WORLD ECONOMY RESEARCH INSTITUTE

New Member States of the euro zone. First experiences and lessons for Poland

Elżbieta Kawecka-Wyrzykowska

No 300

(The paper was presented at the Pacific Rim Conference, March 24-27, 2009, Kyoto, Japan.
It was prepared in the framework of the multilateral research project " Comparative Regional Integration: The European Integration Process and Its Implication to East Asia"
Agreement no. 2008-2709/001-001, financed by the European Commission under the Jean Monnet program).

JEL classification: E52, E42, E58

Warsaw 2009

Revieved by

Janusz Gołębiowski

WERI Working Papers are circulated to stimulate exchange of information,
discussion and critical comments.

WARSAW SCHOOL OF ECONOMIC
WORLD ECONOMY FACULTY
WORLD ECONOMY RESEARCH INSTITUTE
24, Rakowiecka 02-521 Warsaw, Poland
Phone (48 22) 564 93 70
Fax (48 22) 564 86 74
e-mail weri@sgh.waw.pl

Table of Contents

Summary findings

All new Member States (NMS) of the EU have committed themselves in their accession treaties to join the area of the common currency. None of them was able to join the euro zone on the day of the EU accession. Four NMS (Slovenia, Malta, Cyprus, Slovakia) have already acceded to this zone. For the other NMS, including Poland, the question is – when to adopt the euro. The author of this paper addresses this question looking at the situation of Poland and taking into account the experience of recent euro zone members.

Preparing for the euro adoption is often seen in terms of meeting the Maastricht criteria. It should be clear, however, that the euro adoption is not a goal in itself and meeting the criteria is no guarantee for success in the euro zone. After the euro adoption, some of the present members, such as Ireland, flourished while others, such as Portugal, floundered. Implementation of the euro requires a comprehensive strategy including first of all a well-balanced macroeconomic policy mix. Proper preparation for the euro adoption should also be associated with implementation of strong domestic adjustment mechanisms. Economic, legal and political challenges associated with meeting the euro zone criteria by Poland are discussed in the paper.

World financial crisis and slowdown of Polish economy have broadened list of arguments for entering euro zone but at the same time those factors have intensified problems with meeting criteria for entering the euro, especially fiscal criteria. Also, a number of additional risks are involved in the process of preparations for the euro adoption in the period of economic uncertainty (e.g. big uncertainty of the future situation makes the setting up of a proper level of central parity exchange rate more difficult). However, policy aimed at meeting Maastricht criteria is important and required even if a country does not aspire for euro zone as fulfillment of those criteria (especially of fiscal character) is consistent with the conduct of sound economic policy: low deficit and public debt are usually beneficial for the economy.

1. Introduction

Economic and monetary union (EMU) of the EU has been one of the most ambitious and at the same time the most difficult steps in the process of the European integration. On 1 January 2009, the euro completed its first decade in existence. The bold program of monetary integration of the EU countries bases on the theoretical approach called “optimum currency area” (OCA). When the euro was created, most European economies did not score high on several OCA criteria, but the OCA theory could not deliver clear guidance. Some economists have been stressing since the very beginning that this idea cannot work. Recent EU enlargements and the adoption of poorer countries have intensified worries about the prospects and proper functioning of EMU. The recent financial crisis has increased the interest of some euro zone applicant countries in adoption of the common currency as a way to better cope with new challenges but, at the same time, has revealed new problems and threats.

In this context, the objective of the paper is to identify the first experiences of common currency area, to assess the prospects for the new Member States of the EU (NMS)[1], which are still outside the euro area, and to present main challenges facing Poland as a country that has been aspiring for the euro zone. These issues have their merits especially when we remember that all NMS have committed themselves in their accession treaties to join the area of the common currency, even if they are not able to do that at the moment. In particular we address the question: when Poland should join the euro zone: as soon as possible from the formal point of view, or rather should wait longer, taking into account unclear domestic and external environment.

The paper is structured as follows. It starts with a general information on legal status of NMS with regard to the EMU and to meeting formal requirements of the euro adoption and is followed by theoretical arguments for beneficial OCA. Next, the experience of the original euro zone members and first members of the group of NMS is presented. Against this background, Poland’s situation with regard to fulfillment of convergence criteria and prospects for the euro adoption is discussed.

The thesis of the paper is the following: common currency offers a number of advantages for Poland but its adoption has to be well prepared. Such preparation cannot be limited to meeting criteria of nominal convergence and other legal obligations resulting from the EU law. It should be assisted by policies aiming to underpin the sustainability of convergence. Financial crisis in the world economy and economic slowdown in 2008/2009 in Poland have enhanced the arguments for joining the euro zone, albeit the decision to adopt the euro in the nearest period has become more risky and less realistic.

[1] We refer here to countries which joined the EU in 2004 and in 2007 and have not joined the euro area yet. For technical reasons we call them the new Member States of the EU (NMS) although they are not so “new” Members any more. Specific situation of the United Kingdom, Denmark and Sweden, the “old” EU Members staying outside the euro zone has not been covered here.

2. The legal status of the new Member States with regard to the EMU and convergence criteria

- Under the accession treaties, all 10 NMS[2] (later Bulgaria and Romania as well) have become members of the European Monetary Union (EMU). None of them entered the euro zone on the day of EU accession. All of them committed themselves in their accession treaties to adopt euro in the future, after having fulfilled the required criteria and obligations, including Maastricht criteria (nominal convergence criteria). Apart from those criteria, they have to ensure full independence of the national central banks and adjust respective domestic laws.

Given that at the time of the EU accession, the NMS did not fulfill these criteria, they obtained the so called status of EMU "Member States with a derogation"[3]. The condition for lifting the derogation is the fulfillment of the above mentioned nominal convergence Maastricht criteria. The Treaty establishing the EC, being a legal foundation for EMU, formulated five such criteria [box]. In other words, the adoption of the common currency implies, above all, that applicant countries should apply disciplined macro-economic policy (intended to assure the maintenance of low public finance deficit, low inflation and a stable exchange rate) which enables both, their sustainable development and brings them forward towards meeting the convergence criteria (the so called Maastricht criteria).

- The degree of fulfillment of convergence criteria is subject to ECB and European Commission (EC) periodic evaluation. Also, the final assessment of country's readiness for membership in the euro area is based on Commission and ECB reports.

There are two types of criteria (convergence criteria) to be met by countries aspiring to the euro zone (see also the box):

➢ Institutional (legal) criteria ;
➢ Economic (nominal convergence) criteria:
- (a) two fiscal criteria,
- (b) three monetary criteria.

Box: *Nominal convergence criteria.*

Maastricht criteria are indicated in Article 121 (1) of the EC Treaty of 1992 (detailed criteria are contained in the Annex to the TEC). They include the following criteria:

(a) the achievement of high price stability ("…a rate of inflation which is close to that of, at most, the three best performing Member States in terms of price stability"),

(b) the sustainability of the government financial position - criterion relating to a public debt and a deficit ("… a government budgetary position without a deficit that is excessive…"),

© durability of convergence being reflected in long term interest rate levels;

(d) exchange rate stability for at least two years, in the ERM ("the observance of the normal fluctuation margins provided for by the exchange-rate mechanism of the European Monetary System, for at least two years, without devaluing against the currency of any other Member State").

---

[2] Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia.
[3] In conformity with art. 121 and 122 of the TEC.

The above mentioned criteria and the relevant periods over which they are to be respected are developed further in a Protocol annexed to the TEC. The details of those criteria are the following:
(a) The deficit of public finances (government) must not exceed 3% of GDP,
(b) Public borrowing must stay at a level not higher than 60% of GDP,
© Inflation rate during the reference period is not higher than by 1.5 percentage points of the average of such rates of three best performing EU countries in terms of price stability;
(d) the long-term interest rate (on 10 years bonds) must not exceed by more than 2 percentage points of the average interest rates of three best performing EU members in terms of price stability;
(e) Stability of exchange rate during 2 years – it means that for at least 2 years prior to the assessment, the currency must participate in the Exchange Rate Mechanism II (ERM II). During that time the market exchange rate oft he domestic currency should, without any severe tensions on the foreign exchange market, fluctuate against the central parity within the band of maximum +/- 15%.

These concrete criteria have been questioned by some economists. For example, according to Prof. D. Rosati (Poland), fiscal criteria are coherent only for a limited range of GDP nominal growth. When a debt ceiling is 60% of GDP, deficit ceiling – 3% of GDP and inflation ceiling is assumed to be 2%, the real growth of GDP cannot be higher than 3% (see: D. Rosati, *Financial Convergence and Catching Up, ACE-PHARE Project „Catching Up and EU Accession"*, Warsaw Vienna, 2001, mimeo).

The fulfilment of those criteria allows to recognise the economy of a given EU country as sound and competitive, which, in the future, will not constitute a burden for the remaining euro area members. In other words, the convergence criteria should ensure healthy and similar economic situation in all member states before euro zone creation or before joining the existing monetary zone. Without meeting them, it might happen that one region (uncompetitive one) would require big support after entering the euro zone in order to restore the international competitiveness. But such support would be against the interests of other partners who are competitive.

The main objective of the monetary cooperation is price stability[4] on the territory of the EU. All other objectives are of secondary importance, subordinated to the main goal. This means a different goal than for example in the USA where one of the objectives of the monetary policy of FED – parallel to price stability - is supporting the economic growth.

Box: *Definition of stability of prices*
Stability of prices in quantitative terms was not defined in the Treaty. EBC adopted (in the end of 1998) such a goal and in the next years it was expressed in a more precise way. Since then, it has been understood as yearly inflation rate measured by Harmonized Index of Consumer Prices – HICP) not higher than 2% (and not lower than 0%[5]) per year in medium term (without precising this period).
EBC policy affects the stability of prices in the whole euro zone but the rate of inflations is still not the same in all euro zone countries as it results from many other factors which are different in individual countries.

[4] The assumption that „inflation is bad" was important in particular for Germany where the reminiscences of two hyperinflations from the interwar period were still alive during the discussions on the idea of EMU.
[5] Deflation (decrease of nominal level of process) can be as bad as inflation as it results in decrease of companies' incomes and exerts the pressure to reduce wages. Lower incomes in the economy translate into lower budgetary income, thus limiting financing of public goods, reducing demand for goods and services financed from the budget, servicing of the public debt, etc. Such negative implications appeared in Japan in the second half of the 1990s.

Let's notice that meeting the inflation criterion and ensuring the exchange rate stability is more difficult in the NMS than in the established economies because of the Balassa-Samuelson (B-S) effect. This effect means an inflationary pressure of faster productivity growth in catching up countries (NMS are such catching up countries, being at lower economic level but developing faster than mature economies). Inflationary pressure results from the fact that the productivity growth in tradable sectors is higher than that in the non-tradable sectors[6] (e.g. due to imports of new technologies, of capital, due to foreign competition pressure etc.). Improved earnings prospects in those sectors lead to higher wage demands and increased productivity translates into wage increases. Workers in non-tradable sector also demand wage increases, despite the fact that there are usually less economic grounds for that. As productivity in these sectors increases at lower pace than in tradable sectors, thus increase of salaries has to result in inflationary pressure in that sector. This explains why prices of services, which generally are non-tradable products, increase faster than prices of other goods. This affects also the exchange rate, leading to the appreciation of a nominal exchange rate in the case of a floating exchange rate system (allowing the inflation to be comparable to the rate of inflation abroad)[7]. Such extra inflation, caused by B-S effect, has nothing to do with a typical inflation sources, as e.g. budgetary deficit or excessive credit expansion of banks. It results exclusively from the accelerated productivity increases, which fully or partially translate into increase of wages.

Thus, in countries, where B-S effect works, reduction of inflation requires more restrictive monetary policy (higher real interest rates). Restrictive monetary policy, in turn, reduces inflation, but also the GDP growth. B-S effect is the greater, the higher is the difference between the rate of labor productivity growth in tradable sector and non-tradable sector and the lower is the share of tradable sector in the GDP. Simulations for Poland showed that before accession, the difference in the rate of productivity amounted to 8-9 p.p., which could translate into inflation resulting from B-S effect at the level of around 3-4 p.p. per year[8]. Next studies reduced these estimates to around 2.5 percentage points (on average) for the NMS[9]. Survey of most recent studies suggests an impact of B-S effect of below one

[6] This phenomenon was noted first by Bela Balassa who wrote that „with international differences in productivity being smaller in the service sector than in the production of traded goods, and wages equalized within each country, services will be relatively more expensive in countries with higher levels of productivity" (B. Balassa, *The Purchasing Power Parity Doctrine: A Reappraisal*, Journal of Political Economy, vol. 72, December 1964, pp. 584-596). This phenomenon was identified and examined independently also by Paul Samuelson and is known since then as the Balassa-Samuelson effect (B-S).

[7] See more: D. Rosati, *Polityka pieniężna i kursowa po wejściu Polski do UE*, w: *Polska w Unii Europejskiej. Uwarunkowania i możliwości po 2004 roku*, (*Monetary and Exchange rate policy after Poland's entry into the EU*, in: *Poland in the European Union. Conditions and possibilities after 2004*) ed. by G. Wojtkowska-Łodej, Szkoła Główna Handlowa, Warszawa 2003.

[8] Ibidem, p. 121 and D. Rosati, *The Balassa-Samuelson Effect In the EU Candidate Countries*, ed. by P. Grauwe, A. Inotai, *Trade, Integration and Transition*, The World Bank and the Institute for World Economics, Hungarian Academy of Sciences, Budapest, 2002, p. 58-77.

[9] A. Zimmer, M. McGinley, The Eastern Enlargement of the Monetary Union, SWP Comments, German Institute for International and Security Affairs, May 2006, p. 5.

percent for most NMS[10]. Certainly, the situation of individual countries is usually different; still the additional inflation resulting from B-S effect seems to be high, making early adoption of the euro risky for an economy.

Coordination of macroeconomic policies

In order to increase the similarity of countries and make common monetary policy easier, coordination of macroeconomic policies of Member States was introduced by the Maastricht Treaty (based on art. 98-104 of the TEC) and enhanced later by the Stability and Growth Pact (SGP). All EU Members are included in this process, meaning that all of them (including the non euro zone countries) are responsible for stability of the common currency and sound public financial systems.

The coordination of economic policies of EMU includes a number of elements, three of them being the most important ones:

- (a) Broad Economic Policy Guidelines – they are adopted by the Council of the EU by qualified majority voting, upon the proposal of the Commission. Later they are debated by the European Council and monitored by the European Commission. Member States have to report to the Commission any changes in their economic policies. Guidelines are adopted usually in the middle of a year. They are not legally binding but still – very important for the process of creation of the national macroeconomic policies.
- (b) Stability and Growth Pact (SGP).
- © Other coordination processes, including the Cardiff Program (started in 1998 and serves the verification of the degree of implementation of the structural reforms on goods and services market and on the capital markets), the Luxembourg process (concentrates on the employment policy and reforms of the labor market), etc.

3. Role of Stability and Growth Pact for the EMU functioning and for euro zone newcomers

An instrument to safeguard sound public finances, an important requirement for the EMU to function properly, and encourage countries to conduct sound economic policy has been the Stability and Growth Pact[11] (SGP) which was adopted in the middle of 1997. Its principal concern is to enforce fiscal discipline as a permanent feature of the EMU – through the coordination of national fiscal policies in the economic and monetary union. It means a complemention and at the same time a specification of the Treaty.

The Pact consists of a preventive and a dissuasive arm.

Under the provisions of the preventive arm, Member States have to submit annual stability/convergence programs (euro zone members prepare stability programs, and countries

[10] *EMU@10: successes and challenges after 10 years of Economic and Monetary Union*, European Economy, No. 2, Economic and Financial Affairs DG, European Commission, 2008.

[11] The Pact has been based on the resolution of the European Council from Amsterdam (of June 1997). Its provisions are laid down in two Council Regulations of 1997 (OJ EC L 209 of 2.08.1997).

preparing for euro zone prepare convergence programs; common element for both programs are strategies of consolidation of financial systems of countries), showing how they intend to achieve or safeguard sound fiscal positions in the medium term taking into account the impending budgetary impact of population aging. The Commission assesses these programs and the Council gives its Opinion on them. The preventive arm includes two policy instruments. The Council, on the basis of a proposal by the Commission, can address an early warning to prevent the occurrence of an excessive deficit (based on art. 99 of TEC). Using the policy advice, the Commission can directly address policy recommendations to a Member State as regards the broad implications of its fiscal policies.

The dissuasive part of the Pact governs the excessive deficit procedure (EDP, based on art. 104 of TEC). The EDP is triggered by the deficit breaching the 3% of GDP threshold of the Treaty. If it is decided that the deficit is excessive in the meaning of the Treaty, the Council issues recommendations to the Member States concerned to correct the excessive deficit and gives a time frame for doing so. Noncompliance with the recommendations triggers further steps in the procedures. If excessive deficit persists, qualified majority of Member States (ECOFIN) can impose financial sanctions (payments up to 0.5% of GDP, in the case of nonconforming with the deficit criterion, not the debt) but only towards the euro zone countries, in the form of submitting non-interest deposit or paying fines in case of a persistent breaching of this procedure[12]. Non-euro zone EU Member States, to which excessive deficit procedure is applicable, are not liable to financial sanctions, however the blocking of Cohesion Fund can be applied. All members are obligated to submit data on general government deficit and debt levels to the European Commission (Maastricht notification) twice a year.

Table 2. Ongoing procedures under article 104 of the TEC (Excessive Deficit Procedure) –as of end February 2009

Country	Date of the Commission report (Article 104§3)	Council Decision on existence of excessive deficit (Art. 104.6)	Deadline for correction
France	18 February 2009		
Latvia	18 February 2009		
Malta	18 February 2009		
Ireland	18 February 2009		
Greece	18 February 2009		
Spain	18 February 2009		
UK	11 June 2008	8 July 2008	financial year 2009/10
Hungary	12 May 2004	5 July 2004	2009

Source: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/excessive_deficit9109_en.htm

[12] According to the Council Regulation (EC) No. 1467/97, OJ EC L 209/97.

Table 3. Closed procedures under article 104 of the TEC (Excessive Deficit Procedure) – as of end of February 2009.

Country	Date of the Commission report (Article 104§3)	Council Decision (104§12) abrogating the Decision on the existence of an excessive deficit
Poland	12/05/2004	08/07/2008
Portugal	22/06/2005	03/06/2008
Italy	07/06/2005	03/06/2008
Czech Rep.	12/05/2004	03/06/2008
Slovakia	12/05/2004	03/06/2008
Cyprus	12/05/2004	11/06/2006
Malta	12/05/2004	16/05/2007
UK	21/09/2005	12/09/2007
Greece	19/05/2004	16/05/2007
Netherlands	28/04/2004	07/06/2005
Germany	19/11/2002	16/05/2007
France	2/04/2003	30/01/2007
Portugal	24/09/2002	11/05/2004

Source: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/excessive_deficit9109_en.htm

The Pact was reformed in March 2005, mainly under the pressure of Germany and France which exceeded the treshhold of the budgetary deficit at 3% of the GDP but argued that their deficits resulted from very specific factors, not related to „bad“ economic policy[13]. The criteria for financial sanctions have been relaxed on the basis of a decision of Ministers of Finance in March 2005. Under some conditions, sanctions do not have to be applied even if an excessive deficit persists, e.g. business cycle should be taken into account, investment policy, social expenses. The assessment is to be done each case, on individual basis, by the European Commission.

Althought main rules remained untouched, some economists and politicians pointed to the fact that modified rules of the SGP consist in relaxing of the idea of the Pact and may create risks for the coherence of the EMU.

From the point of view of the euro zone applicants, the dissuasive part of the Pact is an important external instrument preventing excessive expenditure of the government budget. As already mentioned, any relaxation of fiscal policy, not justified by sudden and unfavourable change of macroeconomic environment, resulting in breaching the 3% of GDP reference value, will initiate the EC's excessive deficit procedure with the possibility of undertaking painful steps (in form of reducing its allocations from the Cohesion Fund). SGP

[13] Council Regulation No. 1055/2005, OJ L 174/05.

is probably a good, external pressure, to induce governments to reform the public finance system through cutting their public expenditures, especially in the longer term.

4. Theoretical conditions for effective monetary union (optimum currency area)

Theory suggests that costs and risks of monetary union (in that – of the EMU in the EU) will be low(er) if, at least, three conditions hold (see also chapter 7). These are optimum currency area (OCA) conditions. The first economist who formulated such criteria in 1961 was R. Mundell, later Nobel prize winner. Later, the theory of OCA was developed by numerous economists, including McKinnon (in the late 1960s) and de Grauwe (the 1970s).

The conditions for successful OCA – as suggested by theory - are the following:

- *Business cycles are synchronized* and also, the effects of the common monetary policy made in the EMU by the ECB are the same on each state ("one monetary policy fits all"), e.g. inflationary shock requires raise in interest rate and reduction of aggregate demand. If the shock is common to all Member States – optimal policy response is taken by the EBC. Otherwise, the monetary policy will intensify the inflationary pressure in some countries while in others it will raise unemployment contributing to the increase of economic differences.
- *Fiscal policy can be used to adjust demand in Member States in different ways*. In short run, fiscal policy provides an alternative to monetary policy for stabilizing demand. Governments can buy future tax revenue to stimulate aggregate demand during a recession and repay past borrowing to depress aggregate demand during a boom. Stability and Growth Pact has imposed a limit of 3% of GDP on the budget deficit (since the reform of the SGP, larger deficits are permitted to combat severe downturns). So, in practice, the scope for more active fiscal policy to compensate for the loss of monetary sovereignty is limited.
- *Labor markets are perfectly integrated* across the euro zone and labor mobility as well as flexibility of wages is high. If so, in case of adverse effects of an asymmetric shock (e.g. as a result of sudden reduction of export demand), unemployed people can emigrate to those regions where they easily can find jobs or the salaries can go down to adjust to a new situation. In practice, however, wage flexibility is very low (partly, because of trade unions policy).

All that should reduce a risk of asymmetric shocks[14]. The sensitiveness to asymmetric shocks is assessed by comparing the business cycles convergence in common currency zone' countries.

Despite the fact that EU economies did not meet all OCA criteria when the EMU was created, the successful establishment of EMU may suggest that the early theory does not

[14] Asymmetric shocks can be divided into supply shocks (i.e. climate changes, changes in marginal productivity of capital due to an uneven pace of technological progress, changes in raw materials prices, demographic trends, and wage shocks) and demand shocks (i.e. relative fluctuation of demand in investment and consumption or relative changes in export demand). The fiscal policy can also be a source of asymmetric shocks, both on the demand side (fluctuations of budgetary expenditures) and on the supply side (changes in taxes).

account fully for the net benefits deriving from monetary union[15]. Experts argue that an important development from "early OCA theory" to "new OCA theory" has recently taken place. Also, significant advances in econometrics have made it possible to take into account some aspects of OCA that shifted the balance of judgment in favor of monetary union. For example, the cost of giving up nominal exchange adjustment and national monetary policy seems to be rather low. It is also argued that countries participating in a monetary union tend to progressively satisfy the OCA criteria at some stage, even if they did not have those characteristics ex ante. This process has been enhanced by some exogenous factors, e.g. the Lisbon agenda (in that, knowledge-based economy). As a result, according to F. Mognelli we can talk about the "OCA theory in reverse", i.e. EMU obliges Member States performing modestly the OCA criteria to adjust and reform so that the States improve their performance[16].

5. Experience of the first EMU members

Inflation rate

According to many studies, and contrary to many fears expressed before the EMU creation, price increase after introduction of euro was small or negligible, although for some products/services (catering, culture and recreation services, some food products) the increase was higher[17]. According to Eurostat, inflation rate in 2002 was higher because of euro by 0.12-0.29 p.p.[18] At the same time, according to public opinion, the inflation accelerated and was much above the official statistics[19]. This discrepancy could be explained, at least partly, by such factors as[20]:

- Mistakes in official statistics (but this hypothesis was rejected by researchers).
- Price increases included first of all some products and services which were bought frequently (and constituted a small share of household spending, such a cup of coffee) and therefore were noticed easily by consumers (so called "cappucino effect"). Sometimes, they did rise disproportionally, as some restaurant and pub owners rounded up the conversion rate. As a

[15] See e.g. F. Mongelli, *European Economic and Monetary Integration, and the OCA Theory*, cited by: J.N. Martins, *Workshop EMU@10-achievements and challenges. Summary of Research Projects*, in: European Economy Research Letter, Economic and Financial Affairs, vol. 2, issue 1, March 2008, p. 2. The paper by F. Mongelli also reviews the synergies between OCA theory and EMU, and more generally EU integration, see also: *EMU@10: successes and challenges… op.cit.*
[16] F. Mongelli, *European Economic and Monetary Integration …op.cit.*, p. 3.
[17] K. Konopczak, M. Rozkrut, *Wpływ wprowadzenia wspolnej waluty do obiegu gotówkowego na zmiany w poziomie cen krajów strefy euro, (Effect of the implementation of common currency in form of cash on the level of prices in the euro zone countries)* NBP, July 2008.
[18] Eurostat, Euro-indicators news release, 2003
[19] In Slovenia, according to the public opinion, prices increased much, especially in the beginning of the year. In Malta and Cyprus – average opinion was not worrying about price increases.
[20] K. Konopczak, *Przegląd literatury w zakresie efektow cenowych wprowadzenia wspólnej waluty do obiegu gotówkowego w krajach strefy euro (Review of literature on price effects of the implementation of common currency in form of cash on the level of prices in the euro zone countries)*, „Discussion Paper" no. 2/2008, Narodowy Bank Polski, Biuro ds. Integracji ze strefą Euro.

result of that psychological effect (price increase of a few products but consumed often) people extrapolated from those prices hikes to the general price level.

- Rounding up of prices[21].
- Research shows also that an important part of price increase resulted from factors not related to the euro, in that bad whether conditions in agriculture, increasing labor costs, increase of indirect taxes in some countries. In several countries price increases were higher, first of all in Ireland (from 2-3% to 5-6%) and in Spain (partly as a result of B-S effect).

Experience of euro zone countries shows that some institutional solutions allow for reduction of adverse price effects of euro adoption. Such solutions include: effective communication between the authorities and the society, the length of a period of double pricing, price agreements between the authorities and companies. Positive experience in this respect seems to have been achieved in Slovakia (see next chapters).

Convergence of prices and effects of single currency on economic growth

Before the euro was implemented, big disparities between price levels among the Member States existed. According to the theory, single currency should reduce such disparities. Single currency and elimination of exchange rate risk should work towards equalization of prices. The first research on this issue did not, however, confirmed the idea of price equalization after the implementation of a single currency. Levels of inflations in the euro zone countries are still different, partly because of a different monopolization of individual economies, different rates of productivity increase, levels of indirect taxes etc. Also in the NMS, developments in consumer price inflation have shown a mixed picture over the past few years. Most of them recorded HICP inflation slow considerably in the run-up to EU membership , down from the double-digit figures often registered until the late 1990s. In 2004, HICP inflation picked up temporarily across the acceding countries, partly as a result of adjustments in indirect taxes, partly because of increased world prices of raw materials, etc. In the next years, the situation of individual NMS was different, partly because of different domestic macroeconomic policies[22].

From the point of view of prospects of introducing the euro in those countries an important issue is that single monetary policy of the ECB has different effects on individual countries. For countries with higher than average inflation the ECB policy can prove to be too soft. And vice versa – for countries with traditionally low inflation, this policy can be too restrictive. The result is different effects on economies of individual countries. For example, in a country with inflation lower than in majority of other countries of the euro zone, a given level of interest rates of EBC means relatively higher (as compared to other countries) real interest rates. This, in turn, makes economic recovery and improvement of labor market

[21] In Malta a legal prohibition of rounding up of prices was introduced.
[22] See more: *Five years of an enlarged EU. Economic achievements and challenges*, European Economy 1/2009 (provisional version).

situation more difficult[23]. NMS have to take into account those limitations of the effectiveness of domestic macroeconomic policies after the common currency id adopted.

In the opinion of many authors, the ECB has so far *fulfilled quite well its main* statutory goal, i.e. stability of prices. However, its activities have not been helpful to stimulate the growth of EU economy. Responding to this critique, the ECB has stressed many times that Member States themselves should take better care of structural reforms in order to create better conditions for economic growth because reductions of interest rates are not sufficient to achieve that goal.

Some economists argue however, that the euro had a direct positive impact on growth in the core euro area countries (Germany, France, Italy and the Netherlands). That positive impact can be estimated to be around 3% of additional output level in those countries. Also, a favorable effect on stability of euro area countries was presented, with the strongest effect found in the smaller countries[24].

Overall assessment

Generally we may say that, despite some problems, the monetary integration has been – so far – a success. The following arguments can be listed to support this opinion:

- 16 countries have already joined the euro zone, Slovakia being the recent member, starting on 1 January 2009;
- all euro members are subjected to a common monetary policy in the framework of the European System of Central Banks;
- all EU countries agreed on the Stabilization and Growth Pact rules (see more next);
- all EMU countries cooperate in the field of macroeconomic policies, coordinating these policies[25].

A consensus about the success of the euro – "an achievement of which the EU could be proud" was achieved during a workshop "EMU@10-achievements and challenges" that was organized by DG ECFIN on 26-27 November 2007[26].

6. Fulfillment of convergence criteria by the first euro zone members from the new Member States of the EU

As already said, the Accession Treaties did not provide for any date of fulfillment of Maastricht criteria and accession of NMS to the euro zone. Despite that, those countries should respect in their budgetary policies the procedures of the Stability and Growth Pact of 1997. Thus, the NMS have been expected to participate in the coordination of economic policies with other EU Members, as well as agree on their strategies to adopt the euro. NMS

---

[23] L. Oręziak, *Finanse Unii Europejskiej (Financial system of the European Union)*, Wydawnictwo Naukowe PWN, Warszawa 2004, s. 26.
[24] R. Barrel, D. Holland, E. Khoman, I. Liadze, O. Pomerantz, *The Impact of EMU on Growth and Employment*, cited by: J.N. Martins, *Workshop EMU@10-achievements and challenges … op.cit., p. 3.*
[25] See more: http://ec.europa.eu/economy_finance/euro/world/euro_world_6_en.htm
[26] The papers presented during this workshop were published in: *EMU@10: successes and challenges… op.cit*.

have been included to the Community economic policies co-ordination procedures as of 1 May 2004[27]. It means that macroeconomic and structural policies of those countries have been projected and implemented within the EU framework and are subject to regular assessments by the European Commission and the EU Council.

Countries aspiring to the euro zone must regularly present convergence programmes[28] serving for the assessment of the implementation of their policies of approaching the euro zone (euro zone members have to present stability programs). It means, that these countries are subject to periodical reviews conducted by the European Commission and the ECB from the point of view of fulfillment of the nominal convergence criteria and the degree of alignment of national legislation with respect to the ECB and EU requirements. Convergence reports address the requirements of the SGP (multilateral surveillance procedure and excessive deficit procedure – see more next).

The ten new Member States, that joined the UE in 2004, were assessed in convergence reports for the first time in October 2004 (convergence report was prepared also for Sweden at that time). None of the assessed countries obtained a positive opinion of the Commission at that time. Lithuania and Slovenia were again assessed in reports of May 2006. This time, Slovenia was found to be a country that fulfilled the necessary conditions and was ready to join the euro zone from 1 January 2007 (which had actually happened). Lithuania, however, slightly exceeded the threshold of acceptable inflation (only by 0.1 percentage point!) and maintained its status of a country with a derogation[29]. The Commission's argument was that Lithuania faced a great risk of increased inflation (missed sustainability of meeting the inflation criterion).

Negative decision of the Commission and EBC on Lithuania's application gave rise to discussion concerning the adequacy of the convergence criteria and the method of evaluation of their fulfillment. Suggestions also appeared that the Commission was adopting different standards for different EU Members, and its opinion was to a certain extent discretional.

In this discussion, the European Parliament expressed its worry because of the "possibility of inconsistency of inflation criterion interpretation in the convergence report by EBC and the European Commission". According to the European Parliament, the inflation criterion should not refer to the EU countries with the lowest inflation but to those which achieve the best results in terms of price stability. This argument was based on art 105 (1)of the TEC "the primary objective of the ESCB shall be to maintain price stability..."[30].

---

[27] Three, out of ten new Member States which joined the EU on 1 May 2004, i.e. Estonia, Lithuania and Slovenia, decided to enter the ERM II just two months after their EU accession (on 24 June 2004). This decisions signaled the determination of those countries to enter the euro zone as soon as possible.

[28] Convergence reports have been prepared since 1996 (at least every second year or upon the request of a country having a derogation; their procedure is determined by Article 122(2) TEC). Reports prepared in 1998 provided the basis for the adoption of the decision – by the European Monetary Institute – concerning the qualification of EU members of the euro zone. The Commission uses them to examine in detail whether the candidates fulfill the necessary conditions for adoption of the common currency, i.e. the convergence criteria and legal requirements.

[29] Lithuania so far is the only country which applied for the euro zone and was rejected in 2006 on the grounds of unsustainable inflation criterion.

[30] Parliament's declaration was based on arguments presented by a Polish Member of the Parliament, Prof. D. Rosati who argued that the European Commission and the ECB interpreted the inflation criterion in a different

Now, more than two years later, we may say that the Commission's predictions at that time proved to be right, as the risk of high inflation turned out to become an actual problem for the country[31].

In December 2006, the remaining countries were assessed again[32]. Although in many countries there was a progress in the implementation of the convergence criteria, none of them – according to the Commission –was ready yet to adopt the common currency[33].

In May 2007 the Commission issued a positive opinion on Malta and Cyprus as candidates for the euro zone. Basing on this opinion, the ECB decided that Cyprus and Malta had achieved the necessary degree of alignment of their macroeconomic situation with the convergence criteria. The fact is, however, that none of them managed to fully meet the public debt criterion (see box).

Box: Assessment of Malta's and Cyprus application for the euro zone

In its opinion of 16 May 2007 the Commission stated that Cyprus had fulfilled the necessary nominal convergence criteria. The rate of inflation over the past 12 months (until March 2007) amounted to 2.0% (reference value at that time was 3.0%). The condition of public finance was undergoing evolution in the positive direction: it was estimated that the public finance deficit would amount to 1.4% of GDP in 2007 , and the public debt 61.5% of GDP (in 2006 it amounted to 65.3%). The Commission found that the interest rate and exchange rate criteria were fulfilled.

In Malta, in turn, the ratio of public debt to GDP was reduced from 74% in 2004 to 66.5% in 2006, and in 2007 it should reach no more than 60%. The average rate of inflation over the last 12 months (until March 2007) amounted to 2.2%, i.e. remained below the reference threshold (3.0%). The budget deficit for 2007 was estimated at the level of 2.1% of GDP.

See: http://ec.europa.eu/economyfinance/news/hotissues/2007/convergence_Malta_Cyprus/ main_en.htm

On 1 January 2007 the euro was introduced into the Slovenian economy and two years later (on 1 January 2009), Slovakia implemented the euro[34] and - as a first member of the Visegrad Group - became the 16th member of the euro zone. The last accession was preceded by Council's decision to end the excessive deficit procedure vis-à-vis Slovakia.

Situation in Slovakia after adoption of the euro

Slovakian economy has not been affected adversely by the euro adoption. According to official data, inflation in January increased (surprisingly) very little: yearly inflation decreased to 3.7%, the lowest level in recent 13 months: January 2009 to January 2008 - prices increased by 0.7% (in the whole euro area – in January 2009 – by 1.1.%). More important – due to the euro the "domestic" currency did not depreciate so much as Polish zloty and energy prices did not increase that much. Also, interest rates were relatively low.

Source: *The Wall Street Journal. Polska*, Dziennik finansowy, 12.02.2009, p. 02.

way: the best record in terms of inflation does not mean there countries with the lowest inflation but three countries with the rate of inflation which is the closest to the goal of ECB – "below but close 2%". If this goal was adopted (the goal of the ECB), thus the inflation criterion for Lithuania would be 3.4% and Lithuania would be accepted to introduce euro (Reuters of 1 June 2006).

[31] High inflation in Lithuania and in other Baltic countries was to a great part a consequence of the above mentioned Balassa-Samuelson effect which caused the growth of inflation in the sector of services due to rapidly growing labor productivity and rapidly rising wages in the manufacturing sector, under the conditions of a fixed exchange rates.

[32] In October 2006 the Estonian government adopted the fifth version of the National Plan of euro implementation. In April 2007 such a Plan was adopted by the Czech Republic. Also in April 2007, the government of Lithuania adopted an up-date version of a national Plan and information strategy.

[33] Altogether, since 2004 till the end of 2008, the European Commission and the EBC prepared three regular Convergence Reports on the progress made by all the new Member States (Bulgaria and Romania were assessed for the first time in May 2008).

[34] The decision of withdrawing derogation to adopt euro was taken on the basis of the reports of the Commission and ECB on meeting the Maastricht criteria in June 2008. In July 2008 the Council of the EU established the exchange rate of Slovakian crone to euro that was to enter into force on January 1, 2009.

In 2007, apart from Slovakia, also Poland, Hungary and the Czech Republic were subject to the excessive deficit procedure and had determined deadlines for arriving at a lower deficit level. Hungary was in a state having the longest way to cover in order to meet the convergence criteria, as in 2007 it was the only NMS that did not meet any of those criteria. Hungary, similarly as the Czech Republic and Poland, as well as Bulgaria and Romania, have not joined the ERM II yet. Till recently, these countries have not even declared the timetable of steps in this direction, either owing to a difficult macroeconomic situation (Hungary), or due to cautious policy concerning the adoption of the common currency (Poland and the Czech Republic)[35]. On 19 February 2007, the Polish government announced officially that it started discussion with the European Commission on joining the ERM II.

The degree of fulfillment of the convergence criteria by eight new EU Member States, staying still outside the euro area, is illustrated in table 3 (for the period 2006-2008). The best situation prevails with regard to the level of public debt – majority of applicant countries have met this goal.

Table 3. Fulfillment of convergence criteria in the euro zone applicant countries in 2006-2008

		Price stability	Government budgetary position			Exchange rate		Long-term interest rate
		HICP inflation[1)]	Country in excessive deficit[2)]	General government surplus or deficit[3)]	General government gross debt[3)]	Currency participating in ERM II[2)]	Exchange rate vis-à-vis euro[4)5)]	Long-term interest rate[1)]
Bulgaria	2006	7.4	–	3.0	22.7	No	0.0	4.2
	2007	7.6	No	3.4	18.2	No	0.0	4.5
	2008	9.4[1)]	No[2)]	3.2	14.1	No[2)]	0.0[4)]	4.9[1)]
Czech Republic	2006	2.1	Yes	- 2.7	29.4	No	4.8	3.8
	2007	3.0	Yes	- 1.6	28.7	No	2.0	4.3
	2008	4.4[1)]	Yes[2)]	- 1.4	28.1	No[2)]	8.4[4)]	4.5[1)]
Estonia	2006	4.4	No	3.4	4.2	Yes	0.0	…[7)]
	2007	6.7	No	2.8	3.4	Yes	0.0	…[7)]
	2008	8.3[1)]	No[2)]	0.4	3.4	Yes[2)]	0.0[4)]	…[7)]
Latvia	2006	6.6	No	- 0.2	10.7	Yes	0.0	4.1
	2007	10.1	No	0.0	9.7	Yes	- 0.5	5.3
	2008	12.3[1)]	No[2)]	- 1.1	10.0	Yes[2)]	0.4[4)]	5.4[1)]
Lithuania	2006	3.8	No	- 0.5	18.2	Yes	0.0	4.1
	2007	5.8	No	- 1.2	17.3	Yes	0.0	4.5
	2008	7.4[1)]	No[2)]	- 1.7	17.0	Yes[2)]	0.0[4)]	4.6[1)]
Hungary	2006	4.0	Yes	- 9.2	65.6	No	- 6.5	7.1

[35] In Poland, in spring of 2007, a unit for the preparation of a new report on the benefits and costs of adoption of the euro by Poland was formed at the National Bank of Poland. This suggested that the national authorities were not interested, at that time, in joining the euro zone in the next few years.

	2007	7.9	Yes	- 5.5	66.0	No	4.9	6.7
	2008	7.5[1)]	Yes[2)]	- 4.0	66.5	No[2)]	- 2.7[4)]	6.9[1)]
Poland	2006	1.3	Yes	- 3.8	47.6	No	3.2	5.2
	2007	2.6	Yes	- 2.0	45.2	No	2.9	5.5
	2008	3.2[1)]	Yes[2)]	- 2.5	44.5	No[2)]	6.3[4)]	5.7[1)]
Romania	2006	6.6	–	- 2.2	12.4	No	2.6	7.2
	2007	4.9	No	- 2.5	13.0	No	5.4	7.1
	2008	5.9[1)]	No[2)]	- 2.9	13.6	No[2)]	- 10.3[4)]	7.1[1)]
Reference value[8)]		**3.2%**		**- 3%**	**60%**			**6.5%**

The criterion is fulfilled

1)Average annual percentage change. 2008 data refer to the period April 2007 to March 2008.
2) End-of-period data. The information for 2008 refers to the period until the cut-off date for statistics in the ECB Convergence Report 2008 (18th April 2008).
3) As a percentage of GDP. European Commission spring 2008 forecast for 2008.
4) Average annual percentage change. Data for 2008 are calculated as a percentage change of the average over the period 1st January to 18th April 2008 compared with the average of 2007.
5) A positive number denotes an appreciation vis-à-vis the euro and a negative number a depreciation vis-à-vis the euro.
6) With effect from 19th March 2007 the central rank of the Slovak koruna in ERM II was revalued by 8.5%.
7) For Estonia no long-term interest rate is available.
8) The reference value refers to the period April 2007 to March 2008 for HICP, inflation and for long-term interest rates, and to the year 2007 for general government balance and for general government debt.
Source: *Convergence Report 2008*, European Central Bank Frankfurt, May 2008, p. 30.

Since the negative decision on Lithuania's application, the enthusiasm for early euro adoption in the NMS has waned somewhat. Most NMS have been struggling to meet several of the entry conditions. Estonia and Latvia unilaterally delayed their euro adoption plans for the same reasons. The worsening of the economic situation in 2009 has substantially postponed plans to join the euro zone. The majority of other countries in the region also dropped the specific target and indicated that euro adoption would not be feasible until some time during 2011-2012, at the earliest.

7. Is Poland prepared to enter the euro zone ?

As already said, Poland has to enter the euro zone (EMU is a part of the *acquis communautaire*)[36]. This commitment does not mean automatically that euro adoption makes sense from economic point of view. Thus, a question appears; will resignation of national currency be beneficial for Poland?

One of crucial benefits expected from adoption of euro is reduction of transaction costs in mutual trade (risk of the exchange rate change, cost of changing the currency, of collection of information)[37]. The interrelation between benefits resulting from elimination of transaction costs and of a common currency is explained by the OCA theory. As results from

[36] The decision on adoption of the euro is taken by the Council of the EU for Economic and Financial issues (ECOFIN), after the assessment (a report) presented by the Commission and by the ECB.
[37] Transaction costs are estimated to be around 0.4-0.5% of the country's turnover with abroad. In 2006, around 60-70% of total payments with abroad, was denominated in EUR, i.e. EUR 250-300 billion. Thus, transaction benefits can be estimated at about EUR 1 billion (A. Dorosz, *Partycypacja w rencie z emisji waluty międzynarodowej, (Distribution of seniorage income*), mimeo October 2007).

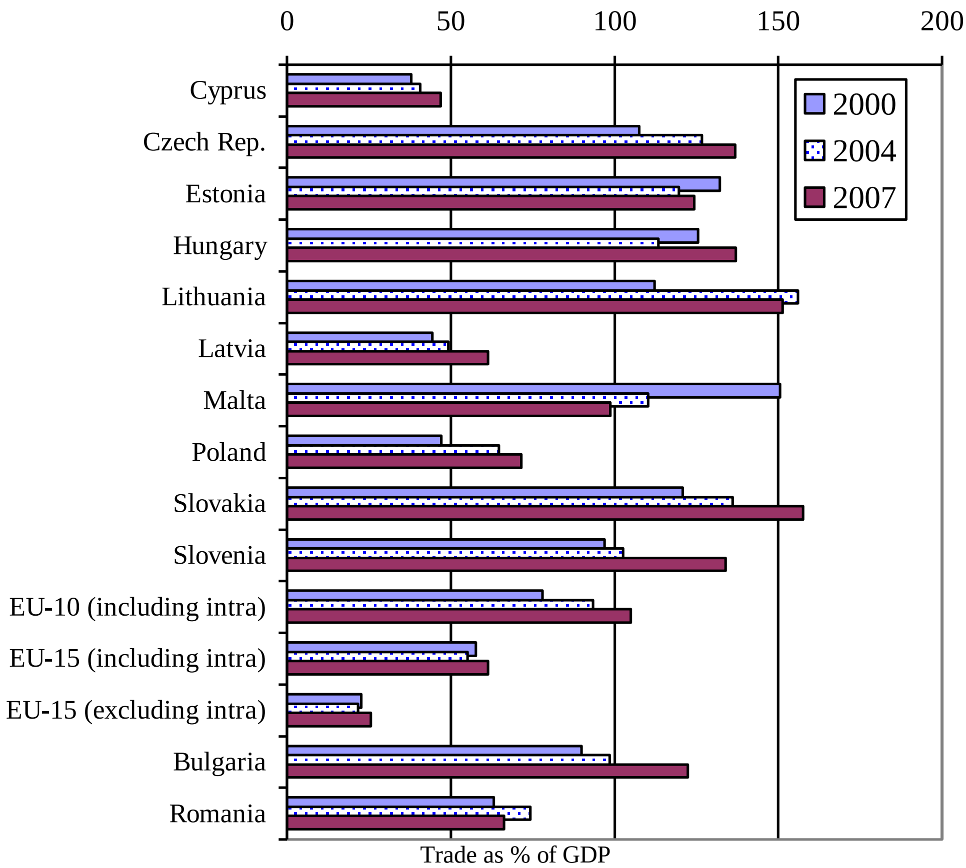
this theory, the usefulness of adoption of a common currency (scope of benefits) depends, on one hand on the intensity of mutual economic contacts (mainly trade and investment flows) with the euro zone, and on the other one – on volatility of Polish economy on asymmetric shocks (see also chapter 4). The first criterion can be tested by comparing the share of the euro zone partners in Poland's foreign trade with respective shares of the euro zone members[38].

Statistics show that the euro zone countries' share in Poland's foreign trade amounted in recent years to around 70%[39]. This share has been higher than the respective share of such countries as Finland, Greece or Italy, and similar to the shares of EU in exports of Spain and Ireland. Thus, intensity of Poland trade contacts is not lower than that of many other euro zone members.

This criterion is certainly not sufficient. Equally important is the index of the openness of the economy, as measured usually by the combined share of exports and imports in GDP. This indicator better measures the integration rate of a given economy into the world economy. In Poland it amounted in 2007 to 70% and was one of the lowest among the EU-10 countries (graph 1). It was, however, comparable to a similar indicator for Spain, Italy or Germany[40].

[38] See more: D. Rosati, *Polityka pieniężna* … op.cit.
[39] A similar share of total Polish exports was expressed in EUR; the share of imports invoiced in EUR amounted in 2006 to 59% (Review of the international role of the euro, ECB, July 2008).
[40] Own calculations based on Eurostat data.

Graph 1. Trade as % of GDP in 2000, 2004 and 2007.



The actual trade integration of Polish economy is better measured by intra-industry trade (IIT), and not total trade shares, as this type of trade reflects more actual company-level contacts and production (capital) cooperation. It also allows for easier adjustments to changes in demand and supply. The share of this trade is lower in Poland than in the majority of the EU-15 countries but in several recent years has impressively increased. In Poland (also in such new EU Member States as the Czech Republic, Estonia, Hungary, and Slovenia) the share of IIT in total trade was in 2007 above 50%, it is higher than in some EU-15 countries, such as: Finland, Ireland, Luxembourg, Portugal and Greece (the lowest being in Greece – 20%). Let's add that this comparison seems to confirm the increasing similarity of the EU-10 with the EU-15 and quite quick catching up process[41].

The second criterion, i.e. volatility to asymmetric shocks, depends much on structural ties between Polish economy and that of the euro zone countries. One measure to show the importance of these structural relations is the rate of business cycle synchronization. The closer the business cycle phases, the more integrated are both areas and the lower the risk of asymmetric shocks. Analysis of quarterly changes of GDP rate in Poland and in other EMU

[41] E. Kawecka-Wyrzykowska, *Evolving pattern of intra-industry trade specialization of the new Member States (NMS) of the EU – case of automotive industry*, European Economy, Economic Papers No. 364 Brussels, March 2009.

countries (measured also by correlation index) shows the increasing synchronization of business cycles in Poland and in other EMU countries[42].

Generally we may say that the rate of integration of Polish economy with the other euro members' economies is relatively high and has been increasing relatively fast in recent years. This integration is probably not lower than in several EU-15 countries at the time when they prepared for joining the common currency.

The above opinion does not exclude the possibility of an asymmetric shock in Poland. It can happen e.g. in the case of sudden demand or supply change in Germany which is the most important trading partner of Poland. According to OCA theory, effective reduction of adverse effects of an asymmetric shock requires high level of flexibility of an economy. Such flexibility includes first of all two mechanisms of a labor market: mobility of labor and wages flexibility, and also easy adjustments of a fiscal policy.

With regard to labor market we may say that its flexibility is limited (not only in Poland). One of the indicators of low mobility of labor in Poland is big disparities in the rate of unemployment between various regions in Poland. Also, international mobility of labor in Poland is limited, albeit emigration wave since accession shows that this factor has been changing. Also, downward trend of wages – in case of necessary adjustments – is not a popular instrument. The present economic slowdown in Poland (beginning of 2009) reveals, however, that politicians and trade unions do not exclude such an option and in fact have already used this possibility to mitigate the risk of unemployment.

The next mechanism that can alleviate effects of an asymmetric shock is fiscal policy, i.e. possibility to soften adverse effects of reduced demand in form of increased government's expenditure. Such policy has, however, its price and its limitations. Such policy creates a risk of inflation and of depreciation of the exchange rate. Practical use of fiscal expansion is also limited by provisions of Stability and Growth Pact. Contrary to some western government, Polish government has, so far, not decided to use this instrument in order to cope with economic slowdown; on the contrary – at the beginning of 2009 the government decided to make some savings in the budget, cutting or postponing some expenditures[43].

Taking into account all above mentioned factors, one might say that in the end of 2008, Polish economy was prepared to enter the euro zone not worse than the members of this zone at the time of their accession. However, in 2009 the situation can be different because of the current financial turmoil.

[42] Certainly, not all economic indicators are well correlated with other EMU members, e.g. changes in the unemployment rates, see more: D. Rosati, *Polityka pieniężna* …op.cit. Generally speaking, however, there is evidence that business cycle synchronization between the NMS and the euro areas has increased over the medium to long run (see: *Five years of an enlarged EU*… op.cit., p. 192).

[43] This decision was strongly criticized by the political opposition which argued for higher, not lower, budgetary deficit as the instrument of creating an extra demand in the economy.

When Poland should enter the euro zone?

As already mentioned, the process of co-ordination of economic policies in the EU is an important instrument disciplining and controlling applicant countries to conduct policy allowing to enter the euro zone area. The concrete date of the adoption of the single currency has to be agreed upon and individually implemented in every new EU Member State.

Before entering the euro area, an applicant country has to answer the following questions:

(a) When to enter the ERM II ?

(b) How long to stay in the ERM II (when to join the euro zone)?

(c) At what level of exchange rate?

When to enter the ERM II ?

NMS have adopted different ways to meet this goal. Small countries have been in ERM II for several years (Estonia, Lithuania – since 2004, Latvia - since 2005). Slovenia and Lithuania hoped to join euro in 2007, but only Slovenia succeeded. In 2008 Malta & Cyprus joined the euro zone. Big new Member States are still preparing. Poland declared a few years ago that it first wants to make sure that exchange rate is relatively stable and economy is ready to join the EMU. In October 2008, the Polish Prime Minister declared that Poland should be ready to join euro zone in 2012 but only in February 2009 the official request was presented to negotiate country's entry into the ERM II.

Certainly, the present world financial crisis and economic slowdown in Poland don't make the situation easy. If the economic growth in 2009 is below 2%, problems with the deficit criterion probably appear (budgetary income will be lower and pressure will be strong to increase public expenditure in order to stimulate demand). However, delaying the decision to enter the euro (and the ERM II) will lead to the increase of interest on longterm bonds and depreciation of Zloty. In such a situation, a bigger portion of public money will be spent of servicing foreign debt. Also, costs of credits will be higher for companies and households. For technical reasons (two year time in the ERM II, preparing for minting the necessary amount of coins) about 3 year period is required to prepare a country for the euro adoption.

How long to stay in the ERM II?

Economist usually say: as short as possible which means two years, inlcuding time for preparing the change of the currency[44].

[44] This assumes that the successive members of euro zone will stay in the ERM II, like the present members, for two years. In literature we may find suggestions that for Poland and probably for other applicant countries the period of testing the exchange rate should be shorter, taking into account previous efforts to stabilize the Polish currency, see e.g. A. Sławinski, *Mechanizm kursowy a wejście Polski do strefy euro*, mimeo, 2007 (*Exchange rate mechanism and Poland's entry into euro zone*, a paper for the Congress of Polish Economists, 2007), www.pte.pl

Table 4. Declared dates of euro adoption in the new Member States of the EU (as of November 2008)

	ERM II	Euro zone
Bulgaria	No declaration	Not declared yet, unofficialy „as soon as possibile”
Czech Rep.	No declaration	Earlier set up for 2010; to be decided once again
Estonia	Since 28 June 2004	As soon as possible
Lithuania	Since 28 June 2004	2010*
Lathvia	Since 2 May 2005	As soon as possible
Poland	No declaration	2012
Hungary	No declaration	Previous declaration of 2010 withdrawn
Romania	No declaration	Not before 2014

*In October 2006, the government of Lithuania stated that a country will strive to enter euro zone as quickly as possible. The first possible data was scheduled for 2010.

Source: Based on Internet data

The time spent in the ERM II creates for a domestic currency a risk of speculative attacks and of monetary crisis. Unstable external situation increases such a risk. Any intervention to defend the price of the currency (in order to stay in the band =/-15%) might be very costly and maybe even ineffective. It’s also a question of setting up a proper level of the central parity level of Polish Zloty.

At the same time, B-S effect makes that inflation rate in the NMS will be for several years higher than in the euro zone countries and attempts to reduce this rate (through increase of interest rate) to meet Maastricht criteria may result in slow down of economic growth. For this reason, the B-S effect is sometimes presented as an argument to modify (to relax) inflation criterion for NMS as the reasons for inflation are different than in the old EU countries. The argument of B-S effect induced inflation can be strengthened by showing that there is a very small risk that such inflation might be transferred to the euro zone countries as inflation appears mainly in the nontradable sector.

What should be the proper exchange rate of Polish Zloty against the euro?

One of the most difficult tasks on the road towards the euro for each applicant country is the change of exchange rate regime. Apart from defining the date of a closer tightening of the zloty against the euro within the ERM II, it includes a decision on a proper level of the exchange rate of domestic currency into the euro. No institution, even basing on the best knowledge, is able to do that properly. It is assumed that the market can do it in the best way because the price of the currency – like a price of any other good –depends much on demand and supply factors.

Before that is done, it is necessary to agree upon the central parity level (the official PLN/EUR exchange rate) against which the PLN/EUR market exchange rate will be able to deviate within the admissible fluctuation margin (in ERM II)[45]. Setting adequate exchange rate parity on the day of the ERM II entry will determine, to a great extent, the overall success of an euro zone accession.

The central parity level should be consistent with the long term equilibrium exchange rate. Setting a central parity inconsistent with a long term equilibrium exchange rate (i.e. a rate inconsistent with both, internal and external equilibrium) may be a source of many threats[46]. On one hand, in case of a strong appreciation of domestic currency (e.g. as a result of big inflow of foreign currency, including structural funds) in the period preceding entering ERM II, combined with the establishment of too strong central parity may lead to deterioration of exporters' competitiveness and – consequently – to widening of the current account deficit. As a result, credibility of the macroeconomic policy will be undermined and the growing current account deficit will be strengthening the feeling of the market participants about the zloty being overvalued. Consequently, it will lead to exerting pressure on currency depreciation. Sharp depreciation and devaluation of central parity forced upon by market participants would delay the moment of joining EMU by Poland. In other words, overvaluation may be in conflict with the criterion of exchange rate stability.

On the other hand, when the level of central parity is undervalued (set up at the level too low relative to the equilibrium exchange rate), e.g. as a result of excessive devaluation at the moment of entering the ERM II, initial benefits from an increase in export competitiveness will be short term only (assuming that the market exchange rate will follow the central parity). A one-off devaluation of the exchange rate will be followed by rising inflation, thus stimulating to a large extent adaptive inflationary expectations. These expectations will be stronger under ERM II than it would be the case under floating exchange rate regime. This stems from the belief that central parity will remain unchanged, as monetary authorities have committed themselves to maintaining it, possibly with additional support of the ECB. Inflationary expectations, through exerting pressure on wage and price growth, will lead to a real appreciation of the domestic currency and thus to deteriorating competitiveness of an economy.

Also, there is always a risk of speculative attacks to weaken the currency in the ERM II, if the economy is weak (e.g. because of deterioration of the budgetary situation).

Unfortunately, economic studies do not explicitly identify the best approach to determine the long term equilibrium level of an exchange rate. Empirical evidence very often offers conflicting signals, not only with respect to the seize of the market exchange rate deviations from the estimated equilibrium level, but also with regard to the direction of the perceived divergence from equilibrium. Therefore, the more pragmatic approach is usually

---

[45] Since 12th April 2000, the floating exchange rate regime has been operating in Poland, which means that market forces exclusively determine the exchange rate of Polish Zloty.

[46] J. Borowski, R. Woreta, *Immediate Policy Challenges Stemming from Poland's Future EMU Accession*, "Bank i Kredyt", październik 2002.

applied: setting the central parity close to the level of the market exchange rate observed in a certain period before its fixing.

The next important issue is that the fluctuations margin that has to be met by the national currency which has to stay in the ERM II for at least two years to set up the final exchange rate. The fluctuations margin for next applicants has not been determined yet, in a formal way[47]. So far, for all applicant countries to the euro zone it has been +/-15%. The same standard fluctuation band during participation in ERM II will be probably applied to Polish currency. In the Pre-Accession Economic Program 2003 Update, the Polish government declared to observe this band (without serious tensions, i.e. without the necessity to intervene on the market). Moreover, the Monetary Policy Council, that exists in Poland, declared in the Monetary Policy Strategy beyond 2003 that until the accession into the ERM II, it is necessary to continue the strategy of direct inflation targeting within the framework of floating exchange rate regime.

The issue of real convergence

Meeting the nominal criteria of EMU is not a sufficient condition to benefit from the membership in a single currency area. Benefits are guaranteed first of all when real convergence is met, usually measured by convergence of incomes (see box). It is usually understood as an ability of a given country to cope – in the framework of the monetary union – with possible economic shocks without excessive social costs[48]. As argued before, ability to cope with possible shocks and challenges depends much on a sound macroeconomic policy and flexibility of domestic adjustment mechanisms in a given country.

TEC and TEU do not mention the concept of real convergence. It is however, a very important aspect of preparations to entering the EU. For NMS aspiring for the euro zone and having at the same time less competitive and different patterns of economies, meeting of real convergence is of crucial importance. After entering the euro zone they will not have any more the possibility to improve their competitiveness by devaluation of the national currency or to use other national instruments of monetary policy. Therefore, they have to be well prepared to adjust to internal and external challenges by changes in the real economy (e.g. to adjust to a decrease of production and of employment, reduction of wages, in case of demand fall, etc.).

Box. The real economic convergence

It is usually analyzed in terms of convergence of incomes (tendency towards the equalization of income and development levels – income level or growth convergence) or of conformity of business cycles (cyclical convergence).

[47] Under the communiqué of the Inter-ministerial Working Group of the NBP of Poland and the Ministry of Finance on EMU integration of 8 October 2002, the zloty should take part in ERM II within a wide standard fluctuation margins (+/- 15%).

[48] Real convergence is measured usually by such indicators, as GDP per capita (in terms of PPP standard), level of productivity of capital and of labor, pattern of production and employment, quality of regulatory institutions.

Traditional trade theories implied that economic integration would lead to income-level convergence. The new theories do not confirm the existence of such convergence. Also empirical studies show that such convergence takes place when certain conditions are met, mainly among homogeneous groups of countries. When countries have very different economic patterns and levels of development, convergence is rather absent (e.g. D. Ben-David, *Trade, Growth and Disparity Among Nations*, in: *Trade and Poverty*, WTO, Geneva 2000, cited from: Z. Matkowski, M. Próchniak, R. Rapacki, *The Economic Situation and Progress of Market Reforms*, in: *New Europe. Report on Transformation. XVII Economic Forum*, September 5-8, 2007, pp.67-108).

In other words, in order to reap the full benefits of the single currency in the absence of a national monetary policies and under the irrevocably fixed exchange rates, economic policy has to ensure the proper functioning of internal adjustment mechanisms to safeguard stability. In particular, adequate labor and product market flexibility as well as sound fiscal policy are usually listed as the main challenges with regard to euro preparedness.

8. *Estimated effects of the adoption of euro in Poland and practical problems*

In Poland, research on the euro effects on Polish economy has been conducted for many years. Main benefits are estimated to result from the elimination of transaction costs, reduction of interest rate and of stabilization of exchange rate. According to a report commissioned by NBP in 2004, long term effects of euro implementation on GDP were estimated at 6-12%[49]. According to another study, by T. Daras and J. Hagemejer, based on the dynamic CGE model, the effects of euro adoption will be the following[50]:

- long term increase of GDP level by 7.5% (90% of this increase will appear in 10 year time);
- strong increase of investment rate (due to the reduced risk premium - by 10-20% in the first years);
- long term increase of private consumption level – by 3.7%;
- strong increase of imports (due to reduction of costs of imports, increase of consumption demand and high investment demand);
- even higher increase of exports (due to improved competitiveness);
- long term increase of domestic production (by 5.7%).

These advantages seem to be big. They are, however, a result of a study prepared a few years ago, when the domestic and external situation of the country was much better. So, even if they can be accepted by economists, they are convincing to the general public.

In order to assess properly the chances of the euro adoption in Poland and of its impact on the economy it's also important to consider the following factors:

possibilities of its successful

- (a) legal adjustments to the euro zone conditions;
- (b) political factor.

---

[49] *Raport na temat korzyści i kosztów przystąpienia Polski do strefy euro (Report on benefits and costs of Poland's accession to the euro zone*), NBP, Warszawa luty 2004.

[50] Based on research by Daras, T. Hagemejer J, *Skutki przystapienia Polski do strefy euro. Wyniki symulacji na podstawie dynamicznego modelu CGE* (*Effects of Poland's accession to the euro zone. Results of the simulation based on CGE dynamic model*), Narodowy Bank Polski, 2008 (mimeo).

- *(a) Legal adjustments to the euro zone obligations*

One of pressing issues is the necessity to adapt Polish Constitution (art. 227) to legal requirements of the euro zone. In 1997, a new legal framework for macroeconomic policy in Poland was established. It was based on a new Constitution of the Republic of Poland (adopted in 1997) and a new NBP (National Bank of Poland) Act (further amended in December 2003). Both legal changes aimed at compatibility with the future euro area. Under the new Constitution, central bank financing of the state budget is prohibited (art. 220). Also, a ceiling for public debt (60% of GDP) was introduced reflecting clearly one of the Maastricht criteria (art. 216)[51]. High independence of the NBP was also implemented: „It shall have the exclusive right to (…) formulate and implement monetary policy" (art. 227). Under the NBP Act, the NBP should be independent in conducting its policy. Such independence should include personal, functional (instruments plus goals) and financial independence.

However, Polish law, including the Constitution, does not comply fully with all the requirements for central bank's independence and legal rules on integration into the euro system. First of all it's, the above mentioned art. 227(1), under which the sole institution responsible for monetary policy in Poland is the NBP. This right has to be transferred to the ESCB.

Any change of the Constitution requires majority of 2/3 of all votes in Polish Parliament (i.e. of 307 of Members of the lower Chamber of Polish Parliament and of majority of the upper Chamber of the Parliament). In the present political situation it means that a change of the Constitution would require the support not only of the ruling parties but also of some representatives of the political opposition. Certainly, such a change will not be easy. Another important element that has to be taken into account is the calendar of political elections: in 2010 presidential elections and a year later (in 2011) – parliamentary elections. Such events are never good time for bold legal changes.

- *(b) Political factor*

According to political opposition, constitutional changes (first of all the institution responsible for monetary policy) should be introduced before declaring the entering the ERM II and setting up the central parity level of the exchange rate. The opposition demands also referendum on euro. Without a referendum it threatens with veto on necessary changes of the constitution[52]. From the legal point of view, a referendum is not needed as Poles have already approved euro when they voted for EU accession (it was done in form of referendum that

[51] Poland is one of very few countries with such a clear limit imposed on public debt provided for in the most important legal act, which is a constitution of a country.

[52] Ruling parties argue that such a position (first referendum and only later changes in the Constitution) would strengthen the opposition.

took place on 7-8 June 2003 and attracted high share of voters[53]). Politicians say that Poles should vote once again because adoption of euro is of crucial importance for the future of the country.

An open issue is the question to be asked in a referendum (in case, referendum is decided upon). It should not be – *whether* Poles want to have euro or not (as this has already been decided) but rather *when* Poland should adopt euro. Such a question (and an answer) seems to be clear but citizens are not able (and should not) to vote it. Adoption of euro is not a question of a willingness or not but first of all of meeting the criteria required. Such objective cannot be declared! It has to be fulfilled taking into account concrete economic situation and we are not able to guarantee when convergence criteria can be met.

A related issues is the voting attendance, required by the Constitution, at least at 50%. This will be difficult to achieve and void referendum would be a catastrophe that would delay implementation of euro for many years.

The Prime Minister is of the opinion that it would be more safe to change the Constitution first and only later to enter the ERM II. In fact, the February's decision to start consultations with the Commission on the entering the ERM II, confirmed this position of Polish government[54].

Some people talk about negotiating the thresholds of the Maastricht criteria. Such an idea does not seem realistic, but we should not exclude a discussion on this issue. Some economists point out, as already mentioned, that the convergence criteria are not coherent. According to prof. D. Rosati, the inflation criterion of euro zone is not coherent with ECB objective which is inflation at 2% (see chapter 2 of this paper). Moreover, reference level is calculated on the basis of the three best performing countries of the EU and not of the euro zone members.

Prof. D. Rosati has also expressed an opinion that the euro zone members prefer to delay the admission of new members to euro zone. Such an approach results from two factors:

(a) A risk of undermining the political balance in the ECB, that would result in stronger position of new euro zone members who have not had long tradition of taking care of stability of prices (e.g. as is the case in Germany).
(b) Fear of worsening of competitiveness of euro zone economies after the enlargement of the euro zone[55].

One of the problems is always the public opinion on the euro. In a survey conducted by Eurobarometer in the middle of 2007, 4/5 of Poles thought that introducing the euro will lead to an immediate jump in the cost of living. They often referred to the experience of

[53] 59.9% of all eligible to vote participated in the referendum; out of that 77.5% were for Poland's accession to the EU.
[54] By summer 2009 it appeared that these consultations had to be suspended because Poland was not able to meet majority of Maastricht criteria.
[55] Rzeczpospolita, 13 listopad (13 November) 2008, p. B.

countries that had already adopted the euro, where many people believed firmly that consumers were the main losers of the euro. As already mentioned, experience of previous euro members shows that price hikes are usually exaggerated and there are ways to avoid them or at least to mitigate them (e.g. in form of earlier double pricing). It’s true also, however, that very good communication strategy is necessary in order to prepare the public opinion for changes.

It’s also true, that, albeit the euro adoption is still ahead of the country, it is already affecting the interest rate and currency at which Polish households take out mortgages and corporate and the government issues bonds. In the first years after accession, appreciation of Polish zloty made credits in foreign currencies cheaper and more than 1/4 of all loans in Poland have been not denominated in Zloty, but in euro or in Swiss Franc (a currency closely linked to the euro). The strong depreciation of Zloty at the beginning of 2009 made the financial situation of people who have borrowed money in foreign currencies much worse. At the same time it has become clear that implementation of the euro would reduce a number of problems.

9. Economic strategy to enter the euro zone in Poland (convergence program update 2008)

The ECOFIN Council invited Poland, in December 2007, to set out in the coming convergence program a medium-term budgetary strategy covering the whole legislature. The strategy was to be consistent with a sustainable correction of excessive deficit and the achievement of the medium-term objective. The update of the convergence program for the years 2008-2010 was adopted by the Polish government on March 5, 2008 and later on December 30, 2008. The update was discussed by Select Committees of both chambers of Polish Parliament (Sejm and Senate).

The document of December 2008 did not change much the previous strategic objectives and assumptions but – in view of financial crisis as well as uncertainty in the world and domestic economy - reduced or modified economic forecasts on macroeconomic developments. It clearly stated – for the first time – that, according to timetable of the euro zone entry, adopted by the Council of Ministers on October 28, 2008, Poland will be able to adopt euro on January 1, 2012, provided no new threats appear.

According to the convergence report update, a considerable reduction of the general government deficit is expected from 3.8% of GDP in 2006 to 2.3% of GDP in 2010. Such a large scale of this reduction will take place despite the high costs of the reform aimed at reduction of the tax wedge. The resulting significant burden would lead, however, to a transitory increase of the deficit in 2008 (to 2.7% of GDP). In the following year the deficit to GDP ratio should return to the downward trend and in 2011 the medium term objective (-1.9% of GDP) would be achieved. The Update convergence Report of spring 2008 assumed that a continued deficit reduction and a favorable macroeconomic situation would cause the general government debt to fall substantially from 47.6% of GDP in 2006 to 42.3% of GDP in 2010. Slowdown of economic growth in the second half of 2008 and forecast of much worse performance in the next years (sharp slowdown of economic growth from 5.7% in 2007 to 3.7% in 2008 and to around 2% in 2009) make this objective unrealistic. The Update report of December 2008 assumes 45.9% of GDP debt in 2008 and almost no reduction in the next few years; only in 2011 the situation should improve and debt should go down to 44.8% of GDP[56].

The Council, in its opinion on the previous update of the Convergence Program (based on Art. 104(7) of the Treaty establishing the European Community), recommended that Poland correct its excessive deficit in 2007. The request to put an end to the excessive deficit situation by 2007 and reduce the general government deficit in a credible and sustainable manner was also included in the new Council recommendation. It was accompanied by a request for Poland to reduce its structural deficit by at least 0.5 percentage points of GDP in 2007. This goal has been achieved and Poland is not any more under the excessive deficit procedure (on the basis of the Council's decision of 8 July 2008). The prospect is not, however, bright.

First, slowdown of the economy will reduce budgetary incomes. Second, in the next few years Poland will have to repay a substantial part of its foreign debt. Third, increasing from year to year EU structural funds, in that for big investment projects financed at the national level, require more and more domestic money (mainly budgetary means) for pre- and co-financing. Next, reduction of personal income tax rates was introduced in 2009, thus reducing for some time budgetary income. Additional action was announced aiming at a further reduction of the tax burden (PIT and CIT) in 2010 and 2011. However, the scale and scope of further changes will depend on progress made in limiting increases in public expenditure and maintaining the assumed rate of the economic growth. Increasing economic activation of the population has been planned. According to the program of 2008, transformation in the area of the fiscal burden, pensions and disability benefits should take place in the next years and should foster the increase in the economic activity of the population, which still remains in Poland at an exceptionally low level. An increase in the labor supply should increase budgetary revenues and reduce inflationary pressure on wages and salaries. However, the slowdown of economic activity in the second half of 2007 and further deceleration of economic growth in 2008 and 2009 will make achievement of these goals much more difficult.

[56] Because of the worsening of the economic situation in Poland in 2009 these optimistic forecasts will have to be verified. Let's add, however, that the economic situation in Poland was in the first half of 2009 much better as compared to other EU Member States. In the second quarter of 2009, Poland was the only EU Member with positive GDP growth (albeit very low one).

10. Conclusions

Preparing for the euro adoption is often seen in terms of meeting the Maastricht criteria. It should be clear, however, that the euro adoption is not a goal in itself and meeting the criteria is no guarantee for success in the euro zone. After the euro adoption, some of the present members, such as Ireland, flourished while others, such as Portugal, floundered. Experience of those countries (and of the other euro zone members) shows that giving up an independent monetary policy can be costly, unless accompanied by well-balanced macroeconomic policy mix. Proper preparation for the euro adoption should also be associated with implementation of strong domestic adjustment mechanisms.

World financial crisis and slowdown of Polish economy have broadened the list of arguments for entering euro zone but at the same time those factors have intensified problems with meeting criteria for entering the euro, especially fiscal criteria. Also, a number of additional risks are involved in the process of preparations for the euro adoption in the period of economic uncertainty (e.g. big uncertainty of the future situation makes the setting up of a proper level of central parity exchange rate more difficult).

However, policy aimed at meeting Maastricht criteria is important and required even if a country does not aspire for euro zone as fulfillment of those criteria (especially of fiscal character) is consistent with the conduct of sound economic policy: low deficit and public debt are usually beneficial for the economy.

Bibliography

Balassa B., *The Purchasing Power Parity Doctrine: A Reappraisal*, Journal of Political Economy, vol. 72, December 1964.

Barrel, R., D. Holland, E. Khoman, I. Liadze, O. Pomerantz, *The Impact of EMU on Growth and Employment*, cited by: Martins, J.N., *Workshop EMU@10-achievements and challenges. Summary of Research Projects*, in: European Economy Research Letter, Economic and Financial Affairs, vol. 2, issue 1, March 2008.

Ben-David D., *Trade, Growth and Disparity Among Nations*, in: *Trade and Poverty*, WTO, Geneva 2000, cited from: Z. Matkowski, M. Próchniak, R. Rapacki, *The Economic Situation and Progress of Market Reforms*, in: *New Europe. Report on Transformation. XVII Economic Forum*, September 5-8, 2007.

Borowski J., R. Woreta, *Immediate Policy Challenges Stemming from Poland's Future EMU Accession*, "Bank i Kredyt" , pazdziernik 2002.

Convergence Report 2008, European Central Bank Frankfurt, May 2008.

Daras T., J. Hagemejer, *Skutki przystąpienia Polski do strefy euro. Wyniki symulacji na podstawie dynamicznego modelu CGE* (*Effects of Poland's accession to the euro zone. Results of the simulation based on CGE dynamic model*), Narodowy Bank Polski, 2008 (unpublished material).

EMU@10: successes and challenges after 10 years of Economic and Monetary Union, European Economy, No. 2, Economic and Financial Affairs DG, European Commission, 2008.

Five years of an enlarged EU. Economic achievements and challenges, European Economy 1/2009 (provisional version).

Informacja kwartalna o sytuacji makroekonomicznej i stanie finansów publicznych (Quarterly information on macroeconomic situation and situation of public finance), grudzień 2008, nr 3/2008, Ministry of Finance.

Kawecka-Wyrzykowska E., *Evolving pattern of intra-industry trade specialization of the new Member States (NMS) of the EU – case of automotive industry*, European Economy, Economic Papers No. 364 Brussels, March 2009.

Konopczak, K., M. Rozkrut, *Wpływ wprowadzenia wspólnej waluty do obiegu gotówkowego na zmiany w poziomie cen krajów strefy euro (Effect of the implementation of common currency in form of cash on the level of prices In the euro zone countries)*, NBP, July 2008.

Eurostat, Euro-indicators news release, 2003

Konopczak, K., *Przegląd literatury w zakresie efektów cenowych wprowadzenia wspólnej waluty do obiegu gotówkowego w krajach strefy euro (Review of literature on price effects of the implementation of common currency in form of cash on the level of prices in the euro zone countries)*, „Discussion Paper" no. 2/2008, Narodowy Bank Polski, Biuro ds. Integracji ze strefą Euro.

Mongelli, F., *European Economic and Monetary Integration, and the OCA Theory*, cited by: J.N. Martins, *Workshop EMU@10-achievements and challenges. Summary of Research Projects*, in: European Economy Research Letter, Economic and Financial Affairs, vol. 2, issue 1, March 2008.

Oręziak L., *Finanse Unii Europejskiej (Financial system of the European Union)*, Wydawnictwo Naukowe PWN, Warszawa 2004.

Raport na temat korzyści i kosztów przystąpienia Polski do strefy euro (Report on benefits and costs of Poland's accession to the euro zone), NBP, Warszawa luty 2004.

Review of the international role of the euro, ECB, July 2008

Rosati D., *Polityka pieniężna i kursowa po wejściu Polski do UE*, w: *Polska w Unii Europejskiej. Uwarunkowania i mozliwości po 2004 roku*, (*Monetary and Exchange rate policy after Poland's entry into the EU*, in: *Poland in the European Union. Conditions and possibilities after 2004*) ed. by G. Wojtkowska-Łodej, Szkola Glowna Handlowa.

Rosati D., *The Balassa-Samuelson Effect In the EU Candidate Countries*, Ed. by P. Grauwe, A. Inotai, *Trade, Integration and Transition*, The World Bank and the Institute for World Economics, Hungarian Academy of Sciences, Budapest, 2002.

Rosati D., *Financial Convergence and Catching Up, ACE-PHARE Project „Catching up and EU Accession"*, Warsaw Vienna, 2001, mimeo.

Sławinski A., *Mechanizm kursowy a wejście Polski do strefy euro*, referat na Kongres Ekonomistów Polskich, 2007 (*Exchange rate mechanism and Poland's entry into euro zone*, a paper for the Congress of Polish Economists, 2007), www.pte.pl

Wernik A., *Budżet państwa. Raport o stanie finansowym panstwa w 2006 r. (State budget. Report on financial situation of the country in 2006*), Instytut Finansów. Akademia Finansów. Warszawa 2007.

A. Zimmer, M. McGinley, *The Eastern Enlargement of the Monetary Union*, SWP Comments, German Institute for International and Security Affairs, May 2006.