Central banking and monetary policy

BANK PERFORMANCES AND THE LENDING CHANNEL TRANSMISSION OF MONETARY POLICY IN THE EMU – PORTUGAL AS A CASE STUDY[1]

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Abstract

This paper confirms the importance of bank performance to the credit-lending channel of monetary policy in the countries of the EMU and particularly in Portugal during recent years. It uses macro and microeconomic statistical data and the introduces three calculated bank-performance indicators – financing of financial assets and financial margins - into an adaptation of the Bernanke and Binder model (1988) using panel data estimations not only to demonstrate the importance of the bank lending channel, but also to analyse the effects of the calculated indicators in bank-lending growth.

Keywords: *bank lending; monetary policy transmission; panel estimates; Portuguese economy.*

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1. Introduction

This paper makes a contribution to the analysis of the role of the financial systems and the bank lending channel transmission of monetary policy in Portugal during the past decade.

This was a period of rapid growth in bank lending, with Portuguese banks undergoing radical transformations as they moved from a completely protected political environment to a situation of integration in the Single European Market's financial services and then to European Monetary Union.

The structural change arising from the adoption of the single currency and a common monetary policy has had a profound impact, not only in Portugal, but also throughout the Euro area, where the finance sector has been intensifying competition for banking services. It is exerting a profound impact on the Euro area finance sector and intensifying competition for banking services.

More efficient banking sectors are a necessary condition for the transmission of monetary policy, and the way that banks adapt lending in response to monetary policy decisions varies according to their specific characteristics.

Most of the empirical papers testing the existence of a bank lending channel for the transmission of monetary policies make use of three characteristics – size, capitalisation and liquidity – to capture bank-specific sources of heterogeneity. The results obtained for Portugal (Farinha and Marques, 2001) clearly show that only capitalisation provides the expected results, while size and liquidity do not have any special effect on bank lending.

Here we consider two macroeconomic indicators: real GDP and nominal short time interest rate and we also introduce two calculated bank performance indicators - financing of financial assets and financial margins - into an adaptation of the Bernanke and Binder's model (1988).

We use panel static fixed and random effects and Arellano-Bond dynamic panel estimations to analyse the importance of these indicators to bank lending growth. We conclude that there is evidence of the importance not only of the macroeconomic conditions but also of the considered bank performance indicators.

In the next pages of this paper, we start by presenting, in section 2, some recent contributions to the analysis of the transmission channels of monetary policy.

In section 3 we remind the radical transformations that the banking sector has undergone in Portugal during the last decade and we describe the evolution of the two calculated bank performance indicators.

Section 4 describe the simplified model that is use to explain bank lending evolution and then present and discuss obtained with some fixed effects, random effects and Arellano-Bond dynamic panel estimations.

Concluding remarks are presented in section 5.

2. The Bank Lending Channel Transmission of Monetary Policy

The theory and empirical researches that study the monetary transmission process try to explain how monetary impulses affect the whole economy. They also share the view that monetary authorities (central banks) can control money market interest rates because they have the ability to control money supply.

Currently, using open market operations, central banks affect the liquidity of the whole banking system and the interest rates and prices that affect households and firms behaviour. This is described not only by the classical interest rate but also by the other transmission channels of the monetary policy.

The "credit view" of the monetary policy transmission includes five channels: the bank lending channel, the balance sheet channel, the cash flow channel, the unanticipated price level channel and the household liquidity effects (Mishkin, 2001).

The bank lending channel affects investment and residential housing through bank deposits and loans. The balance sheet, cash flow and unanticipated price level channels affect moral hazard and adverse selection and though the lending activity and the investment. Finally, the households liquidity effects concerns the financial wealth of the households and the probability of their financial distress that affects residential housing and expenditures in consumer durable goods.

So, well-developed financial systems are an important and necessary basis for ensuring that credit sectors are able to play their own particular role in economic development processes.
More efficient credit sectors are not only a necessary and important condition for the transmission of monetary policy in the Euro zone, but they are also indispensable for guaranteeing the economic benefits of the other sectors and agents that make use of financial services.

Financial institutions are also a very important channel for the transmission of monetary policy. Seen from the viewpoint of credit and lending, the level of effectiveness of monetary policy is basically determined by the imperfections of capital markets - asymmetric information and the difficulties faced by some economic agents in obtaining finance for their consumption and investment plans. Central banks control the quantity of money, but banking institutions also play an important role in the money-creation process, as well as in the mobilisation and allocation of financial resources.

The introduction of the European Monetary Union may have reduced some of the competitive advantages of local and national banks (advantages that were based on factors such as currency risk, a lack of price transparency and a better knowledge of national monetary policy), but it has also increased competition in all segments of the financial product market.

The structural changes arising from the adoption of a single currency and a common monetary policy have had a profound impact on the Euro area finance sector and are intensifying competition for banking services.

Some common trends may be identified in the context of the pressures exerted by globalisation, which affect the Euro area with particular intensity, namely a process of disintermediation, new technologies and increased competition (Belaisch et al. 2001). The adoption of a common monetary policy and a single currency has provoked a structural change: money markets have been integrated, the deregulation of financial services has considerably increased competition in the banking sector, whilst there has been an increasing integration of Euro area inter-bank markets.

Nowadays, in spite of the structural changes and the necessary concomitant adaptations to the new market and policy conditions, it is still clear that the Euro area's financial and credit systems continue to be bank-dominated and that the ECB (more precisely the European System of Central Banks and its Banking Supervision Committee) has devoted special attention to supervising banking activity and structural developments in the EU banking sector.

Despite all the changes and disintermediation, the asset structure of EU banks reflects the rapid increase in lending that has occurred since the advent of the EMU. It is a process that started before the implementation of the single currency and reflects the growing demand for credit provoked by the downward path of interest rates (especially in countries such as Portugal, where interest rates were rather high at the beginning of the 1990s and were forced to converge to the levels of other EU countries).

Recent studies for several European countries (Angeloni et al. 1995 and 2002, Baumel and Sevestre, 2000, Erhmann and Worms, 2001, Erhmann et al.

2001, Clements, et al. 2001, Farinha and Marques, 2001, Topi and Vilmunen, 2001, Gambacorta, 2001, Van Els et al., 2001, Gardener et all, 2002.) have studied the importance of European bank characteristics during these years of profound transformations.

And although the EU banking sector has been considered as one of the sectors least affected by the Single Market Programme, nowadays financial institutions and particularly the banking institutions play a very important role, namely in the process of monetary policy transmission in the Euro area.

3. Bank Performances in Portugal

Portugal joined the European Economic Community (EEC) in 1986, twelve years after the Revolution that implemented the democracy in the country. During those twelve years there was first, a massive wave of nationalisations, only three small foreign-owed banks were not nationalised, new entries into the market were banned, while banking activities were entirely subordinated to the objectives of economic policy.

By the late 70-ties only three special credit institutions had the monopoly of mortgage lending and only one bank had the monopoly of all institutional and government accounts. All interest rates were administratively fixed by the political authorities and even the opening of new branches depended upon the permission of the central bank. In the early 80-ties the consequences of the political and economical instability became problematic and there was an agreement between the Portuguese government and the International Monetary Fund.

After that agreement, and just before the joining to the EEC the main instrument of the Portuguese monetary policy became the legal establishment of credit ceilings, which were imposed to the whole economy in accordance with the expected growth rate of GDP, but were in fact mainly used to finance government spending. Capital movements were also controlled by the central bank and consumer lending was completely restricted.

These restrictions began to change when Portugal became a member of the EEC and had to adapt to the new institutional and market conditions.

In 1987, the banking sector was opened up to private enterprise and new foreign banks were progressively authorised although they remained small in size. Interest rate regulation continued until 1990 with the administrative imposition of a minimum rate for deposits and a maximum rate for loans.

Under these conditions, not surprisingly, the approval by the EEC of the Single Market Programme (1986-1992) had a special impact in Portugal, and it accelerated the process of deregulation, privatisation and new (national and foreign) entries to the market, as well as adaptation to the competitive environment.

In 1990 a new accounting system was approved for the banking sector and a Cooke solvency ratio was adopted, forcing the Portuguese government to inject large amounts of capital into the banks even during the process of privatisation. Prudential rules were also introduced for loan losses and general credit risks. By the beginning of 1993, with the implementation of the EU Second Banking Directive and the all banks in Portugal had to prove their ability to adapt to the new market and legal conditions.

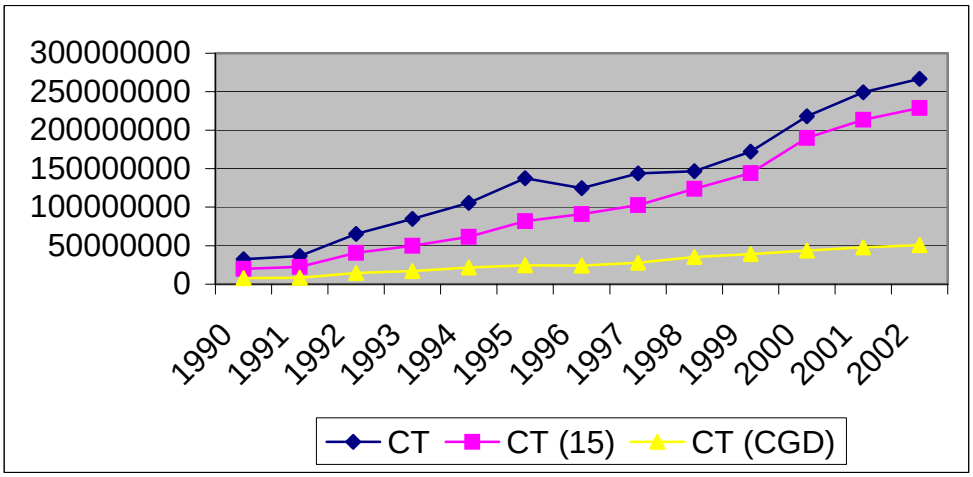
At the same time, the banking sector had to face the enormous challenges introduced by the Maastricht criteria and the preparation to the transformations introduced by European Monetary Union as Portugal was one of the countries which respected the defined criteria and adopted the single currency.

So, the Portuguese banking system has undergone radical changes and has moved from having a completely protected political environment to integration into the Single European Market's financial services and then into the EMU. In order to respect the Maastricht criteria and prepare for the single currency, there was a continuous fall in interest rate levels (as described in the previous section of this paper).

Under these conditions, the monetary policy transmission mechanisms in Portugal during this last decade (before and after the implementation of the single currency) would be expected to show a strong traditional interest-rate channel applied not only to productive investments, but also to housing investments and even to expenditure on consumer durables.

After so many legal and economic restrictions, the data made available in the Bulletins of the Portuguese Association of Banks (Associação Portuguesa de Bancos - APB) show that, since the early 1990s, there has been a very sharp increase in the credit granted by banks (**Graph 1**).

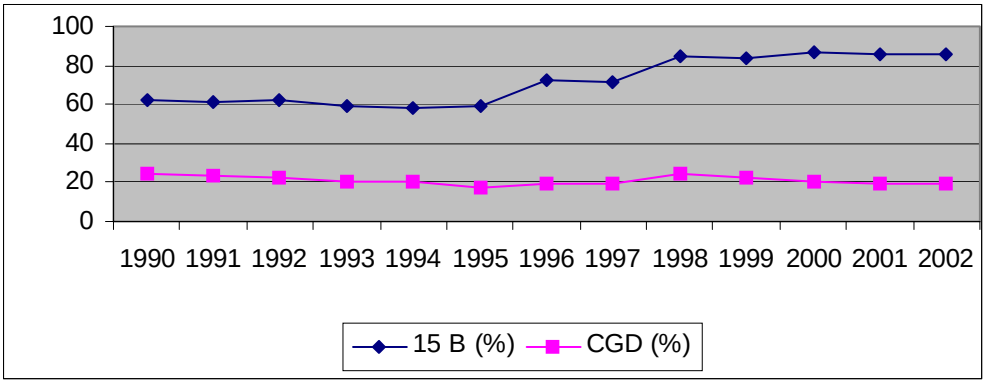
Graph 1 – Total Credit Granted



This enormous growth in credit was essentially due to the continued fall in the interest rate, resulting from the new conditions that were established for joining the single currency, but it also derived from the alterations occurring in the operating conditions of the banking sector.

In December 1990, there were 33 banking institutions in Portugal, but by December 2002 there were already 52. Fifteen[2] of these, however, have always remained in operation and have even managed to increase their share of the credit granted to clients. The biggest one, Caixa Geral de Depósitos (CGD) also managed to maintain its dominant position and until recently has been responsible for around 20% of the total credit granted by the sector (**Graph 2**).

Graph 2 – Share of total credit granted by the 15 main banks and by CGD



[2] More precisely: Banif, Barclays, BB, BBVA, BCA, BCP, BES, BIC, BNP Paribas, BPI, BTA, CGD, CPP, Deutsche Bank and MG.

In order to better express the performance of the banking institutions operating in Portugal during this period, we continued to make use of the Bulletins of the Portuguese Association of Banks and used two indicators that we calculated from them: the financing of financial assets and the financial margins.

The **financing of financial assets** corresponds to the ratio (in %) between financial liabilities and financial assets. Naturally, it would be better for the security of the banking institutions if this ratio was always not to close to 100. When this ratio is above 100, it is a sign that banks are have increased their responsibilities without correspondence in the growth of their financial assets and this may contribute to more risky situations in the future.

Generally speaking and according to data presented in Table 1, we see that this ratio was always very close to 100 and in the last years it exceeded always the 100. And although the differences in the ratios of the total banking sector, the main 15 banks and the biggest one (CGD) are not very big, it is quite clear that CGD has recorded values above 100, indicating that this institution was not so careful with the financing of its financial assets. This is consistent with the decrease in the last years of the CGD's lending share, although its share is still quite high: around 20% of the total bank lending. It must also be a consequence of the government management decisions, as CGD continues to be the public bank, implementing most of the government's policies, particularly at the level of public finance and changing quite often its administration staff.

Table 1– Financing of financial assets = financial liabilities /financial assets

	TOTAL	**15 Banks**	**CGD**
1990	98.06	95.86	93.77
1991	102.25	95.86	95.52
1992	97.10	97.05	94.77
1993	96.48	96.29	95.11
1994	97.41	97.87	96.36
1995	98.74	98.85	97.54
1996	99.65	99.41	97.76
1997	99.71	100.09	96.97
1998	99.50	99.76	100.01
1999	99.22	99.60	100.54
2000	101.10	101.71	104.11
2001	101.68	102.30	103.47
2002	100.09	100.80	101.68
average	**99.31**	**98.88**	**98.28**

The **financial margins** are clearly the indicator that show the results obtained by the banking institutions in regard to their main activity – financial intermediation. Basically they correspond to the difference between the received (from applications) and paid (from deposits) interest rates. More precisely, here the financial margins are calculated as the ratio of the difference between interest and equivalent income (basically from credit applications) and interest and equivalent costs (from funds raised, especially from clients' deposits) to the financial assets.

In Portugal, whilst interest rates were established either administratively or under a situation of limited competition, it was possible to maintain relatively high financial margins, especially when compared with those recorded by most of our European partners.

However, in few years, the conditions completely changed with membership of the EEC, the liberalisation of the financial markets and, in particular, the decisions inherent in the enforcement of the single currency policy.

So, not surprisingly, in Table 2, the financial margins show a decrease throughout the decade, due not only to the choices made by the financial institutions and their lending activity, but mainly to the monetary policy imposed during the period of transition to the Euro zone and the subsequent fall in interest rates. But the largest banking institutions (and amongst these CGD in particular) were able to keep their margins somewhat higher than the less powerful banking institutions.

Table 2 – Financial margins = (interest and equivalent income-interest and equivalent costs)/ financial assets.

	TOTAL	**15 Banks**	**CGD**
1990	5.55	5.53	5.52
1991	5.21	5.37	5.98
1992	3.68	3.80	3.49
1993	3.80	3.82	4.14
1994	3.41	3.52	3.67
1995	2.81	2.81	3.32
1996	2.67	2.68	3.12
1997	2.88	2.89	3.17
1998	2.76	2.78	3.18
1999	2.44	2.46	2.72
2000	2.26	2.23	2.46
2001	2.26	2.29	2.59
2002	2.24	2.23	2.37
average	**3.23**	**3.26**	**3.52**

4. Panel Data Estimations

The enormous growth noted in credit lending in Portugal during the last decade were surely influenced by macroeconomic conditions, and the reflects of the challenges that the country had to face, and particularly the levels of the interest rates.

However, the banking institutions must not be considered as completely "neutral" intermediaries between borrowers and creditors, and their performances may also be crucial for the explanation of bank lending growth.

In the following panel estimates we used data published by the Portuguese Central Bank (Banco de Portugal) and the International Monetary Fund: the Gross Domestic Income series (at 1995 prices) and the short term interest rates.

Total bank lending and the performance indicators - the financing of financial assets and the financial margins - of Portuguese banks were calculated using data from the Portuguese Association of Banks (Associação Portuguesa de Bancos), which provides only annual data for the last decade.

We therefore used the following series[3]:

Lend = Log of bank lending
GDP = Log of real GDP
int. rate = nominal short term interest rate

FF = **financing** of **financial** assets = financial liabilities /financial assets
FM = **financial margins** = (interest and equivalent income-interest and equivalent costs)/ financial assets.

Table 3 – Summary statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
Total Credit						
	overall	15.07484	1.811932	10.85	19.4	N = 221
	between		1.645238	12.88769	18.56154	n = 17
	within		.8508412	12.61561	16.73561	T = 13

[3] The summary statistics of the series are presented in Table 3 and the and their correlation matrix in Tables 4.

Fin. Financial Assets

(FF)	overall	98.30584	6.594677	67.13	140
N = 221					
	between		2.459644	92.39308	102.0262
n = 17					
	within		6.145723	72.05968	144.9297
T = 13					

Fin. Margins

(FM)	overall	3.116833	1.41438	.19	7.78
N = 221					
	between		.7564963	1.199231	4.776923
n = 17					
	within		1.208056	.0699095	6.463756
T = 13					

GDP

	overall	30.46231	.1154305	30.31	30.63
N = 221					
	between		0	30.46231	30.46231
n = 17					
	within		.1154305	30.31	30.63
T = 13					

Int. rate

	overall	7.976923	4.453186	2.61	15.12
N = 221					
	between		0	7.976923	7.976923
n = 17					
	within		4.453186	2.61	15.12
T = 13					

FF*GDP

	overall	2994.709	202.8298	2049.479	4268.6
N = 221					
	between		75.15091	2813.637	3108.357
n = 17					
	within		189.2097	2200.053	4419.175
T = 13					

FF*Int.rate				
	overall	780.2672	430.1918	193.5054	1702.512
N = 221					
	between		15.68665	753.7726	803.2039
n = 17					
	within		429.9213	209.6799	1682.168
T = 13					
FM*GDP					
	overall	94.8388	42.78588	5.8178	235.9674
N = 221					
	between		23.03056	36.42732	145.3124
n = 17					
	within		36.45759	2.516278	196.0709
T = 13					
FM*Int.rate				
	overall	29.1297	26.7247	.7047	117.6336
N = 221					
	between		6.664507	14.05049	46.45306
n = 17					
	within		25.92714	-11.45866	100.3102
T = 13					

Table 4 – Correlation matrix

	Lend	**FF**	**MF**	**GDP**	**Int.r.**	**FF*GDP**	**FF*Int.r.**
Lend	1.0000						
FF	0.1847	1.0000					
M	-0.2074	-0.0651	1.0000				
GDP	0.3428	0.1135	-0.6591	1.0000			
Int.rate	-0.3361	-0.1338	0.6805	-0.9094	1.0000		
FF*GDP	0.2022	0.9985	-0.1009	0.1681	-0.1830	1.0000	
FF*Int.r.	-0.3180	-0.0439	0.6743	-0.9054	0.9941	-0.0938	1.0000
FM*GDP	-0.2055	-0.0641	1.0000	-0.6552	0.6768	-0.0997	0.6707
FF*Int.r	-0.3076	-0.1324	0.9002	-0.8003	0.8950	-0.1755	0.8854

	FM*GDP	**FF*Int.r**
FM*GDP	1.0000	
FF*Int.r	0.8980	1.0000

4.1 The estimated model

Our panel estimates follow a simplified version of the Bernanke and Binder model (1988).

First, in the **money market**, we will assume that money equals deposits held at banks by the non-monetary sectors.

So for the demand function, we assume that the nominal deposits held at banks by the private sector will depend on GDP and the interest rate on bonds:

$$\underset{}{Dep^{d}} = \underset{}{a_0} + \underset{(+)}{a_1}\, GDP + \underset{(-)}{a_2}\, i_{bonds} \qquad [1]$$

Money supply will not only depend on the interest rate on bonds, but also on the influence of monetary policy (represented here by the relevant monetary policy interest rate, which is controlled by the Central Bank):

$$\underset{}{Dep^{s}} = \underset{}{b_0} + \underset{(+)}{b_1}\, i_{bonds} + \underset{(-)}{b_2}\, i_{mon.pol.} \qquad [2]$$

Second, in the **credit marke**t, the demand for lending depends on GDP, the interest rate on bonds and the interest rate on lending:

Assuming the relevance of x bank performance characteristics ($Char_x$) on

$$\underset{}{Lend^{d}} = \underset{}{c_0} + \underset{(+)}{c_1}\, GDP + \underset{(-)}{c_2}\, i_{lend} + \underset{(+)}{c_3}\, i_{bonds} \qquad [3]$$

lending, which a priori may have a positive (or negative) effect on lending, we may define the supply in the money market as depending on the deposits of the private sectors at banks and the product of these deposits, as well as on bank characteristics, the interest rate on lending and the interest rate on bonds:

$$\underset{}{Lend^{s}} = \underset{}{d_0} + \underset{(+)}{d_1}\, Dep + \underset{(?)}{d_2}\, Dep\, Car_x + \underset{(+)}{d_3}\, i_{lend} + \underset{(-)}{d_4}\, i_{bonds} \qquad [4]$$

Clearing the money and credit markets (see Appendix I for more details) leads to the reduced form of the model which will be the basic equation for our panel estimations:

$$L = \alpha_0 + \alpha_1 Car_x + \alpha_2 GDP + \alpha_3 i_{mon.pol} + \alpha_4 Car_x\ GDP + \alpha_5 Car_x i_{mon.pol} \quad [5]$$
$$(?)\quad (+)?\qquad (?)\qquad (?)\qquad (-)?\qquad\qquad (+)?$$

Thus, there is no certitude about the magnitude or even the sign of the influence of the macroeconomic conditions (more precisely, here only the GDP growth and the monetary policy interest rate) and the considered bank performance indicators (in our case the two presented ratios: the financing of the financial assets and the financial margins).

4.2 Panel estimate results

With the presented data we construct a panel of 221 observations (data for 13 years and a sample of 17 representative banks) and using the STATA program we compare the results of some fixed effects, random effects and Arellano-Bond dynamic panel estimates .

4.2.1 Fixed and random effects panel estimates:

Panel data estimates allow to control for unobserved individual heterogeneity that is constant over time. The fixed effects estimator is obtained by OLS on the deviations from the means of each unit (in our case, each bank) or time period. This estimation may be relevant if we expect that the averages of the dependent variable will be different for each bank, but the variance of the errors will not.

Table 5 – Fixed effects estimates

. xi: xtreg Lend FF FM GDP intrate FFGDP FFintrate FMGDP FMintrate i.year,fe

Fixed-effects (within) regression	Number of obs = 221
Group variable (i): id	Number of groups = 17
R-sq: within = 0.6410	Obs per group: min = 13
between = 0.0623	avg = 13.0
overall = 0.1554	max = 13
	F(18,186) = 18.45
corr(u_i, Xb) = 0.0191	Prob > F = 0.0000

Lend	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
FF	-10.26567	4.037631	-2.54	0.012	-18.23111	-2.300236
FM	-9.25713	28.66053	-0.32	0.747	-65.79862	47.28436
GDP	-.5759693	.2165216	-2.66	0.008	-1.003123	-.1488155
Intrate	-1.033278	.3611528	-2.86	0.005	-1.74576	-.3207956
FFGDP	.3353602	.1316817	2.55	0.012	.0755785	.5951419
FFintrate	.0073015	.0036225	2.02	0.045	.000155	.0144479
FMGDP	.3012259	.9360363	0.32	0.748	-1.545387	2.147838
FMintrate	.0132183	.0215766	0.61	0.541	-.0293479	.0557845
_Iyear_1991	.4641555	.2759888	1.68	0.094	-.0803153	1.008626
_Iyear_1992	1.083516	.3147049	3.44	0.001	.4626664	1.704366
_Iyear_1993	.4007486	.1714172	2.34	0.020	.0625768	.7389204
_Iyear_1994	(dropped)					
_Iyear_1995	.1174722	.1719534	0.68	0.495	-.2217575	.4567018
_Iyear_1996	-.5144967	.197166	-2.61	0.010	-.9034659	-.1255276
_Iyear_1997	-.7766557	.2272402	-3.42	0.001	-1.224955	-.3283562
_Iyear_1998	-.8577495	.2364996	-3.63	0.000	-1.324316	-.391183
_Iyear_1999	-.9690709	.2557685	-3.79	0.000	-1.473651	-.4644907
_Iyear_2000	-.2218119	.1872102	-1.18	0.238	-.5911402	.1475164
_Iyear_2001	(dropped)					
_Iyear_2002	-.2041562	.1990036	-1.03	0.306	-.5967505	.1884382
_cons	556.9831	203.5262	2.74	0.007	155.4666	958.4997

sigma_u	1.6306634
sigma_e	.55445221
rho	.8963697 (fraction of variance due to u_i)

F test that all u_i=0: F(16, 186) = 106.87 Prob > F = 0.0000

The obtained results with fixed effects estimates are presented in Table 5 and confirm the importance of the bank lending channel as there is a clear negative influence of nominal short term interest rates on bank lending. As expected, the financing of financial assets (more precisely, the ratio financial liabilities/financial assets) has also a rather strong influence on bank lending.

With random effects estimates (Table 6) there is an increase of the importance of GDP while the financing of financial assets remains a relevant indicator for the evolution of the bank lending.

Table 6 – Random effects estimates

. xi: xtreg Lend FF FM GDP intrate FFGDP FFintrate FMGDP FMintrate i.year,re
i.year _Iyear_1990-2002 (naturally coded; _Iyear_1990 omitted)

Random-effects GLS regression Number of obs = 221
Group variable (i): id Number of groups = 17

R-sq: within = 0.6410 Obs per group: min = 13
between = 0.0684 avg = 13.0
overall = 0.1567 max = 13

Random effects u_i ~ Gaussian Wald chi2(18) = 332.71
corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.0000

Lend	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
FF	-10.42699	4.032938	-2.59	0.010	-18.33141	-2.522578
FM	-10.1131	28.64071	-0.35	0.724	-66.24785	46.02165
GDP	.0164827	.0013387	12.31	0.000	.0138589	.0191065
Intrate	-.1356041	.1586732	-0.85	0.393	-.4465979	.1753896
FFGDP	.3406158	.1315287	2.59	0.010	.0828242	.5984073
FFintrate	.0074985	.0036173	2.07	0.038	.0004088	.0145882
FMGDP	.3295856	.935389	0.35	0.725	-1.503743	2.162914
FMintrate	.0130637	.0215497	0.61	0.544	-.029173	.0553004
_Iyear_1991	-1.240518	.6230214	-1.99	0.046	-2.461618	-.0194188
_Iyear_1992	-1.268209	.8406406	-1.51	0.131	-2.915834	.3794163
_Iyear_1993	1.54925	.3909071	3.96	0.000	.7830861	2.315414
_Iyear_1994	2.663251	.8309379	3.21	0.001	1.034643	4.291859
_Iyear_1995	1.127044	.2752741	4.09	0.000	.5875163	1.666571
_Iyear_1996	1.202136	.4309135	2.79	0.005	.3575607	2.046711
_Iyear_1997	.9640797	.4135825	2.33	0.020	.1534729	1.774686
_Iyear_1998	.4419012	.2372135	1.86	0.062	-.0230287	.9068312
_Iyear_1999	(dropped)					
_Iyear_2000	-2.282548	1.028353	-2.22	0.026	-4.298082	-.2670133
_Iyear_2001	-2.53009	1.197795	-2.11	0.035	-4.877725	-.1824548
_Iyear_2002	-2.156963	1.028415	-2.10	0.036	-4.17262	-.1413055
_cons	(dropped)					

sigma_u	1.6334885
sigma_e	.55445221
rho	.89669085 (fraction of variance due to u_i)

The Hausman test is used to compare the results obtained with fixed effects with those obtained with random effects estimates. Given a model in which fixed effects are appropriate, the Hausman test will H_0: that random effects would also be consistent and efficient, versus H_1: that random effects would

be inconsistent. The result of the test is a vector of dimension b (b = number of instruments) which will be distributed chi-square(b). So if the Hausman test statistic is large, we should use fixed effects estimates. If the statistic is small, we may consider that random effects are also consistent.

Table 7 – Hausman specification test

	---- Coefficients ----		
	Fixed Effects	Random Effects	Difference
FF	-10.26567	-10.42699	.1613172
FM	-9.25713	-10.1131	.8559684
GDP	-.5759693	.0164827	-.592452
Intrate	-1.033278	-.1356041	-.8976738
FFGDP	.3353602	.3406158	-.0052556
FFintrate	.0073015	.0074985	-.000197
FMGDP	.3012259	.3295856	-.0283597
FMintraate	.0132183	.0130637	.0001546
_Iyear_1991	.4641555	-1.240518	1.704674
_Iyear_1992	1.083516	-1.268209	2.351725
_Iyear_1993	.4007486	1.54925	-1.148501
_Iyear_1995	.1174722	1.127044	-1.009571
_Iyear_1996	-.5144967	1.202136	-1.716632
_Iyear_1997	-.7766557	.9640797	-1.740735
_Iyear_1998	-.8577495	.4419012	-1.299651
_Iyear_1999	-.9690709	0	-.9690709
_Iyear_2000	-.2218119	-2.282548	2.060736
_Iyear_2002	-.2041562	-2.156963	1.952806

Test: Ho: difference in coefficients not systematic

chi2(18) = (b-B)'[S^(-1)](b-B), S = (S_fe - S_re)
= 2.70
Prob>chi2 = 1.0000

Here the Hausman test (Table7) does not clearly reject the null hypothesis that the observed heterogegeity is uncorrelated with the regressors. So we may suspect that random effects are more appropriate in this case, assuming that the relative small panel that we are using is drawn from a larger population of values (in our case, we should consider that the included banks during this time period are representing a larger set of banks during a longer period of time).

Nevertheless, as we are using a relative small panel (N=221) and the main 15 banks were chosen by their dominance in the shares of the bank lending, fixed effects can be considered more adequate. This is consistent

also with the results of the Rsq and the comparison of the within, between and overall values which indicate a better explanation of changes by year than by the group differences.

4.2.2 Arellano-Bond dynamic panel estimates:

Dynamic panel estimates with relative short panels require the introduction of instrumental variables as the time-invariant group specific (here bank specific) effects are correlated with the lagged dependent variable (the total bank lending growth). But if we try to avoid the bank specific effects through first-differencing the equation we will introduce serial correlation in the error term and regressor error correlation. To solve these problems and the potential endogeneity of the expanatory variables, we introduce GMM estimations.

Following Bundel and Bond (1998) we use the GMM system estimator in levels, which introduces the lagged differences of the explanatory variables as instruments. But these instruments have to satisfy two conditions: they should not be correlated with the error term in the estimated equation and they should be correlated with the endogenous explanatory variables.

To test whether the instruments are correlated with the error term we use a Sargan test which is a test of the overidentifying restrictions. The hypothesis being tested is that the instrumental variables are uncorrelated to some set of residuals, and therefore they may be considered as acceptable, healthy, instruments. If the null hypothesis is not rejected it is concluded the instruments pass the test and are valid for the estimation.

The validity of the instruments is also tested by the Arrelano-Bond test of serial correlations of the error term. The H_0 hypothesis of this test is that the error terms in the first-difference regression exhibit no serial correlations.

Table 8 – Dynamic system estimates (levels)

. xi: xtabond2 Lend FF MF GDP intrate FFGDP FFintrate FMGDP FMintrate i.year, gmm(LCT, lag(2 4)) iv(i.year, eq(level))

Arellano-Bond dynamic panel-data estimation, one-step system GMM results

Group variable: id	Number of obs = 221
Time variable : year	Number of groups = 17
Number of instruments = 54	Obs per group: min = 13
F(18, 202) = 2.24	avg = 13.00
Prob > F = 0.004	max = 13

Lend	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
FF	-31.63232	20.4472	-1.55	0.122	-71.70809	8.443452
FM	-491.305	188.9762	-2.60	0.009	-861.6916	-120.9184
GDP	-2.455236	1.11817	-2.20	0.028	-4.646808	-.2636644
Intrate	-1.674908	2.002396	-0.84	0.403	-5.599533	2.249716
FFGDP	1.036351	.6671303	1.55	0.120	-.2712007	2.343902
FFintrate	.0022622	.0212085	0.11	0.915	-.0393056	.0438301
FMGDP	16.04346	6.161073	2.60	0.009	3.96798	28.11894
FMintrate	.3507442	.2015767	1.74	0.082	-.0443389	.7458273
_Iyear_1991	-.146547	1.246854	-0.12	0.906	-2.590335	2.297241
_Iyear_1992	.5557932	1.889033	0.29	0.769	-3.146644	4.258231
_Iyear_1993	.625795	.8674445	0.72	0.471	-1.074365	2.325955
_Iyear_1995	-.4308556	.6563161	-0.66	0.512	-1.717211	.8555003
_Iyear_1996	-1.484055	.84329	-1.76	0.078	-3.136873	.1687635
_Iyear_1997	-1.805157	1.193644	-1.51	0.130	-4.144655	.5343423
_Iyear_1998	-2.184387	1.414615	-1.54	0.123	-4.956981	.5882077
_Iyear_1999	-2.379369	1.794294	-1.33	0.185	-5.89612	1.137382
_Iyear_2000	-.3832472	.6627997	-0.58	0.563	-1.682311	.9158164
_Iyear_2002	-.4129912	.8510369	-0.49	0.627	-2.080993	1.255011
_cons	2311.293	1049.738	2.20	0.028	253.8443	4368.742

Sargan test of overid. restrictions: chi2(35) = 20.63 Prob > chi2 = 0.974

Arellano-Bond test for AR(1) in first differences: z = -0.82 Pr > z = 0.409
Arellano-Bond test for AR(2) in first differences: z = -1.00 Pr > z = 0.320

The one step GMM results are presented in Table 8. The Sargan test does not reject the null that the instruments are valid in that they are not correlated with the errors. The autocorrelation Arrelano-Bond tests also confirm the validity of the instruments.

Comparing the results of the dynamic estimation with those obtained with fixed effects estimates (Table 5) we see that the main differences are detected in the results for the short term interest rate and the financial margins. Now financial margins are more relevant to the explanation of bank lending growth, both directly and indirectly through GDP and the interest rates.

5. Concluding Remarks

In keeping with studies that had already confirmed the need to complement the whole Euro zone evidence with research undertaken at a national level, this paper centred the attention on the conditions and transmission mechanisms of monetary policy.

It presents two bank performance indicators: the financing of financial assets (more precisely the ration between the financial liabilities and the financial assets) and the financial margins and through panel data estimates, and analyses their join importance with two macroeconomic indicators (real GDP and nominal short time interest rate) for bank lending in Portugal during the past decade.

The obtained results with fixed and random effect estimates were compared through a Hausmann test which does not clearly reject the null that the observed heterogeneity is uncorrelated with the regressors. So we could accept that random estimates are appropriate but, as we are dealing with a relatively small panel, fixed effects will always be more appropriate.

And as fixed effects (or within) estimates assume common slopes but that each cross section unit, more precisely here , each bank, has its own intercept we may also conclude that the initial conditions may be different for each bank but afterwards their reactions to the considered instruments are similar because they are all competing in the same market and have to face the same macroeconomic conditions.

Further, the fixed effects estimates confirm the importance of real GDP and interest rates on bank lending. At the same time, the chosen bank performance indicators also contribute to the explanation of the bank credit during this period, specially the financing of financial assets which showed its relevance for the credit not only directly but also indirectly, through GDP and interest rates.

These conclusions are consistent with the results obtained with the other dynamic panel estimates. We use a GMM system estimator in levels and confirm the validity of the instruments through Sargan and Arellano-Bond tests of serial correlations.

So, clearly the total bank credit depends on macroeconomic conditions, including monetary policy decisions. At the same time, bank lending is an essential transmission channel of monetary policy decisions, but it still depends on the performance and strategy of the different banking institutions.

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APPENDIX I

Remembering the model presented in section 4.1. of this paper, demand in the money market depends on real GDP and the interest rate on bonds, while supply depends on the interest rate on bonds and also on the interest rate established by monetary policy:

$$\underset{}{Dep^{d}} = \underset{}{a_0} + \underset{(+)}{a_1}\, GDP + \underset{(-)}{a_2}\; i_{bonds} \qquad [1]$$

$$\underset{}{Dep^{s}} = \underset{}{b_0} + \underset{(+)}{b_1}\, i_{bonds} + \underset{(-)}{b_2}\, i_{mon.pol.} \qquad [2]$$

Demand in the credit market depends on real GDP, the interest rate on lending and also on the interest rate on bonds.

Including another variable, which will capture the bank-specific performance indicator, the credit supply will depend on the deposits of the private sectors at banks, the combined influence of these deposits and the bank performance indicator on the interest rate on lending and the interest rate on bonds.

$$\text{Lend}^{d} = c_0 + c_1\,\text{GDP} + c_2\,i_{\text{lend}} + c_3\,i_{\text{bonds}} \qquad [3]$$
$$(+) \qquad (-) \qquad (+)$$

$$\text{Lend}^{s} = d_0 + d_1\,\text{Dep} + d_2\,\text{Dep}\,\text{Car}_x + d_3\,i_{\text{lend}} + d_4\,i_{\text{bonds}} \qquad [4]$$
$$(+) \qquad (?) \qquad (+) \qquad (-)$$

Clearing the money market - equations [1] and [2] - we obtain:

$$i_{\text{bonds}} = \frac{b_0 - a_0}{a_2 - b_1} - \frac{a_1}{a_2 - b_1}\text{GDP} + \frac{b_2}{a_2 - b_1}\,i_{\text{mon.pol}}$$

or

$$i_{\text{bonds}} = e_0 + e_1\,\text{GDP} + e_2\,i_{\text{mon.pol}} \qquad [5]$$
$$(?) \quad (+) \qquad (+)$$

and also

$$Dep^{d} = Dep^{s} = \frac{a_2 b_0 - a_0 b_1}{a_2 - b_1} - \frac{a_1 b_1}{a_2 - b_1}\text{GDP} + \frac{a_2 b_2}{a_2 - b_1}\,i_{\text{mon.pol}}$$

or

$$\text{D}ep = f_0 + f_1\,\text{GDP} + f_2\,i_{\text{mon.pol}} \qquad [6]$$
$$(?) \quad (+) \qquad (+)$$

Clearing the credit market - equations [3] and [4] - we first obtain the expression of the interest rate of lending:

$$i_{lend} = \frac{d_0 - c_0}{c_3 - d_3} + \frac{d_1}{c_3 - d_3} Dep + \frac{d_2}{c_3 - d_3} Dep\,Car_x - \frac{c_1}{c_3 - d_3} GDP + \frac{d_4 - c_4}{c_3 - d_3} i_{bond}$$

or

$$i_{lend} = \underset{(?)}{g_0} + \underset{(-)}{g_1} Dep + \underset{(+)?}{g_2} Dep\,Car_x + \underset{(+)}{g_3} GDP + \underset{(+)}{g_4} i_{bond} \qquad [7]$$

Using this expression, we then obtain for the credit market equilibrium:

$$Lend^d = Lend^s = \frac{c_3 d_0 - c_0 d_3}{c_3 - d_1} + \frac{c_3 d_1}{c_3 - d_1} Dep + \frac{c_3 d_2}{c_3 - d_1} Dep\,Car_x + \frac{c_1 d_3}{c_3 - d_1} GDP + \\ + \frac{c_3 d_4 - c_4 d_3}{c_3 - d_1} i_{bond}$$

or

$$Lend = \underset{(?)}{h_0} + \underset{(+)}{h_1} Dep + \underset{(-)?}{h_2} Dep\,Car_x + \underset{(+)}{h_3} GDP + \underset{(?)}{h_4} i_{bond} \qquad [8]$$

Remembering the definitions obtained for the interest rate on bonds and deposits - equations [5] and [6]

$$i_{bonds} = e_0 + e_1\ GDP + e_2\ i_{mon.pol} \qquad [5]$$

$$Dep = f_0 + f_1\ GDP + f_2\ i_{mon.pol} \qquad [6]$$

and introducing these expressions into equation [8], we may obtain the reduced form of the expression for lending, which is the basis of our estimations

$$L = \alpha_0 + \alpha_1 Car_x + \alpha_2 GDP + \alpha_3 i_{mon.pol} + \alpha_4 Car_x\ GDP + \alpha_5 Car_x i_{mon.pol}$$
$$(?)\quad (?)\qquad (?)\qquad (?)\qquad (-)?\qquad (+)?$$

where

$$\alpha_0 = h_0 + h_1\ f_0 + h_4\ e_0$$
$$(?)\qquad (-)(?)\qquad (?)\ (?)$$

$$\alpha_1 = h_2\ f_0$$
$$(-)(?)$$

$$\alpha_2 = h_0\ f_0 + h_3 + h_4\ e_1$$
$$(+)(+)\qquad (+)\qquad (?)\ (+)$$

$$\alpha_3 = h_1\ f_0 + h_4\ e_2$$
$$(+)(+)\qquad (?)\ (+)$$

$$\alpha_4 = h_2\ f_1$$
$$(-)?\ (+)$$

$$\alpha_5 = h_2\ f_2$$
$$(-)?\ (-)$$

MONETARISTIC THEORY OF INFLATION AND ITS IMPLICATION FOR THE MONETARY POLICY OF THE CENTRAL BANK – STARTING POINT, EXPERIENCE AND PERSPECTIVES

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Abstract

The problem of inflation is at the present time in the centre of attention in the Slovak Republic and also in other new member states of the European Union in connection with the necessity of fulfilment of the Maastricht criteria which is required for the country´s qualifying for the Eurozone. The theoretical approach of monetarism, which gained ground in the 70´s of the last century, represents a significant contribution to the study of reasons and mechanism of inflation expansion as well as to the necessity of an antiinflationary monetary policy implementation. The aim of this paper is to present Friedman´s monetaristic theory of inflation inclusive of implications for the monetary policy of the central bank, moreover to critically generalize the experience of implemented monetaristic reference of economic policy in practice. Finally, against this background, the paper also outlines the perspectives of the abovementioned theoretical doctrine.

Keywords*: monetarism, inflation, M. Friedman, transmission mechanism, monetaristic experiment*

1. Introduction

The problem of inflation is at the present time in the centre of attention in the Slovak Republic and also in other new member states of the European Union in connection with the necessity of fulfilment of the Maastricht criteria which is required for the country´s qualifying for the Eurozone. The theoretical approach of monetarism represents a significant contribution to the study of reasons and mechanism of inflation expansion, monetary dynamics, relations of money demand formation, velocity of money, effect of monetary factors on economic behavior of subjects, the necessity of an antiinflationary monetary policy implementation etc. The aim of this paper is to present Friedman´s monetaristic theory of inflation inclusive of implications for the monetary policy of the central bank, moreover to critically generalize the experience of implemented monetaristic reference of economic policy in practice. Finally, against this background, the paper also outlines the perspectives of the abovementioned theoretical doctrine.

2. Monetaristic theory of inflation

Monetarism originated as a reaction to a long period of desregarding money and money factors by macroeconomics[1] on the one hand, and overestimating of state intervention by Keynesian economists on the other hand. Keynes´ concept of state regulation of the economy was directed to achieve full employment, while inflation was in the background. It has a logical justification: J. M. Keynes elaborated his theory under the Great Depression, when the uppermost problem was the huge unemployment and not the rise in price (prices rather fall in this term)[2]. In a postwar period there was not paid any high attention to inflation, becasue the inflation was low. Money and credit (lending) policy played a secondary role – their task was to sustain interest rates on a level, which could promote (assist) to achive economic growth and to solve budgetary problems.

The world-wide rise in prices at the beginning of the 70´s of the last century stimulated economist´s interest in inflation. Exactly the issue of inflation represented a key point of a critical reinterpretation of the

[1] In literature we can find an argument, that J. M. Keynes had ignored the role of Money and money stock. We have to agree with the author of *Live thoughts of dead economists*, that such an accusation is not correct ([1], p.203). A great value that Keynes accredited to money is indirectly supported by proofs (verified) in his most important works such as – Tractate about Money Reform (1923), Discourse about Money (1930), General Theory of Employment, Interest Rates and Money (1936).

[2] Theory of J. M. Keynes is based on presumption of rigid prices.

Keynesian doctrine by the monetarists, which finally led to the revival of the reflecitons of the quantitative money theory of classic economics.
Theory of inflation and analysis of money demand represent important building stones of Friedman´s money thoery. It has also significantly effected the monetary policy of central banks as well as the stabilization policy in transitive economies.
In Friedman´s study of inflation we can distinguish 2 phases: in the first phase (until the end of 60´s of the last century) he analyzed the mechanism of inflation formation, in the second phase (beginning of the 70´s) he examined the relation between inflation and unemployment.

Friedman´s interpretation of inflation can be integrated into monetary conception of inflation.

M. Friedmen linked to the learning of quantitative money theory. In the work *The Counter-Revolution in Monetary Theory* he entitled the inflation „purely monetary phenomenon in terms of faster money stock growth in comparison with product growth“ ([3], p. 16). According to him inflation is a result of excess money in circulation.

M. Friedman analyzed the mechanism by means of which money affect prices. He postulated, that if the money market equillibrium was violated, general price level would be changed in consequence of an adjustment process.

Till the end of the 60´s of the last century Friedman´s monetaristic version of inflation developed as a theory of partial equillibrium in the money sector. Fluctation of money level was interpreted exclusively as a result of „jumps“ of money stock (money shocks) against the static money demand. Later on, in the 70´s M. Friedman expanded his theory of inflation with correlation of inflation and unemployment on the basis of critical analysis of the (keynesian) Phillips curve. The natural unemployment rate and the (adaptive) inflation expectation represent in his concept the pivot elements by examination of relative linkage between inflation process and situation on labour market.

M. Friedman does differentiate between short-term and long-term Phillips curve. According to him the original (initial) Phillips curve is valid only in a short-term period when inflationary expectations decline from the existing higher inflation rate and the adoptation occurs additionally. It represents temporal, transition state – divergence of actual unemployment from natural rate of unemployment evocated by economic policy and its

effect on inflation. In a long-term period the Phillips curve has a vertical line shape and is identical with the line on the level of the natural rate of unemployment, that has substantial consequence of the long-term economic policy.

The motive force of the examined features in Friedman´s monetaristic conception is the rise in money stock. M. Friedman is susceptible of the fact, that in a short-term period monetary impulses could have some impact on real variables (employment, production, investments), but this impact is only temporary. In a long-term period these parameters return to their initial level, so that means, that only a rise in price occurs. According to him, money are neutral in a long-term perspective.

Frieman´s conception of a vertical Phillips curve and the hypothesis of natural rate of unemployment offer new arguments against the Keynesian forms of economic policy. M. Friedman denied compromise – dilemmatic choice between inflation and unemployment – as illusion and refused the Neokeynesian recipes (formulary) that are supposed to ensure high economic growth by proportioning of inflation. In compliance with his analysis, the tendency to increase employment above the „iron" limit of natural rate of unemployment leads to intensive inflationary pressure, to inflation acceleration without any noticeable long-term effect on the labour market. Therefore he requests to put an end to the meaningless policy of aggregate demand stimulation and to the supporting of full employment.

Forasmuch as Friedman does consider inflation as a pure monetary phenomenon, he comes to the conclusion that we can fight inflation only by means of arrangements in the monetary sphere. The only way to heal inflation is to constrain the growth of money supply. At the same time he emphasises the fact, that it is not possible to avoid the umcomfortable incidential effects of inflation in form of slowdown of economic growth and higher unemployment[3].

3. Implication for monetary policy of central banks

Specialties of monetaristic approach to economic regulation in comparison with Keynesian approach could be summerized as follows. Whereas the goal of the Keynesian economic policy is full employment and high rate of economic growth, the monetarists prefer price stability. The

[3] In this connection is Friedman´s analogy between inflation and alcoholism very interesting and eloquent, which refers to inflation formation as well as to its treatment ([2], s. 266 - 267).

Keynesians emphasize the role of interest rate in macroregulation (it is assumed, that interest rate affects volume and dynamics of investments), on the other hand, Monetarists emphasise the role of money stock. Friedman considers its regulation as main instrument (tool) to compete against inflation[4].

The monetaristic transmission mechanism is based on monetary base regulation by the money aggregate (M1 or M2) as an intermediary target. The following diagram shows the monetaristic transmission mechanism:

Diagram 1: Monetaristic transmission mechanism

Tools		Operative criterium		Intermediary target		Final target
Operations on the free market, minimus reserves	→	Monetary base	→	Money stock	→	Inflation

The monetaristic transmission mechanism is able to operate ideal under fulfilling some conditions:

1. the central bank is able to fully control the monetary base (that means measure, monitor and change if necessary),
2. money multiplier represents a fixed (stationary) parameter or its changes can be anticipated (foreseen),
3. income velocity of money is a fixed (stationary) parameter.

Provided that the abovementioned conditions are fulfilled the central bank can effectively influence the money mass in circulation and control the aggregate demand. One question has to be answered yet, how big the annual growth of monetary base should be in order to ensure an optimal economic growth and at the same time to eliminate inflationary (or deflationary) pressure.

M. Friedman in this connection does not consider the flexible money and credit policy to be suitable for market economy stabilization. On the contrary, he considers it as a destabilizating factor. According to him the most suitable antiinflationary strategy is a non-activist monetary policy, because this could ensure stable growth rate of money mass, which would be

[4] The main paradox of monetarism as a monetary theory consists in the fact, that it is professed to principle of laissez-faire, but at the same time it considers money stock as an exogenous parameter, that should be determined by state power (central bank).

a stable rule (so called Money rule). In the case of the USA he recommended 3-5 % annual growth rate of the money mass.

According to R. Holman ([9], s. 670 – 672) the advantages of such a monetary policy consist in following facts:

- monetary policy of the central bank is neutral (no expansionary, no restrictive),
- it is isolated from political pressure and pressure of interest groups,
- inflationary expectations are stabilized and on a low level.

Expectation of stable prices in combination with elastic wages have to, according to M. Friedman, faciliate to take economically justified and effective decisions.

4. Experience of implemented monetaristic reference of economic policy in practice

Money mass targeting as an intermediary target was applied by almost every central bank[5], even though monetary targeting (rule of stable growth rate of money stock) was not carried out consistently. The central bank personnel did realize in the 80´s of the last century, that the central bank does not hold full control over the money mass growth (because of the fact, that commercial banks can decide to change reserve holding, and it occurs changes in money multiplier and money mass as well) and did not restrict management of monetary policy to only monetaristic recipes.

As reference standard of monetary targeting is considered the policy applied by the German Bundesbank, that succeed in combination of uninflated development and economic growth. The Bundesbank began to implement it 1975 after the decay of the Bretton Woods Monetary System. Until 1988 it targeted the regulation of the monetary base and later of M3[6]. Bundesbank stopped publicly proclaiming target values of M3 growth from 1999, because from that time the ECB was liable for monetary policy implementation.

The American FED began to apply the policy of monetary targeting in 1979. This policy is in literature called as „monetaristic experiment“. During

[5] Among economically developed countries e.g. USA, Canada, Japan, Great Britain, Germany, France, Italy etc.

[6] Bundesbanka did not monitor only the development of money aggregates, but also other parameters such as expected inflation rate ([5],s.525).

its exercitation it came to an increase in interest rate variability and to loss of stable money velocity. This policy was rejected in 1982. As reason of failure are considered financial innovation and market deregulation, which occured at the beginning of the 80´s of the last century and which led to an increase in money velocity. Thereby the stable linkage between money mass and GDP was violated and it began to change in an unpredictable way.

Practice showed (USA), that outwards logical and because of their simplicity attractive references of money mass regulation by means of monetary base are actually very difficult to carry out. Experts form the FED in St. Louis postulated, that the monetary base consists of 2 parts: the first part – monetary – is controllable, the second part – autonomous – is difficult to influence, practically it is beside of control.

We can present some reasons, why the central bank is not able to fully control all the items in its balance:

- credit volume extended to commercial banks depends on their demand and readiness to drawdown,
- turnover of net foreign assets depend on the applied exchange rate system. In a system of fixed exchange rate, when the central bank has to intervene according to the development of balance of payments, the turnover of net foreign assets is determined by the current and capital balance of the country,
- net credit development fully depend on the development in the management of the state budget, which the central bank can not influence ([15], s. 453).

1. The monetaristic assumption of stable money multiplier has not approved. The money multiplier tends to behave pro-cyclic during the economic cycle – during recession does the demand for cash (money) rise. A subsequent increase in the amount of money in circulation and reserves evokes a fall in value of the money multiplier.
2. Money velocity has become very unstable. Therefore the FED switched from M1 to M2. When in 1992 also money velocity of M2 began to deviate from its historical trend, the FED stopped using M2 as key-indicator of the monetary policy ([16], s. 655).

As we can see the practice of monetary policy did not confirm the stability of links between monetary aggregates and inflation. Some not fulfilled premises of monetaristic transmission mechanism in the 80´s of the

last century with regard of the income velocity of money and money multipliers led central banks to create new schemes of management of monetary policy. Especially small economies prefer the implication of fixed exchange rate regime – they have fixed the exchange rate against a stable single currency (or against a currency basket). Because of the increasing globalization of financial markets and capital mobility it become more and more difficult to sustain fixed exchange rates. Central banks were with time forced to switch to the regime of managed float. Standard type of monetary policy did gradually loose its nominal bonding.

This was the case also in the SR, that from its formation in 1993 has applied some of the monetary policy regimes. At first the Slovak National Bank operated a „monetaristic" transmission mechanism, which it inherited from the State Bank of the Czechoslovakian Federation: growth of M2 was monitored as a monetary intermediary target by the means of its effect on the monetary base. At the same time the National Bank tried to fix the exchange rate through foreign exchange intervention (from autumn 1996 with a fluctuation band of +/- 5%, from the beginning 1997 with an expanded fluctuation band of +/- 7%). From 1st October 1998 it came to an expressive (striking) turnover (change) in currency area, because the National Bank was constrained to replace the regime it used until that time with the regime of managed float.

In the 90´s of last century central banks of many countries announced a switch to a new strategy of monetary policy – inflation targeting. It is necessary to remark, that the monetary policy target was not concerned – price stability have got left -, but the strategy of its achieving has changed. Under inflation targeting it came to an orientation on those macroeconomic parameters, which, as assumed, could significantly determine the price stability (first of all money aggregates and exchange rate).

Diagram 2: Scheme of transmission mechanism with inflation targeting

Operative criterium	Intermediary target	Final target
Short-term nominal interest rates	→	Inflation

System of inflation targeting was implemented from 2000 also by the Slovak National Bank, even though it was not officially scheduled in the monetary program. But it was indicated by the transition from quantitative management of liquidity to the qualitative management on the basis of own key interest rates and shifting money aggregates from the position of an

intermediary target into the position of (only) indicators of monetary development[7].

5. Assessment and perspectives of monetarism

Monetarism enjoyed the most popularity in the 70´s and 80´s of the last century. Monetarists uncovered some new relaitons in economics – dependability of GDP from money mass, inflationary expectations, dependability of inflation from the level of money supply. Waiver of fiscalism had relatively good results (thatcherism, reaganomics). The suggested methods by Friedman to fight inflation were accepted practically in the whole world.

Monetarism was relatively successful in many countries of the world, although we can hardly talk about its absolute dominance in any country. It has merit in overcharging of depression, structural changes in developing countries (especially in Latin America), monetary sanitation of Israel, modernization of countries in Southeast Asia. The monetaristic doctrine adopted also some international organizations such as the International Monetary Fund, the World Bank, OECD, the European Bank for Reconstruction and Development etc. Monetaristic postulates became a keystone of the recommendation that financial institutions gave to countries, which apply for help by forming their economy policy (inclusive of countries in Middle-East Europe).

Within the frame of monetaristic streams we can differentiate some schools – Friedman´s monetarism, theory of rational expectations (monetarism II), global monetarism, reagonomics, thatcherism, school of polish „ shock therapy“ etc. Among the economists, who really supported practical implementation of monetaristic theory by economy policy formation, we can mention M. Freidman, K. Brunner, A. H. Meltzer, A. J. Schwartz, J. Jordan, H. G. Johnson (USA), L. Balcerowicz (Poland), J. Gajdara (Russia), V. Klaus (Czech Republic) and others.

Mainly under pressure and force of top financial institutions (IMF, World Bank), the monetaristic restriction and stabilization policy has became a basis and resource point of the transformation policy in transitive

[7] The National Bank of Slovakia has defined the inflation targeting for the first time in the Monetary program until 2008, which was approved 21. december 2004 by the Bank Board. The framework of the monetary policy was clearly defined in a medium-term look-out in the form of binding target. Hereby the NBS has also defined the administration of the monetary policy as inflation targeting under the conditions of ERM II ([14], s.2).

economies first of all inthe last decade of last century in the countries of Middle and East Europe[8]. However, the attained results fall behind the expectations, which is reflected also by the fact, that the scissors (lag) between the anticipated and real economic overfall are (is) surprisingly big.

In this connection series of questions arise, for example: Were the conditions in these countries sufficient for the implementation of monetarism? Was it really an implementation of an academic monetaristic doctrine? etc.

Even if we leave the controversial questions of monetaristic theory (e.g. stability of money demand function, definition of money stock, basically refusal of the impact of interest rates on money demand, reduction of reasons of inflation only on an excess amount of money in circulation, supposed stability of an income velocity of money and money multiplier, overestimating of the central banks ability to control monetary base etc), we have to state, that the practical results of this policy are much behind the anticipated results. Where to look for reasons?

We believe, that in the Slovak republic (and other countries of Middle and East Europe), where it came to the implementation of the monetaritic shocking therapy, because it was recommended by the IMF, the conditions were not entirely adequate. In transitive economies existed non-standard environment: no established infrastructure, no real market subjects, the reactions of existing subjects on economic and political steps was difficult to anticipate, persisting of monopoly position, no free pricing (as a result of the impact of monopoly and price regulation by the state).

A huge decrease in production and increase in unemployment led to an expressive decrease in real incomes of population, which considerable lowerd (weakend) Friedman´s basic theoretical presumption about stable money demand[9], which has a key importance by determining other macroeconomic parameters.

Substance of monetarism consists in interpretation of factors, which determine the money demand. In spirit of the monetaristic conception the main roads of macroeconomic stabilization do not consist only in limitation

[8] As Z. Komínková states, these institutions remain „industrial manufacturers“ of orthodox transformation policy, in which there is no much operating room for „national economic and political solutions“ ([12], s. 672).

[9] Let me remind you, that M. Friedman understands income as an important determinant of money demand.

of money supply, but mainly in way finding of market stabilization of money supply. This calls for ensuring e.g. free option between the various forms of wealth – this is contingent on a functioning and developed capital market -, competitive environment (for bigger price and wage elasticity) etc.

It is also necessary to remark, that the implemented economic policy in the SR in the 90´s of the last century was not pure monetaristic – this suggests strict maintanence of money rule and no intervention into the economy by the government (it allows only monetary regulation)[10], the expansionary fiscal policy of government was Keynesian and at the same time it was combined with price regulation (e.g. energy, water, partly wages). The in the economic policy applied pragmatism represented rather an eclectic mixture of monetarism, keynesianism and residual elements of socialistic management.

6. Conclusion

Even though there are various opinions concerning monetarism, we can state, that the monetaristic theory presented without dispute a gain for economic theory by emphasizing the importance of money and necessity of anticyclic monetary policy implementation. Hereby it is also necessary to mention, that at present time monetarism is not any more the most popular theory in the world[11]. In economic literature were identified 2 basic reasons of failure of monetaristic experiment: (1) loss of stability of the money demand function (because of the changed conditions of global financial markets, large capital flows and structural changes in economy), and (2) decreasing reliability of money aggregates.

In developed market economies as well as in transitive economies it was to observe in the 90´s of the last century the gradual regression from monetarism[12]. This was first of all caused by general retraction of the western economic thoughts from the monetaristic-supply paradigm of the 80´s and in transitive economies also by disappointment of the results of transformation.

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[10] According to O. Sobek, the NBS implemented form 1993 a moderate monetaristic policy. That means, that it focused exclusively on inflation fighting and maintening of stable exchange rate and did not want to actively influence the economic development, as is it in case of Keynesian economic policy ([17], s. 174).

[11] It was the most popular theory at the end of 70´s and beginning of 80´s of 20th century.

[12] In monetary policy it was for example expressed by the fakt, that central banks acceded to inflation targeting as to a new monetary policy strategy instead od managing money supply through money aggregates (e.g. in the Czech Republic in 1998).

Even though we have to admit, that M. Friedman as an architect of monetarism fixed the professional and laic public´s attention to the importance of inflation and he also contributed to the further development of economic (particularly money) theory – also due to the fact, that many of his theses were subject of critical polemics among economists.

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ADOPTION OF THE EURO AND INFLATION IN THE CZECH REPUBLIC

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Abstract

The admission of the Czech Republic into the European Union means that the Czech Republic has been obliged to make an effort for the admission into the European Monetary Union and so for the adoption of single currency. Adoption of euro is for the Czech Republic the next irreversible step in the process of European integration. Inflation is very often adverted as a cost of single currency's adoption. This paper discusses the problem of inflation in the EMU's countries after the adoption of euro and makes an attempt to clarify the next trends in prices in the Czech Republic.

Keywords: *euro; inflation; European Monetary Union; Czech Republic*

1. Introduction

The admission of the Czech Republic (CR) into the European Union (EU) means that CR has been obliged to make an effort for the admission into the Eurosystem and so for the adoption of the single currency.

The Czech National Bank (CNB), as a central bank of CR, has been the part of the European System of Central Banks (ESCB) since the admission of CR into EU, but it still conducts its independent monetary policy. The admission into the Eurosystem will be mean that CR will reliquish its monetary sovereignty and CNB will be only participate on the single monetary policy.

The European Central Bank (ECB), as the core of ESCB is responsible for the monetary policy in the euro area.

The ECB´s primary objective is the same like the objective of CNB (in 2005) – the maintaining of price stability. Price stability is defined by ECB as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below but close to 2 % over the medium term. This objective is defined for the euro area as a whole, not for every country. So, this definition allows the differencies between countries in the euro area. In this sence, price stability in the euro area need not to mean price stability in single countries.

This paper does not discuss price stability in all countries in the euro area, but it focuses on inflation as a problem which has been discussed as a cost of the single currency´s adoption. The next goal of this paper is to make an attempt to clarify the next trends in prices in CR after the adoption of the euro.

First chapter is a short summary of CR´s integration. The second one discusses the potential reasons of inflation differentials among euro area countries and inflation development in some countries.The last chapter makes an attempt to clarify the next trends in price development in CR after the admission into the Eurosystem.

2. The Czech Republic´s Integration into the Euro Area

Integration of CR into EU officialy started in 1995, when the Europe Agreement came into force. One year later CR asked for EU membership and in May 2004 it has become the member of EU.

The membership of CR in EU can be divided into three stages: 1) the EU membership and starting of convergence criteria fulfilment, 2) participation in the ERM II exchange rate mechanism and 3) the Eurosystem membership and adoption of the single currency euro.

Theoretically, the year 2007 could be the first year of the euro adoption in CR. Practically, it will be later, because the joint document of the Czech Government and CNB[1] recommends the Eurosystem membership as soon as economic conditions allow for doing so. It depends on the speed of real and nominal convergence process.

Especially, on the basis of document called "Assessment of the Fulfilment of the Maastricht Convergence Criteria and the Degree of Alignment of the Czech Economy with the Euro Area[2]", where the government budget deficit was identified as the main problem, the The Government and CNB in September 2005 agreed accession of CR into EMU in 2010[3].

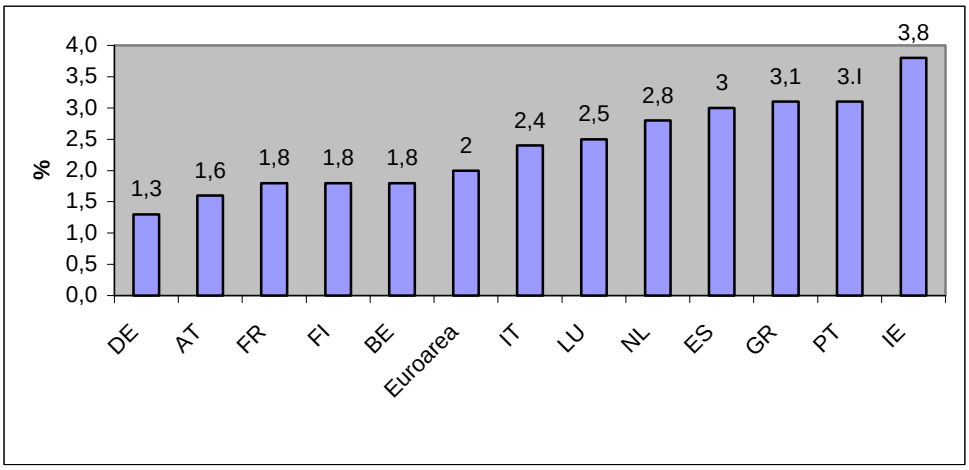
3. Inflation and Potential Causes of its Differentials

This ECB´s primary objective is defined for the euro area as a whole, not for single countries. So, this definition allows the differencies between countries in the euro area.

Next figure shows the different average annual inflation rates in the euro area.

[1] The Czech Republic´s Euro-area Accession Strategy, 2003.
[2] Annual document prepared by the Ministry of Finance, the Ministry of Industry and Trade and CNB.
[3] http://www.mfcr.cz

Figure 1 Average annual inflation rates in the euro area since the start of EMU



Source: HOFMANN. B..REMSPERGER. H.(2005)

As we can see, inflation in single countries differs. The lowest one has been in Germany (1.3 %) and the highest one in Ireland (3.8 %). Both values are quite far from the ECB´s goal (2 %).

The potential causes of inflation differentials in the euro area can be divided into two groups[4]: 1) price level convergence and 2) persistent effects of temporary shocks.

In the first case, inflation differentials may be a structural phenomenon arising from convergence of price levels. It may occur due to convergence of tradable goods prices as a result of increased trade integration, as well as because of convergence of non-tradable goods prices in the wake of real income convergence.

Countries differ in consumption pattern and economic structure. That is the reason why temporary shocks may impact differently on all countries. Persistent inflation differentials may also be caused by temporary supply and demand shocks. Asymmetric shocks (e.g. a change in indirect taxes or in fiscal stance) may give rise to persistent inflation differentials if there is a significant degree of persistence in inflation. But also temporary shocks which hit all member countries alike (e.g. changes in the euro change rate) may occur inflation differentials across countries.

We can see (Table 1) that Ireland, as a faster-growing country, was a country with high inflation rate during the period 2000 – 2003. The highest

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inflation rate in Ireland was in 2000 (5.3 %), one year after the single currency euro came into existence. It was about 3.2% points more than in previous year and more than 3% points than was inflation rate in period 1996 – 1999 (exclude inflation rate in 1997, inflation rate in that period was close to 2 %) . The same situation was evident in other countries (in Germany too).

Table 1 Annual HICP´s rates of Change

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Euro Area	2.2*	1.6*	1.1*	1.1	2.1	2.3	2.3	2.1	2.1
BE	1.8	1.5	0.9	1.0	2.7	2.4	1.6	1.5	1.9
CZ						4.5	1.4	-0.1	2.6
DK	2.1	1.9	1.3	1.3	2.7	2.3	2.4	2.0	0.9
DE	1.2	1.5	0.6	0.6	1.4	1.9	1.3	1.0	1.8
EE						5.6	3.6	1.4	3.0
GR	7.9	5.4	4.5	4.5	2.9	3.7	3.9	3.4	3.0
ES	3.6	1.9	1.8	1.7	3.5	2.8	3.6	3.1	3.1
FR	2.1	1.3	0.7	0.6	1.8	1.8	1.9	2.2	2.3
IE	2.2	1.2	2.1	2.2	5.3	4.0	4.7	4.0	2.3
IT	4.0	1.9	2.0	1.9	2.8	2.3	2.6	2.8	2.3
CY						2.0	2.8	4.0	1.9
LV						2.5	2.0	2.9	6.2
LT						1.3	0.4	-1.1	1.1
LU	1.2	1.4	1.0	0.7	3.8	2.4	2.1	2.5	3.2
HU						9.11	5.2	4.7	6.8
MT							2.6	1.9	2.7
NL	1.4	1.9	1.8	1.8	2.3	5.1	3.9	2.2	1.4
AT	1.8	1.2	0.8	0.7	2.0	2.3	1.7	1.3	2.0
PL						5.3	1.9	0.7	3.6
PT	2.9	1.9	2.2	2.3	2.8	4.4	3.7	3.3	2.5
SI						8.6	7.5	5.7	3.6
SK						7.0	3.5	6.5	7.4
FI	1.1	1.2	1.4	1.2	3.0	2.7	2.0	1.3	0.1
SE	0.8	1.8	1.0	0.8		2.7	2.0	2.3	1.0
UK	2.5	1.8	1.5	1.5		1.2	1.3	1.4	1.3

*without Greece

Source: Eurostat

But we would like to focus on inflation after the cash euro was launched. At the end of 2001 there were only 3 countries, where inflation rate was higher than in previous year (Germany from 1.4 up to 1.9 %, Portugal 2.8 up to 4.4 % and the highest change of inflation rate was in Netherland - from 2,3 up to 5.1 %). But these changes were only temporary, because in

2002 the inflation rates in these countries were lower again (in Germany lower than in 2000).

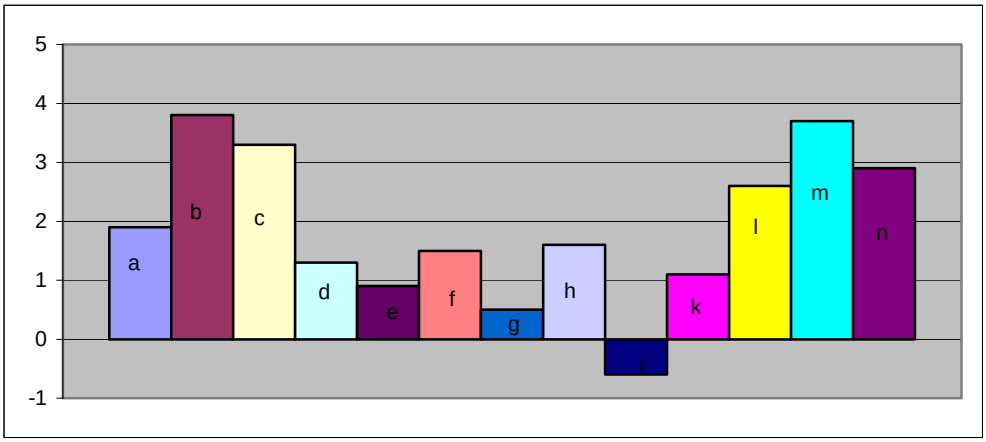
In all other countries, the inflation rates in 2001 were lower than in previous year. On the base of this table, it seems the introduction of the euro had not any significant impact on inflation rates.

But this is the same situation as the average inflation rate in the euro area (2.1 % in 2004) and inflation rates in the single countries, where the highest inflation rate is in Luxemburg (3.2 %) in contrast to the lowest one in Finland (0.1 %). We can not say about inflation rates in these countries, that they are below (not in Finland) and close 2 % like the ECB´s objective is.

Now, we can explain the term „teuro“ used in Germany. As we can see, the inflation rate in Germany was below 2 %. In some period, the inflation rate in Germany was really close to 0 % (this level of inflation rate is quite dangerous for economy, which is in recession[5]).

„Teuro“ and low inflation in Germany seem they are not compactible. Next table discusses an annual rates of change of main categories of HICP in Germany. There we can see, that after the euro was launched, especially the prices of food and hotels and restaurant were gong up. There is the main reason, why German people apprehend the euro currency as „teuro“. Generally, we can confirm, that situation in all other countries was similar.

Figure 2 Main Categories of HICP in Germany – Annual Rates of Change 3/2002 (%)



a HICP (all-items index)
b food and non-alcoholic beverages

[5] In this paper, we do not discuss any other economic indicators.

c	alcoholic beverages and tobacco
d	clothing and footwear
e	housing, water, electricity, gas and other fuels
f	furnishings, household equipment and routine maintenance of the house
g	healt
h	transport
j	communications
k	recreation and culture
l	education
m	restaurants and hotels
n	miscellaneous goods and services

Source: Eurostat

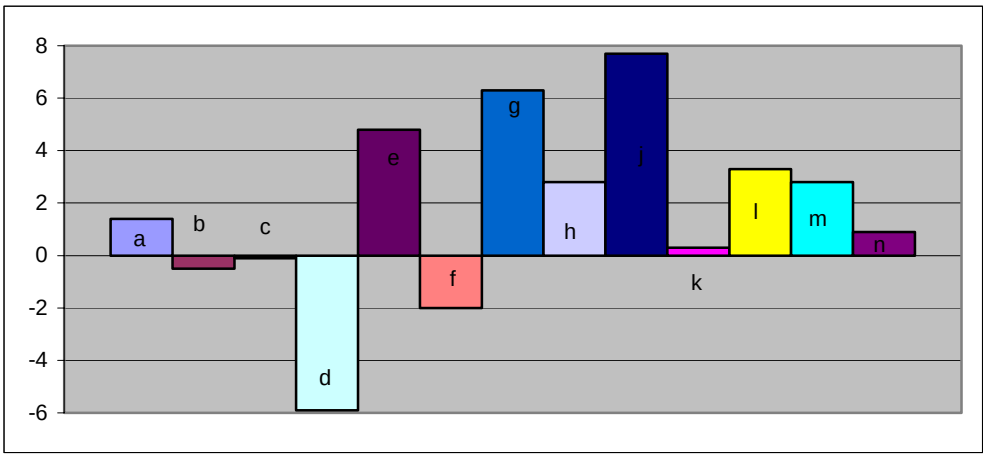
4. Inflation and the Euro Currency in the Czech Republic

As we said above, CR will not accept the euro currency in 2007, when is the first possible term of the euro adoption for new EU member countries. The first term of the euro adoption for CR (according to the Government and CNB´s Agreement in September 2005) will be in 2010. Of course, the real term will be able to come later. It depends on many factors for example on the results of next Parliament election. Because the present-day Government is left-wing and opposite right-wing is quite eurosceptic. There is no chance to not accept the euro, but if the right-wing wins the election, the CR´s membership in the Eurosystem will may be later than in 2010.

During last years, the inflation rate in CR has been quite low in compare with other new EU member countries and with the former EU member countries too (Table 1).

In 2004, when CR became the EU member, the inflation rate was higher than in previous years (2.6 % - it was about 2.7% points more than in 2003). Next figure shows the main significant changes.

Figure 3 Main Categories of HICP in CR – Annual Rates of Change 8/2005 (%)



a HICP (all-items index)
b food and non-alcoholic beverages
c alcoholic beverages and tobacco
d clothing and footwear
e housing, water, electricity, gas and other fuels
f furnishings, household equipment and routine maintenance of the house
g healt
h transport
j communications
k recreation and culture
l education
m restaurants and hotels
n miscellaneous goods and services

Source: Eurostat

As we can see, the structure of changes in compare with Germany is quite different. In case of CR we can confirm diverse development of the single categories. For example, the biggest differential of changes is between "communications" and "clothing and footwear" (13.6 % points). The result of this view is that there are some categories in CR those have been going up (this fact is understandable – e.g. price deregulation). An of course, it can be expected the growth of the others, because at least price level in CR is at (approximately) one half price level in EMU. So, there is necessary (as we said above) nominal convergence process, as well as the real one.

We can expect inflation pressures. Nowadays, the monetary policy in CR is conducted by CNB and CNB has got other tools to eliminate inflation

pressures. As well the conservative government expenditures (because of fiscal Maastricht criteria) should be expected too.

The timing of CR´s joining to the Eurosystem is quite important. It is necessary to be prepared to adopt the euro at the moment when CR´s economy will be restored to health and real and nominal convergence will be adequate. These assumptions should eliminate the growth of prices.

On the other side – after the adoption of the euro, the monetary policy in CR will be conducted by the ECB. Because the ECB´s objective (inflation 2 %) is quite criticised – it is low for countries, those are characterized by deflation and recession, it can be expected the change of the present HICP´s level. On the base of this, the inflation rate in CR could be higher.

5. Conclusion

The combination of monetary and fiscal policy is quite important for next CR´s development. Nowadays, CR can use the possibility to form its own monetary policy and so it can eliminate inflation pressures.

It is necessary to fulfill all Maastricht criteria, but especially to restore to health the public finance. The timing of the adoption of the euro should be time really quite responsibly and so CR should adopt the euro really at the moment when CR will be prepared.

The price growth can be expected before the adoption of the euro as well as after that. The price and real level of convergence will be quite important for next price development after adoption of the euro.

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THE INDEPENDENCE OF CENTRAL BANK

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Abstract

The independence of a central bank from the government contributes to its credibility and allows it to focus on price stability. Recent research studies demonstrate that there is a correlation between the degree of independence of a central bank and the inflation rate: contries whose central bank have enjoyed a high degree of independence from the political factor have managed to keep the inflation rate under control. Our paper raises the questions of how to ensure the independence of a central bank and how to measure the independence of a central bank. The study also makes reference to the current situation of the Central Bank of Romania in the context of our preoccupation with the EU integration.

Keywords: *the credibility of central bank, the correlation between the independence of central bank and economic variables, the measurement of the independence of central bank*

1. Introduction

Central banks involved in the combating inflation are in need of credibility, which can be earned through their independence. The farther a central bank is free from political influence, the more independent and credible it becomes, being thus able to focus on the maintenance of price stability.

The central bank's authority and scope of action depends on government. But governments often pass laws and follow customs that grant their central bank authority and autonomy to pursue price stability, even when it conflicts with other government objectives. Making the central bank an agency with the mandate and reputation for maintaining price stability benefits the economy and the government itself in various ways. Central bank independence is one of the means by which a government can choose the strength of its commitment to price stability.

A single, clearly defined price stability objective is very important and desirables for central bank's monetary policy to be independent. Multiple objectives are likely to be conflicting objectives. Multiple or unclear objectives are not likely to be consistent with the desire to promote the credibility of monetary policy because this credibility arises from the fact that the policymakers have a propensity to shift between different objectives. When central banks are granted more independence to achieve their objective, they must be subject to strong accountability and monitoring mechanism. In order for the central banks to be monitored and judged, their objectives and policies must be clearly stated and their actions must be transparent to the public.

The central bank's independence from the government has been a controversial issue in the last years. One of the preconditions for joining EMU is, according to the Maastricht Treaty, a sufficiently high level of independence of central bank. This formal precondition have induced the Central and Eastern European countries on the track to join the monetary union to grand more independence to their central banks.

2. The independence of central bank: A current issue

2.1. Definitions of the central bank independence

The independence of a central bank has several senses. Some of them are presented bellow[6]:

A basic distinction has been made between "political" and "economic" independence by Grilli (1991). On the one hand, political independence is defined as the ability of the central bank to determinate its policy objectives free from the government's influence. Economic independence, on the other hand, represents the ability of the central bank to determine and implement its policies towards the achievement of its objectives.

According to Issing (1993), there are also personal elements of independence. Criteria in measuring the personal independence are likely to incorporate the appointment of the members of the central bank's governing body, the duration of their respective contracts, the possibility of dismissing the central bank's governor and other members of the governing body. It seems difficult to determine personal independence.

Baka (1994-1995) states that the central bank independence is analysed taking into account three aspects: 1) institutional independence, which is primarily defined in terms of the bank' s position within the system of governmental institutions and procedures applied in appointing and recalling the bank's authorities; 2) functional independence expressed in the powers and capacity of the bank as regards determining and applying monetary policy and in its autonomy in taking decisions on the performance of the other functions specified in its statute; 3) financial independence, i.e. a permanent definition of the procedures for accumulating and distributing the bank's resources that exclude any possibility of financial pressure being exerted.

Fraser[7] considers that the independence of central bank means to give to central bank a charter that includes a strong commitment to price stability and the freedom to pursue it.

Thus, many theoreticians and practitioners are concerned with the independence of central banks and, as a result, there are more definitions of

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[6] Gokbudak N., *Central bank independence, the Bundesbank experience and the central bank of the Republic of Turkey"*, Discussion Paper No.9610, March 1996, pp.5-8

[7] Fraser B. W., "Central bank independence: what does it mean?", Reserve Bank of Australia Bulletin, December 1994, p.3

this concept, each of them focusing on certain aspects of this important matter.

2.2. Arguments for and against the independence of central bank

Central bank independence obstructs the influence of politician on the authority in charge of the elaboration and implementation of monetary policy. Practical experience has demonstrated that in many cases the political power has given up the long-term objective of price stability in favour of their electoral interests. In order to impress the public and therefore win the elections political power attempts to obtain short-term economic growth through an expansionist monetary policy that generated inflation[8]. It follows that a government has more reasons to 'trick' with the aim of stimulating the economy before the elections or reduce real public deficit (financing through monetary issuance of the budgetary deficit). A central bank that is independent from the government does not take such political considerations into account, being rather interested in securing price stability.

So, there are two particular threats which bear upon the issue of central bank independence[9]:

- the tendency for policy makers and politicians to push the economy to run faster and further than its capacity limits allow;
- the temptation that governments have to incur budget deficit and fund this by borrowings from the central bank.

To avoid such situations central banks need to be independent. Central banks are more concerned about price stability than the political authorities. Because the actual policy is normally the outcome of a compromise between the central bank and the executive branch, a more independent central bank will have a stronger impact on actual policy and, therefore, average inflation will be lower.

Besides the arguments in favour of central bank independence there are severe criticisms against this solution:

- independence can be only "apparent", with a strong political dependence hidden behind it, i.e. the political power exerts real but discreet influence on the central bank;

[8] Brociner A., Monetary Europe, Ed. Institutul European, Iaşi, 1999, p. 57

[9] Fraser B. W., "Central bank independence: what does it mean?", Reserve Bank of Australia Bulletin, December 1994, p.2

- central bank independence involves a bureaucratic administration of monetary supply, carried out by the banks management and personnel; this is not necessarily better than political administration;
- central bank independence can affect the coherence of economic policy which includes monetary policy in the sense that the objectives of monetary policy can clash with those of the other components of economic policy.

2. 3. The credibility of central bank

Credibility is helpful to central bank in implementing monetary policy and a pre-condition for this is that the central bank be perceived to be independent and free from political interference. It is well known that at present the main objective of most central banks is the assurance of price stability. Since the 1980s the efforts to fight inflation have been oriented in these two complementary directions:

- adoption of monetary rules (e.g. Friedman's famous "golden rule");
- assurance of central bank independence.

What connects these orientations is the necessity for the central bank to be credible in its fight against inflation. A central bank enjoys credibility when the rate of inflation corresponding to its monetary policy is used by individuals as a starting point in their expectations. The credibility of a central bank reflects its capacity to announce a certain monetary policy and consequently a certain inflation rate, which is taken for granted by individuals and which, for this reason, serves as a point of reference in their estimations. To outplay the expectations of the public the central bank applies two methods[10]:

- influences the process of understanding by the public of the decisions regarding monetary policy

If the central bank opts for ambiguous information, the public will have difficulty in understanding the coordinates of the recommended policy. This possibility is appropriate for a central bank whose main concern is economic stimulation rather than price stability through the creation of monetary surprises. Instead, if the primary objective is price stability, then it is not recommended to withhold information, as the central bank is interested in the rapid gain of its credibility. During the time the central bank is preoccupied with the reduction of inflation, there should be a rigorous control over the monetary mass and a rapid process of social understanding.

[10] Cerna S., Central bank: credibility and independence, Ed. Sedona, Timişoara, 2002, pag.27-38,

- provides partial disclosures

Provision of partial information is usual practice among central banks in many developed countries, such as the United States, England, France, Germany, Canada, Switzerland, Australia, etc. This practice consists in the elaboration by the central bank of certain procedures that are intended to allow it to disclose only incomplete information regarding its monetary policy.

Although, as a rule, the information on the monetary policy of central banks is rather vague, the degree of imprecision differs from one country to another. A central bank that aims at stimulating the economy will provide imprecise information on its monetary policy, while a central bank that is interested in achieving price stability will provide accurate information.

Central bank credibility increases as the ambiguity of the announcements decreases. As a result, complete transparency of a monetary policy can increase the ability of the monetary authority to meet its objectives. But the risk of opaque practices depends on the influence that the political power has on the central bank. Hence the solution is to ensure central bank independence.

Central bank independence will confer credibility to it. This credibility is dependent on whether the central bank was committed to its promises in the past. If its reputation is poor, monetary policy will incur considerable costs, which will be covered by the entire society and not by the central bank. No matter what monetary policy the central bank implements, reduced credibility will translate into an inflationist factor and the society will bear the consequences. It follows that central bank credibility is of utmost importance, as one of the factors that sustain fight against inflation.

2.4. Correlations between central bank independence and economic variables

2.4.1. Relationship between central bank independence and inflation

Many recent studies (e.g. Alesina, 1988; Bade and Parker, 1987) have shown that there is a significant correlation between the degree of central bank independence and the inflation rate. For example, Germany and Switzerland, whose central banks enjoy extensive independence, had an inflation rate of approximately 3.5% between 1974 and 1990, while Italy, whose central bank is under governmental control, posted an annual inflation rate of about 12.4% during the same period. These studies lead to the conclusion that economic performance is better (at least in terms of price

stability) in countries where the central bank is granted independence from political and governmental pressure.

Nevertheless, there exist some exceptions, such as Japan, which has one of the lowest rates of inflation and which cooperates closely with the Ministry of Finance. In addition, the Ministry of Finance controls the minimum compulsory reserves of the banks and is entitled to alter the regulations and order the resolution of political problems by the central bank. All the seven members of the Council for monetary policy of the Bank of Japan are appointed by the government. The Bank of Japan is nor allowed to buy long-term government bonds on the market, but it can grant short-term advance money to the government[11].

The conclusion is that the legal independence of the central bank is neither a necessary nor a sufficient condition for low inflation, although, other things being equal, less legal independence contributes to higher inflation. This is because monetary policies, on their own, can not guarantee to deliver lower inflation without other politicians' support.

Empirical research has indicated that the hypothesis of a strong connection between the degree of central bank independence and inflation rate is not fully confirmed. The relation exists, no doubt, but other elements have to be taken into account, such as[12]:

- attitude of the public towards inflation (in situations with the same degree of independence, inflation is lower in those countries where the public is adverse to inflation);
- ideological orientation of government (in situations with the same degree of independence, inflation is higher where governments are oriented towards centralisation and lower where governments have a liberal orientation.)

Since in situations with a similar degree of central bank independence the decisive factor seems to be the ideology of the governing party, it follows that between the political power and the central bank there exist certain means of communication beyond the official relations.

2.4.2. Relationship between central bank independence and economic growth

Empirical studies have demonstrated the existence of a close relationship between the degree of central bank independence and inflation, but the conclusions were not very convincing regarding the relationship

[11] Rose P., Money and capital markets,. McGraw – Hill, Boston, 2000, pp. 509-510
[12] Cerna S., Central bank: credibility and independence, Ed. Sedona, Timişoara, 2002, p. 54

between central bank independence and economic growth. This can be inferred if we consider the countries whose central banks have a high level of independence but which have not necessarily had good economic results.

For example, in the 1980s, Italy and Spain, whose central banks have a reduced level of independence, registered the same average annual growth as Germany and the United States, where central banks enjoy a high degree of independence. In this case, an explanation could be that the level of development reached by Germany and the US is high enough for a slow pace to represent an acceptable level of economic growth in absolute terms[13].

Independent central banks are more likely to achieve lower growth because politicians have less opportunity to manipulate interest rates for short-term political gain. However, low inflation is good for long-term growth.

2.4.3. Relationship between central bank independence and budgetary deficit

The third type of relationship that has been demonstrated empirically refers to the connection between central bank independence and budgetary deficit. It goes without saying that an independent central bank is able to resist the government's attempts to monetise budgetary deficits by imposing real austerity in most of the cases.

Data indicate that countries like Switzerland and Germany, where central banks are truly independent, have the lowest budgetary deficits. Other countries like Norway, Denmark, England, and France, where central banks have a lower degree of independence than the Federal Reserve System of the US, have incurred lower budgetary deficits than the US.

The various conditions in each country lead to different results even if the central banks are granted the same level of independence. This is the case of Norway, Sweden and Belgium, countries with comparable central bank independence, which incurred budgetary deficits of 2%, 3% and, respectively, 8% of GDP in the 1980s.

[13] Brociner A., Monetary Europe, Ed. Institutul European, Iaşi, 1999., p.59

3. Achievement of central bank independence

Central bank independence raises another question: How can it be achieved? Among the measures that can increase it we mention the following:

- central bank can enjoy independence from the government in outlining its monetary policy;
- central bank's governor is not to be appointed by the government and his term in office will be long and irrevocable;
- price stability will be stipulated in the statute of the central bank as a primary objective and possibly as the single objective;
- central bank will not accept automatic financing of budgetary deficit through monetary issuance.

All these measures lead to the conclusion that the more a central bank avoids political interference, the more independent it becomes. For example, if the mandate of the central bank's governor is longer than the government's mandate, the central bank can concentrate on long-term objectives. Conversely, if the governor is constrained by the governing political party, the monetary policy will be influenced by governmental directives and thus it will lose sight of the long-term objectives connected with price stability. If the central bank has set a single objective, namely price stability, then there will be no dilemma as to which of the contradictory objectives to opt for.

4. Measurement of central bank independence

Central bank independence from governments varies from country to country and from one period to another. Measurement of central bank independence is difficult to carry out, as it depends on a series of qualitative factors. Most of the researchers in the field (K Banaian, L. Laney and T. Willet, V. Grilli, D. Masciandaro and G. Tabellini, A. Cukierman, etc.) resort to procedures based on diverse criteria that define legal independence[14]. These procedures have two shortcomings:

- organisational and functioning laws of central banks in various countries are rather vague and thus the legal aspects quantified through these procedures are relative;

[14] Cerna S., The independence of central bank, Ed. Mirton, Timişoara, 1999, p.17

- the law regarding central bank's organisation and functioning is as significant as the manner in which it is applied and respected.

In 1992, Cukierman, Webb and Neyapty[15] conceived one of the most famous classifications of central banks using an index that measures their legal independence and taking into account various stipulations in the law regarding the organisation and functioning of central banks. This index was based on a coding of sixteen different legal characteristics of central bank as stated in charter which are grouped in four clusters of issues:

- formulation of procedures for the appointment and dismissal of the governor of the central bank (term of office, who appoints, who dismisses);
- formulation of the policy concerning the resolution of conflicts between the government and the central bank over monetary policy and the participation of the central bank in budget process;
- objectives of monetary policy (the relative importance of price stability among the central bank's objectives as stated in the law);
- establishment of limits on lending by the central bank to the public sector (such restrictions refer to the volume, maturity, interest rate, conditions for direct advances and from the central bank to the public sector, potential borrowers from central bank and the prohibition for central bank to buy or sell government securities on the primary market)

Each variable was coded on a scale between 0 (lowest level of independence) to 1 (highest level of independence). Without going into technical details about how the aggregate that measures the legal independence of the central bank is constructed, we list below the situations in which the highest ratings are obtained:

- legal term of governor is longer than 8 years and the government has little autonomy in appointing or dismissing the governor;
- central bank has a wider authority to formulate monetary policy and to resist government in cases of conflicts;
- price stability is stipulated in law as the only or the main objective of monetary policy;
- central bank sets tighter limits on its lending to the public sector.

[15] Cuckierman A., Webb S., Neyapti B., *Measuring the independence of central bank and its effect on policy outcomes*, Word Bank Economic Review No.6, September 1992. pp. 356-359

These authors presented a weighted index of those sixteen characteristics that measured the legal independence of the central bank for four decades (1950-1989) in 72 countries (21 industrial countries and 51 developing countries). Their investigation shows that legal independence is inversely related to inflation in industrial countries, but not in developing countries. By contrast, in developing countries the governors' turnover is strongly and positively associated with inflation. The divergence between the letter of the law and actual practice seems to be substantially higher in developing than in industrial countries.

Meanwhile, the situation has changed, as reforms of central banks have taken place in many countries that go through the transition process. A recent paper, coordinated by Cukierman[16], develops extensive new data on the legal independence of the new central bank in 26 former socialist economies. This data are constructed using the same codification system for measuring legal independence developed in 1992 by Cuckierman, Webb and Neyapti. This makes it possible to analyse comparatively the legal independence of the central banks in various countries. This classification is shown in the table below.

These data show that the legal independence of the central bank in former socialist countries is higher than that of the central bank in developed countries during the eighties. In particular, at least eight of the central banks in transition countries have levels of aggregate legal independence that exceed that of the highly independent Bundesbank during the 1980s.

This indicates that the central bank reform in the former socialist economies during the nineties was quite ambitious. The reformers in these countries chose to create central banks with levels of legal independence that are substantially higher, on average, than those in developed countries. But since it is likely that the average level of compliance with the law in the transition countries is lower than the compliance with it in Western countries, the discrepancy in actual independence may not be as large as it appears to be from this comparison.

[16] Cukierman A., Geoffrey P. M., Bilin N., Central bank reform, liberalization and inflation in transition economies. An international perspective, Center for Economic Research, No. 106, October, 2000, p.11

Table 1 Comparison of the new legal independence in transition economies and in developed countries during the 1980s

No.	*Country*	*Index of legal independence*	*No.*	*Country*	*Index of legal independence*
1.	Poland	0.89	*25.*	Croatia	0.44
2.	Armenia	0.85	*26.*	Ireland	0.44
3.	Estonia	0.78	*27.*	Kazakhstan	0.44
4.	Lithuania	0.78	*28.*	Holland	0.42
5.	Georgia	0.73	*29.*	Ukraine	0.42
6.	Moldova	0.73	*30*	Macedonia	0.41
7.	Belarus	0.73	*31.*	Australia	0.36
8.	Czech Rep.	0.73	*32.*	Tajikistan	0.36
9.	Germany	0.69	*33.*	Island	0.34
10.	Hungary	0.67	*34.*	Romania	0.34
11.	Switzerland	0.64	*35.*	Luxembourg	0.33
12.	Slovenia	0.63	*36.*	Sweden	0.29
13.	Slovakia	0.62	*37.*	Finland	0.28
14.	Austria	0.61	*38.*	England	0.27
15.	Uzbekistan	0.56	*39.*	Turkmenistan	0.26
16.	Mongolia	0.55	*40.*	Azerbaijan	0.25
17.	Bulgaria	0.55	*41.*	Italy	0.25
18.	Kirgizskaya Rep.	0.52	*42.*	France	0.24
19.	Albania	0.51	*43.*	New Zealand	0.24
20.	Denmark	0.50	*44.*	Spain	0.23
21.	Latvia	0.49	*45.*	Japan	0.18
22.	Russia	0.49	*46.*	Belgium	0.17
23.	USA	0.48	*47.*	Norway	0.17
24.	Canada	0.45			

Source: Cukierman A., Geoffrey P. M., Bilin N., Central bank reform, liberalization and inflation in transition economies. An international perspective, Center for Economic Research, No. 106, October, 2000, p.11

The fact that the average level of legal independence of the central bank of economies in transition is substantially higher than that of developed economies during the eighties al least partially reflects the shift in professional consensus among economists and policymakers in favour of the independence of central bank between those two decades. We believe that if the central bank reforms in the transition economies had taken place during the eighties rather than during the nineties, the level of independence of the central bank embodied in the new laws would have been significantly lower.

The main finding of Cuckierman is that in the case of developed economies the familiar negative relation between inflation and legal independence appears also in the transition economies but only at sufficiently high levels of sustained liberalization. In transition countries the legal independence of central bank is unrelated to inflation during the early phases of liberalization because the process of decontrol of domestic prices had a powerful impact on inflation.

The legal statute of a central bank is only one of the several elements that determinate its actual independence. Many central bank laws are highly incomplete and leave a lot of room for interpretation. As a result, factors such as tradition or the personality of the governor and other high officials of the central bank at least partially shape the actual level of central bank independence. Even when the law is very explicit, reality may be very different.

In 1992, Cukierman, Webb and Neyapti[17] developed an indicator of actual central bank independence from the actual frequency of the change of the governor. This indicator is based on the presumption that, at least above some threshold, a more rapid turnover of the governor reflects a lower level of central bank independence. If the political authorities frequently have the possibility to choose a new governor, they will at least have the opportunity to pick those who will do their will.

A high turnover rate indicates that the tenure of the central bank governor is shorter than that of an executive branch. This makes the central bank governor susceptible of being influenced by the executive branch and discourages the governor from trying to implement longer-term policies, especially those that would extend beyond the election cycle. If the governor stays on for several years and perhaps outlasts several heads of government, thus presiding over price stability, the governor's reputation can become strong enough to resist considerable pressure.

A low turnover does not necessarily imply a high level of central bank independence, because a relatively subservient governor may stay in office a long time. A governor's legal term of office does not seem to have much effect on the actual turnover. In most countries actual average terms in office of governor are shorter than the legal term.

Cukierman, Webb and Neyapti calculated the average annual turnover rates in the industrial and developing countries between 1950 and 1989 and

[17] Cuckierman A., Webb S., Neyapti B., *Measuring the independence of central bank and its effect on policy outcomes*, Word Bank Economic Review No.6, September 1992, pp. 363-367

for each decade within that period. They found that the turnover rates in developing countries are considerably higher than those in industrial country. The turnover rate is not significant in explaining the variation of inflation within industrial countries. But, in developing countries, there is a positive relation between the governors' turnover and inflation. In other words, the lower the actual term in office of the governor is, the lower the actual independence of central bank and the higher the inflation rate are.

Another solution for the measurement of central bank independence is the use of some complementary evaluation criteria[18]:

- quality of the research department of the central bank: in the decision-making process the Board of Directors of the central bank relies on the reports, studies and publications elaborated by this department;
- level of development of capital market: the higher it is, the stronger the authority of the central bank, as this is the only representative of the state in some of these markets;
- method of remuneration of Board members: if the legislative or the executive cannot interfere in establishing the salary of the governor and Board members, and if the length of the mandate is considerable, a central bank is considered to enjoy a high level of independence;
- government's strategy concerning public debt: Some authors (T. Person and L. Svenson, A. Alesina and G. Tabellini, etc.) argue that the bigger the public debt is, the more tempted the government is to limit the independence of the central bank so that it will use monetary issuance as a means of reimbursing its debt to the state.

5. Central bank independence in Romania

After 1989, three laws were passed on the statute of the National Bank of Romania (1991, 1998 and 2004), and each of them amended considerably the previous one with regard to the independence of the central bank. Law 312/2004 confers a high degree of independence to the central bank.

The law stipulates clearly that the National Bank of Romania (NBR) lays down and applies the monetary policy and the exchange rate policy and that "the primary objective of NBR is to secure and maintain price stability.

[18] Cerna S., Central bank: credibility and independence, Ed. Sedona, Timişoara, 2002, p.52

NBR can support the overall economic policy of Romania without impeding the achievement of its main goal, namely price stability" (Article 2).

It further specifies that " in the accomplishment of its responsibilities, NBR and the leadership members will not demand or receive instructions from public authorities or from any other institution or authority" (Article 3).

Following the proposals forwarded by the permanent specialised commissions of the two chambers, Members of the Board are appointed by the Parliament for a five-year term (government is appointed for a four-year term), which can be renewed. The Parliament is entitled to dismiss a Board member on the basis of a common proposal by the aforementioned commissions of the two chambers of the Parliament if the official in question does not meet the requirements for exercising certain prerogatives or if he/she is guilty of misconduct (Article 33).

The Board of directors is made up of nine members (who cannot sit in Parliament, be politically affiliated or be part of a judicial authority or public administration), five of are personalities from outside the bank (Article 34).

A step forward towards the independence of NBR is the express provision according to which the central bank cannot acquire government securities from the primary market (Article 29), which is in fact one of the basic provisions of the Maastricht Treaty. The law also "bans the NBR from granting overdraft or any other type of credit to the state, central and local authorities, public limited companies, national companies and other enterprises in which the state has a stake (Article 7).

As we can notice, the Romanian legislation comprises many elements that confer independence to the central bank. Nevertheless, for the accomplishment of its fundamental objective, the real independence of the central bank is much more important than its legal independence. We contend that at present NBR enjoys not only legal independence but also real independence in the implementation of its monetary policy, a fact that can be proved by the positive results in reducing inflation in the last years.

6. Conclusion

The importance of central bank independence as a signal of financial respectability and gaining access to international credit markets, rose through the nineties with the further abolition of restrictions on capital flows and further widening of international capital markets. Yet in the midst of theoretical and political disputes, this issue tends to turn into a problem in itself. That is why we should take into account the following:

- there are just different degrees of independence of the central bank for a certain economy, in a certain period, or for different economies in the same period;
- appreciation of the independence of central bank often has a formal character, with focus on its the relationship with the government, as it is formulated in the charter.

But behind the legal independence of central bank there may hide some political complicity or a trade off of politico-bureaucratic privileges. For this reason, we can argue that the decoding of the communication channels between the central bank and the political world is far from being completed. Moreover, legal independence of a state's central bank can be a mere formality for the achievement of certain requirements for EU accession or for the general impression on a country's economy. The real issue is the manner in which legal independence contributes or not to the creation of a favourable environment for the effective implementation of the policy of price stability.

In spite of the fact that legal independence does not always fully translate into actual independence, it is nonetheless associated with significantly lower inflation. Examination of the relation between the inflation and legal independence in the transition and developed countries strengthens the conclusion that legal independence and inflation are negatively related. A higher level of legal independence of central bank is generally associated with a lower inflation. But, for a given level of independence from the political authorities a more focused legal mandate to pursue price stability is expected to result in a lower rate of inflation

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EUROPEAN CENTRAL BANK IN LIGHT OF SOME INSTITUTIONAL CHANGES[1]

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Abstract

On 1 May 2004 ten new Member States joined the European Union. The new members will adopt the euro only when they fulfil convergence criteria. The governors of the central banks of the new EU countries are now members of the General Council of the ECB but they will not join the main decision-making body – the Governing Council – until they adopt the euro. Out of a great number of open questions in this article the specific atention is paid to the ERM II. Participation in the Exchange Rate Mechanism II is one of the core requirements when entering the European Monetary Union. In 2005, there are 7 countries only, which are the members of this system. Six of them are using the broad bands for the exchange rate movements and one (Danish krone) is using +/-2,25 % fluctuation bands. For the moment, each country out of these 7, has met the criterion of a stable exchange rate. V4 countries are also preparing for the accession to the ERM II. The Slovak Republic would like to participate in the ERM II as soon as possible..

Keywords: *European Union; European Central bank; Exchange Rate Mechanism II*

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1. Introduction

In the system of a society's government a key role is played by central banking. Since the 17th century, which can be considered the period when central banking emerged, we have been witness to the creation of a variety of institutional arrangements. In this article we want to take attention to the changes in the central banking in Europe, especially in European Union after the enlargement in 2004.

2. Institutional arrangements in central banking in general

By a variety of institutional arrangements we mean the differential coverage of monetary policy by entities – in history we can find examples formed for central banks created at the national and regional level; we can likewise find various central banking systems – from simple homogenous systems (one institution forming the central bank, e.g. the NBS) through to structured systems (for example the Federal Reserve System in the USA).

Besides the different institutional arrangement, we can see also a differentiated approach among central banks in carrying out their individual functions. Monetary authorities began to be considered as central banks only following the incorporation of an issuing function into their activities. This was not always however the primary function these institutions oversaw. From the historical aspect, the first "future" central banks at first performed the function of a bank to the state, only later becoming issuing banks, to which were progressively added a series of further functions.

Besides institutional and functional characteristics, central banks also differed in terms of their operating framework, meaning that there were differences in the use of direct and indirect monetary policy instruments. The latter, of course, resulted from the characteristics of the monetary circulation and from the need to solve, at a given moment, a problem in monetary development. In this regard therefore neither were the constructions of monetary objectives always identical, even if in the broader sense it is possible to find certain common elements.

As regards the legal standing and subsequently financial aspects of central banks, we can in this case speak of public institutions, companies formed from share capital (shareholder structure is differentiated), as well as of specific subjects, where in certain activities the central bank has the status of a body of general government, and in other activities (for example in the acquisition and administration of own assets) has the status of a business.

Despite these differences, it may be claimed that monetary authorities always featured as sophisticated institutions, recognised by the public. From both the aspect of aims fulfilled, as well as functions entrusted to them, central banks were, alongside governments, the most important entities in any country.

Enlarging European Union with 10 new member countries has led to important changes in central banking too:

- changes in the structure of the ESCB,
- changes in the volume, the number of stake holders and even in the structure of the participation of the EU member countries in the ECB capital,
- changes in the system of voting in the decisive body of the ECB,
- changes in the monetary tools of the single monetary policy,
- the newly accepted member countries are preparing the transition of some competences of the national central bank to the ECB,
- some changes take place in the ERM II, too.

3. Current state of central banking in EMU

Since May 1st, 2004 the ESCB contains 25 national central banks of the EU led by the European Central Bank. The monetary policy is managed by the Eurosystem represented by the ECB and the central banks of the countries which accepted the euro currency.

The ESCB has three organs – the Governing Council, the Executive Board and the General Council. In the Governing Council and the Executive Board the member countries of the Eurozone are represented, whereas the General Council contains the president and vicepresident of the ECB as well as the governors of the EU national central banks. As the countries which have not accepted the euro don´t participate in the single monetary policy, this institution mainly supports the ECB, however it has the possibility to participate in some objections as to statistics, rules for rational banking business etc.

The capital of ECB, too, was modified after the EU enlargement. Since 1. 5. 2004 it means 5 564 669 247,19 EUR. Up to this date the central banks of the Eurozone had to pay the full amount of their part and the central banks not in the Eurozone 7 % (before the enlargement 5 %). So the total paid amount of the ECB capital is 4 089 277 550,12 EUR. The main stake holders are the central banks of Germany, France, Italy and Great Britain. The participation of the new member countries is no more than 10,1474 % (there of belongs to the central bank of Poland 5,1380 %). The participation

in the capital is connected with the limitation for foreign currency reserves managed by the ECB (ten times as much).

The new voting system in the ECB Governing Council presupposes already the future membership of 27 countries in EMU. The members of the ECB Executive Board will have 6 stable votes and 15 votes will be flexible according to the group to which the given central bank will belong according to the proportion of the GDP of the member countries without derogation in market prices and the proportion in the aggregate balance sheet of the monetary financial institutions of the member countries without derogation. Since 1. 6. 2004 the number of voting persons must not exceed 15.

The single monetary policy of the Eurosystem continues to be based on two principal pillars. The main aim of monetary policy in the eurozone in this context is to ensure price stability, which in quantitative terms is set as the upper limit for growth of the harmonised index of consumer prices – HICP[2] on an annual basis, and this of up to 2%, where the ECB takes this parameter to be a medium-term target. The monetary policy strategy of the ECB is a certain mix of the theoretically defined monetaristic transmission mechanism and inflation targeting. The first, basic pillar of the Eurosystem's monetary policy strategy is the analysis of the development of a broad set of economic and financial indicators, the second pillar is the analysis of the development of the M3 money aggregate. The combination of the two pillars of the Eurosystem ensures that monetary, financial and economic development is carefully and thoroughly monitored. This thorough analysis enables the ECB to set interest rates at a level best serving to maintain price stability.

Beginning from March 10th 2004 however the maturity of main refinancing operations is reduced from two weeks to one week and the maintenance period for the Eurosystem´s required reserve system is redefined to start on the settlement day of the main refinancing operation following the Governing Council meeting at which the monthly assessment of the monetary policy stance is pre-scheduled, rather than on the 24th day of month. From 14. 1. 2005 the Governing Council of ECB decided to increase the allotment amount for each of the longer-term refinancing operations from 25 mld. EUR do 30 mld. EUR and the operation day is defined as the last Wednesday in

[2] Note: HICP – the basic components of this index are prices of goods – in the division into processed and non-processed, further industrial goods and energy, and the second component of this index are prices of services. For example in 2001 the prices of goods represented 61.9% of the index, whereas prices of services only 38.1%.

the month and not the first Wednesday in the maintenance period for minimum reserve.

After the foundation of the EMU the central banks of the member countries fulfill eurosystem and non-eurosystem functions. The eurosystem functions mean the fulfillment of the obligations given by the participation in the Eurozone and the single monetary policy of the Eurosystem, whereas the non-eurosystem functions mean all other functions which can be fulfilled by the national central banks on their own choise but not contrary to the Eurosystem aims. Non-eurosystem functions are first of all banking supervision and in some countries financial market supervision, the management of foreign currency reserves exceeding the ECB, state agency on the emission of state bonds or in the operating of state operations accounts, the emission of eurocoins (if agreed by the ECB), the direction of interbank payment system connected with TARGET, economic research, collection of statistical data, representation of the country versus international monetary institutions.

As regards changes in the system of exchange rates applicable in EMU – with the fact that the EU has expanded to 25 states, the first step on the road to EMU is to enter the ERM II exchange rate system, which in essence means the fixing of the national currency's exchange rate to EUR and maintaining its fluctuation band within ±15% without currency devaluation for a period of two years. Of the old non-EMU member states only Denmark is presently participating, using the narrower band of ±2.25%; of the new EU member states Estonia, Slovenia and Lithuania joined the ERM II system in June 2004, in the broader band and since May 2005 Cyprus, Malta and Latvia also with a broaderly defined band.

Table 1 Fixed exchange rates of participants in ERM II

Country	Min limit	Central parity	Max limit
Danish krone (DKK)	7,62824	7,46038	7,29252
Estonian kroon (EEK)	17,9936	15,6466	13,2996
Lithuanian litas (LTL)	3,97072	3,45280	2,93488
Slovenian tolar (SIT)	275,586	239,640	203,694
Maltese lira (MTL)	0,493695	0,429300	0,364905
Cyprus pound (CYP)	0,673065	0,585274	0,497483
Latvian lats (LVL)	0,808225	0,702804	0,597383

Source: ECB Monthly Bulletin May 2005. s. 52

4. The future development in the ERM II

The Resolution of the Committee on the Exchange Rate Mechanism II (ERM II) establishment (97/C 236/03 dated June 16, 1997) and the Agreement between the European Central Bank (ECB) and national central banks of the member states excluded from the euro zone dated September 1, 1998, supplemented by the Agreement dated April 29, 2004 regulate the ERM II entrance as well as domestic currency exchange rate (ER) in relation to EUR procedurally. The Procedural steps to allow participation in ERM II document comprises the individual steps, which allow the countries to participate in the ERM II. This document was prepared by the European Commission (EC) on the summit meeting, that took place in Athens on 28 May, 2003.

V4 countries are also preparing for the accession to the ERM II.The first step that allows the participation in the ERM II is the request of the Minister of Finance as well as the head/president of the central bank submitted to the ECOFIN board Minister, who comes from the country, which chairs the European Union (EU). Submitted request is thereafter discussed in the Economic and Financial Committee (EFC), whose members are the member states representatives, as well as the representatives from the EC and ECB. ERM II Committee reviews the macroeconomic consistency of the candidate country with the Principal direction of the economic policies and the Stability and Growth Pact. Hereby, it discusses the future central parity and the fluctuation band.

Table 2 Entry to the ERM II a adoption of single currency

Country	Entry to the ERM II	Adoption of single currency - plan
Estonia	June 2004 (R)	June 2006
Lithuania	June 2004 (R)	1 January 2007
Slovenia	June 2004 (R)	2007
Latvia	April 2005 (R)	2008
Malta	April 2005 (R)	2008
Cyprus	April 2005 (R)	Non specified
Czech Republic	2007 (P)	2009 – 2010
Slovak Republic	2006 (P)	1. 1. 2009
Hungary	6/2004 – 6/2005 (P)	1. 1. 2008
Poland	As soon as possible (P)	2007

Note.: (R) reality (P) plan
Source: internet pages of national central banks

Underestimation of the central parity can lead to economy overheating and consequently to higher inflation. This could endanger and slow the process of reaching the inflation convergence criterion. On the contrary, overestimated central parity could weaken/lower economy competitiveness. Besides this it could support the speculative attacks against the currency indirectly.

The decisions related to the central parity changes as well as the fluctuation band are made based on the Agreement reached by the following parties: Ministers of individual euro zone countries, the president of ECB, ministers and the governors of the EU member states central banks excluded from the euro zone, engaged in the Mechanism, European Commission representative and the president and the secretary of EFC. The General Board is responsible for monitoring of the ERM II operations. It serves as an international cooperation forum and the cooperation in the field of exchange rates.

5. Conclusion

In 2005, the Danish crone and the Slovenian toliar have found their selves near their central parity to EUR. Estonian koruna ER and the Lithuanian litas have stayed unaffected. When speaking about other countries of EU, in April 2005, euro has depreciated in relation to British Pound. During the period starting March till May, EUR has appreciated in relation to Polish Zloty (in amount of 3, 6%) and less significantly to Hungarian Forint, Slovak and Czech koruna, too (in the following amounts: 1, 8%, 1, 5% and 1, 2%). The main reason of mentioned depreciation in the currencies lies in the reduced willingness to undergo the risk on the financial market. Simultaneously, EUR has appreciated in relation to Swedish koruna by approximately 1%.

Figure 1 Daily exchange rate of PLZ/EUR

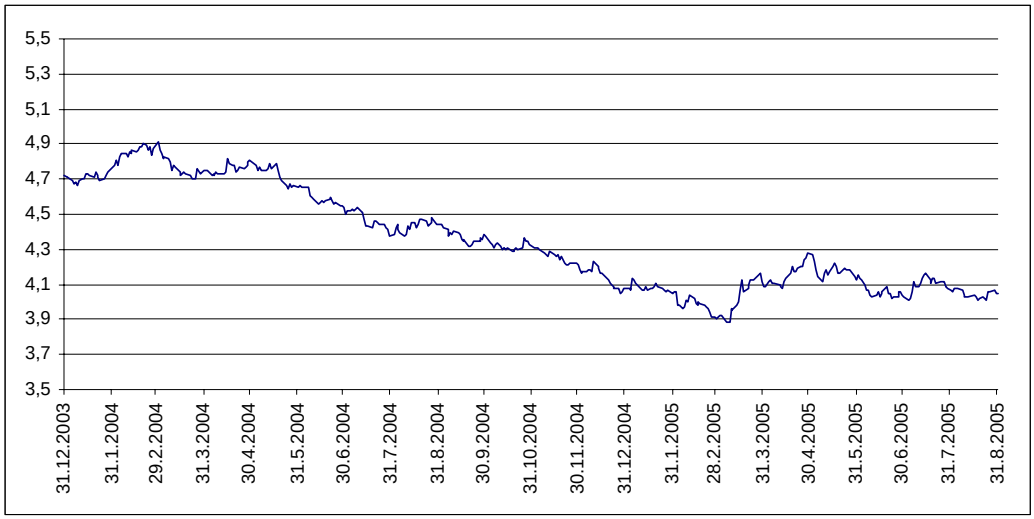


Figure 2 Daily exchange rate of HUF/EUR

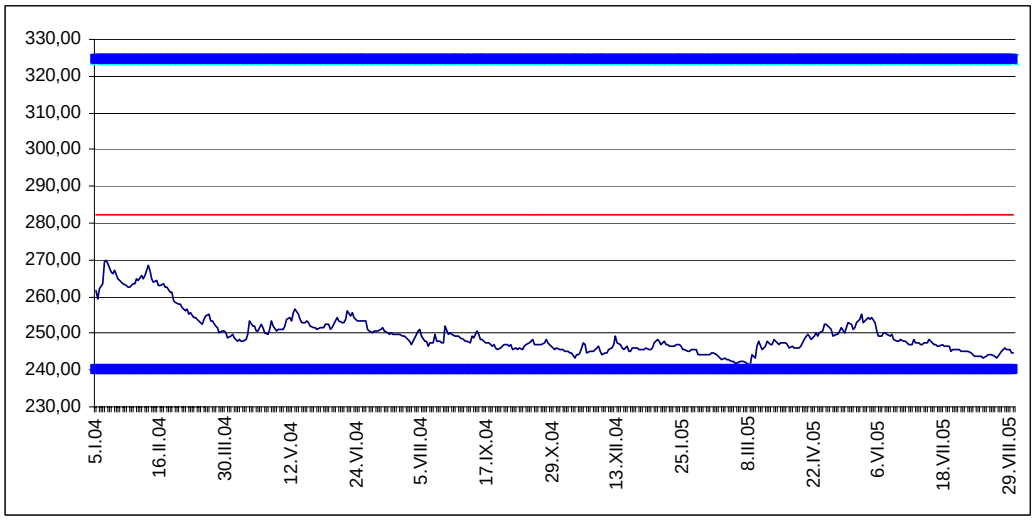


Figure 3 Daily exchange rate of SKK/EUR

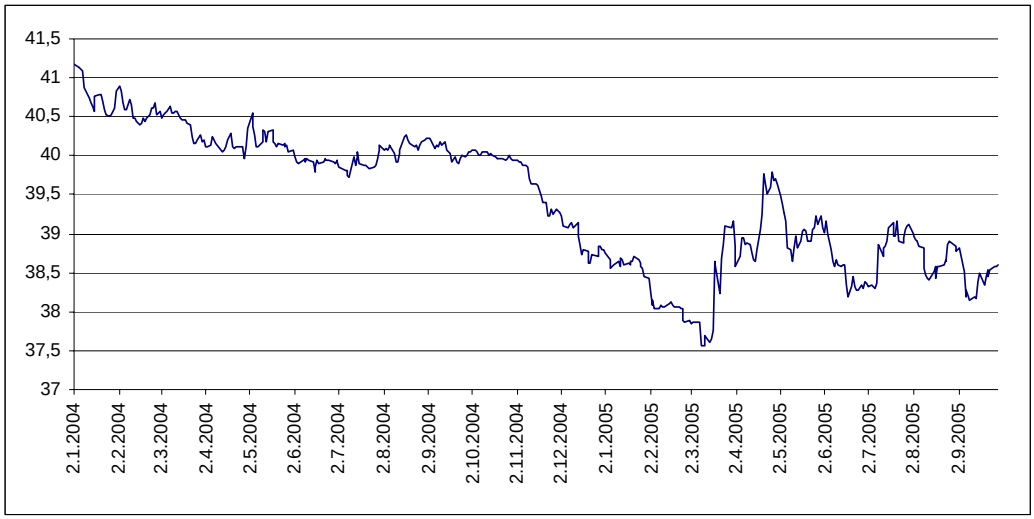
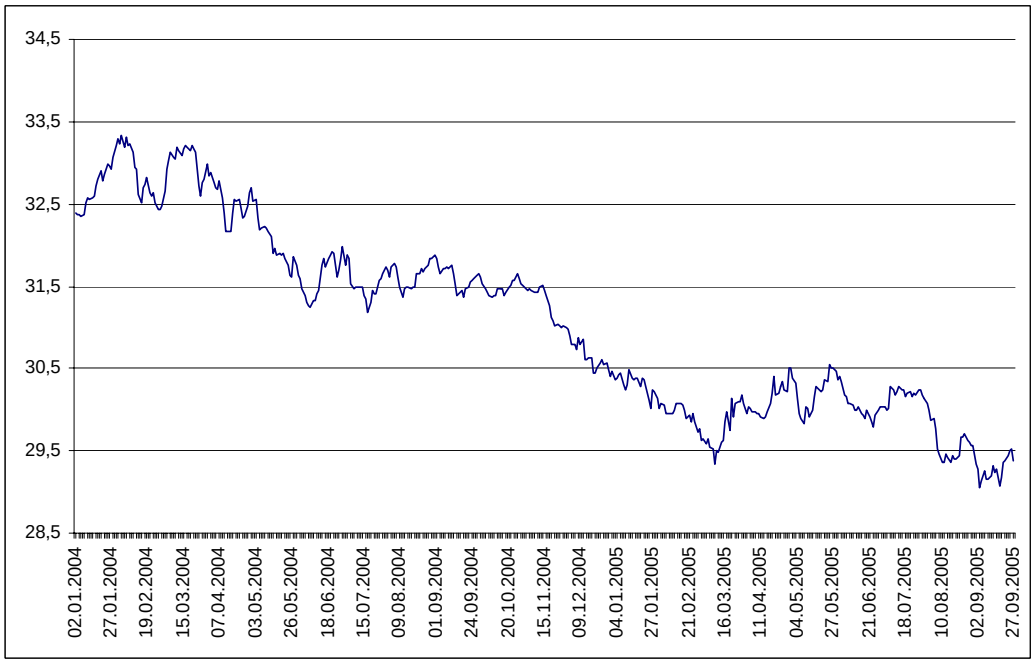


Figure 4 Daily exchange rate of CZK/EUR



The macroeconomic views of the ECB specialists/experts on the euro zone deal with the fact, that in the near future the ER of EUR in relation to USD and JPY would not be changed significantly. Their view on economic

growth for the euro zone is promising, i.e. 1- 1, 6% in the year 2005 and 1, 3- 2, 3% in the year 2006. However some changes can occur with respect to the increasing oil price at the world market.

The Slovak Republic too is preparing to join the Eurozone. It is supposed to join the ERM II in 2006 and after having fulfilled the Maastricht criteria to join the Eurozone in 2009.

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MONETARY POLICY IN ROMANIA: TOWARDS EU INTEGRATION

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Abstract

The monetary policy in Romania is implemented by The National Bank of Romania, whose main objective is to ensure price stability. At the firs stage of the transition to the market economy, the monetary policy, had a secondary role, due to its slow evolution from a direct control of monetary expansion towards indirect instruments and from multiple and contradictory objectives (imposed by the state policy) towards what should represent the sole objective of monetary policy namely price stability. Consequently the results obtained in controlling inflation are much more modest as compared to those of other candidate countries to European integration. For many years, the strategy of monetary policy had consisted in the control of monetary aggregates. Using monetary aggregates as an intermediate objective of the monetary policy proved to be effective during the time when inflation was diminished to the current level. Recently, the central bank has reshaped its monetary policy by the adoption of a new strategy - inflation targeting. The reduction of the inflation rate to the European level constitutes a major concern for The National Bank of Romania in following years. The article also refers to the stage of fulfillment of the other convergence criteria required for Romania`s accession to the EU.

Keywords: *inflation targeting, stage of fulfilment of convergence criteria.*

1. Introduction

At present, the main responsibility of the central bank, almost everywhere in the world, is to establish and implement the monetary policy, which is the most important task for the National Bank of Romania, our central bank, as well.

Monetary policy has the same final objectives as economic policy, such as: sustained economic growth, full employment of resources, a stable balance of payments for the nation vis-à-vis the rest of the world and price stability. But, frequently these objectives are contradictory, because the achievement of one of them may cause the failure of the others. This is the reason why the monetary policy has its own fundamental objective, which is to ensure the price stability. The price stability may create a favourable economic framework that can allow sustained economic development

2. A critical analysis of Romania`s monetary policy between 1990 and 2004

As in the case of the Romania1s economic reform, the monetary policy has made slow progress from the direct control of monetary expansion to the indirect instruments and from multiple and contradictory objectives to what should represent the only concern of monetary policy, namely price stability.

In the first years of the transition period the monetary policy was oriented towards the achievement of some objectives that were not compatible with maintenance of price stability (e.g. the stimulation of production or full employment of labor resources). This tendency was favoured by the ambiguous formulation of Law no.34/1991, whose article 1 stipulated that " The National Bank of Romania (abbreviated as NBR) establishes and implements the monetary policy within the economic and financial policy of the state". As a results, the monetary policy was constrained to pursue multiple objectives, such as:

- preferential crediting of unprofitable sectors;
- sustaining the exchange rate artificially, as an anti-inflationist anchor;
- administration of public debt and financing budgetary deficit;
- maintenance of current account deficit within the established limits;
- the central bank1s acting as a lender of last resort due to problems derived from the unsatisfactory state of the banking system.

Consequently, inflation was maintained at high levels, during the first years, being measured by three figures annually (see table 1), whit most disastrous effects, both socially and economically. Only towards the end of 1993, by promoting a restrictive policy based on strict control of liquidity and rapid escalation of interest rates, NBR managed to limit the size of inflationist process. Nevertheless, against the slow rhythm of restructuring of the real sector and the stop-and-go character of authorities~ policies, inflation returned in 1997 to the level of three-digit figure.

Table 1 Inflation rate (%)

Year	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***
Annual average	5.1	170.2	210.4	256.1	136.7	32.3	38.8	154.8
End of year	37.7	222.8	199.2	295.5	61.7	27.8	56.9	151.4

Source: National Bank of Romania

The new laws regarding the Statute of NBR (Law no. 101/1998 and Law no. 312/2004, respectively) have made a significant amendment by specifying that "the main objective of NBR is to ensure of price stability". This allowed the central bank to gradually disburden its monetary policy of multiple objectives and thus consolidate its independence . These changes created a favourable framework that made it possible for the central bank to focus on price stability.

Indeed, in the last years, there has been a clear tendency to orient the monetary policy towards the mechanism of market economy. Nevertheless, the results obtained in controlling inflation are much more modest compared to those of other Central and Eastern European countries (see table 2).

Table 2 Inflation rate (%)

Year	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***
Annual average	59.1	45.8	45.7	34.5	22.5	15.3	11.9
End of year	40.6	54.8	40.7	30.3	17.8	14.1	9.3

Source: National Bank of Romania

The strategy of monetary policy had consisted in the control of monetary aggregates. The main instruments used in recent years by the central bank for controlling monetary supply were: minimum reserve requirements, open market operations and collection deposits from commercial banks. Among these, the main role was conferred to minimum reserve requirements, whose current rate is 18% for deposits in the national currency and 30% for deposits in foreign currency.

Using monetary aggregates as an intermediate objective provide to be effective during the time when inflation was diminished to the current level.

But, starting with August 2005, NBR has reshaped its monetary policy by adoption of a new strategy – inflation targeting – which represent a superior stage in maintaining inflation under control and a component of the process of economic convergence with the EU countries..

3. Inflation targeting – the new monetary policy strategy

3.1. The concept of inflation targeting

In the last decades, as the factors that effect price stability in an economy have become more and more familiar, and with the development of a relatively sophisticated system of analysis, the central banks have adopted a new objective that is directly connected with the assurance of price stability.

The first country to adopt this strategy was New Zeeland (in 1989). Until now almost 20 countries have opted for the inflation targeting, among which we mention Canada, Great Britain, Finland, Spain, Brazil, Chile, Israel, the Czech Republic, Poland, Hungary. In all these countries, inflation rate decrease after the adoption of this new strategy.

Inflation targeting represent a framework of monetary policy characterized by the public announcement of the quantitative targets of the inflation rate for one or more time horizons and by explicit recognition of the fact that a low level of inflation constitutes the primary long-term objective of the monetary policy.

The main characteristic of this strategy consists in the primacy of the inflation target over any other objective of the monetary policy . All the other monetary variables, i.e. monetary supply, interest rate, exchange rate etc., become of secondary importance, being taken into account only if they can be subordinated to the inflation objective.

3.2. Condition for inflation targeting

The adoption of any mix of economic policies has to consider the existing conditions in the respective country, the effects of the policy implemented in the preceding period and, obviously, the established targets. The transition to the inflation targeting requires the fulfillment of certain conditions[3]. These are presented bellow:

[3] Isărescu M., Towards a new strategy of monetary policy: inflation targeting, Craiova, October 2003, pp. 19-29

- **The cultural component**

This is the most important qualitative element because the monetary policy cannot achieve very ambitious objectives without the support of the civil society. It follows that the success of inflation targeting depends, to a large extend, on the acceptance by the whole society of the importance of the price stability.

- **Credibility of the central bank**

This condition is closely related to the cultural component and has an essential role in the success of the inflation targeting. If people trust the forecasts of the central bank, they will integrate them in their business plans and ultimately contribute to the realization of the predictions formulated by the central bank.

- **The central bank`s capacity of intervention**

Firstly, the central bank has to be autonomous in order to set its objectives and decide on the adequate measures for their attainment The primacy of the central bank`s anti-inflationist objective has to be explicitly stipulated by the law. Secondly, the central bank needs at least one effective instrument in order to control the inflationist process and anchor the inflationist expectations of the public.

- **Full harmonization between the monetary policy and the general policy of the government**

This requirement has a significant part in the successful implementation of the inflation targeting, given that the government`s decisions for realization of the economic objectives can affect price stability. Consequently, close cooperation is required between the government and the central bank, not only in the form of public declarations, but also in practice. The government is supposed to support the attainment of the inflation target through its fiscal policy.

- **Technical requirements**

First of all, it is required that the price index for the quantification of inflation should be adequately selected. Next, the public should become familiar with the transmission mechanism of the monetary policy. Last, but not least, the quantitative targets and the calendar for their attainment should be established.

3.3. Analysis of the conditions of inflation targeting in Romania

The adoption of the inflation targeting is not only a matter of the choice, but also a matter of meeting some significant requirements. Most of the conditions for successful implementation of inflation targeting have been fulfilled in our country. In what follows, we refer to principal aspects that have created the favourable conditions for the introduction of this new strategy[4].

1. At the end of 2004, the inflation rate reached a one-digit value (9.3%) for the first time after 1990, as a result of a productive cooperation between the government and the central bank.

2. Since the summer of 2004, NBR has been benefiting from a complete operational independence, a condition stipulated in Law no.312/2004 regarding the State of NBR.

3. The successful des-inflationist process recorded through the last years has increased the credibility of the central bank.

4. After 5 years of continuous development and appropriate supervision, we can speak about a solid and stable financial system.

5. Fiscal dominance has ceased to be a problem given the above-mentioned legal independence of the central bank, the relatively low public deficit and the more and more consistent mix of financial policies.

6. The decision to implement inflation targeting for the following years was taken by the NBR in cooperation with the government.

7. A more flexible exchange rate in the context of maintaining the regime of controlled flotation is compatible with inflation targeting.

8. For many years, the central bank has informed the public about the economic development and the monetary and exchange rate policy through the publication of periodical reports and the press release; in addition, since 2003 the BNR has published a report on inflation every semester.

9. The quantitative targets, including those regarding the inflation rate, and the calendar for their attainment, have already been established as there exists the decision to joint the EU and the euro zone, and to meet the convergence criteria agreed upon in the Maastricht Treaty by the end of 2009.

10. Since the latter half of 2004, the central bank has been testing an econometrical model for forecasting purposes, which has been adjusted by BNR` specialists to the specific conditions existing in our country.

[4] Isarescu M., Inflation targeting, NBR`s governor press release, Bucharest, July 2005, p. 6

4. Towards Romania`s European monetary integration

4.1. Convergence criteria for the adopting of the euro

4.1.1. Nominal convergence

The Maastricht Treaty specified that for EMU participations, a EU member state will have to meet just the following criteria for nominal convergence[5]:

- inflation rate criterion: the increase of inflation rate measured through consumer prices should be no more than 1.5% higher than the average inflation rate of the three best-performing EU member states in terms of price stability;
- long-term interest rate criterion: long term interest rate should not exceed the average rate of the three best-performing EU countries in terms of price stability;
- budgetary deficit criterion: budgetary deficit should not exceed 3% of GDP;
- government debt criterion: government debt should not exceed 60% of GDP;
- exchange rate criterion: exchange rate should remain within the normal fluctuation margins of the ERM II[6] without severe tensions for at least two years.

After the new EU candidate states become EU members, they will participate in ERM II, and then, on the basis of the fulfillment of the nominal convergence criteria, they will adopt the common European currency.

4.1.2 Real convergence

The Maastricht Treaty does not make reference to the real convergence criteria to ensure a high degree of similarity among the economic structures of the EU member states, given the fact that before the early 90s the European Union comprised only countries with similar economic systems. Real convergence became an important issue only when

[5] Brociner A., Monetary Europe, Ed. Institutul European, Iaşi, 1999, pp. 22-24

[6] ERM is the abbreviation for Exchange Rate Mechanism. ERM II is a bilateral mechanism in which the currency of each participant has a central parity against euro with a fluctuation margins of the market exchange rate of +/-15%

the accession of the Central and Eastern European countries was considered. The main convergence criteria are[7]:

- degree of economic openness (expressed by the proportion of a country's exports and imports in the GDP;
- proportion of bilateral trade with the EU member states in the whole volume of international trade;
- economic structure (expressed in the contribution of the principal sectors (agriculture, industry and services to the creation of GDP);
- level of GDP/inhabitant (evaluated either at the nominal value or through the parity of the purchasing power).

Real convergence is as important as nominal convergence, as according to the Optimal Currency Area Theory the states in a group cannot mutually gain from a common currency unless their economic structures are similar and when there is no risk of asymmetric shocks only in some of these countries[8]. As a result, the unitary monetary policy concerns a group of supposedly homogeneous economies and not the peculiarities of each economy. In these circumstances, the Central and Eastern European countries cannot give up their own monetary policy as long as the risk of some asymmetric shocks (caused by differences in economic structure) is considerable. This is explained by the fact that the final objective is not just the adoption of the common European currency but also the generation of profits.

4.2 An analysis of the fulfillment of the convergence criteria in Romania

There is a strong consensus in Romania concerning the necessity of our integration in the European structures, both by the public at large and at the political level/by the politicians. But integration requires the realization of those convergence criteria stipulated for the superior stage of integration, i.e. the monetary union. These criteria are related not just to the aspects under the control of the authorities (e.g. budgetary deficit) but also to the indicators through which the market caries out its own evaluations (e.g. long-term interest). Ultimately, the Maastricht criteria represent absolutely normal

[7] Isărescu M., Romania`s transition to the Euro, "Babeş-Bolyai" University, Cluj-Napoca, 2004, pp. 5-6

[8] Isarescu M., Romania's Transition to the Euro, presentation at the Conference organized by the Academic College of Babeş-Bolyai University, Cluj-Napoca, March 2004, p. 3

objectives for any country that aspires to long-term sustainable development within or outside the European Union.

Of all the nominal convergence criteria Romania meets those concerning the budgetary deficit and public debt (see table 3). Thus, Romania differs from the majority of the countries in Central and Eastern Europe which encounter difficulties exactly in these domains, being obliged to make substantial adjustments.

Table 3 The state of public finance (%)

Years	***2001***	***2002***	***2003***	***2004***
Budgetary deficit/GDP	3.2	2.5	2.3	1.1
Public debt/GDP	23.1	22.7	23.7	21.5

Source: National Bank of Romania (author`s calculation)

As far as the budgetary deficit is concerned the performance is good as in the last years it has been beneath 3%, the level established by the Maastricht Treaty. Romania`s results are better than the performance of others countries that jointed the EU on May 1st 2004. The situation of the public debt is also favourable and superior to all the Central and East Europe countries[9].

By contrast, Romania`s position in terms of the inflation rate is much weaker than that of other Central and East Europe countries. Although, the results obtain in recent years (14.1% in 2003, and 9.3% in 2004) are remarkable, Romania is ranked outside the optimal level stated in the Maastricht Treaty, being exceed even by the weaker countries in this sense, namely Slovakia, Slovenia and Hungry, whose inflation rate is two or three times lower than Romania.

This situation can be explain by the slow process of price liberalization, on the one hand, and by the conscious adoption of strategy for gradual reduction of inflation, on the other hand. In Romania, the last substantial price liberalization took place only in 1997, while in other more advanced countries this process occurred between 1992 and 1994. Moreover, we preferred the gradual reduction of inflation by approximately a quarter of its value in the preceding year to a radical solution of the Currency Board type.

The criterion of log-term interest rate on government securities in the national currency is closely linked with the failure to meet the inflation criterion. As for the long-term interest rate, Maastricht Treaty criterion is difficult to apply to Romania, as the instruments for long-term borrowing are

[9] the comparative analysis is based on the information made available by NBR

not yet developed and the banks do not offer interest rate for longer than one year. In spite of the fact that in 2002 government bonds in euro with 10-year maturity were issued on the foreign exchange markets, Romania issued government bonds with the maximum maturity of 5 years on the domestic capital market. This can be accounted for by the still high and volatile inflation. The issuance of government bonds with a longer maturity will only be possible as disinflation advances.

The criterion of exchange rate stability is closely related to the inflation rate criterion. The real depreciation of our currency against euro in 2002 and 2003 followed the trend of inflation, in order not to effect the competitiveness of Romania`s exports. Since November 2004, NBR applied a new operational strategy of exchange rate policy by reducing the frequency of its interventions on the foreign exchange market. As a result, the national currency entered a process of gradual real appreciation against euro.

In spite of this, we will be able to speak about the stability of the exchange rate only when the inflation is sufficiently low. As a rule, the exchange rate and inflation mutually influence each other positively. A more stabile exchange rate is not only the outcome of lower inflation rate. It can also lead to a reduction in the rate of inflation through a smaller nominal depreciation (on through a higher real appreciation, which in essence means the same).

The situation is also unfavourable in what the criteria of real convergence are concerned. The openness of Romania`s economy (see table 4), although on the increase, is much lower than that of the Czech Republic, Slovakia and Hungry. Nevertheless, our economy is more open than economy of Poland, which is justified by the reverse correlation between economic openness and the size of the domestic market.

Raomania`s favourable evolution in terms of the weight of its trade with EU in entire foreign trade has placed it close to the Czech Republic, Poland and Hungary. Yet, the structure of our foreign trade is unsatisfactory, as it is based on low-processed products (clothes, furniture, iron-and-steel products) as compared with Hungary, for example, which exports automobile, household appliances and computers. This deficiency can be remedied through the attraction of foreign investments in areas for business with high added value.

Table 4 Foreign trade **(%)**

Years	***2001***	***2002***	***2003***	***2004***
Degree of economic openness	74.5	76.4	79.8	83.5
Weight of trade with EU	67.8 for exp 57.4 for imp.	67.2 for exp. 58.4 for imp.	67.7 for exp. 57.7 for imp.	67.8 for exp. 57.9 for imp.

Source: Popa C., NBR policy & regulations and investment in Romania, Bucharest, April 2005

The level of fulfillment of the other criteria for real convergence is not as advanced as our economic openness. In terms of the sectorial structure of GDP, the agriculture still has too much weight (approximately 12-13%), similar to Bulgaria, but three or four times as big as the Central - European Countries (see table 5). The same is valid for population working in the agriculture sector (25%).

Table 5 The structure of GDP by sectors **(%)**

Years	***2001***	***2002***	***2003***	***2004***
Industry	28.2	29.1	27.3	27.0
Agriculture	13.3.	11.7	11.7	13.0
Constructions	4.9	5.0	6.0	6.1
Others[10]	53.6	54.2	55.0	53.9

Source: National Bank of Romania

Services are relatively underdeveloped accounting for less than 50% of GDP (see table 6), a result which is inferior to the other countries in Central and Eastern Europe.

Table 6 The weight of services in GDP **(%)**

Years	***2001***	***2002***	***2003***	***2004***
Weight of services	44.0	44.7	43.7	44.1

Source: National Bank of Romania

The level of the GDP per capita is the most synthetic criterion of real convergence. Expressed at the nominal exchange rate (see table 7), its value of 2,300 Euro in 2003 and of 2,700 Euro in 2004 ranks Romania on the same place as Bulgaria and 10% lower than the average of the European Union. The indicator GDP per capita is more relevant if expressed through he parity of the purchasing power. Its value of 7,000 Euro situates Romania 30% behind the European average level in the last years and rather lower than

[10] "Others" refers to: transport and storage; postal services and telecommunications; commerce, tourism, hotels and restaurants; real estate transactions and other services; financial, banking and insurance services; public administration

other countries that became EU members in 2004. Consequently, the task of surpassing this handicap represents a real challenge for the following period.

Table 7 GDP per capita

Years	***2001***	***2002***	***2003***	***2004***
Thousand ROL[11]/inhabitat	52,109.4	69,500.6	87,576.7	110,179.2
Annual average exchange rate ROL/Euro	26,027	31,225	37,556	40,532
Euro/inhabitat	2,002	2,224	2,332	2,718

Source: National Bank of Romania (author`s calculation)

In a scenario with a 4% difference in the long-term GDP growth (i.e. 1.5% average annual growth of European GDP and 5.5% growth of Romania's GDP) it would take 60 years to recover the gap without taking into account the appreciation of our currency against the Euro. Imposing economic growth by 7-8% per year is not recommended because this measure cannot be sustained for a long time, as it can cause economic superheating and periods of recession, stimulating thus the stop-and-go model of the macroeconomic policies. In addition, it would generate either inflation or current account deficit, or a combination of these two effects.

The annual growth of GDP in the last years is presented bellow:

Table 8 GDP`s evolution (%)

Years	***2001***	***2002***	***2003***	***2004***
Annual growth	5.7	5.1	5.2	8.3

Source: National Bank of Romania

The solution would be a reduction in the time horizon by adding a level of about 3-4% annual real appreciation to the difference in GDP growth until stage ERM II is reached. This solution should be applied provided the golden rule of the correlation with productivity is observed. More concretely, growth in productivity should be bigger than or at least equal to the sum of the real appreciation of the national currency and the real growth in the average salary. Even after the adoption of the Euro, Romania will be able to post an appreciation in real terms of GDP per capita through a marginally bigger inflation than that of the other EMU member countries in order to diminish the difference between the GDP expressed in current prices and the GDP expressed in the parity of purchasing power. In this scenario, Romania

[11] ROL is the abbreviation for Romanian leu

would reach the average level estimated for that moment of GDP per capita in the European Union around 2044[7].

4.3. The prospects of our national currency

4.3.1. The denomination of ROL

After 1989, our Romanian currency went through a process of continuous depreciation and as a result prices were expressed in too long figures. The denomination of ROL was much talking about, but it came into effect only in July 2005.

The main argument in favour of denomination was the necessity to express prices in Romania at the European levels. A parity of 3.5:1 of RON[12] against euro is more logical than one of 35,000:1, the exchange rate in the period that preceded denomination.

"Why denomination and not direct transition to euro?" Because the adoption of European currency is estimated to take place around 2013 – 2014 and operating with long figures had become more and more difficult for everyone, especially in IT applications and in financial documents, where some constraints exist. In addition, we will be able to take advantage of the experience of denomination in the more complex process involved in adopting the euro.

Our new currency is the "new leu" (1 RON = 10,000 ROL), divided into 100 "bani". NBR has decided on RON as the new international code of the Romanian currency.

The denomination of our national currency involved more stages[13]:

- 1 March 2005 – 30 June 2006: parallel expression of prices in both currency;
- 1 July 2005: introduction of new currency;
- 1 July 2005 – 31 December 2007: parallel circulation of both ROL and RON;
- 1 July 2007: expiry of ROL;

[7] Isarescu M., Romania's Transition to euro, presentation delivered at the Conference organized by the Academic College of Babeş-Bolyai University, Cluj-Napoca, March 2004, pp. 6-7

[12] RON is the abbreviation for Romanian new leu

[13] Isarescu M. The new leu: everything will become simpler, Press conference by the Governor of NBR, February, 2005, pp.4-5

- 1 July 2005 onwards: exchange of ROL against RON at NBR branches and other credit institutions.

In order to help the public get used to the new monetary insignia, the central bank decided to keep the dominant colours and the design of the new banknotes as well as the portraits of the personalities. The new banknotes have smaller dimensions, which make it easier to keep and handle them. As mew banknotes have the same size as the euro it will not be necessary for the banks to adapt their ATMs when the European currency is adopted. Bellow is the presentation of the new banknotes in comparison the old ones:

1 RON = 10.000 ROL

5 RON = 50.000 ROL

10 RON = 100.000 ROL

50 RON = 500.000 ROL

100 RON = 1.000.000 ROL

500 RON

As for the new coins, their dimensions are close to the euro coins, and their values are as follows:

1 new ban = 100 ROL

5 new bani = 500 ROL

10 new bani = 1.000 ROL

50 new bani = 5.000 ROL

The denomination of our currency is a matter of objective necessity from the economic and monetary perspective. Through it the Romanian authorities aimed to create the framework required for the transition to euro in the following years.

4.3.2. The transition to the common European currency

The transition to the common European currency constitutes a great challenge for the Romanian economy and society. Most likely the adoption of euro will become a fact between 2012 and 2014. This will involve these three important moments:

- prior joining the EU, the monetary policy remains Romania`s responsibility;

- once Romania becomes a EU member, our monetary policy will be a common concern of EU and our country; the new EU member benefit from at least 2-year period preceding the adoption of ERM II;
- after the fulfillment of the convergence criteria according to the Maastricht Treaty, Romania is to actually adopt euro.

The transition to euro is not an option or an alternative, but an obligation to participate in EMU. ERM II represents a stage towards the adoption of euro as a national currency. The transition to ERM II is conditioned by the achievement of the nominal convergence criteria and by the progress made in connection with the reduction in differences between our economy and that of the EU members.

Romania should not hasten the process of joining the Eurozone since it has to make much more considerable efforts than the countries that joined the EU in May 2004. A realistic deadline for Romania to reach stage ERM II is 2010 – 2012. This will create the conditions for the adoption of the common currency between 2012 and 2014 (6-8 years after the accession to EU), provided that our real economy improves. In the three/four-year period between our joining the EU and reaching ERM II, Romania will have to restructure its economy radically and implement investment programmes that will bring Romania closer to the EU standards in this respect.

The nominal convergence criteria as well as those of real convergence can be met only on the basis of long-term consistent efforts. Our joining the EU in 2007 will facilitate the acceleration of real convergence, a process stimulated by both private investors and European special funds.

Even if the nominal convergence criteria are reached in a shorter time, its sustainability is guaranteed by the existence of real convergence. In addition, the adoption of monetary restrictions to accelerate the realization of the nominal convergence criteria in a very short time may have a negative impact on the pace of economic growth, which will in turn cause a delay in the fulfilment of the real convergence criteria.

To conclude, the transition to Euro should be carried out cautiously, given that the forceful of the convergence criteria could generate substantial costs in our real economy. A sustainable convergence with the European common currency depends on constant and permanent progress in the structural reforms, fiscal consolidation, the promotion of a responsible salary policy, and the establishment of clear and realistic objectives in order to support the accelerated development of our economy even after the transition to Euro is accomplished.

5. Orientations on monetary policy

Of all the convergence criteria stipulated by the Maastricht Treaty, Romania meets just those regarding fiscal policy. The fulfillment of the other criteria demands sustained efforts, through a set of consistent policies connected with:

- continuation of a controlled flotation of the exchange rate in order to maintain its real stability and external competitiveness;
- increase in domestic savings and attraction of external capital in order to ensure a high rate of investment that will stimulate a stable and long-term growth of the economy;
- orientation to exports of foreign trade, so that the pace of its growth should exceed growth in GDP;
- implementation of radical structural reforms for viable and solid economic development, as it is in real economy rather than in monetary economy that the fundamental causes of inflation in Romania are found;
- reduction in inflation rate toward average European level.

The reduction in inflation remains a top priority in the future: as long as the inflation is high we cannot have low interest rate or a completely stable exchange rate. The one-digit inflation rate in 2004 allowed NBR to adopt the inflation targeting strategy in August 2005. The experience of other countries that have also implemented this strategy shows that it is especially effective when the objective is to diminish inflation from 10 – 15% to 4 – 5%. The transition to inflation targeting was facilitated by the adoption of the new Statute on NBR in 2004.

The defining characteristics of NBR`s current monetary policy are[14]:

- the main objective of monetary policy : achievement and maintenance of price stability:
- use of all monetary policy instruments for the attainment of inflation target;
- future-oriented proactive attitude of monetary policy, i.e. present responses to anticipated future phenomena;

[14] Isarescu M., Inflation targeting, NBR`s governor press release, Bucharest, July 2005, pp. 3-4

- independence of central bank and its responsibility for the realization of inflation target;
- transparency of monetary policy through informing the public on objectives, decisions and arguments behind them, as well as the risks involved

NBR`s monetary policy strategy for the present and future has the following coordinates:

- inflation rate is expressed by consumer price index;
- inflation rate is established as a point of reference situated in a variation interval of +/-1%;
- annual inflation targets for the near future are: 7% for 2005, 5% for 2006 and 2 – 3% for 2007 – 2008;
- inflation targeting strategy is applied in a flexible manner along with the controlled floating exchange rate;
- main instrument of communication with the public in order to anchor inflationist expectations is the report on inflation, published by NBR every other three months.

The inflation targets set for the following years are quite challenging, but they can be attained through a consistent anti-inflationist monetary policy, supported by the other component of the mix of macroeconomic policies. Nevertheless, the des-inflationist process will have to continue after 2007, with the aim of meeting the convergence criteria of price stability prior to adoption euro.

6. Priorities of real convergence

Both disinflation and the acceleration of economic growth for the attainment of real convergence depend to a large extend on the overall coherence of the economic programmes of Romania`s authorities. The macroeconomic policies and decisions with a significant impact on the nominal and real convergence objectives should consider at least three important problems[15].

[15]Isarescu M., Romania's Transition to euro, presentation delivered at the Conference organized by the Academic College of Babeş-Bolyai University, Cluj-Napoca, March 2004, pp. 13

Firstly, they should deal with outstanding debts and quasifiscal deficit. Outstanding debts are first-rank inflationist factors and are a means of survival for inefficient industries, which leads causes a waste of resources.

Some of the outstanding debts represent quasifiscal deficit, i.e. amounts of money owed by public authorities and losses accumulated by public enterprises, and the official recognition of those debts would increase the budgetary deficit and, consequently, worsen the state of nominal convergence criterion for fiscal situation.

Another issue is the pension system, which needs to be radically changed through the transition to a system based on the accumulation of funds so that each person's pension should depend directly on their own contribution. Accurate and competent administration of such a pension system can generate significant resources for investments, which will lead to a more solid internal accumulation and a faster pace of development. Those countries that have adopted rigorously administered private pension systems (e.g. Chile) have experienced substantial economic growth partly on the basis of the resources provided by these funds.

The third major priority is the allocation of significant financial resources to projects for the infrastructure that will take Romania closer to the European standards. Since these funds cannot be allocated entirely from budgetary funds, the need arises for partnerships between the public and the private sectors and for coherent strategies that will stimulate private investments in domains of public interest. Such projects are meant to accelerate economic growth and consequently contribute to real convergence. Nevertheless, we should take into account the fact that these programmes can exert pressure on public expenditure and therefore make it difficult for us to maintain the budgetary deficit and public debt within the recommended parameters for the current stage.

7. Conclusion

European integration requires the simultaneous achievement of both nominal convergence (the attainment of the Maastricht criteria) and real convergence (improvement of living standards, sustainable economic growth, decrease in the discrepancy between Romania and the EU countries). These objectives call for sustained efforts in radical economic restructuring and the realization of investment programmes for the reduction of the gap between our country and the EU standards.

The transition to the Euro should be carried out cautiously given the fact that a forceful accomplishment of the convergence criteria could

generate considerable costs in the real economy. The sustainability of the transition to the common European currency is dependent on constant progress in the structural reforms, fiscal consolidation, promotion of a responsible salary policy, and adoption of clear and realistic objectives that will ensure the accelerated development of our economy even after the transition to the Euro.

Monetary policy cannot solve by itself all the problems involved by European integration. That is why it has to be correlated with solid and coherent macroeconomic policies. Yet monetary policy can accelerate the integration process and attenuate the difficulties involved. The success of the monetary policy as well as that of the whole mix of macroeconomic policies will depend to a great extent on their credibility. It follows that the objectives will have to be both ambitious and realistic and that the authorities should not resort to administrative measures in order to adjust some developments imposed by the market.

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