% depending on the bank. Foreign exchange risk would also decline sharply, although banks' exposure to this risk is even now insignificant. That is largely because a large part of the open position is already denominated in euros. With euro adoption, the median ratio of VaR to own funds would fall from 0.08% to 0.02%.

Chart 1 Distribution of the ratio of VaR for debt securities to banks' own funds



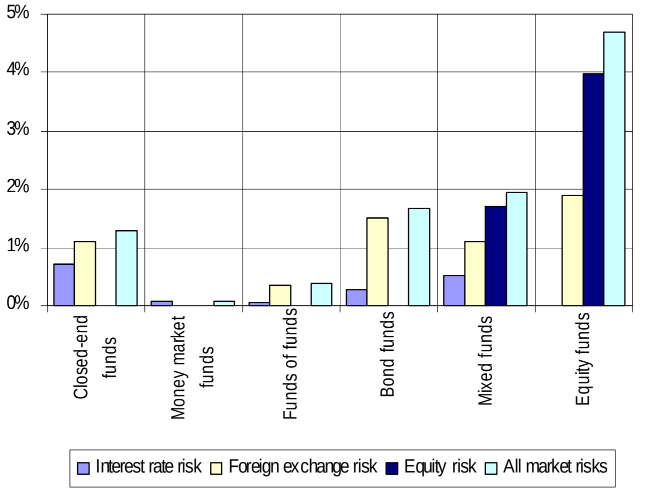
- Source: NBS, own calculations.
- The horizontal axis shows the VaR ratio for the interest rate risk of debt securities before and after adoption of the euro.
- The vertical axis shows the number of banks.
- The percentage above each bar represents the assets of the banks in that bar as a share of total assets in the sector (excluding branches of foreign banks)

Chart 2 Ratio of VaR to the net asset value of mutual funds before euro adoption



- Source: NBS, own calculations.
- The vertical axis shows the ratio of VaR to net asset value.

Chart 3 Ratio of VaR to the net asset value of mutual funds after euro adoption



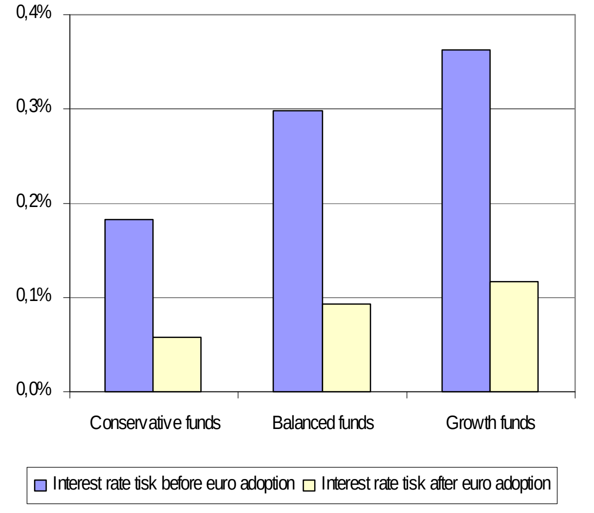
- Source: NBS, own calculations.
- The vertical axis shows the ratio of VaR to net asset value.

The risk of investments in mutual funds will be less affected by the introduction of the euro, the reason being that open euro positions are proportionally less significant then they are in banks. Another reason is that several funds invest in financial instruments denominated in Hungarian forints or Polish zlotys, where the risk will tend to rise following euro adoption. Overall, however, the introduction of the euro would more reduce interest-rate and foreign-exchange risk (exposure to equity risk is not dependent on euro adoption).

A more pronounced decline in risk is recorded mainly with equity funds, owing to a decrease in foreign exchange risk, and with bond funds, as the interest rate risk declines. In the case of bond funds, however, the reduction in exposure to foreign exchange risk will be lower because of the higher amount of investments in securities issued in Hungary.

The situation in pension fund management companies as regards the impact that the euro introduction will have on their exposure to market risks is analogous to that in banks. Given that pension funds have negligible exposure to foreign exchange risk, the impact of euro adoption should be confined to interest rate risk arising from debt security holdings. Since a large part of these portfolios comprise Slovak debt securities, the impact of the euro changeover on euro interest rates should be relatively significant. The VaR for the interest rate risk of debt securities would decline in particular funds by between 50% and 80%.

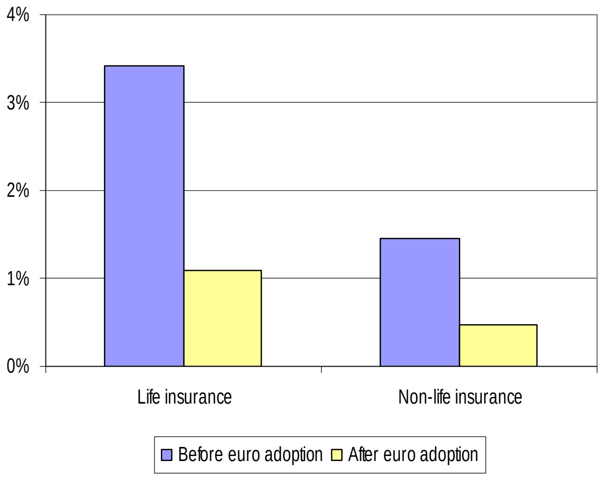
Chart 4 Distribution of the ratio of VaR for debt securities to the net asset value of pensions funds



- Source: NBS, own calculations.
- The vertical axis shows the ratio of VaR to net asset value.
- The analysis was carried out only for the funds of Allianz, Aegon, ING, ČSOB and VUB.

In regard to insurance companies, the reduction in the exposure of technical provisions to market risks following the euro introduction is, too, largely related to the decline in the potential impact of interest rate risk. It is again the case that the average VaR (weighted by amount of technical provisions) for debt securities will decline in the wake of the euro changeover – by two thirds in both life and non-life insurance. Since debt securities account for a larger share of technical provisions in life insurance (74%) than in non-life insurance (54%), and given also the term of these debt securities, the impact of euro adoption would be greater in life insurance. It should be noted, however, that the expected period until payment of the insurance benefit is far longer in life insurance. The longer term of the technical provisions therefore corresponds to the longer period for which the insurance company will hold this portfolio.

Chart 5 Distribution of the ratio of VaR for debt securities to the technical provisions of insurance companies



- Source: NBS, own calculations.
- The vertical axis shows the ratio of VaR to net asset value.

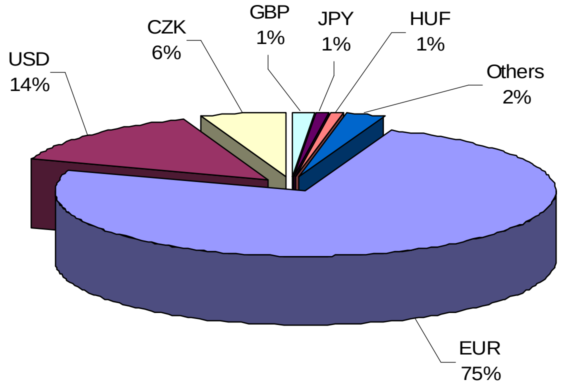
5. Currency conversions and hedging

Once the euro is introduced, it will not be necessary to convert foreign exchange denominated in euros into Slovak koruny and vice versa. Banks which have up until then been performing conversions will no longer be able to generate income on the spread between the buy and sell price of the euro. At the same time, the liquidity of the market in other currencies will also increase, which could lead to a narrowing of margins for the conversion of these currencies.

Data on what proportion of converted funds is composed of euros is not available, but an approximation may be made by using the structure of foreign exchange transactions (Chart 6 and 7). Of course, it cannot be said that all these funds were converted into the Slovak currency.

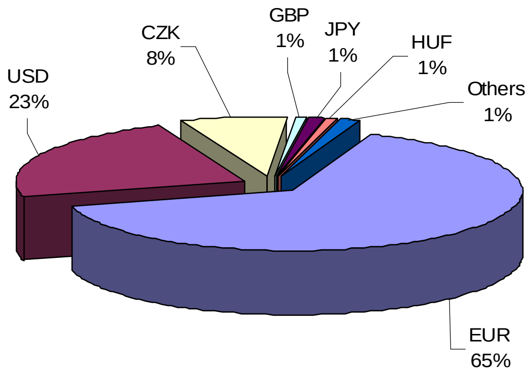
Transactions in euros have up to now been exposed to the foreign exchange risk represented by fluctuations in the SKK/EUR exchange rate. Euro-trading customers have been hedging this risk with currency derivative instruments purchased from banks. When the euro is introduced, banks will no longer have income from the fees for these derivatives.

Chart 6 Structure of foreign exchange receipts by currency



- Source: NBS, APS STATUS.

Chart 7 Structure of foreign exchange payments by currency

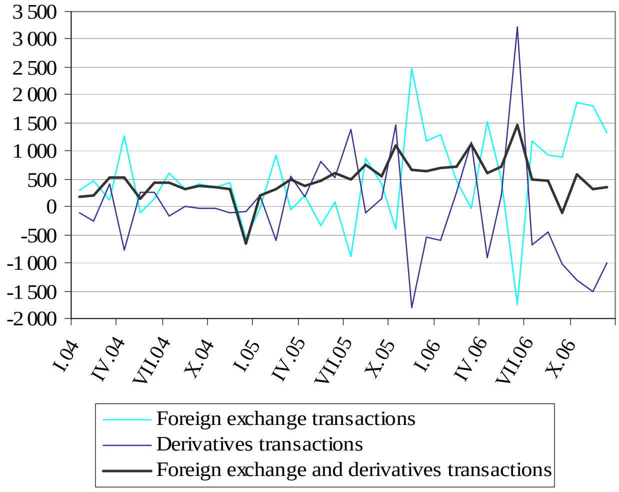


- Source: NBS, APS STATUS.

That said, the banks themselves are also exposed to foreign exchange risk and they hedge open foreign exchange positions with currency derivatives. In this case, the bank is in the position of a customer purchasing credit protection from a third party. The reduction of foreign exchange risk will provide banks with cost savings in fee expenses for derivative instruments. But since banks conclude most of their derivative transactions for non-bank customers (the commission on the purchase of a financial derivative is usually higher than when a bank is the purchaser), the entry of Slovakia into the euro area will mean that banks lose income from those fees.

Since gains on foreign exchange and derivative operations are very closely related (see Chart 9), they will be hereafter evaluated jointly.

Chart 8 Gains and losses on foreign exchange and derivative transactions in individual months



- Source: NBS, APS MIM.
- Data are in SKK million and express the gain or loss made in the given calendar month.

The volatility of the SKK/EUR exchange rate rose during 2005 and therefore so did the volume of derivatives trading. As a result of these movements, gains made on foreign-exchange and derivative transactions rose from SKK 3.153 billion in 2004 to SKK 7.365 billion in 2006. The ratio of this income to banks' gross income[5] increased from 7.3% in 2004 to 15.6% in 2005, and then dipped to 13.4% in 2006. Assuming that the introduction of the euro would not have an adverse effect on interest rate derivatives, the ratio of gains on foreign exchange operations and currency derivatives to banks' gross income would be 12.9%.

It may be expected that the impact will vary from bank to bank. The greater impact will be on banks, which do not engage in retail banking and focus mainly on corporate customers.

As the volatility of the domestic currency's exchange rate changes vis-à-vis other local and world currencies, so it can affect customers' decisions on how to hedge the currency risk on these currencies. With higher liquidity in the derivatives market and stronger competition, especially for corporate customers, pressure will build for a narrowing of the spread between the buy and sell prices of these instruments and there will therefore be downward pressure on bank's gains from foreign exchange and derivative transactions. The impact of such changes cannot, however, be quantified. It is also difficult to say whether the downward pressure on the gains from these transactions will be prevalent or whether the increased volume of trading in them and in new instruments will keep supporting an increase in the gains on foreign exchange and derivative operations.

In the questionnaire, only five banks said they did not expect income on foreign exchange operations to decline, and nine banks even estimated the level of the loss. By contrast, only two banks foresee a change in income from trading in other currencies. Only seven banks expect income from derivatives trading to decline, mainly in regard to derivatives based on the SKK/EUR currency pair, but also the decrease in interest rate derivatives as a result of the withdrawal of interest rate speculators.

Some banks believe that part of the losses could be offset by focusing more on the management of currency risk in respect of other currencies and the hedging of interest rate risk. On the other hand, competition for transactions in other currencies could increase, since banks will be looking to cover the drop in income from the SKK/EUR pair.

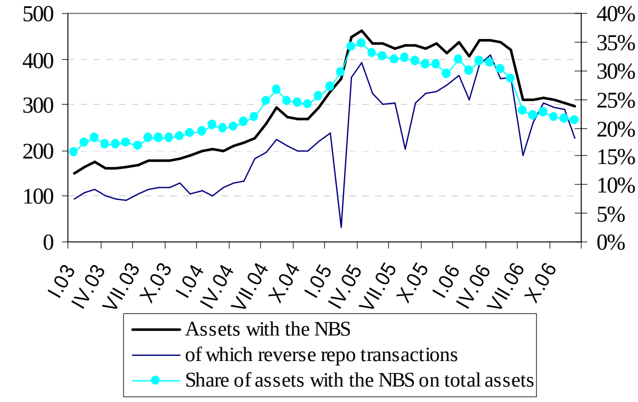
6. Change in the implementation of monetary policy

The business of Slovak banks is currently influenced by the monetary policy of the NBS. As at 31 December 2006, banking sector assets invested with the NBS (especially through sterilization repo tenders and treasury bills)

[5] Gross income is defined as the sum of net interest and net non-interest income, and it does not take account of banks' operating costs.

amounted to SKK 299 billion, representing 21% of the total assets of Slovak banks. The ratio declined in mid-2006, from the high figures of between 29% and 35% that it was recording between February 2005 and June 2006.

Chart 9 Transactions with the NBS in the banking sector

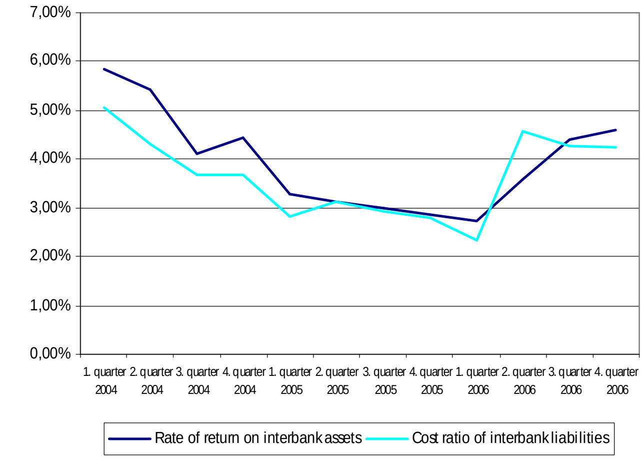


- NBS, APS MIM
- The left axis shows the amount of assets and reverse repo transactions – data are in SKK billion.
- The right axis shows the ratio of assets held with the NBS to total assets.

The interest income paid by the central bank in 2006 stood at SKK 13.2 billion, or 19% of the banking sector's total interest income. That proportion represented a slight change in comparison with 2005, when the NBS paid interest income totalling SKK 11.7 billion, or 22% of the sector's total interest income for that year.

From the ratio of returns on investments in sterilization repo tenders and NBS bills (and interest-bearing minimum reserves), it is still not clear to what extent these returns contribute to a bank's total profits. That is because a large part of the assets that banks place with the NBS come from foreign banks or from the State Treasury (the Debt and Liquidity Management Agency). The cost ratio of these funds is similar to the rate of return on assets invested with the NBS (Chart 11). What is therefore important to banks is the extent to which funds from customers contribute to their assets placed in NBS sterilization operations, since it is the gains on these operations that will have to be replaced by other activities following entry into the euro area.

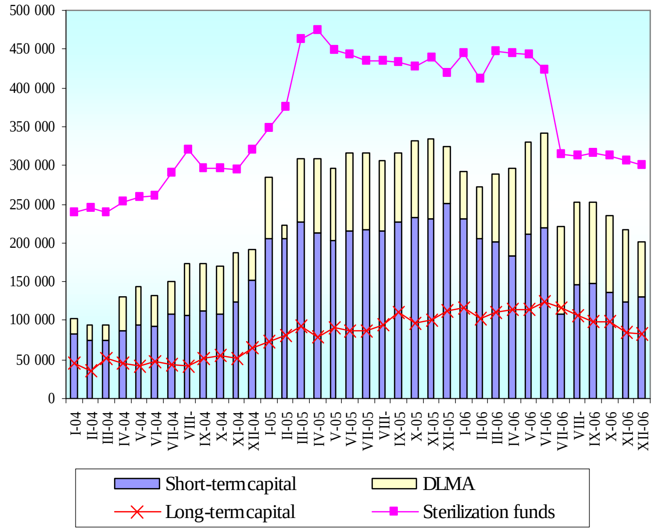
Chart 10 Rate of return and cost ratio of interbank transactions



- Source: NBS.
- The rate of return on interbank assets was calculated as the annualized ratio of interest income for the given quarter to the average amount of interbank assets (including deposits and loans vis-à-vis the NBS and purchases of NBS bills).
- The cost ratio of interbank liabilities was calculated in a similar way.
- The higher cost ratio in June 2006 was caused by an accounting change at one bank, where a large part of interest was transferred from the category 'other sectors' to the category 'banks'.

The next part will analyse in more detail the costs incurred by banks on funds placed in NBS sterilization operations. The majority of these funds are from foreign banks, the State Treasury and customer deposits. For the sake of simplicity, we assume that funds from customers and interbank funds with a maturity of more than one month are used to finance loans and that short-term funds (maturity up to and including one month) from other banks and from the DLMA are used in NBS sterilization operations. Chart 13 shows the development of capital with a maturity of less than one month and NBS sterilization operations.

Chart 11 Comparison of short-term capital and the amount of sterilization funds



- Source: NBS, APS MIM.
- Short-term capital – deposits received from banks with a maturity of less than one month.
- Sterilization funds including SRTs, minimum reserves, overnight sterilization operations and NBS bills.

The ratio of these funds to total sterilization funds rose from 37% in 2003 to 81% in June 2006, but by the end of 2006 it had fallen back to 67% and the average for the full year was 72%. We also noted the large degree of correlation (0.93) between the level of sterilization and the amount of short-term capital. This relationship indicates simultaneous changes in the amount of sterilization and short-term capital in the Slovak market.

Among the respondent banks, 13 do not expect any change to result from this change. One bank pointed out that, as the situation currently stands, if the NBS drains liquidity from the market, the ECB adds liquidity to it. Surplus funds from the Slovak market would therefore tend to be placed in the euro area interbank market. Other banks mentioned the reduction in the amount of such transactions, the transfer of transactions to a parent undertaking, and the decline in returns on these transactions.

7. Availability of bank loans

Entry into the euro area will mark the end of the NBS's main interest rate and its replacement with the ECB's main interest rate. In the interbank market, the BRIBOR rate will be replaced by the EURIBOR rate. At its meeting of 13 June 2007, the ECB's Governing Council raised interest rates by 0.25 of a percentage point and thereby set the ECB's main rate at 4%. The interest rate differential between the NBS and ECB rates therefore narrowed to 0.25 of a percentage point. It is assumed, however, that in the run-up to euro adoption, interest rates in the euro area will be rising. It cannot be expected, therefore, that the entry of Slovakia into the euro area will bring a reduction in interest rates.

Euro area entry should contribute to a loosening of liquidity in the Slovak banking sector. Banks will no longer be able to invest their surplus funds in the NBS's sterilization repo tenders. It is not, however, possible to quantify by how much euro area entry will increase banks' liquidity.

The most important factor remains, therefore, the willingness of banks to take on risk. During the recent strong economic growth, banks have been relaxing credit standards and thereby supporting the availability of loans, but it cannot be said whether they will be continuing this trend. On the one hand, euro area entry will strengthen competition, and the fight for market share could lead to a further easing of standards. By the same token, the continuing economic growth and improving financial condition of enterprises and households is increasing the availability of bank loans. On the other hand stands the strategy of banks and their risk appetite, which could also see a tightening of standards. As a consequence, the effect of the euro introduction on the availability cannot be determined.

All the banks that took part in the survey also expect the harmonization of short-term rates by the time of the euro introduction date. Two banks consider it a strength that market liquidity will be higher after euro area entry and that the spread on the interbank market will be lower. The view was also expressed that the euro introduction will bring cheaper funds, which in turn will increase lending to households and enterprises.

8. Unquantifiable effects

Associated with the entry of Slovakia into the euro area are a number of unquantifiable effects. These include, for example, the opportunity costs, i.e. the time and energy which senior managements of financial institutions are expending on the transformation. This is the time they will have to devote on overseeing the euro changeover rather than on strategic decision-making regarding the development of their banks. Another major factor is competition from foreign banks. By reducing foreign exchange risk, the euro introduction will lead to an increase in competition, especially in border areas. Tougher competition may lead to a decline in fees and in the income that Slovak entities earn on their activities.

A further factor is the overall reduction in income from account management fees in Slovak banks. At present, some of the banks' customers (especially from the corporate sector) have accounts both in the domestic currency and in foreign currency (predominantly the euro). After the euro changeover, it will no longer be necessary to have both types of account and banks will therefore lose a part of their income (from, for example, the fees for maintaining the accounts). Nevertheless, most banks expect the impact to be minimal or small. From bank to bank, the number of cancelled accounts will range from hundreds to thousands.

The euro introduction may also bring about the gradual outsourcing of certain auxiliary activities (e.g. treasury, asset management, back office, risk management, etc.) to central financial institutions and consequently, for the purpose of increasing operational efficiency, a reduction in the number of staff at Slovak institutions.

The majority of surveyed banks do not expect outsourcing of activities after the euro changeover. Some banks, however, are planning for outsourcing, and others are already using it irrespective of euro adoption. The main areas affected in this regard are treasury, payments and back office.

Conclusion

When assessing the financial sector's costs in adapting to the introduction of the euro, our main bases were the experience of euro area Member States and the cost estimates given by individual entities in response to the questionnaire. The euro introduction should not have a significantly adverse effect on the efficiency of financial market entities. A large part of the costs attached to euro adoption comprise internal costs, which are not diminishing efficiency, but are encroaching on funds that could otherwise be used for business development.

Given the level of development in the IT field, the euro introduction will not affect costs substantially provided that financial market entities know in good time and with certainty the scheduling of each stage of Slovakia's entry into the euro area. Entities that belong to a larger group (international groups, but also domestic groups) can save part of the costs by taking a joint approach or by using the experience of a parent undertaking. Put in simplified terms, larger entities absorb the modification costs of IT systems more easily than do smaller entities, since the same modifications will account for a different share of the total costs of the given institution.

The analysis of the impact on particular risks and markets is a far more complex matter. A direct reduction in foreign exchange risk may be expected in mutual funds exposed to that risk. Banks and pension funds are closing their open positions by means of derivatives, and for them the euro introduction will tend to mean a decrease in currency risk hedging costs. The elimination of foreign exchange risk between the Slovak koruna and euro should have a smaller effect on the performance of insurance companies. That is largely because of the statutory restriction which limits the extent to which insurance companies may expose themselves to foreign exchange risk when investing technical provisions (the so-called 'currency matching' of assets with liabilities). As the liquidity of the interbank market rises, the volatility of interest rates will decline, and therefore so will the interest rate risk that is significant in all sectors.

The drop in banks' income from currency conversions, derivatives and interest income from the NBS is not insignificant, but nor is it too large for the banking sector as a whole. Banks with sufficiently diversified activities will make the change to the single currency more smoothly than will banks that are overly dependent on certain activities. For some banks in the Slovak banking sector, the retaining of their current structure of assets and liabilities would cause them a significant loss of income following the introduction of the euro.

The survey was answered by 58 entities of the Slovak financial market. A majority of the institutions are already at the preparatory stage for euro adoption. The main problem was identified as inadequate legislation, principally the absence of the general law (which was being reviewed at the ministry level until 29 May 2007) and the secondary legislation related to it. Another matter, especially for the banking sector, is to have 2 January 2009 made a non-banking day, as prescribed in the latest version of the general law. The institutions expect support from the NBS mainly in the fast-tracking of legislative preparations and in ensuring logistics for the distribution of euro cash.

The opportunities that the euro area offers will probably remain underused, since the parent undertakings of Slovak banks will not allow their subsidiaries to expand into foreign markets. There may be a greater exploitation of these opportunities by insurance companies and asset management companies. In the long-term horizon, the introduction of the euro will raise the profitability of domestic enterprises and their financial stability. Entities of the Slovak financial market will therefore profit indirectly, owing to the lower creation of provisions, improvement in the credit portfolio and increase in the number of transactions.