

# MONETARY POLICY

## ENSURING THE SMOOTH FUNCTIONING OF ESTONIA'S MONETARY POLICY FRAMEWORK

### Main characteristics of Estonia's monetary system

Similar to the central banks of many other countries, the mission of Eesti Pank is to ensure price stability. Stable, low and easily predictable inflation sets the most favourable conditions for long-term economic growth. Already since 1992, Estonia's price stability has been ensured by the **fixed exchange rate system under the currency board arrangement**. The monetary policy framework that has essentially remained unchanged for almost 16 years continues to support Estonia's economic development.

At the end of November 2007, there were certain tensions on the Estonian money market, stemming primarily from some foreign companies' wish to hedge their kroon positions. Most probably there was uncertainty with regard to how the Estonian economy would manage in the downward cycle that had started at the beginning of the year. Nevertheless, money market interest rates that

had consequently increased, remained at a relatively low level and in January 2008, the Estonian money market started to show signs of cooling. The **Estonian kroon has maintained its reliability** in the eyes of both the domestic users and foreign investors (see Figure 1).

The Estonian kroon is firmly pegged to the currency of the most powerful economic area in Europe, the euro area. This helps to curb inflation expectations and supports the stability of the economic environment. Since the Estonian monetary policy has fully justified itself, Estonia has taken a unilateral commitment to continue with the currency board system and the central rate until the adoption of the euro.

Considering the strong ties of the Estonian monetary system with the Eurosystem, it is natural that our general monetary environment is largely shaped by the decisions of the European Central Bank (ECB). In the first half of 2007, the ECB raised the monetary policy interest rates, which in turn rapidly and fully passed on to the interest rates of the Estonian credit market, influencing the price of financial instruments in Estonia.

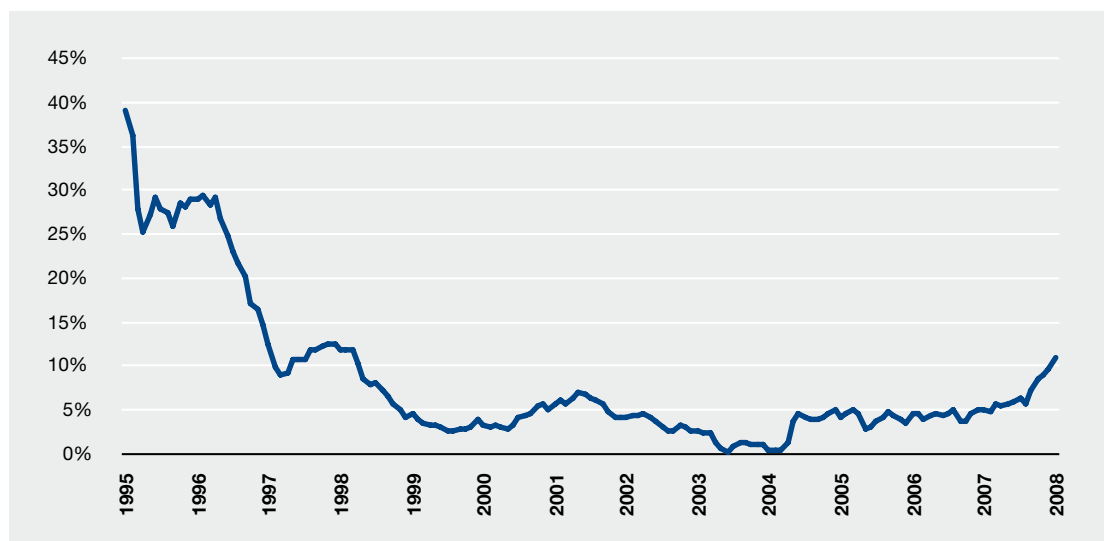


Figure 1. Estonia's inflation

Source: Statistics Estonia



Eesti Pank ensures the smooth operation of the monetary system through **monetary policy instruments and active participation in economic policy discussions**. The central bank's main monetary policy instrument is the **standing facility of buying and selling foreign currency** (forex window) available to credit institutions. The forex window enables banks to increase their Estonian kroon reserves by selling to the central bank an amount of foreign currency equal to the desired amount, and vice versa – to buy foreign currency for Estonian kroons. The **reserve requirement** plays an important role among the monetary policy instruments available to Eesti Pank, obliging banks to keep a part of their assets as a buffer in Eesti Pank or in high-quality external assets. By implementing conservative reserve policy and measures of supervision, the central bank regularly draws the public's and the Government's attention to risks associated with the macroeconomic environment. The efficiency of the Estonian monetary system that is based on a strictly fixed exchange rate is supported by **balanced budget policy and flexible markets**.

### **Monetary policy in 2007**

In 2007, Estonia's domestic demand began to cool rapidly, loan growth decelerated and wage growth started to slow. Towards the end of the year, also the external balance started to show signs of improvement. (However, on an annual basis, wage growth exceeded that of 2006 and the current account deficit was also higher than the year before.) At the same time, price pressures strengthened remarkably over the year and wage growth still exceeded that of productivity. Therefore, the emphases important with regard to monetary policy changed over the year.

Although credit growth is heavily subsiding and the ratio of loan burden to household disposable income is stabilising, the risks related to the rapidly increasing loan burden are still relatively high. Therefore, Eesti Pank decided to raise the risk weighting on housing loans in the procedure for

application and calculation of the prudential ratios of credit institutions and consolidation groups of credit institutions (Basel II, enforced on January 1, 2007) from 35% to 60% (for further details see Chapter "Ensuring financial stability" p 47).

Pursuant to the regulation that entered into force at the beginning of 2007, the daily minimum level of the settlement account was abolished, the interest penalty for failing to comply with the reserve requirement was updated and the procedures for the enforcement of reserve requirement amendments were specified.

Although credit growth is decelerating and the imbalances of the external environment are stabilising, the **banks' reserve requirement ratio** remained unchanged at 15% in 2007. This is because of the existing large economic imbalances and high inflation rate.

The precondition for efficient economic policy is the **consistency between monetary and fiscal policies**. Therefore, the central bank urged the Government to take steps to support the soft landing of the economy and economic balance through fiscal policy. This is possible, above all, by maintaining a consolidated budget surplus. Representatives of Eesti Pank discussed it with government agencies and the necessity of keeping the state budget in surplus found mutual support. According to preliminary data, the state budget surplus for 2007 remained close to 3% of GDP. The budget planned for 2008 was based on too optimistic growth expectations. Therefore, in order to make the slowdown as smooth as possible, it is necessary to curb budget expenditure by 1.0–1.5% of GDP. However, for the economy to undergo the downward phase as smoothly as possible, the consolidated budget surplus should be somewhat larger.

**The price growth in 2007 reflected the overheating of domestic demand witnessed in previous periods**, reaching 6.6% on an annual

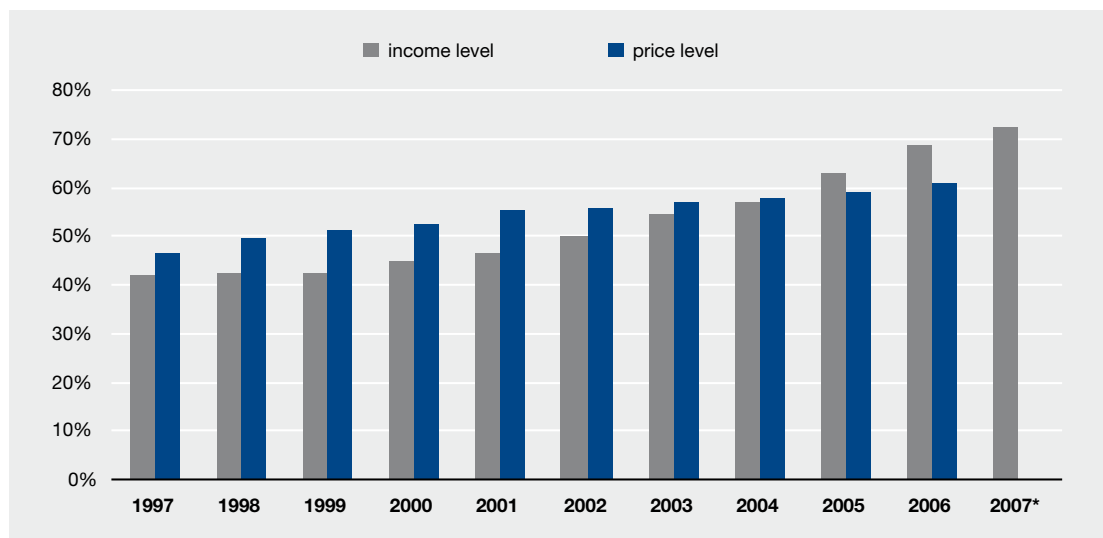
basis. Rapid price growth was also due to the unexpected increase in food and fuel prices arising from the external environment, as these components have a relatively large share in the consumer basket. With the exception of the hike in food and fuel prices, the price rise in 2007 was as expected, taking into account the lag in the emergence of price pressures and the impact of economic convergence between Estonia's economy and more prosperous European countries. (Price growth is expected to reach its peak in the first half of 2008, after which it will start to decline moderately.)

Meanwhile, convergence between Estonian economic indicators and the EU average continued, being accompanied by considerably stronger income and price growth compared to the EU average (see Figure 2). Estonian income and price levels are among the lowest in the EU. These differences will diminish if the Estonian economy grows faster and the Estonian inflation is higher than the EU on average. To ensure balanced economic development, higher than EU average growth rates of income should be accompanied by faster growth in productivity. Income growth that is in line with

productivity growth would also curb the robust price rise and help to achieve a modest inflation rate.

The growth indicators of rapidly developing economies should be interpreted in the overall context of their economic development of these countries. In wealthier countries both income and price levels are generally relatively higher and thus also economic growth and inflation rates lower. In countries with fairly modest economic growth, the inflation rate regarded to be in line with price stability is significantly lower than in Estonia, for instance. In a developing country with strong economic growth, price rise comparable to advanced economies is exceptional rather than a rule. In the case of countries that are rapidly catching up with the EU average, it would be much more expedient to assess the conformity of the inflation rate to other economic indicators (taking into account also productivity growth) than just merely compare the inflation indicators.

Risks to sustainable economic development have been increasing recently in Estonia. Among other things, risks related to the wage growth that exceeds productivity growth may lead to a longer recession.



**Figure 2. Income and price level in Estonia compared to the EU-27 average**

Source: Eurostat  
\* Preliminary data.



Since last autumn, the external environment has become considerably less favourable for Estonia. Uncertainty about the growth prospects of the world's leading economies increased further in the first months of 2008. Import prices continued to grow as well. Interest rate expectations, however, are more stable for Estonia. Domestic risks were mainly related to wage growth exceeding productivity growth and the cooling of the real estate market. Besides, in 2007 the situation in the labour market tightened even more, resulting in labour shortage and rapid wage growth in some sectors. Wage growth exceeded productivity growth, which increased the risk that rapid wage growth would affect inflation or undermine the competitiveness of Estonian companies in external markets. According to the latest statistics, competitiveness has been maintained; however, the risks cannot be ignored.

It is still unclear how the cooling of the real estate market is going to affect the value added produced by the construction sector. At the end of 2007, there were no obvious implications of a hard landing yet. However, in 2008, the construction sector can expect setbacks as regards both employment and investment.

**Estonia's economic policy situation was frequently discussed with international organisations in 2007**, including the International Monetary Fund (IMF), the European Central Bank, the European Commission, and rating agencies (Moody's, Fitch, Standard & Poor's). Foreign partners highly appreciated Estonia's monetary and fiscal policy and rapid convergence towards the EU average but stressed the need to manage the risks accompanying buoyant growth in domestic demand. The IMF as well as other international organisations warned about economic overheating and related risks. All were of the opinion that the short-term postponement of the adoption of the euro does not jeopardise Estonia's economy but they also stressed the importance of strong fiscal policy and financial supervision in supporting smooth economic adjustment. Moreover, it was

stressed that in order to maintain economic competitiveness it is vital that wage growth and productivity growth level off.

Being a member of the European System of Central Banks, Eesti Pank continued participating in the committees and working groups dealing with economic and monetary policy issues of non-euro area EU Member States. One topic of discussion covered risks surrounding balanced economic development. At the meetings of ECB committees and working groups, the representatives of Eesti Pank explained Estonia's economic developments and the balancing role of the currency board system within the general economic framework. Special attention was paid to the economic development of countries belonging to the European exchange rate mechanism ERM II to assess if countries participating in the ERM II were prepared to adopt the euro. The ECB and the European Commission observed that Malta and Cyprus met the convergence criteria and both countries became members of the euro area.

#### **Preparations for bringing the Estonian monetary system into conformity with the requirements for joining the euro area**

Estonia's monetary policy framework is very similar to that of the euro area, which enables a fast adjustment of the existing system when joining the euro area. The accession to the euro area will not entail significant economic policy changes. The monetary policy transmission mechanisms of euro area countries are already operational in Estonia, as the Estonian economy has adjusted to these mechanisms over the past years under the currency board system. Eesti Pank and the Estonian Government have set a goal to introduce the euro as soon as all the necessary requirements are met.

Final harmonisation of the monetary policy framework with that of the euro area is relatively small-scale and will not require any long-term or gradual adjustment phase. If needed, the required changes

can also be implemented directly before the introduction of the euro. During the preparation period for joining the euro area, Eesti Pank adjusts the monetary policy framework in accordance with the needs of the economic environment, avoiding, for instance, the creation of additional liquidity at the peak of economic activity.

The Estonian kroon continues to participate in the exchange rate mechanism ERM II, which is a prerequisite for the introduction of the euro. Estonia will carry on in the ERM II until the introduction of the euro, preserving the current monetary policy framework and the exchange rate fixed to the euro at EUR 1 = EEK 15.6466. The Estonian kroon has maintained its stability in the exchange rate mechanism, which has helped to preserve Estonia's economic credibility.

## **ECONOMIC ANALYSIS, FORECAST AND RESEARCH AS THE BASIS FOR MONETARY AND FINANCIAL POLICY-MAKING PROCESS**

### **Monitoring**

Making monetary policy decisions requires an efficient system for monitoring and forecasting economic developments, supported by target surveys on long-term processes in the Estonian economy. This system involves all departments preparing the central bank's monetary policy decisions.

The monitoring of economic developments mainly covers Estonia and the European Union member states, but also other major regions that play an important role in the global arena. Understanding the external environment is very important for a small open economy, and thus developments in Estonia are mainly analysed in the context of trends in foreign economies. The monitoring process of the Estonian economy may be divided into two categories: monitoring developments in the non-financial sector and in the financial sector. The outputs of this process are monthly reviews for internal use in

the bank, which serve as a basis for press releases and statements.

### **Economic reviews**

Once a quarter Eesti Pank prepares an economic policy review (see also "Key points of the economic forecasts of Eesti Pank in 2007", p 124). In addition, in the course of a year Eesti Pank publishes two economic reviews, which include the forecasts, and two financial stability reviews. Since 2007, the central bank also compiles and publishes a short-term economic statement twice a year. Estonia's economic developments in the context of the forthcoming adoption of the euro is analysed in the report on the adoption of the euro published once every six months since 2007. For internal analysis, reviews are compiled once a month.

Under the conditions of fixed exchange rate regime the flexibility of the labour market plays an especially important role. Smooth income convergence towards more prosperous countries requires flexible wage formation based on productivity growth. Labour market issues have been the topic of targeted research projects already for several years. From these projects a semi-annual labour market review has emerged for internal use in the bank. Since 2006, the review is also available on Eesti Pank's website.

### **Forecast**

Eesti Pank issues economic forecasts twice a year: a spring forecast in May and an autumn forecast in November (see "Key points of the economic forecasts of Eesti Pank in 2007", p 124). To this end, current year's economic developments and projections for the following two years are analysed. The forecast base scenario is usually also supplemented with two risk scenarios. For further information on the key points of Eesti Pank's economic forecasts see the bank's website.

Rapid changes in the economic structure require constant supplementing and updating of the base model for the Estonian macroeconomic forecast.



This task has been divided between the Research Department and the Economics Department. The Research Department is responsible for developing the quarterly economic model of the Estonian economy that serves as a basis for compiling semi-annual economic forecasts in the Economics Department. In 2007, the development of the base model for the macroeconomic forecast focused mainly on supplementing the model's financial sector block. The second item on the agenda in 2007 was related to preparations for the elaboration of a general equilibrium model. This model enables to analyse the impact of the European Central Bank's monetary policy decisions on Estonia's economy.

Representatives of Eesti Pank attended the meetings of the working group of the econometric modelling of the ESCB member states. In these meetings, experiences in developing the econometric models were exchanged and the compilation principles of models were harmonised.

### Research

Eesti Pank's economic surveys follow the **strategic research plan**, which determines the general framework for studies conducted in the Bank. The priorities for 2007–2009 included developing the **central bank's macromodel and the monetary policy's simulation model, monetary policy and financial sector research**, and the **sustainability analysis of the Estonian monetary system**. Ten research projects were carried out on these issues in 2007.

The projects addressed issues related to the Maastricht inflation criterion; factors affecting inflation in the Baltic States; the effects of the opening of Estonia's labour market; flexibility of price and wage formation in Estonian companies; financial behaviour of companies, etc. Moreover also the base model for the macroeconomic forecast of the Estonian economy was updated.

Although studies are mainly conducted in the Research Department, single research projects focusing on more specific topics are carried out also in other departments. In 2007, such research areas included, for instance, aspects related to monetary policy transmission mechanisms in Estonia as well as migration trends.

Besides publication in the Eesti Pank Working Papers Series, economic research conducted by the central bank has been recognised also on the international arena. In 2007, research papers and articles were published in internationally recognised academic journals and publications as well as at international conferences.

**Cooperation on research at international and domestic level** continued in 2007. Central bank's economists attended the Working Group of Econometric Modelling and of the Wage Dynamic Network, comprising members of the European System of Central Banks. In cooperation with the Faculty of Economics and Business Administration of the University of Tartu, Eesti Pank arranged a high-level economic conference "IV Nordic Econometric Meeting" in the summer of 2007 in Tartu. The conference participants included many economists renowned primarily in Europe.

Along with introducing Eesti Pank's own surveys, several well-known **foreign experts** were invited to Estonia to present their research results. For example, Richard Clarida, a world-renowned economist and professor at the Columbia University made a presentation on the development perspectives of global economy; Ana Lamo, Head of the European System of Central Banks' working group that analyses labour market flexibility, held a seminar on measures for the adjustment of labour market; Katja Taipalus, economist of the Suomen Pankki (Bank of Finland), held a seminar on developments in the real estate market, etc.

In total, Eesti Pank conducted thirteen open seminars during 2007. Nine of them had guest lecturers from abroad and four included presentations on the bank's own surveys.

The **visiting researcher programme** of Eesti Pank plays a significant role in research contacts. In 2007, five foreign experts participated in conducting economic surveys.

Eesti Pank has the tradition of granting an annual **research award** to young Estonian economists. In 2007, the award was granted for the fifth time and this time to Aaro Hazak, doctoral candidate at the Tallinn University of Technology for his research "Dividend Decision under Distributed Profit Taxation: Investor's Perspective".

## RESERVE MANAGEMENT

**The foreign exchange reserves of Eesti Pank are backing the Estonian kroon and are used to ensure the stability of the kroon.** According to the currency board principles, foreign exchange reserves should completely cover all the liabilities of Eesti Pank, including the banknotes and coins issued, and the accounts of commercial banks with Eesti Pank. The central bank proceeds from strict risk constraints in investing the reserves, taking into account the primary objectives – **preservation and liquidity of assets. Return** comes third on the list of objectives.

### Structure of foreign exchange reserves

The structure of foreign exchange reserves did not change considerably in 2007. The reserves are still divided into two: the **liquidity buffer** and the **investment portfolio**. A small part of the reserves is held in **gold**.

The **liquidity buffer** accounts for approximately 10% of the total reserves and the central bank can use it at any time for Eesti kroon and

foreign currency transactions with domestic credit institutions.

Assets of the other major component of the foreign exchange reserves, the **investment portfolio**, are invested in international financial markets. The objective of the investments is to achieve the optimum balance of risk and average return above money market interest rates over a global economic cycle. Investment portfolio assets are mainly invested in the liquid bond markets of leading industrial countries, while constantly monitoring and managing the interest rate, credit, currency and liquidity risks of investment. A more detailed description of risks and risk management is available on the central bank's website<sup>1</sup>.

### Investment process

Eesti Pank manages interest rate risk through the benchmark portfolio. This determines the average risk level that the bank is ready to accept and is also used for performance measurement purposes in reserve management. The benchmark portfolio does not include currency risk. Limits have been set for the allowed deviation of the actual investment portfolio from the benchmark portfolio.

The Monetary Policy Committee of Eesti Pank considers changes to the benchmark portfolio when the average duration of the theoretical and actual benchmark portfolios differs by more than 10%. Lowering the risk level of the benchmark portfolio essentially means reducing the average duration of the portfolio: more assets are invested in low-volatility financial instruments providing more stable yields. As a result, the accrued interests offset the potential price fluctuations caused by market volatility. In the case of increasing the risk level, more assets are invested in longer-term instruments; that is, government bonds with the maturity of more than one year.

<sup>1</sup> <http://www.eestipank.info/pub/en/majandus/rahasysteem/haldamine/4Riskid.html>



In addition to earning on a relatively stable benchmark portfolio, or **passive investment**, Eesti Pank is also engaged in **active investment**, taking positions in global financial markets. Such investment decisions are taken based on economic analyses, market relationships and other factors. Markets and securities are chosen on the basis of the investment idea, presumed horizon and expected efficiency.

The main investment philosophy lies in diversification: the aim is to spread risks and make better use of market opportunities. Investment is made in various markets, using different instruments, and positions are taken with different duration. Portfolio managers make investment decisions independent of each other. This is possible because the overall risk limit is divided into portions and the use of each portion is up to its portfolio manager.

Eesti Pank tries to keep up with the times and find its niche in today's relatively efficient markets. Two different approaches are applied in making investment decisions: subjective and model based. The former is mainly based on the qualitative analysis of economic processes, market psychology and the experience of portfolio managers. The latter is based on quantitative market relationships derived from investment models<sup>2</sup>. The best decisions for investment in money, capital and foreign exchange markets are made by combining these two approaches.

External asset managers also have a role in active investment. In 2007, a contract was signed with a new manager – Informed Portfolio Management. BlackRock has been investing Eesti Pank's assets since 2006, PIMCO since 2005 and ABN Amro Asset Management since 2003. The external asset managers use a portion of the risk limit, which is primarily invested in financial derivatives.

All in all, active investment did not generate any excess return over the benchmark portfolio by the end of 2007.

### **Results and determinants of investment in 2007**

By end-2007, the foreign exchange reserves of Eesti Pank totalled 33.7 billion kroons. Annual growth in reserves was approximately 3%. The excess reserve<sup>3</sup> accounted for nearly 12%, i.e. 4.2 billion kroons, of the total reserve.

Return on investment was higher than expected. It was affected by the dynamics of interest rates in the euro area and the United States, which turned out slightly different than expected. Over the year, the liquidity problems stemming from the US high-risk real estate loans passed on to the global financial sector. The Federal Reserve decreased the key interest rates three times by altogether 1 percentage point in the second half of 2007. The European Central Bank, on the other hand, raised the rates two times by altogether 0.5 percentage points. Since the interest rates increased in the euro area, the return on foreign exchange reserves was a bit lower than the return on the money market (see Figure 1). This was somewhat offset by the robust decrease in US interest rates.

### **Changes in the benchmark portfolio in 2007**

The rise in interest rates continued at the beginning of 2007 both in Europe and the United States. Therefore, the Monetary Policy Committee of Eesti Pank considered it necessary to extend the duration of the benchmark portfolio in January. By the end of the year, the duration of both benchmark portfolios extended by 5% compared to the beginning of the year: from 1.69 to 1.78 years in case of the euro portfolio, and from 1.18 to 1.33 years in case of the

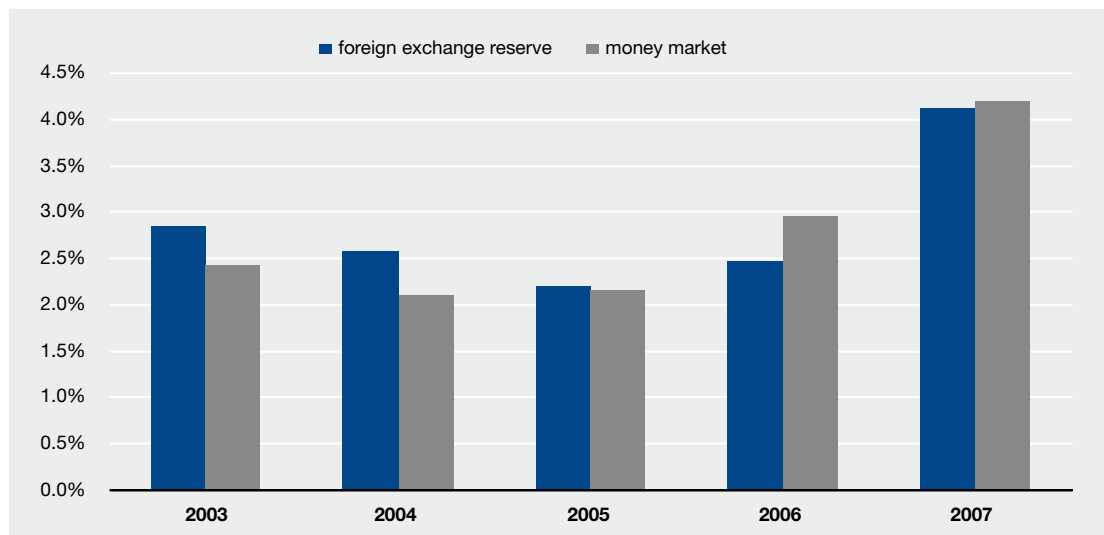
<sup>2</sup> For more information on the investment models applied in the central bank, see the Eesti Pank Working Papers No 6/2005 and 4/2006.

<sup>3</sup> For further information on the components and calculation of the excess reserve, see the table of the reserves backing the kroon (see row IX – foreign currency net reserves) published by Eesti Pank on the fifth working day every month



US dollar portfolio. The duration of the total benchmark portfolio extended from 1.49 to 1.56 years. Table 1 shows the structure of the benchmark port-

folio endorsed by the Monetary Policy Committee on January 26, 2007.



**Figure 1. Return on foreign exchange reserves compared to return on money market**

**Table 1. Structure of the benchmark portfolio**

	3 months	1 to 3 y	3 to 5 y	5 to 7 y	7 to 10 y	10+ y
Euro area	57.91%	19.27%	9.29%	6.37%	4.61%	2.55%
USA	67.02%	16.02%	7.71%	5.23%	4.02%	

#### **Asset management services provided to the public sector**

Eesti Pank has been cooperating with various public sector institutions for years already. In 2006, it started to provide risk management service to the Estonian Unemployment Insurance Fund. The service includes daily monitoring of the investment activities of asset managers, drawing the reports required and, if necessary, advising the Fund in investment related matters. By end-2007, the Fund's portfolios totalled 2.3 billion kroons.

Eesti Pank continued to provide the full package of asset management services to the Guarantee Fund, whose investment portfolios totalled 1.8 billion kroons at the end of 2007.