

**National bank of the Republic of Macedonia**  
Research Department



**Working paper**

**Monetary policy strategy of the NBRM: experiences and options**

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**Abstract**

National Bank of the Republic of Macedonia (NBRM) has been implementing an exchange rate targeting strategy for a more than a decade and so far it proved to be very successful. The aim of this paper is shortly to explain the advantages of this strategy and moreover to put more focus on the analysis for peg sustainability. Also, the paper discusses the effectiveness of the interest rate transmission channel in Macedonian economy. Based on the analysis for peg sustainability and still existing problems in the functioning of the interest rate transmission channel, the main findings are that current monetary policy strategy is still valid and regular monitoring of the environment that is changing dynamically is more than necessary.

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## **Introduction**

Starting from 1995, the NBRM implements the exchange rate targeting strategy, by using the exchange rate at the beginning towards German Mark and now against the Euro, as a nominal anchor in the economy. From this time perspective, the implementation of this monetary policy strategy in Macedonian economy has a quite long history, and at the same time a record of positive outcomes.

The main advantage of the peg is that under this strategy it is very clear for the public what is the main focus of the Central Bank when implementing the monetary policy and also there is a possibility for daily monitoring of the exchange rate developments which are quite understandable for the broad public.

The importance of the stable exchange rate is arising from the main country specifics. Namely, Macedonian economy is a small and open economy, with relatively high degree of Euroization, Euro is a dominant currency in the overall export and import payments, with EU being the most important trading partner, and there is narrow financial and foreign exchange market. All these features support the peg in Macedonian economy.

However, the policymakers should be aware of the dynamically changing environment and therefore should always look for confirmative arguments of the current monetary policy stance and moreover for its sustainability at least on a short to medium run. In this view, this paper is explaining not only the experiences of having a peg, but even more the options and analysis of the peg sustainability. The paper is organized as follows: (1) Inflation, external sector and interest rates in Macedonian economy; (2) Analysis of the peg sustainability; (3) The effectiveness of the interest rate transmission channel; (4) Conclusions.

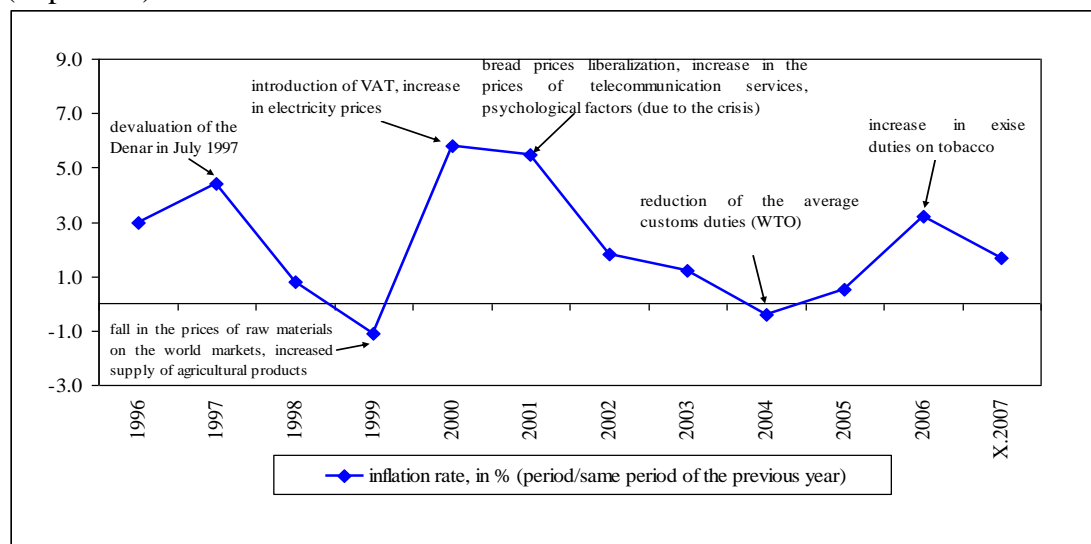
### **1. Inflation, external sector and interest rates in Macedonian economy**

Macedonian economy has a good inflation record, with an average annual inflation rate of around 2% in the last ten years. After macroeconomic stabilization that took place in the first years of the transition period, starting from 1995 the inflation came down to one digit level and remains relatively low. The inflation was mainly determined by supply side factors and systemic changes in the economy. Following the inflation path on the Chart 1, following important inflation factors can be listed for the most significant changes in the average annual inflation rate:

- higher level of inflation in 1997, when the devaluation (the only one devaluation) of the national currency Denar was done;
- deflation in 1999, due to the fall of the world prices of the raw materials and increased domestic supply of the agricultural products;
- higher level of inflation in 2000, due to introduction of VAT and increase of electricity prices;
- in continuation, high level in inflation in 2001, due to liberalization of the bread prices, increase of the prices on telecommunication services, but also the presence of the psychological factors influence during the internal security crisis;

- deflation in 2004, due to the reduction of the average customs duties after the entrance in the WTO;
- higher rate of inflation in 2006, due to the increase of the excise duties on tobacco, in order to get it in line with the EU regulation.

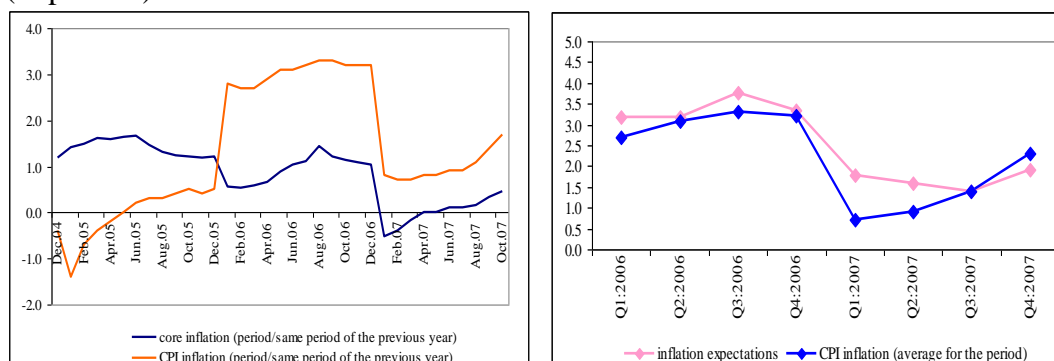
Chart 1  
Average annual inflation rate  
(in percent)



Source: State Statistical Office of RM

Core inflation (without food and energy) in the last couple of years has been relatively more stable, having in mind the factors that determined the overall price index. In addition, inflation expectations were quite in line with the actual inflation developments, meaning that actual inflation has been relatively predictable and close to the expected one.

Chart 2  
Core inflation and inflation expectation  
(in percent)



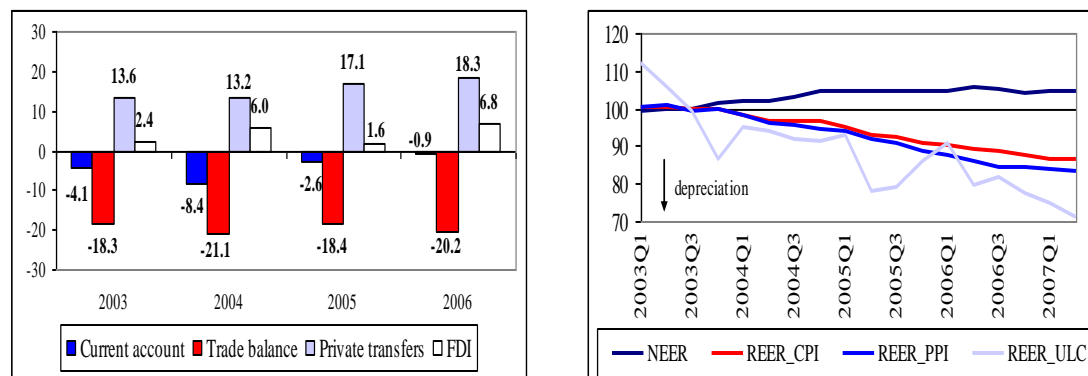
Source: State Statistical Office of RM; core inflation according to calculations of NBRM; Survey on Inflation Expectations of NBRM.

With de facto fixed exchange rate in place, the external sector performances are of crucial importance. The current account balance of Macedonian economy

improved significantly in the last years, reaching a level of current account deficit of less than 1% of GDP in 2006. The main reason for this improvement is private transfers inflow and in addition higher foreign direct and portfolio investments. The trade deficit all these years was relatively high at a level of around 20% of GDP, but to a large extent it was compensated by the private transfers. The real effective exchange rate of the Denar has depreciating trend, considering the lower domestic prices relative to the trading partners, in favor of the price competitiveness of the economy.

Chart 3

Balance of payments items and real effective exchange rate of the Denar



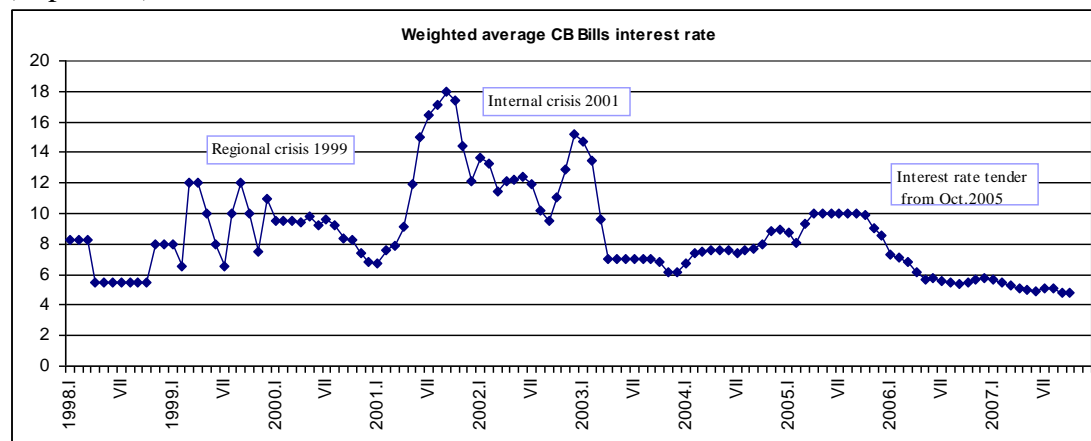
Source: NBRM

Under exchange rate peg, the monetary variables are subordinated to the peg as an intermediate objective of the monetary policy - maintenance of the stable exchange rate in order to keep price stability in the economy. Chart 4 shows that NBRM in the past faced several episodes in which it had to increase the interest rate on the main monetary policy instrument - Central Bank bills, in order to defend the exchange rate stability (during regional crisis in 1999 and internal crisis in 2001). In the last couple of years, after the switch towards interest rate tender from October 2005 onwards, there is a declining trend of the Central bank referent interest rate and therefore gradual squeezing of the interest rate differential.

Chart 4

Central Bank interest rate

(in percent)



Source: NBRM.

## 2. Analysis of the peg sustainability

In general, the exchange rate targeting strategy so far has proved itself as suitable for Macedonian economy and its implementation was quite successful. However, considering the changes in the transition process, the current and future challenges in the process of convergence towards more developed economies and globalization tendencies, monetary authorities are facing a need for regular assessment of the peg sustainability. Assessment of the existing monetary policy strategy is actually an issue that somehow is usual for the Central Banks anyway, but even more in a case when there is a risk for more essential changes in the environment.

The analysis of the peg sustainability<sup>1</sup> presented in this paper incorporates six groups of criteria aimed to assess the current stance of the exchange rate regime. These groups of criteria are presented further on.

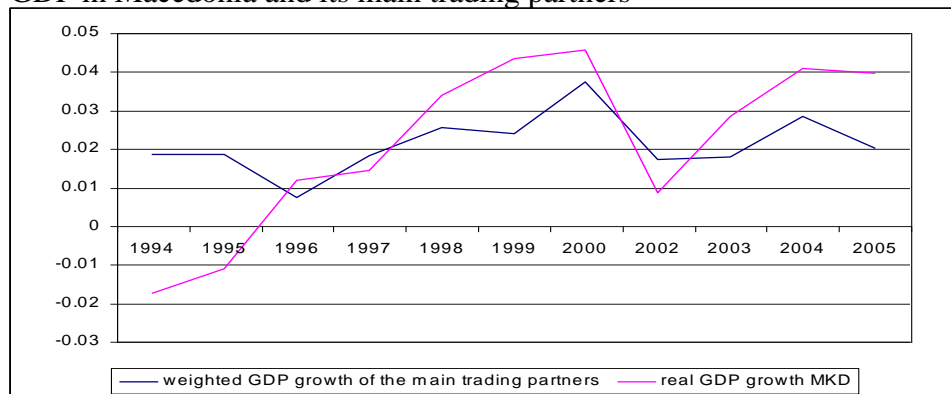
### *a) Trade and economic integration criteria*

Within trade and economic integration criteria, following indicators are taken into analysis:

- openness of the economy - Macedonian economy is highly open economy, with average share of external trade to GDP of 84% in the period 1993-1998 and even more in the period 1999-2000 when this ratio was 98%. The increasing openness of the economy is in favor of maintaining stable exchange rate;
- external trade in Euro - around 70% of the external trade is done in Euro. This big portion of the payments in Euro, which is the anchor currency, is stressing the importance of the exchange rate of the domestic currency towards Euro, that is actually one of the main reasons for choosing the exchange rate targeting strategy;
- importance of the economic cycle of the main trading partners - there is a positive correlation of 0.6 between GDP developments in Macedonia and the main trading partners (Germany, Greece, Italy and Bulgaria), indicating high dependence on the trading partners' economies.

Chart 5

GDP in Macedonia and its main trading partners



\*Excluding 2001 (internal crisis in Macedonia).

<sup>1</sup> Analysis is based on the IMF Working Paper no.54/2006: Husain A., "To Peg or Not to Peg: A Template for Assessing the Peg".

Having in mind these criteria, the main message is that Macedonian economy has been registering strong trade and economic integration, which is in favor of maintaining the stable exchange rate.

*b) Financial integration criteria*

Financial integration is measured through following criteria:

- stock exchange turnover - the turnover on Macedonian stock exchange is relatively small, composing around 3% of GDP in the period 2003-2005, although it is increasing. The intensified trading in the last years to a large extent is due to the increased interest of the nonresidents for investing in domestic securities, especially in shares of domestic companies, which reflects positive expectation about their perspective;
- monetization in economy - the level of monetization is measured through the share of the broad money to GDP and in the period 1998-2005 it was around 28%, reflecting still relatively low monetization in the economy.

These indicators are pointing out low financial integration, which allows for keeping the fixed exchange rate.

*c) Macroeconomic stabilization criteria*

The assessment about potential risks for macroeconomic stabilization is analyzed in this way:

- the relationship between capital and trade flows - in the last years when Macedonian economy is registering more intensive inflows based on foreign direct and portfolio investments and during the process of gradual liberalization of the capital account, the overall capital flows within the capital and financial account are increasing relative to the trade flows;
- importance of the nominal and real shocks - nominal shocks in Macedonian economy seems to be important due to volatile money supply, but also risk for real shocks are present considering high openness of the economy.

The existing risks for nominal and real shocks are in favor of keeping the fixed exchange rate, but increasing capital mobility indicates the opposite.

*d) Diversification and terms of trade criteria*

This group incorporates following criteria:

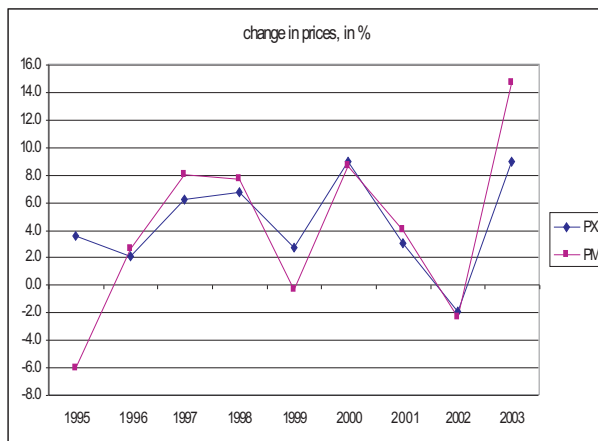
- volatility of the export and import deflators - the ratio between export and import deflator volatility in Macedonian economy is relatively low due to the imported inputs in the exported products (usually the same group of products are present on the import side and after processing on the export side too, but

with higher value added). Therefore, changes of the world prices affect both the export and import;

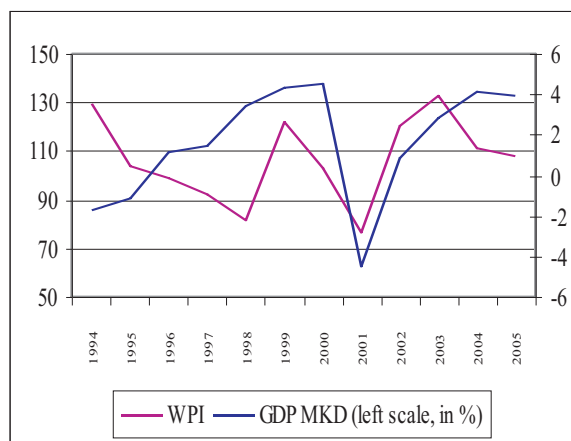
- export diversification - in the overall export structure, there is relatively high share of primary products; indicating low export diversification;
- dependence on the world prices - there is a positive correlation coefficient of 0.4 between GDP of Macedonian economy and a world price of the main exported goods, which is an evidence for low production diversification and dependence of the economic performances on the world market developments.

Chart 6

Export (PX) and import prices (PM)



World price index (WPI) and GDP MKD



The last two criteria confirm the trade and production concentration of the economy and therefore benefits from the exchange rate flexibility.

*e) Criteria for credibility / need for nominal anchor*

As already explained at the beginning, Macedonian economy has quite impressive inflation record with average inflation in the last decade of around 2%. In the last ten years there is no month with an annual inflation over 10%, which is taken as a benchmark in the analysis. Having in mind the inflation performances, at the same time confirming strong credibility in the monetary policy, obviously there is no effective need of nominal anchor for stabilization of the inflation expectations in the economy.

*f) Fear of floating / balance sheet effect criteria*

The last group includes following criteria:

- level of Euroization - the level of Euroization is measured through three indicators: the share of foreign currency deposits in the money supply on average is around 50%, the share of foreign or indexed debt in the total domestic debt is around 90%, and the share of gross private debt in the total external debt is around 60%. Based on these indicators, the main conclusion is that Macedonian economy has relatively high level of Euroization;

- relationship between exchange rate and economic activity - having in mind fixed exchange rate for a quite long period of time, for this purpose the relationship between nominal effective exchange rate and GDP has been taken into account, but no strong correlation is found.

Based on these criteria, we confirmed a strong potential balance sheet effect mainly because of the high Euroization level in the economy, which supports the fixed exchange rate regime.

### 3. The effectiveness of the interest rate transmission channel

The NBRM historically was mainly relaying on the exchange rate transmission channel as being the only effective one, although always trying to follow the changes in the effectiveness of the other channels. As far as the interest rate transmission channel is concerned, there is an improving trend although quite slow. In the period 1997-2005 a positive correlation of 0.33 is found between referent interest rate of the NBRM (interest rate on the Central Bank bills) and the average weighted lending interest rate of the banking sector. This positive relationship is mainly arising from the period 2000-2003 when correlation was even higher (0.44), but however it was not the case in 2004, which gives an indication for the interest rate transmission channel as still not fully operational. The interest rate pass through from the Central Bank interest rate to the banks' lending interest rate is estimated at 0.1 with a time lag of a month (Krstevska, 2007).

Table 1  
Correlation matrix

<b>1997-2005</b>	DCBI	DLIR	DDIR
DCBI	1	0.332865	-0.00202
DLIR	0.332865	1	0.139176
DDIR	-0.00202	0.139176	1
<b>2000-2003</b>	DCBI	DLIR	DDIR
DCBI	1	0.440716	0.001577
DLIR	0.440716	1	0.341846
DDIR	0.001577	0.341846	1

abbreviations:  
CBI-Central Bank interest rate;  
LIR-Lending interest rate;  
DIR-Deposit interest rate;  
D-difference.

Analyzing the interest rate transmission channel, one should have in mind that Macedonian banking system is in a position of excess liquidity, banks don't borrow from the Central Bank but invest in its short term securities. In the last couple of years the banking competition proved to be very important factor for the banks' interest rates, which resulted with a declining trend of the lending interest rates and even increased deposit interest rates in 2007 (meanwhile, influenced by the increase of the interest rates on the international markets).



#### **4. Conclusions**

The Euro peg proved to be an appropriate choice for monetary policy strategy for Macedonian economy, which has been implementing successfully for a quite long period of time.

The analysis which has been done for the peg sustainability incorporates a lot of indicators, out of which only three are against the peg: low export and output diversification and capital flows intensification. The good inflation history is the only criterion that indicates no further need for the peg. On the other hand, according to most criteria (12), the peg is still valid for Macedonian economy. From the operational viewpoint, only slow improvement in the functioning of the interest rate channel is registered, meaning that exchange rate channel is still the most effective one.

Looking forward, the dynamics of the capital flows and the development of the financial markets will be probably the most important factors influencing the monetary policy implementation and its transmission mechanism.

#### *Bibliography*

1. Husain A., To Peg or Not to Peg: A Template for Assessing the Nobler - IMF Working Paper no.54/2006;
2. Krstevska A., Monetary policy within global liquidity management, Skopje, 2007.