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MACROECONOMIC TRENDS IN THE NEW MEMBER COUNTRIES OF THE EUROPEAN UNION BEFORE THE EURO AREA DEBT CRISIS

Ivan Krumov TODOROV*

Abstract

The objective of this paper is to outline the main macroeconomic trends in the new member countries of the European Union before the Euro Area debt crisis. In order to achieve this objective, the developments in a wide range of macroeconomic indicators (exchange rates, foreign trade, monetary policy, inflation, price levels, and fiscal balances, sovereign debt, GDP, labour productivity, composition of output and current account balances) have been analyzed. The analysis results in recommendations on the macroeconomic policies the new member countries should have implemented under global crisis condition in accordance with the peculiarities of their economies and their specific national priorities.

Keywords: new member countries, macroeconomic trends, global crisis

JEL classification: F15, F36, E60, F40

1. INTRODUCTION

In mid-September 2008 the global financial crisis, which till then had struck only advanced economies, hit directly the new member countries (NMC). The lack of liquidity and the reassessment of risk by foreign investors restricted credit for businesses and households and accelerated the decline in demand. This decline led to a sharp decrease in production and trade in the NMC. The distrust of investors to some NMC resulted in fall in the interbank market liquidity and in record high levels of interest rates on interbank loans. The macroeconomic effects of the crisis on the NMC found expression in economic recession, lower inflationary pressures, and devaluation of the currencies of the countries with floating exchange rates during certain periods and an abrupt contraction of current account deficits.

The objective of this article is to reveal the specificity of the macroeconomic integration of the new member countries in the EU before the Euro Area (EA) debt crisis by outlining the main trends in the macroeconomic development of the NMC and by making recommendations on the macroeconomic policies the NMC ought to follow under crisis conditions. In order to achieve the objective the article is structured as follows. Section 2

* Faculty of Economics, South-West University „Neofit Rilski" in Blagoevgrad, Blagoevgrad, Bulgaria, e-mail: *ivankt@mail.bg*

reviews the exchange rate and the foreign trade developments of the NMC. Section 3 deals with the monetary policies, inflation dynamics and price levels in the NMC. Section 4 focuses on fiscal balances and sovereign debt of the NMC. Section 5 analyses movements in GDP, labour productivity and composition of output. Section 6 concentrates upon trends in balance of payments. Section 7 makes conclusions.

2. EXCHANGE RATE DEVELOPMENTS AND FOREIGN TRADE

The nominal effective exchange rate (NEER) is defined as weighted geometric average exchange rates of a country's currency vis-à-vis the currencies of its main trading partners. The real effective exchange rate (REER) represents weighted geometric average relative prices (or costs) in a country and its trading partners, expressed in a single currency. REER is calculated by deflating NEER with price or cost indices. REER measures the price or cost competitiveness of an economy in comparison with its main rivals in the international markets. Changes in price and cost competitiveness depend not only on the dynamics of the nominal exchange rate but also on changes in costs and prices. An increase in REER means a loss of competitiveness.

During the period 1999-2009 the NMC separately and as a group gradually worsened their price and cost competitiveness (see *Table 1*). This aggravation was higher than the EU-27 average (in 2009 the value of the REER was 143.23 for NMC-12 and 120.79 for EU-27). The only exception was Poland whose price and cost competitiveness improved in 2009. The exchange rate regime of Poland was free float; the country did not participate in Exchange Rate Mechanism 2 (ERM 2) and used the devaluation of its currency to overcome the negative consequences from the global crisis. Poland was not in a hurry to join the ERM 2 and adopt the Euro.

Table no. 1 – REER movements (percentage of EU-27=100%)

Index 1999 =100

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	107.59	100.00	89.38	91.50	97.32	109.12	115.63	114.14	115.10	122.10	124.03	120.79
Bulgaria	102.41	100.00	85.83	94.38	93.52	96.93	97.37	96.41	99.62	111.03	125.52	139.52
Czech Republic	100.52	100.00	101.69	110.04	127.91	129.78	131.25	137.48	145.14	150.02	170.67	163.77
Estonia	98.70	100.00	97.24	98.33	99.92	106.40	111.23	112.44	121.22	138.47	152.30	151.40
Cyprus	102.44	100.00	97.35	97.77	101.47	113.23	114.43	114.78	114.28	112.27	113.81	114.74
Latvia	95.46	100.00	102.39	98.14	92.72	90.37	92.34	99.55	112.62	138.53	164.13	152.95
Lithuania	96.88	100.00	101.43	98.84	103.72	107.23	110.99	114.53	123.43	127.10	132.73	138.48
Hungary	103.44	100.00	103.51	113.88	129.39	132.92	141.54	145.97	137.72	150.01	152.26	137.27
Malta	102.21	100.00	95.36	102.58	103.18	110.58	111.96	109.82	110.61	113.48	117.09	117.51
Poland	106.56	100.00	105.96	120.89	110.65	94.06	89.24	99.06	100.21	103.90	116.84	95.05
Romania	122.98	100.00	131.88	143.95	134.67	137.00	130.05	172.94	184.83	220.56	223.15	210.21
Slovenia	102.29	100.00	97.15	98.20	99.30	100.85	102.32	100.69	100.78	101.63	104.25	110.84
Slovakia	109.09	100.00	109.35	106.99	110.21	119.14	127.50	135.03	140.93	153.35	168.93	186.98
NMC-12	103.58	100.00	102.43	107.00	108.89	111.54	113.35	119.89	124.28	135.03	145.14	143.23

Source: Eurostat

The Czech Republic, Hungary and Romania implemented exchange rate policies similar to the Polish (see *Tables 2 and 3*). This could be explained by a study which found

no significant evidence of positive effects of the EA membership on the small-sized new member states (Stoilova & Patonov, 2012). According to the study, the impact of the membership on the economic growth of these countries is rather negative. For the period 2008-2009 the Polish zloty depreciated by 23% against the Euro, the Hungarian forint by 11.4%, the Romanian leu by 15.3% and the Czech koruna by 5.96%. In contrast Bulgaria, Estonia, Latvia and Lithuania maintained almost unchanged their exchange rates because of the specificity of their exchange rate regimes.

The currencies of the NMC, which did not participate in ERM 2, were affected in different way by the global crisis. Most of these currencies remained stable in the first half of 2008, while the Czech koruna and the Hungarian forint appreciated and reached record high parities against the Euro. After October 2008 as a result of the crisis the Polish zloty, the Hungarian forint, the Romanian leu and to less extent the Czech koruna rapidly and sharply devaluated. One reason for this devaluation was the strong speculative attacks on the NMC currencies during the global crisis.

Table no. 2 – Exchange rate regimes of the NMC in May 2010

	Exchange rate regime	**Participation in ERM 2**
Bulgaria	Currency board arrangement with peg to the Euro	No
Czech Republic	Managed float against the Euro	No
Estonia	Participant in ERM 2 (since June 2004)	Yes
Latvia	Participant in ERM 2 (since May 2005)	Yes
Lithuania	Participant in ERM 2 (since June 2004)	Yes
Hungary	Peg to the Euro with fluctuation band of ±15%	No
Poland	Free float	No
Romania	Managed float	No

Source: ECB Convergence Reports

The global crisis influenced the economies of the NMC indirectly via different channels: financial channel, trade channel, exchange rate channel and investors' trust channel. The decreased inflow of foreign capital caused depreciation of the currencies of the countries without a currency board arrangement (CBA). In crisis the defence of national currencies from sharp depreciation became a primary goal for the central banks of the countries with a floating exchange rate regime.

Table no. 3 – Dynamics of the currencies of the NMC vis-à-vis the ECU/EURO

(one unit of national currency per 1 ECU/EURO)

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Bulgarian lev	1.9522	1.9482	1.9492	1.9490	1.9533	1.9558	1.9558	1.9558	1.9558	1.9558
Czech koruna	35.5990	34.0680	30.8040	31.8460	31.8910	29.7820	28.3420	27.7660	24.9460	26.4350
Estonian kroon	15.6466	15.6466	15.6466	15.6466	15.6466	15.6466	15.6466	15.6466	15.6466	15.6500
Latvian lats	0.5592	0.5601	0.5810	0.6407	0.6652	0.6962	0.6962	0.7001	0.7027	0.7057
Lithuanian litas	3.6952	3.5823	3.4594	3.4527	3.4529	3.4528	3.4528	3.4528	3.4528	3.4528
Hungarian forint	260.0400	256.5900	242.9600	253.6200	251.6600	248.0500	264.2600	251.3500	251.5100	280.3300
Polish zloty	4.0082	3.6721	3.8574	4.3996	4.5268	4.0230	3.8959	3.7837	3.5121	4.3276
Romanian leu	1.9922	2.6004	3.1270	3.7551	4.0510	3.6209	3.5258	3.3353	3.6826	4.2399

Source: Eurostat

In November 2008 Poland adopted a plan to introduce the Euro till 2012 and join the ERM 2 in 2009. This plan failed not only because of economic difficulties resulting from the crisis, but also because of political problems since the introduction of the Euro required an amendment to the Polish constitution. The Czech Republic planned to adopt the Euro in 2013-2015, Latvia in 2014, and Lithuania in 2011-2012. Romania wanted to join the ERM 2 by 2012, but while before the global crisis the main obstacle to the country was the inflation criterion, the crisis gave rise to concerns about the fiscal deficit criterion.

The openness to international trade is important for assessing the international integration of a national economy, for selecting a type of an exchange regime and for deciding on monetary union membership. The more open an economy is, the more the changes in international prices of tradables affect domestic prices and cost of living and the less useful is the nominal exchange rate as an instrument for absorbing external shocks. A high openness to trade is likely to contribute to business cycle synchronization and decrease the need of domestic stabilization policies.

Table no. 4 – Openness of the NMC to the goods trade (percentage of GDP)

	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
EU-27	:	:	:	:	:	:	9.0	9.8	10.7	10.8	11.3	9.7
Bulgaria	34.4	34.8	42.9	43.5	41.7	43.8	47.7	53.3	58.6	59.3	57.2	40.8
Czech Republic	:	45.3	54.0	56.5	52.3	54.6	61.5	61.7	65.6	68.5	65.7	57.4
Estonia	58.3	51.3	65.3	60.1	55.3	54.4	57.3	63.7	67.7	60.7	58.9	49.2
Cyprus	:	22.0	24.3	23.4	21.7	18.9	20.2	21.7	21.0	21.6	26.0	21.3
Latvia	38.3	33.1	33.3	35.1	35.1	37.2	40.7	42.9	43.5	40.5	37.0	30.6
Lithuania	42.0	35.2	40.4	44.8	47.0	45.6	46.5	51.1	53.9	51.3	55.9	45.5
Hungary	44.9	54.4	64.1	60.3	53.5	53.0	55.6	57.3	66.1	67.4	68.9	61.0
Malta	55.6	59.0	73.6	59.7	59.1	58.2	56.2	53.1	55.1	53.1	47.3	37.0
Poland	:	20.0	24.6	23.9	25.4	29.4	33.4	32.2	35.3	36	35.8	32.8
Romania	22.9	25.4	30.0	31.7	32.9	33.5	35.4	32.8	32.6	30.8	30.9	28.1
Slovenia	43.8	41.8	47.2	47.4	45.8	45.4	49.5	52.5	56.7	59.7	57.6	47.3
Slovakia	:	52.7	60.6	65.0	63.2	66.7	67.6	69.3	77.6	77.6	74.2	61.8
NMC	42.5	39.6	46.7	46.0	44.4	45.1	46.6	49.3	52.8	52.2	51.3	42.7
EA	30.3	32.9	37.8	36.1	37.2	36.9	38.2	38.2	40.1	40.4	40.1	33.0

Source: Eurostat

The NMC are open economies and according to the Optimum Currency Area (OCA) criterion of McKinnon they are suitable for a monetary union membership. The average openness of the NMC to both the goods trade and the service trade is well above the EU-27 average (*See Tables 4 and 5*). The NMC as a group are more open to goods trade and less open to service trade than the EA.

Table no. 5 – Openness of the NMC to the service trade (percentage of GDP)

	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
EU-27	:	:	:	:	:	:	3.2	3.4	3.6	3.7	3.9	3.8
Bulgaria	12.6	12.6	15.3	14.2	13.5	14.3	14.8	14.4	14.8	14.4	13.8	12.1
Czech Republic	:	10.7	10.9	10.1	8.8	8.2	8.5	8.9	9.1	9.0	9.1	10.5
Estonia	21.3	21.2	21.5	21.8	19.3	18.3	19.1	19.6	18.1	17.4	18.3	18.2

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Cyprus	:	28.1	30.5	30.9	29.5	28.4	28.1	27.2	27.3	28.6	33.5	29.5
Latvia	14.2	11.7	11.8	11.2	10.4	10.9	10.7	11.6	11.6	11.1	11.3	11.5
Lithuania	8.8	8.6	7.6	7.7	8.5	8.4	9.0	10.0	10.2	9.5	9.7	9.0
Hungary	10.3	9.8	11.3	11.8	10.6	10.9	10.2	11.0	11.4	11.9	12.6	13.2
Malta	26.0	26.5	23.9	24.2	23.5	22.8	24.3	27.1	34.5	37.8	36	34.4
Poland	:	2.5	5.7	4.9	4.8	5.1	5.3	5.2	5.9	6.2	6.2	6.1
Romania	3.6	4.4	5.0	5.2	5.1	5.0	4.9	5.4	5.7	5.4	6.0	6.2
Slovenia	8.2	7.7	8.4	8.4	8.7	8.5	9.0	9.6	9.9	10.5	11.4	10.9
Slovakia	:	9.4	10.2	10.7	10.5	9.5	8.5	9.0	9.1	9.0	9.3	8.1
NMC	13.1	12.7	13.5	13.4	12.8	12.5	12.7	13.3	14.0	14.2	14.8	14.1
EA	8.9	11.4	12.4	12.8	16.7	16.1	16.7	17.6	18.7	19.8	20.3	19.4

Source: Eurostat

The NMC are highly integrated with EU in terms of trade: above 70% of the NMC's exports and imports are within EU-27. These shares are comparable to the respective EA shares.

The share of the NMC exports in the total intra-EU exports has grown more than two times for ten years: from 0.5% in 1999 to 1.1% in 2009. The share of the NMC imports in the total intra-EU imports also almost doubled in 1999 compared to 2009, which means an increase in the trade integration of NMC with the EU.

The share of the NMC in the total EU exports for third countries tripled in 2009 in relation to 1999 – from 0.2% to 0.6%. The share of the NMC in the total EU imports from third countries rose from 0.5% during 1999 to 0.7% in 2009. This shows certain redirection of the NMC trade to markets outside the EU.

In the main twenty sources of the EA-16 imports there are four NMC: Poland, the Czech Republic, Hungary and Romania. The total share of these four countries in the EA-16 imports increased from 7% in 1999 to 12% in 2009 which demonstrates an intensification of trade relations between NMC and the EA.

In the main twenty markets for the exports from EA-16 are the same four NMC - Poland, the Czech Republic, Hungary and Romania. The total share of these countries in the EA-16 exports grew from 8.3% in 1999 to 12.6% in 2009, which proves enhanced trade integration between the NMC and the EA.

The impact of trade integration on business cycle convergence has been broadly discussed in literature (European Commission, 1990; Fidrmuc, 2004; Frankel *et al*, 1998; Krugman, 1993). The small open economies of the NMC are highly integrated with each other and with the EA in terms of trade. A lot of investigations have been made on how synchronized the NMC are with each other and with the EA as a result of the increased trade. Most empirical investigations infer that the bigger trade synchronization varies by countries (Kocenda, 2001; De Haan *et al*, 2008; Fidrmuc *et al*, 2003; Korhonen, 2003). Other examinations find that the level of synchronization resulting from trade depends on the type of the shock which hits the economy (Babetskii, 2005; Horvath *et al*, 2004; Babetskii *et al*, 2004). This conclusion agrees with theory which expects benefits from spill-over effects and policy coordination but also a loss of synchronization because of specialization. Some surveys summarize many of the publications on the business cycle similarity of the NMC and the EA (Fidrmuc *et al*, 2004). They establish sufficient correlation of the business cycles of Hungary, Poland and Slovenia. This similarity resembles the business cycle similarity among the main participants in the European

Monetary Union. The Czech Republic is as much synchronized with the EA as the peripheral EA members are. The Balkan and the Baltic countries (except for Estonia) have the lowest level of business cycle convergence with the EA.

3. MONETARY POLICY AND PRICE DEVELOPMENTS

The legal independence of national central banks and the compliance with the operational framework of the European Central Bank (ECB) are formal prerequisites for the adoption of the single currency. The European Commission (EC) and the ECB monitor the progress in these areas in their Convergence Reports providing detailed information about how compatible national legislations and central bank statutes are with the Maastricht Treaty. The Convergence Reports are the most comprehensive published sources for assessing the legal convergence of central banks of the NMC.

Table no. 6 – Indexes for legal convergence of the central banks of the NMC (percentage of total legal convergence)*

	Cyprus	**Czech Republic**	**Estonia**	**Latvia**	**Lithuania**	**Hungary**	**Malta**	**Poland**	**Slovakia**	**Slovenia**
Independence of the Central bank										
A: Objectives and decisions	96.8	87.3	87.3	87.3	96.8	87.3	96.8	84.1	87.3	87.3
B: Monetary financing	100.0	100.0	100.0	100.0	100.0	86.7	93.3	86.7	86.7	100.0
Integration in the ESCB										
C: FX operations	72.2	69.4	69.4	69.4	52.8	50.0	38.9	38.9	66.7	83.3
D: Monetary operations	57.1	57.1	42.9	71.4	42.9	42.9	42.9	28.6	28.6	52.4
E: Banknotes and coins	0.0	8.3	25.0	0.0	25.0	25.0	0.0	0.0	8.3	25.0
F: Financial provisions	100.0	80.0	73.3	60.0	100.0	80.0	80.0	80.0	60.0	100.0
G: Other issues	71.4	78.6	64.3	75.0	71.4	81.0	76.2	77.4	73.8	100.0
Overall Index	78.5	75.5	71.2	74.2	76.6	72.6	72.6	66.4	68.3	83.9

** Calculated by scoring the legal compliance of the central banks of the NMC as follows: 3 points for a completely compatible clause; 2 points for clauses, which require clarification; 1 point for imperfect clause; 0 points for incompatible clauses.*

Source: "Economic and Monetary Integration of the New Member States", ECB Occasional Paper Series No. 36/September 2005

On the basis of the EC Convergence Report 2004 overall indices for the legal and operational convergence of the NMC central banks have been obtained (see *Table 6).* The indices are expressed in percentage (a value of means full convergence, and a value of 0 – lack of convergence). The convergence in the field of CB independence was almost complete in 2005. The "Objectives and decisions" index is related to decision making criteria and procedures in the area of monetary policy and to the individual independence of the Governor and the Governing council of the CB. The "Monetary financing" index refers to the ban for the CB to finance the public sector by monetary means. Both indices exceeded 80%, they often reached 100%.

The "Integration in the ESCB" chapter concerns the compliance of the operational and administrative framework of the CB with the ECB. In this technical field the progress in 2005 was less than with the CB independence. If „Banknotes and coins" (an area which

does not require the participation of all central banks) is excluded, the fields of less advancement in 2005 were those related to monetary operations (readiness to take part in open market operations of the ESCB) and FX operation. Yet, as a whole the progress in most key area in 2005 was significant.

In addition to the legal and technical rules it is important whether the CBs of the NMC have other features which can assist their integration in the EA monetary policy implementation tools. Sometimes formal regulations may prove misleading or incomprehensive to fully understand the real institutional status or the actual degree of independence of the CB (De Haan *et al*, 2004). Seeing beyond legal arrangements is not an easy task. Since maintaining medium-term price stability is a key target for the ECB, it is crucial to assess whether the actual monetary policies implemented by the CBs of the NMC, are consistent with this target. Examining the behaviour of the CBs may show whether their preferences for monetary targets are similar. Monetary decision making rules are affected by both the preferences of the CBs for policy results and the monetary policy transmission mechanism. The preferences for the main monetary objectives in Hungary, the Czech Republic and Poland are compatible with the medium-term price stability goal of the ECB (European Central Bank, 2005).

Tables 7-10 outline the problem areas in the legal convergence of the NMC from 2004 to 2010. The most problematic areas in this period were the CB independence and the legal integration in the Eurosystem. Areas of less concern were confidentiality and the ban on monetary financing.

Table no. 7 – Problem areas of the legal convergence of the NMC (up to 2004)

	Problematic areas
The Czech Republic	CB independence; Legal integration in the Eurosystem; Confidentiality
Estonia	CB independence; Legal integration in the Eurosystem
Cyprus	Legal integration in the Eurosystem
Latvia	CB independence; Legal integration in the Eurosystem
Lithuania	CB independence; Legal integration in the Eurosystem
Hungary	CB independence; Legal integration in the Eurosystem
Malta	CB independence; Legal integration in the Eurosystem
Poland	CB independence; Legal integration in the Eurosystem
Slovenia	CB independence; Legal integration in the Eurosystem
Slovakia	Legal integration in the Eurosystem

Source: ECB Convergence Report 2004

Table no. 8 – Problem areas of the legal convergence of the NMC (up to December 2006)

	Problematic areas
The Czech Republic	CB independence; Legal integration in the Eurosystem
Estonia	Legal integration in the Eurosystem
Cyprus	CB independence
Latvia	CB independence; Legal integration in the Eurosystem
Hungary	CB independence; Legal integration in the Eurosystem
Malta	CB independence; Legal integration in the Eurosystem
Poland	CB independence; Legal integration in the Eurosystem
Slovakia	CB independence; Legal integration in the Eurosystem

Source: ECB Convergence Report December 2006

Table no. 9 – Problem areas of the legal convergence of the NMC (up to May 2008)

	Problematic areas
Bulgaria	CB independence; Legal integration in the Eurosystem
The Czech Republic	CB independence; Legal integration in the Eurosystem
Estonia	Legal integration in the Eurosystem
Latvia	CB independence; Legal integration in the Eurosystem
Lithuania	None
Hungary	CB independence; Legal integration in the Eurosystem
Poland	CB independence; Legal integration in the Eurosystem
Romania	CB independence; Legal integration in the Eurosystem

Source: ECB Convergence Report May 2008

Table no. 10 – Problem areas of the legal convergence of the NMC (up to May 2010)

	Problematic areas
Bulgaria	CB independence; Legal integration in the Eurosystem; Ban on monetary financing
The Czech Republic	CB independence; Legal integration in the Eurosystem; Ban on monetary financing; Confidentiality
Estonia	Legal integration in the Eurosystem; Ban on monetary financing
Latvia	CB independence; Legal integration in the Eurosystem
Lithuania	CB independence
Hungary	CB independence; Legal integration in the Eurosystem; Ban on monetary financing
Poland	CB independence; Legal integration in the Eurosystem; Ban on monetary financing
Romania	CB independence; Legal integration in the Eurosystem; Ban on monetary financing

Source: ECB Convergence Report May 2010

All NMC, irrespective of their monetary policy strategies, recorded positive economic developments before the global financial crisis. The high economic growth of NMC before crisis was driven by a massive inflow of foreign capital and excessive demand in product markets. This excessive demand caused a number of negative consequences such as increased current account (CA) deficits, higher foreign indebtedness, faster growth of wages in comparison with labour productivity, rise in inflation. The NMC, which implemented Euro-related inflation targeting policies, managed partly to decrease their inflation rates.

After the burst of the global crisis the monetary policies of the NMC, which targeted the exchange rates, changed. These policies became less restrictive to interest rates and especially to minimum reserve requirements. The change took place in mid-2008 when the balance between the risk of inflation and the risk of recession altered. Till mid 2008 monetary policies were restrictive due to inflation concerns, but after this the CBs loosened the restrictions by decreasing interest rates and minimum reserve requirements. The purpose of the decreases in interest rates and minimum reserve requirements was to provide additional liquidity to the bank system and increase lending to businesses and households.

Under global financial crisis the monetary policies of the NMC had to take into consideration the forecasts for the development of the real sector of economy. The lower inflation and the economic slump required an additional decrease in interest rates and a better coordination of the interest rate polices of the NMC with the interest rate policy of the ECB. Changes in interest rates had to be very well estimated because their over-reduction might have resulted in depreciation of the currencies of the countries without a CBA. It was advisable that the monetary policies of the NMC not only consider the fulfilment of the inflation criterion, but also facilitate the long-term financial stability.

During 1998-2009 the average values of the HICP for the NMC-12 were always higher than the EA average (*see Table 11*). This can be explained by the natural process of convergence of price levels between the NMC and the EA. The values of standard deviation of the HICP inflation for the NMC always exceeded the respective EA values, meaning that the risk of inflation was higher for the NMC as group than for the EA.

Table no. 11 – Annual percentage change of the HICP

	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
EA-16	1.2	1.2	2.2	2.4	2.3	2.1	2.2	2.2	2.2	2.1	3.3	0.3
Bulgaria	18.7	2.6	10.3	7.4	5.8	2.3	6.1	6.0	7.4	7.6	12.0	2.5
Czech Republic	9.7	1.8	3.9	4.5	1.4	-0.1	2.6	1.6	2.1	3.0	6.3	0.6
Estonia	8.8	3.1	3.9	5.6	3.6	1.4	3.0	4.1	4.4	6.7	10.6	0.2
Cyprus	2.3	1.1	4.9	2.0	2.8	4.0	1.9	2.0	2.2	2.2	4.4	0.2
Latvia	4.3	2.1	2.6	2.5	2.0	2.9	6.2	6.9	6.6	10.1	15.3	3.3
Lithuania	5.4	1.5	1.1	1.6	0.3	-1.1	1.2	2.7	3.8	5.8	11.1	4.2
Hungary	14.2	10.0	10.0	9.1	5.2	4.7	6.8	3.5	4.0	7.9	6.0	4.0
Malta	3.7	2.3	3.0	2.5	2.6	1.9	2.7	2.5	2.6	0.7	4.7	1.8
Poland	11.8	7.2	10.1	5.3	1.9	0.7	3.6	2.2	1.3	2.6	4.2	4.0
Romania	59.1	45.8	45.7	34.5	22.5	15.3	11.9	9.1	6.6	4.9	7.9	5.6
Slovenia	7.9	6.1	8.9	8.6	7.5	5.7	3.7	2.5	2.5	3.8	5.5	0.9
Slovakia	6.7	10.4	12.2	7.2	3.5	8.4	7.5	2.8	4.3	1.9	3.9	0.9
NMC-12	12.7	7.8	9.7	7.6	4.9	3.8	4.8	3.8	4.0	4.8	7.7	2.4
Standard deviation for NMC-12	14.7	11.9	11.4	8.5	5.6	4.3	2.9	2.2	1.9	2.8	3.6	1.8
Standard deviation for the EA	2.1	2.4	2.7	1.9	1.5	1.8	1.5	0.7	0.8	0.7	0.8	0.9

Source: Eurostat

As a whole before the burst of the crisis inflation rose in all NMC in 2008 and only Slovakia met the inflation criterion. The increase in inflationary pressures in the NMC was caused by internal and external factors. The domestic factors were the higher individual consumption, the shortage of workforce and the adjustment of administrated prices and indirect taxes. The international factors were related to an increase in food and energy prices. During the first half of 2009 inflation was above the reference value in all NMC, although it fell because of the economic decline since the reference value decreased more than inflation in the NMC as a result of the crisis. The criterion of inflation remained unachievable for most NMC even in crisis conditions.

In 1998 the average price level for the NMC as a group (54.1% of EU-27 price level) was about one half of the EA average (102.2% of EU-27 price level). In 2009 these levels were respectively 106.5% и 71.2% (*See Table 12*). For 11 years the NMC price level converged to EA price level by 12.8%. This price level convergence was a part of the process of entire economic convergence between the NMC and the EA.

Table no. 12 – Comparative price levels (percentage of EU-27

	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
EA-16	102.2	101.6	100.2	100.5	100.5	103	103.1	102.1	101.9	101.6	104	106.5
Bulgaria	37.5	37.9	38.7	40.9	40.8	40.7	42	43.2	44.9	46.2	50.2	52.7
Czech Republic	47.5	46.4	48.1	50	57	54.5	55.4	58.1	61.3	62.4	72.8	70.6
Estonia	54.1	56.9	57.2	61	60.8	62	63	64.7	68.5	73.1	78	75.1
Cyprus	87.1	87.4	88	88.9	89.1	90.9	91.2	90.3	90.3	88.1	90.5	91.2
Latvia	49.2	52.1	58.8	59	57	54.4	56.1	57	60.7	66.6	72.6	74.8
Lithuania	45.6	46.8	52.6	54.1	54.2	52.3	53.5	54.8	57.3	60	64.7	67.8
Hungary	45.7	47.1	49.2	52.9	57.4	58.3	62	63.3	60.6	66.7	68.1	65.5
Malta	69.4	70.5	73.2	74.7	74.6	72	73.2	73	74.8	75.5	78.8	81.4
Poland	53.6	51.8	57.9	64.8	61.2	54.4	53.2	61.1	62.4	62	69.1	58.6
Romania	43.2	37.9	42.5	41.7	42.9	43.4	43.3	54.4	57.6	63.8	60.9	57.5
Slovenia	74.1	74.1	72.8	73.9	74.4	76.3	75.5	76	76.7	79	82.3	85.5
Slovakia	41.9	40.5	44.4	43.4	44.7	50.7	54.9	55.4	58	63.2	70.2	73.7
NMC-12	54.1	54.1	57.0	58.8	59.5	59.2	60.3	62.6	64.4	67.2	71.5	71.2
Differential between EA and NMC	48.1	47.5	43.3	41.7	41.0	43.8	42.8	39.5	37.5	34.4	32.5	35.3

Source: Eurostat

An important question related to the dynamics of prices and the fulfilment of the inflation criterion by the NMC concerns the size of the Balassa–Samuelson (BS) effect. The Balassa–Samuelson effect represents an increase in the NMC domestic inflation and in the inflation differential vis-à-vis the EA as a result of the faster growth in productivity of tradables compared to non-tradables in the NMC. The domestic and international dimensions of the Balassa–Samuelson effect are parts of the so called structural inflation and are crucial to macroeconomic policy. Structural inflation is a natural phenomenon related to the process of a catch-up economic development of the NMC and should be accepted as normal. If structural inflation does not affect labour and financial markets, two questions arise: first, can macroeconomic policies control structural inflation, and second, does it make any sense to control structural inflation at all? The size of the BS effect is a matter of great concern to the policymakers in the NMC and in the European institutions. If the difference in productivity growth between the sectors of tradables and non-tradables is bigger in an EA applicant country than in the EA, then the overall inflation in the EA applicant country will be higher than in the EA. Under a fixed exchange rate regime this will result in a real appreciation of the national currency of the EA candidate country. Under a floating exchange rate regime the outcome will be a combination of nominal revaluation of the national currency and a rise in HICP inflation. Both scenarios can impede the fulfilment of the criteria of inflation and exchange rate stability.

If a country with a fixed exchange rate regime attempts to keep its inflation close the average inflation for the countries with the lowest inflation in the EU, but the BS effect exceeds 1.5%, then the price stability criterion cannot be covered. Macroeconomic management may be compelled at least for a while to conduct restrictive fiscal and monetary policies in order to secure the fulfilment of the inflation criteria. Restrictive macroeconomic policies are likely to negatively influence employment and economic growth.

If a state with a floating exchange rate regime tries to maintain inflation below the reference value but the BS effect is higher than 1.5%, it is advisable that the national currency be allowed to appreciate. This appreciation is unlikely to impede very much the meeting of the exchange rate stability criterion because the BS effect must be quite high in order to cause exchange rate fluctuations outside the allowed in the ERM 2 15% in a two-year period. The fast appreciation of the national currency may contribute to a massive inflow of speculative foreign capital, which can negatively affect financial stability and international competitiveness of the national economy.

The existence, the size and the impact of the BS effect on the economic policies of the NMC have been broadly discussed in economic literature. The early empirical investigations (1998-2002) suggested that BS effect was relatively high. If structural inflation is high due to strong effects of the catch-up development, then the propositions by academics and policymakers for alleviation of the inflation criterion receive empirical support (Égert, 2003; Égert *et al*, 2006; Golinelli *et al*., 2002; Halpern *et al*, 2001; Kovács *et al*, 1998; Rother, 2000; Begg *et al* 2003; Buiter *et al*, 2002; Darvas *et al*, 2008; Szapáry, 2000).

More recent research concluded that the BS effect was relatively low (Mihaljek *et al*, 2004; Coricelli *et al*, 2001; Égert, 2002a; Égert, 2002b; Égert *et al*, 2003; Flek *et al*, 2002; Kovács, 2002; Lojschova, 2003). Since in the course of time the speed of the catch-up development of the NMC is likely to decrease, then the BS effect should become weaker and pose no serious threat for the fulfilment of the inflation criterion.

Some facts related to the BS effect are difficult to explain. On one hand, the data presumed that the BS effect was not the main cause of the relatively high annual inflation of 3-6% in most NMC before the crisis. On the other hand, although the rise in productivity of tradable industries before the global crisis was high, it did not lead to high inflation. Possible explanations of these facts are: a rise in prices of tradables resulting from quality improvements; an influence of regulated prices on the overall inflation; an interrupted relation between productivity growth and real wages in manufacturing industries; an incomplete equalization of wages and a substantial increase in productivity of non-tradable industries; a low market share of non-tradables in Consumer Price Indices in the NMC and so on (Égert *et al*, 2008; Cincibuch *et al*, 2006; MacDonald *et al*, 2004; Égert, 2007; Alberola-Ila *et al*, 1998; Égert *et al*, 2006).

The empirical investigations on the BS effect in the NMC after 2004 are few (Burgess *et al*, 2003; Chukalev, 2002; Égert, 2005a; Égert, 2005b; Égert *et al*, 2003; Mihaljek *et al*, 2007; Mihaljek *et al*, 2004; Nenovsky *et al*, 2002; Wagner *et al*, 2004). This year is important because in 2004 ten NMC joined the EU followed other two in 2007. Six of the twelve NMS, which joined the EU in 2004 and 2007, have already, adopted the Euro – Slovenia, Cyprus, Malta, Slovakia Estonia and Latvia, with Lithuania expecting to join the EA in early 2015. The magnitude of the BS effect is a matter of great interest to NMC because they all are either present or future members of the EA.

The domestic BS effects in Bulgaria and Estonia explained approximately 23% of HICP inflation (about 1.1% on average). Latvia and Lithuania had negative domestic BS effects, i.e. the faster growth in the productivity of tradables compared to non-tradables was related to a slight decline in relative prices of tradables and in overall inflation (Mihaljek *et al*, 2009).

For Bulgaria the international BS effect (the inflation differential vis-à-vis the EA) was 0.03%, for the Czech Republic – 0.17%, for Estonia – 0.95%, for Hungary – 1.55%, for Latvia – 0.62%, for Lithuania – 4.63%, for Poland – 0.90%, for Romania – 0.44%, for

Slovakia – 1.96%, for Slovenia – 1.69% (Mihaljek *et al,* 2008). The stronger the international BS effect, the more difficult the fulfilment of the Convergence criterion of inflation. Slovenia and Slovakia – countries with relatively strong BS effects vis-à-vis the EA, proved that the inflation criterion could be met even when the BS effect exceeded the margin of 1.5%. In the same time it can be assumed that the quite high BS effect vis-à-vis the EA for Lithuania was one of the factors which prevented Lithuania from joining the EA in 2007. The high international BS effect for Lithuania could be explained by the substantial productivity rise in the country. It may be inferred that the low international BS effect for Bulgaria should not hamper the fulfilment of the inflation criterion.

The prices of services in Bulgaria lagged behind the prices of tradables. In 2010 the prices of transportation and tourism services in Bulgaria were less than half of the EU-27 level (45%). The respective percentage for food was 66%, for clothing - 75%, for shoes – 73% and so on. Considering the BS effect, in the future the prices of services are likely to grow more rapidly than the prices of tradables.

4. STABILITY OF PUBLIC FINANCE

From 1998 to 2003 the NMC as a group had difficulty in meeting the criterion of fiscal deficit – the average fiscal deficit for the NMC was above the reference value (*See Table 13).* This could be explained by the slow progress of the consolidation of the public finance in the NMC during 1998-2003. From 2004 to 2008 the NMC as group considerably improved the fulfilment of the fiscal deficit criterion and the NMC average was below the reference value. This change might be due to the positive effects of the EU membership, to the persistence of the NMC in the implemented reforms and to the economic growth, which led to higher budget revenues. During 2004-2008 the NMC average fiscal deficits were close to the EA average values. In 2009 under the impact of the global financial crisis the NMC suffered a fiscal shock and the average value of the fiscal deficit for the group sharply deteriorated, but the situation in the EA was even worse. The standard deviation was higher for the EA than for the NMC as a whole, meaning that the risk of fiscal shock was bigger for the EA than for NMC group.

While before the global financial crisis the most difficult convergence criterion for the NMC was the inflationary one, during the crisis the fiscal deficit criterion became the primary concern for the NMC. In 2008 the fiscal deficit criterion was not covered by Lithuania, Latvia, Hungary, Poland and Romania, although in 2007 only Hungary failed to meet this criterion. Despite all the NMC had better fiscal balances than many EA member states. Monetary criteria are crucial to fiscal stability since they can facilitate or impede the fulfilment of the fiscal balance criterion. In crisis exchange rate targeting was a better strategy for meeting the fiscal deficit criteria than inflation targeting because inflation targeting could considerably aggravate the fiscal balance. This was the case in Romania, whose fiscal balance has become a problem since 2008 due to the implemented policy of active inflation targeting (Pop, N. et al., 2010).

Table no. 13 – Dynamics of fiscal balances of the NMC and the Euro area (percentage of GDP)

	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
EA	-2.2	-1.3	0.1	-1.8	-2.5	-3.1	-2.9	-2.5	-1.3	-0.6	-2.0	-6.3
Bulgaria	1.3	0.2	-0.3	0.6	-0.8	-0.3	1.6	1.9	3.0	0.1	1.8	-3.9
Czech Republic	-5.0	-3.7	-3.7	-5.6	-6.8	-6.6	-3.0	-3.6	-2.6	-0.7	-2.7	-5.9

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estonia	-0.7	-3.5	-0.2	-0.1	0.3	1.7	1.6	1.6	2.5	2.6	-2.7	-1.7
Cyprus	-4.1	-4.3	-2.3	-2.2	-4.4	-6.5	-4.1	-2.4	-1.2	3.4	0.9	-6.1
Latvia	0.0	-3.9	-2.8	-2.1	-2.3	-1.6	-1.0	-0.4	-0.5	-0.3	-4.1	-9.0
Lithuania	-3.1	-2.8	-3.2	-3.6	-1.9	-1.3	-1.5	-0.5	-0.4	-1.0	-3.3	-8.9
Hungary	-7.8	-5.4	-3.0	-4.0	-8.9	-7.2	-6.4	-7.9	-9.3	-5.0	-3.8	-4.0
Malta	-9.9	-7.7	-6.2	-6.4	-5.5	-9.8	-4.7	-2.9	-2.6	-2.2	-4.5	-3.8
Poland	-4.3	-2.3	-3.0	-5.3	-5.0	-6.2	-5.4	-4.1	-3.6	-1.9	-3.7	-7.1
Romania	-3.2	-4.4	-4.7	-3.5	-2.0	-1.5	-1.2	-1.2	-2.2	-2.5	-5.4	-8.3
Slovenia	-2.4	-3.0	-3.7	-4.0	-2.5	-2.7	-2.2	-1.4	-1.3	0.0	-1.7	-5.5
Slovakia	-5.3	-7.4	-12.3	-6.5	-8.2	-2.8	-2.4	-2.8	-3.5	-1.9	-2.3	-6.8
NMC-12	-3.7	-4.0	-3.8	-3.6	-4.0	-3.7	-2.4	-2.0	-1.8	-0.8	-2.6	-5.9
NMC standard deviation	3.0	2.1	3.0	2.2	2.8	3.3	2.4	2.5	3.0	2.2	2.0	2.2
EA standard deviation	3.1	3.1	4.6	3.5	2.9	2.9	2.4	2.3	2.4	2.6	3.2	3.8

Source: Eurostat

The NMC as a group fulfilled the public debt criterion better than the EA during the whole period 1998-2009 (*See Table 14*). This fact may be explained by the consistent policy of the NMC for achieving stability in the area of public finance. The public debt of all NMC during the financial crisis increased due to the rise in fiscal deficit, bank recapitalization and loans for private companies. The only NMC which failed to meet the public debt criterion was Hungary. Most of the Hungarian public debt was foreign and denominated in foreign currencies. The depreciation of the Hungarian forint against the Euro and the unoptimistic growth prospects of the Hungarian economy led to a sharp increase in Hungarian public debt.

Table no. 14 – Dynamics of public debt in the NMC and the EA the NMC and the Euro area (percentage of GDP)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EA	72.9	71.7	69.2	68.2	68.0	69.1	69.5	70.1	68.3	66.0	69.4	78.7
Bulgaria	79.6	79.3	74.3	67.3	53.6	45.9	37.9	29.2	22.7	18.2	14.1	14.8
Czech Republic	15.0	16.4	18.5	24.9	28.2	29.8	30.1	29.7	29.4	29.0	30.0	35.4
Estonia	5.5	6.0	5.1	4.8	5.7	5.6	5.0	4.6	4.5	3.8	4.6	7.2
Cyprus	51.2	51.8	48.7	52.1	64.6	68.9	70.2	69.1	64.6	58.3	48.4	56.2
Latvia	9.6	12.5	12.3	14.0	13.5	14.6	14.9	12.4	10.7	9.0	19.5	36.1
Lithuania	16.6	22.8	23.7	23.1	22.3	21.1	19.4	18.4	18.0	16.9	15.6	29.3
Hungary	59.9	59.8	55.0	52.0	55.6	58.4	59.1	61.8	65.6	65.9	72.9	78.3
Malta	53.4	57.1	55.9	62.1	60.1	69.3	72.3	70.1	63.7	61.9	63.7	69.1
Poland	38.9	39.6	36.8	37.6	42.2	47.1	45.7	47.1	47.7	45.0	47.2	51.0
Romania	16.6	21.7	22.5	25.7	24.9	21.5	18.7	15.8	12.4	12.6	13.3	23.7
Slovenia	:	:	:	26.8	28.0	27.5	27.2	27.0	26.7	23.4	22.6	35.9
Slovakia	34.5	47.9	50.3	48.9	43.4	42.4	41.5	34.2	30.5	29.3	27.7	35.7
NMC-12	34.6	37.7	36.6	36.6	36.8	37.7	36.8	35.0	33.0	31.1	31.6	39.4

Source: Eurostat

In general under the conditions of a global financial crisis the fulfilment of the Maastricht criteria by the NMC complicated. The decrease in inflationary pressures was less than expected, the fiscal balances deteriorated and the exchange rates of the countries with floating exchange rate regimes became more volatile.

5. ECONOMIC DYNAMICS

During 1998-2009 the per-capita GDP in the NMC gradually converged to the EA levels (*See Table 15).* While in 1998 the per-capita GDP in the EA was two times higher than in the NMC (113% versus 56% of EU-27 per-capita GDP), in 2009 the difference fell from 57% to 37% of EU-27 per-capita GDP. On average, the NMC shortened the distance to the EA by 1.8% of EU-27 per-capita GDP per annum.

During the whole period 2000-2009 the real GDP growth was higher for the NMC as a group than for the EA (*See Table 16).* This fact could be explained by the so called process of catch-up economic development, in which less developed economies such as the NMC, gradually catch up on their lagging behind more advanced economies such as the EA member states. The high GDP growth in the NMC was mainly due to a massive inflow of Foreign Direct Investment (FDI) and an increase in labour productivity.

Table no. 15 – Per-capita GDP in the NMC and the EA (percentage of EU-27=100)

	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
EA	113	113	112	112	111	111	109	110	109	109	108	108
Bulgaria	27	27	28	29	31	32	34	34	36	38	41	:
Czech Republic	70	69	68	70	70	73	75	76	77	80	80	80
Estonia	42	42	45	46	50	54	57	62	65	69	67	62
Cyprus	87	87	89	91	89	89	90	91	91	93	96	98
Latvia	36	36	37	39	41	43	46	49	52	56	57	49
Lithuania	40	39	39	41	44	49	50	53	55	59	62	53
Hungary	54	55	55	59	62	63	63	63	63	63	64	63
Malta	80	81	84	78	79	78	77	78	77	77	76	78
Poland	48	49	48	48	48	49	51	51	52	54	56	:
Romania	:	26	26	28	29	31	34	35	38	42	:	:
Slovenia	79	81	80	80	82	83	86	87	88	89	91	86
Slovakia	52	50	50	52	54	55	57	60	63	68	72	72
NMC-12	56	54	54	55	57	58	60	62	63	66	64	71
Differential between the EA and the NMC	57	60	58	57	54	53	49	48	46	43	39	37

Source: Eurostat

Table no. 16 – Real GDP growth compared to the previous year (percentage)

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
EA	3.9	1.9	0.9	0.8	2.2	1.7	3.0	2.8	0.6	-4.1
Bulgaria	5.4	4.1	4.5	5.0	6.6	6.2	6.3	6.2	6.0	-5.0
Czech Republic	3.6	2.5	1.9	3.6	4.5	6.3	6.8	6.1	2.5	-4.1
Estonia	10.0	7.5	7.9	7.6	7.2	9.4	10.0	7.2	-3.6	-14.1
Cyprus	5.0	4.0	2.1	1.9	4.2	3.9	4.1	5.1	3.6	-1.7

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Latvia	6.9	8.0	6.5	7.2	8.7	10.6	12.2	10.0	-4.2	-18.0
Lithuania	3.3	6.7	6.9	10.2	7.4	7.8	7.8	9.8	2.8	-14.8
Hungary	4.9	4.1	4.4	4.3	4.9	3.5	4.0	1.0	0.6	-6.3
Malta	:	-1.6	2.6	-0.3	0.7	3.9	3.6	3.8	1.7	-1.5
Poland	4.3	1.2	1.4	3.9	5.3	3.6	6.2	6.8	5.0	1.7
Romania	2.4	5.7	5.1	5.2	8.5	4.2	7.9	6.3	7.3	-7.1
Slovenia	4.4	2.8	4.0	2.8	4.3	4.5	5.8	6.8	3.5	-7.8
Slovakia	1.4	3.5	4.6	4.8	5.0	6.7	8.5	10.6	6.2	-4.7
NMC-12	4.7	4.0	4.3	4.7	5.6	5.9	6.9	6.6	2.6	-7.0
Standard deviation for the NMC	2.2	2.6	2.0	2.6	2.1	2.3	2.4	2.6	3.5	5.7
Standard deviation for the EA	1.9	1.7	1.8	1.9	1.4	1.8	1.7	2.2	2.0	2.0

Source: Eurostat

The higher standard deviation for the NMC suggests that the risk of GDP decline is bigger for the group of the NMC than for the EA. Possible explanations of this fact are the higher business cycle synchronization in the EA compared to the NMC and the implementation of a common monetary policy in the EA for mitigating the consequences from the economic crisis.

During 2000 the labour productivity per hour worked in the NMC was more than two times lower than the EA average - 99.3% versus 40.7% of the EU-15 productivity (*See Table 17).*

Table no. 17 – Labour productivity per hour worked (percentage of EU-15)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EA	:	:	99.3	99.6	99.2	99.2	98.7	99.2	99.3	99.7	99.6	99.7
Bulgaria	24.1	25.1	27.1	27.8	29.1	29.7	29.7	29.6	30.6	31.0	:	:
Czech Republic	43.4	44.2	43.9	47.1	47.2	49.8	51.1	51.1	51.7	53.9	54.0	55.2
Estonia	:	:	34.5	35.6	37.4	40.1	42.2	44.1	44.8	47.8	47.7	50.6
Cyprus	63.4	63.9	64.5	65.0	64.0	62.8	64.7	65.7	65.8	68.0	69.5	70.3
Latvia	:	:	26.5	27.8	29.0	29.9	31.8	32.7	33.6	35.9	38.1	37.2
Lithuania	33.5	34.2	33.8	37.5	38.8	42.4	43.2	42.6	44.3	46.3	47.9	43.0
Hungary	41.9	41.0	41.3	45.4	47.1	48.5	49.6	49.6	49.9	50.4	52.8	51.8
Malta	:	:	72.1	79.8	70.2	71.5	69.2	70.1	70.8	69.2	67.6	:
Poland	35.5	:	38.7	39.3	41.1	42.0	43.3	43.2	42.8	43.6	44.1	:
Romania	:	18.5	18.6	20.2	22.8	24.7	27.4	28.4	31.0	33.8	39.3	36.5
Slovenia	:	:	:	:	:	:	:	72.3	73.6	74.5	73.6	:
Slovakia	45.4	45.9	46.7	49.4	52.5	55.0	55.3	56.8	59.6	63.4	65.9	67.7
NMC-12	41.0	39.0	40.7	43.2	43.6	45.1	46.1	48.9	49.9	51.5	54.6	51.5
Differential between the EA and the NMC			58.6	56.4	55.6	54.1	52.6	50.4	49.4	48.2	45.0	48.2

Source: Eurostat

During 2009 the respective numbers were 99.7% и 51.5%. For 9 years the NMC have caught up with EA by 10.4% of EU-15 productivity. Similar trends can be seen in the data on labour productivity per person employed (*See Table 18*). The decrease in labour productivity differential between the EA and the NMC might be due to the overall process of liberalizing and restructuring of the NMC economies - larger private sector of economy, stronger competition, inflow of foreign investment and technological innovations, increased quality of the workforce and so on.

Table no. 18 – Labour productivity per person employed (percentage of EU-27)

	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
EA	115	114.0	112.6	112.0	110.9	110.5	109.5	109.7	109.6	109.6	109.2	109.1
Bulgaria	27.2	28.6	30.4	31.4	33.0	33.4	33.7	33.5	34.6	35.0	37.2	37.2
Czech Republic	60.2	61.9	61.8	63.2	63.0	66.5	68.0	68.5	69.3	71.5	71.9	71.7
Estonia	41.4	43.3	46.9	48.1	50.9	54.6	57.4	60.5	61.3	65.0	63.8	63.8
Cyprus	82.3	83.1	85.0	86.7	84.5	82.4	82.8	82.8	83.8	86.1	87.2	88.6
Latvia	36.8	37.9	40.2	41.8	43.0	44.0	45.7	47.9	48.8	51.2	52.0	49.9
Lithuania	40.9	40.4	42.7	46.9	48.0	52.0	53.3	54.4	56.2	59.1	62.0	55.6
Hungary	58.1	57.0	57.7	62.0	64.8	65.8	67.4	67.5	67.9	68.2	71.2	70.1
Malta	:	:	96.7	89.8	92.0	90.2	90.0	90.6	90.4	88.8	86.9	87.6
Poland	50.6	54.0	55.2	56.0	58.7	60.0	61.5	61.3	60.7	61.7	62.0	65.1
Romania	:	23.3	23.6	25.6	29.3	31.1	34.4	35.9	39.6	43.2	50.2	47.1
Slovenia	75.2	76.7	76.2	76.3	77.8	79.2	82.0	83.8	84.0	84.0	84.3	80.8
Slovakia	56.3	56.6	58.0	60.5	62.4	63.3	65.4	68.5	71.4	75.7	79.2	78.8
NMC-12	52.9	51.2	56.2	57.4	59.0	60.2	61.8	62.9	64.0	65.8	67.3	66.4
Differential between the EA and the NMC	62.1	62.8	56.4	54.6	52.0	50.3	47.7	46.8	45.6	43.8	41.9	42.7

Source: Eurostat

The composition of output (the structure of gross value added by sectors of economy) is important for assessing the degree of structural convergence. If this structure differs substantially by countries, sector disorders may grow into asymmetric country shocks. Kenen (1969) and Dedola *et al* (2000) show that differences in the composition of output may create idiosyncratic national business cycle because sectors vary in cyclical properties and even in responses to monetary measures.

Structures of gross value added and employment are in a close relationship with the phase of economic development. The higher level of development is characterized by a bigger share of services and smaller share of agriculture in gross value added and employment, while the relationship between industry share and per capita output is U-shaped (Chenery *et al*, 1968).

Table 19 displays the shares of four sectors (agriculture, industry, construction and services) in gross value added of the New Member States and the Euro area for 1997 and 2007. In all sectors the differences between the Euro area and the new member countries have shrunk for ten years. By a process of structural convergence the New Member States have shortened the distance in economic development vis-à-vis the Euro area.

Table no. 19 – Gross value added at basic prices (percentage of total)

	Agriculture		Industry		Construction		Services	
	1997	2007	1997	2007	1997	2007	1997	2007
Euro area	2.8	1.9	22.7	20.4	5.7	6.5	68.7	71.1
New Member States	8.1	3.9	25.8	23.0	6.0	7.4	60.1	65.7
Difference	- 5.3	- 2.0	-3.1	-2.6	-0.3	-0.9	8.7	5.4

Source: Europe in figures. Eurostat yearbook 2009

6. BALANCE OF PAYMENTS

In 1998-2009 the chronic Current Account (CA) deficits were a major macroeconomic problem for the NMC (*See Table 20).* While the EA member states had a relatively balanced CA, the average CA deficit for the NMC reached 10% of GDP in certain years. In 2009 due to the sharp contraction of domestic demand and imports the average CA deficit for the NMC fell to 1.3% of GDP.

An interesting relationship between the type of the exchange rate regime and the CA balance can be observed. The CA deficit as a percentage of GDP was lowest in the NMC, which did not participate in the ERM 2 – the Czech Republic, Hungary and Poland. The countries in the ERM 2 (the Baltic States) had higher CA deficit as a share of GDP. As a whole, the NMC with fixed exchange rate regimes had higher CA deficit relative to GDP than the NMC with floating exchange rate regimes. The theoretical explanation of this fact is that the flexible exchange rate absorbs external shocks (such as the CA deficit) and facilitates the smoother adjustment of the national economy to these shocks, for example by national currency depreciation, which stimulates exports and hampers imports.

Table no. 20 – Current account balance as a percentage of GDP

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EA	:	-0.5	-1.5	-0.4	0.6	0.3	0.8	0.1	-0.1	0.1	-1.7	-0.6
Bulgaria	-0.4	-5.1	-5.5	-7.3	-5.6	-8.5	-6.6	-12.4	-18.4	-26.8	-24.0	-9.4
Czech Republic	:	-2.4	-4.8	-5.3	-5.6	-6.2	-5.3	-1.3	-2.4	-3.2	-0.7	-1.1
Estonia	-8.6	-4.3	-5.3	-5.4	-9.8	-11.3	-11.3	-10	-16.9	-17.8	-9.4	4.6
Cyprus	:	-1.7	-5.3	-3.2	-3.7	-2.3	-5.0	-5.9	-6.9	-11.7	-17.5	-8.3
Latvia	-9.5	-8.9	-4.8	-7.6	-6.6	-8.2	-12.9	-12.5	-22.5	-22.3	-13.0	9.4
Lithuania	-11.5	-11.0	-6.0	-4.7	-5.1	-6.8	-7.7	-7.1	-10.6	-14.5	-11.9	3.8
Hungary	-4.7	-7.7	-8.5	-6.0	-6.9	-8.0	-8.3	-7.2	-7.2	-6.6	-7.0	0.2
Malta	-5.7	-3.2	-12.6	-3.8	2.4	-3.1	-6.0	-8.8	-9.2	-6.1	-5.6	-3.9
Poland	:	-9.1	-6.0	-3.1	-2.8	-2.5	-4.0	-1.2	-2.7	-4.7	-5.1	-1.6
Romania	-6.9	-4.0	-3.7	-5.5	-3.3	-5.5	-8.4	-8.6	-10.5	-13.4	-11.6	-4.5
Slovenia	-0.6	-3.2	-2.7	0.2	1.0	-0.8	-2.6	-1.7	-2.5	-4.8	-6.2	-1.0
Slovakia	:	-5.7	-3.5	-8.3	-7.9	-0.8	-3.4	-8.4	-8.2	-5.7	-6.6	-3.2
NMC-12	-6.0	-5.5	-5.7	-5.0	-4.5	-5.3	-6.8	-7.1	-9.8	-11.5	-9.9	-1.3

Source: Eurostat

The financial crisis decreased domestic demand and exports and as a consequence the CA deficit of the NMC declined. Despite this decline the financing of the CA deficit in crisis conditions became problematic because of the outflow of capital from the NMC and the reluctance of foreign investors to stay in markets with higher levels of risk. Many NMC

were forced to use their foreign exchange reserves in order to finance deficits not only on the Current Account but also on the Financial Account of the Balance of Payments. The Financial Account deficits were mainly due to the decreased inflow of FDI to the NMC.

7. CONCLUSIONS

This article reveals the specificity of the macroeconomic integration of the new member countries in the EU before the EA debt crisis by outlining the main trends in the macroeconomic development of the NMC and by making recommendations on the macroeconomic policies the NMC ought to follow under crisis conditions.

Five Six of the twelve NMS, which joined the EU in 2004 and 2007, have already, adopted the Euro – Slovenia, Cyprus, Malta, Slovakia, Estonia and Latvia (with Lithuania expecting to join the EA in early 2015). There is a considerable progress in the integration of the NMS but there is still much to done. At the present moment a group accession to the EA of all NMS, which have not adopted the Euro yet, cannot be achieved. An individual approach considering the specificity of each country is needed for adopting the Euro.

The economic integration is not merely a convergence (a decrease in the differences in basic macroeconomic indicators of a group of countries) but a much more complex process of real inclusion of national economies in a single market. Integrating economies specialize, cooperate and complement each other; their business cycle similarity increases but national competitive advantages still play a vital role.

The integration does not mean just adopting the Euro but combining the sectors of a national economy in the sectorial structures of an integration community. The degree of integration is not determined by the EA membership but by trade and sectorial structures and interactions. A country should not enter the EA before it is integrated in trade and sectorial structures of the Single market of the EU. The monetary integration is a culmination of the integration process and ought to be implemented after the national economy is structurally integrated in the EU. Proof of this are the PIIGS (Portugal, Italy, Ireland, Greece and Spain) which experience economic difficulties some of which may be attributed to their inability to withstand the pressures of sharing a common currency.

The NMS have achieved a high degree of nominal convergence with the EA. As to real convergence, the situation of the separate NMS is quite different. The trade integration of the NMS with the EA is very strong. The structural integration (for example measured as the composition of the gross value added) has progressed more slowly than the trade integration, which may slow the process of real convergence.

Some NMS have achieved a higher business cycle similarity with the EA than other. The labour markets of the NMS are as flexible at least as the labour markets of the EA member countries. In terms of financial integration, the NMS are far behind the EA.

Poland, Hungary and the Czech Republic still use the exchange rate to counteract external economic shocks. Though these countries cover the optimum currency area criteria, they face difficulties in meeting the Maastricht criteria.

The legal convergence of the NMS to the EA has advanced considerably. As to the legal independence of the Central banks the convergence process is almost complete. In the area of monetary policy the NMS still have work in setting their Central banks in operative and technical compliance with the European System of Central Banks.

In order to satisfy the convergence criteria in crisis condition, the NMS need to reformulate their macroeconomic policies in accordance with the macroeconomic specificity of each country.

The fulfilment of the Maastricht criteria requires deep structural reforms. A fiscal deficit of up to 3% of GDP presumes self-financing of the public pension system, while the exchange rate stability suggests maintaining the correlation between the growth of productivity and the growth of real wages. The process of meeting the nominal convergence criteria should be accompanied by actions to adjust the real economy by a process of real convergence.

The NMS should adapt their macroeconomic policies to crisis conditions. Transparent, consecutive and foreseeable macroeconomic policies are needed to smoothly adjust the economy and regain the trust of foreign investors. Such policy ought to be directed at decreasing the external and internal macroeconomic imbalances (for instance, the budget deficits and the current account deficits).

The macroeconomic (fiscal and monetary) policies of the NMS under crisis conditions are characterized by heterogeneity and asymmetry of the measures taken. The macroeconomic imbalances vary by countries under the influence of different factors – size of excessive demand at the onset of the crisis, structure of foreign trade, size of foreign debt, share of separate economic sectors in gross value added etc.

The type of the exchange rate regime has specific impact on the macroeconomic policies of the NMS. In the countries with fixed exchange rates fiscal and monetary measures are restricted by the necessity to maintain the stability of national currencies. In the inflation-targeting NMS such as Hungary and Romania, the fall in interest rates during the crisis was limited by the liquidity problems in the inter-bank market and by the high inflation rates in these countries at the beginning of the crisis.

In 2010 the stability of the Euro was threatened by the debt crisis in some of the peripheral EA countries - Greece, Portugal, Italy, Ireland and Spain. Saving the common currency is crucial to the successful continuation of the process of European (not only economic) integration.

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