

Eastern Enlargement of the European Currency: the Euro and Poland

(First Draft Version of Feb 15, 2006)

*Andreas Exenberger, Carolin Hinteregger**

In 2004, the so called “Eastern” enlargement of the European Union (EU) took place, which extended it by ten new member states, the in every respect biggest among those the Republic of Poland. By EU-accession all these countries also agreed to participate in the European Monetary Union (EMU) and obliged themselves to take all steps necessary to adopt the Euro as their national currency. Nevertheless there are a lot of additional criteria to be fulfilled by these countries, which enforce further economic transition and convergence.

While the benefits of a common currency are rather clear, particularly for economies closely related to the other members in the currency union (reductions in transaction costs, trade creation, ex post convergence and integration effects), there are also a lot of obstacles to be taken into account. Hence, to get a meaningful answer on the question, when Poland will, should and can adopt the Euro, three groups of problems are discussed: the criteria for optimum currency areas (giving hints, if Poland is ready for the Euro – and the Euro for Poland); the risks stemming from financial crisis (giving hints on possible dangers, particularly in the transition period, as well as benefits of the common currency, once adopted); and institutional questions (mainly concerning the national financial system, the role of Poland in the European System of Central Banks, and the exchange rate regime).

The result of the analysis is that Poland is relatively ready for the Euro and that its accession would not pose problems for Europe, but that important obstacles remain, like the high level of non-performing loans in Poland, macroeconomic problems resulting in structural deficits, and a rather unstable exchange rate of the Zloty.

Keywords: Euro, Poland, optimum currency areas, financial crisis, exchange rate regimes

JEL Classification: E52, F31, F33, F36, G15

* Affiliation: Faculty of Economics and Statistics, Innsbruck University; Postal Address: Universitaetsstrasse 15, A-6020 Innsbruck; e-mail: andreas.exenberget@uibk.ac.at.

Introduction

Poland's transformation process from a communist country to a market economy moved the country constantly towards the West. It was a process hardly comparable to any other post-communist country (as most of these processes were rather unique) and it should be kept in mind how radical and painful it was and thus as well, how successful it is so far. Part of the uniqueness and the depth of this particular transformation process was the "shock therapy" that guided it, simultaneous and strict reforms in all sectors of the economy (Balcerowicz et al. 1997). Even more, due to a relative cooperation of the former Communist elites it remained a peaceful process. Up to now, liberalization of the society, the economy and the political system (democratisation) are well under way (BTI 2003b).

Poland's accession to the European Union (EU) on May 1, 2004, then, opened the way for even deeper integration into "Europe". Poland is – by far – the biggest of the ten "new" member states, according for half of the overall population and slightly less of the overall economic capacity of the recent "enlargement".¹ By joining the EU, Poland also agreed to become a full member of the European Monetary Union (EMU) as well, although it did not replace its national currency immediately by the Euro. Both is not a question of choice: Poland was not allowed to introduce the Euro right away, but has to fulfil the Maastricht criteria in advance, and at the same time Poland is not allowed to stay outside the Euro-area, if these criteria are fulfilled. Hence, Poland is obliged to subsequently adopt the Euro. Its current status within the EMU is nevertheless that of a member state "with a derogation", depriving it from full membership rights.

Joining the Euro-zone certainly has benefits: barriers to trade and investment (transaction costs, exchange rate risk) are removed and this may lead directly an increase in trade and stability (of the financial sector) and to economic growth. Further more the risk of a currency crisis is eliminated and the risks to financial and banking crisis reduced, which may result in a gain in credibility of (macro-)economic policy. On the other side there are also costs, mainly due to the loss of monetary independence (the main question is whether the single monetary policy of the European Central Bank (ECB) will be appropriate to the specific needs of the Polish economy). The costs also depend on alternative adjustment mechanisms to mitigate economic fluctuations, while a short-term slowdown in economic growth could result from the required decrease in inflation. For these reasons, it is essential for Poland to negotiate an appropriate central parity in order to use the Exchange Rate Mechanism II (ERM II) to stabilise the exchange rate and fulfil the inflation criterion.

Hence, the question, at what time the Euro will and should be introduced in Poland, is rather interesting for various reasons: Poland has to introduce it, but will face a lot

¹ Poland is the sixth largest member state of the EU according to area (almost equal to Sweden and Finland) and population (rather close to Spain) and it is the seventh largest economy according to PPP-GDP (rather close to the Netherlands).

of difficulties and has to avoid many dangers by doing that; it is the biggest country to introduce it in the foreseeable future² and by that may even influence the stability of the currency area; and it would be (at the moment) the least advanced economy to introduce it as equal partner.³

To analyse the suitability of the Euro for Poland (and of Poland for the Euro), it is particularly necessary, to identify and evaluate the potential risks of Poland's membership in the Euro-system, and to compare these with potential benefits. Hence, the paper is organized as follows: at first the theory of optimum currency areas and its relevance for this analysis is discussed; secondly the vulnerability of Poland to financial crisis is evaluated, which would be a major obstacle for the introduction of the Euro in Poland; thirdly institutional aspects (reform of the national central bank and the banking system, influence of Poland within the Euro-system, exchange rate regimes questions) are taken into account; and finally conclusions are drawn about the timing of the launch of the Euro in Poland, and about the chances and risks associated with that for Poland and for Europe.

Costs and benefits of monetary integration

The major costs from forming or joining a monetary union clearly are the loss of the exchange rate as an adjustment tool and the loss of monetary policy autonomy. This can particularly be a problem when a country or region is hit by an asymmetric shock. Horvath and Komarek (2002, p.14) count the loss of seignorage as a supplementary cost. According to DeGrauwe (1997, p. 11ff) costs are also arising due to differences in countries preferences about inflation and unemployment and due to differences in labour market institutions. These differences could lead to conflicting wage and price developments. Differences in growth rates among countries may as well be considered as further costs as they can result in trade balance problems and different price developments (and thus competitiveness).

The most obvious benefit arises from the elimination of transaction costs due to currency exchange. There is also an indirect gain: the decrease in price discrimination between national markets and thus an increase in price transparency. More gains can be expected from risk elimination (a decrease in exchange rate volatility) resulting in a more efficient price mechanism, a higher attractiveness for foreign direct investment (FDI), a better factor and resource allocation, and thus a rise in economic growth. Clearly, all those gains are likely to increase the more open an economy is (DeGrauwe 2000, p. 58ff). Due to the removal of the currency risk premium, domes-

² Britain probably never will, Denmark and Sweden are rather small economies, and those countries next ready to introduce the Euro (Slovenia, Lithuania and Estonia, probably in 2007, Cyprus, Latvia, Malta, and Slovakia probably in 2008) are even smaller.

³ There are some rather "poor" territories that have introduced the Euro unilaterally as legal tender ("dollarization"), namely Kosovo and Montenegro. Furthermore, the Euro is a legal tender in four small European countries, and it is formally linked to 30 other currencies all over the world.

tic interest rates will decline, reducing the cost of capital. A stable exchange rate is also important for stabilising the price level (NBP 2004a, p. 45). Adding to these benefits are gains out of the commitment to a credible anchor (eliminates the inflation bias problem, as long the monetary union is credible). These gains are essential for countries that have a history of high inflation and can introduce discipline or credibility through joining a monetary union (Alesina et al. 2002, p. 5ff).

Optimum Currency Areas

When discussing the subject of monetary integration it is essential to look at Mundell (1961), McKinnon (1963) and Kenen (1969). These works focussed on the question, how many currencies should be used in a certain area, i.e. if Poland and the EU should have one currency or more than one. They are now also known as the “economic criteria” for OCAs, criteria mainly connected to the problem of the loss of the exchange rate tool while facing an asymmetric shock. Mundell (1961, p. 663f) argues that if the factors of production, capital and labour, are completely mobile across countries, the costs of monetary integration would be zero, because the exchange rate tool is not useful in that situation. In Mundell’s view, thus, to compensate for asymmetric shocks, factor mobility substitutes perfectly for changes of the exchange rate.⁴ McKinnon (1963) argues that the more open an economy is the less relevant is the exchange rate tool as a stabilizer. An open economy is subject to world market prices independently of the exchange rate. The central idea of Kenen (1969) is about the degree of diversification. The less diversified an economy is, the more likely are asymmetric shocks. A highly diversified economy, on the other hand, is less vulnerable to shocks (only affecting a small part of the economy) and for this economy the exchange rate is not very useful.

Besides these standard criteria the ECB (2002, p. 8ff) mentions three more: a high degree of financial market integration (which is a stabilizer for enabling lending and borrowing abroad), the similarity of inflation rates (pointing to economic similarities) as well as price and wage flexibility (substituting for factor mobility) are important features of countries willing to join or form a monetary union.

Baldwin and Wyplosz (2004, p. 339ff) introduce some “political” criteria into the debate. Because of asymmetries in the affectedness by and the appropriateness of ECB policy measures, institutions allowing for compensation between members and fostering solidarity within the monetary union are necessary. This can be done directly by fiscal transfers (comparable to nation states) between members, or indirectly by homogeneity of political preferences (particularly towards the proper reac-

⁴ Based upon post-war Keynesian assumptions this earlier Mundell model (1961) assumed stationary expectations and favoured small monetary unions. The later Mundell model (1973a and 1973b) considered international risk sharing and forward looking foreign exchange markets. He demonstrated that with better reserve pooling and portfolio diversification countries in a currency union could better handle shocks. In his later model (1973b) he therefore supported a large EMU.

tion to an asymmetric shock) or even more indirectly by a consciousness of the communality of destiny within the union (as opposed to “national” interests). Another rather “informal” criterion, possibly the most important, but almost certainly a necessary one, is the political will to form a currency union. Without that will even the commitment within the EMU framework will be without practical relevance.

Another interesting issue are the effects of integration on trade patterns. Two conflicting hypotheses are relevant: specialisation versus endogeneity. Krugman (1993) argues that as countries integrate, they will specialize in those goods and services for which they achieve a comparative advantage. Thus the members of a currency union would become less diversified and more exposed to supply shocks, which is dangerous for the stability of integration. According to Horvath and Komarek (2002 p. 16) the problem with his “specialisation” hypothesis of Krugman is his assumption that regional concentrated industries will not cross country borders. They argue that borders will become less relevant in Europe in shaping the industries. Thus, an asymmetric shock may no longer be country specific but will be spread over several countries. Empirical support for the “endogeneity” hypothesis is more encouraging. Frankel and Rose (1997) argue for the endogeneity of at least two OCA criteria: the degree of openness and the similarity of shocks and business cycles. They conclude that EMU entry may provide trade expansion and “[...] this in turn may result in more highly correlated business cycles. That is, a country is more likely to satisfy the criteria for entry into a currency union *ex post* than *ex ante*.” (Frankel and Rose 1997, p. 22).⁵ Fidrmuc (2001, p. 17) finds that if bilateral trade among currency union members (within the OECD 1990-99) consists of a large amount of intra-industry trade, then business cycles are expected to become more similar across countries. Bayoumi and Eichengreen (1997, p. 769) finally mention a symbiotic relationship between economic and monetary integration. According to their OCA index, countries who experienced the greatest increase in bilateral trade out of the participation in the Single Market demonstrate the greatest increase in their readiness for monetary integration. Thus the readiness for monetary integration is fostered by economic integration.

Financial Crisis

According to Mishkin (2001) a financial crisis is “[...] a disruption to financial markets in which adverse selection and moral hazard problems become much worse, so that financial markets are unable to efficiently channel funds to those who have the most productive investment opportunities.” (Mishkin 2001, p. 2).⁶ More specialised, a currency crisis occurs, when the government is no longer able to keep an exchange

⁵ Frankel (1999, p. 30) found that when integration among countries leads to the formation of a union, such as the EU, income correlation and trade integration within that group of countries will rise.

⁶ In this paper, he also provides twelve proposals for financial reform to prevent financial crisis, particularly in emerging economies (Mishkin 2001, p. 13 ff).

rate commitment. It may be caused, followed or accompanied by a financial crisis, but can also develop on its own (Kaminsky 2003). Several factors promote such crisis.⁷ A deterioration of the balance sheets in the financial sector worsens the fundamentals and limits the ability of banks to reduce asymmetric information problems and moral hazard by limiting their financial ability. This effect is even severer in emerging markets. A second factor promoting financial crisis is an increase in interest rates. This makes lending and borrowing more expensive and more risky, because risk-averse investors tend not to borrow and those borrowing carry higher risks. Third, an increase in uncertainty (also about future government policies) makes it more difficult to decide between good and bad credit risk. Finally a deterioration of non-financial balance sheets promotes financial instability. Particularly in emerging economies this possibly may be due to unexpected devaluations of the exchange rate, because in these countries companies tend to lend in foreign currency. The debt level rises, when at the same time the value of the assets – generally denominated in domestic currency – declines. Financial instability and a decline in investment and economic activity are the consequences.

Some more reasons for financial crisis are pointed out by three “generations” of currency-crisis-models. The first generation models emerged after the financial crisis in Latin America in the 1970s and 1980s (Krugman 1979). With a focus on fiscal problems and the money market, especially a decline in foreign reserves, it aims to explain the timing of the currency crisis. In these first generation models the NCB finances fiscal deficits with foreign reserves. The enormous loss of foreign reserves leads finally to a currency crisis, occurring – due to speculative attacks – long before these reserves vanish.⁸ The second generation models occurred in the aftermath of the EMS-crisis 1992-93. They focus on the reaction of the government to changes in the behaviour of private agents. Even before this particular crisis, Obstfeld (1986) provides a model in which currency crisis are illustrated as a response to self-fulfilling speculative attacks. In these models multiple equilibria are possible: if under certain circumstances people think an exchange rate peg will collapse, it will, if not, it will not. Therefore expectations are an important trigger of currency crisis (Obstfeld 1986, p. 76f). Krugman (1996) questions this position. According to him, worsening fundamentals determine the timing of the crisis. “In sum, we should not take the analysis of self-fulfilling speculative attack too seriously [...] most countries achieve currency crisis the old-fashioned way: they earn it.” (Krugman 1996, p. 376). Kaminsky and Reinhart (1999, p. 3) also question that speculative attacks are able to cause a crisis in a country with stable economic fundamentals.

The third generation of crisis models occurs after the Asian crisis 1997-98. These twin-crisis-models focus on banking and currency problems, because this particular

⁷ Kaminsky et al. (1997) and Kaminsky (2003) provide more indicators of potential crisis by empirical evidence.

⁸ There are two theoretical weaknesses of these models. First markets do not punish the domestic currency even if authorities follow unsustainable monetary policies. Secondly all agents completely rational, with perfect foresight, besides only the government itself (Copeland 2001, p. 444 f).

crisis “twin” occurred simultaneously in several countries during the 1990s, whereas the debate is ongoing, if the banking crisis promotes the currency crisis or vice versa. Calvo (1996) supports the view that banking crisis lead to balance of payments crisis. His argumentation is based on the fact that central banks will print money to bail out financial institutions. With an increasing level of domestic credit foreign reserves will fall and hence the central bank will loose its ability to maintain its exchange rate commitment (Calvo 1996, p. 9). The occurrence of a range of twin crises in Latin America, Europe and Asia in the 1980s and 1990s is demonstrated in Saxena (2004, p. 337ff). She shows that financial indicators like domestic credit or bank deposits rise rapidly before the crisis. An appreciation of the real exchange rate is the consequence of high domestic inflation (higher than the world inflation). The appreciation and deterioration in terms of trade lead to current account deficits and decreased profit margins which as a consequence will lead to bankruptcies increase in non-performing loans and banking sector problems. Capital outflows follow due to the weakened economy. Under a fixed exchange regime, the peg will be defended by either loosing foreign reserves or increasing interest rates. Decreasing foreign reserves invite speculative attacks: a currency crisis is likely to occur. The currency collapse might in the following bring down the booming banking sector. Mishkin (1996) on the contrary supports the view that balance of payments crisis tend to lead to a banking crisis. He stresses the important role of banks within an economy as an intermediary with respect to money as well as information. This strategic institution within an economy is badly affected by a currency crisis, particularly in an emerging economy, because its liabilities grow in value, will its assets deteriorate. However, Kaminsky and Reinhart (1999) suggest that problems in the banking sector typically precede a currency crisis because both are strongly connected to weak fundamentals. Even more, compared to an isolated currency and banking crisis, fundamentals were even worse in case of twin crises, as were the crisis themselves

Despite different opinions, all authors share the view that both types of crisis are highly and structurally correlated. And there are two more aspects to stress, because currency crisis obviously are able to “infect” even distant economies. Herd behaviour (the “bandwagon effect”) can best be described as a mass of individuals that move in conformity, sometimes even contrary to their own beliefs. Saxena (2004) describes herding as an example of an “information cascade” (Saxena 2004, p. 336) where individuals choose actions similar to actions chosen by other individuals before. Therefore even small shocks may lead to dangerous situations for the whole economy, even more in a globalized information society.⁹ Currency crisis are also able to spread through contagion via strong trade- and financial linkages.¹⁰ Devaluations, even if caused by asymmetric shocks, affect the competitiveness of countries.

⁹ Fratzscher (2000, p. 2f) points out that so called “sunspots” – exogenously determined shifts in investors beliefs – can be traced back to herding. Investors’ beliefs are exogenous because they do not refer to fundamentals which are country specific and they are not related to economic interdependencies. He therefore lists sunspots as a transmission channel of currency crises.

¹⁰ To be clear, contagion is not restricted to negative effects but also works the other way round.

Not only would these countries themselves, but also those with strong linkages to them, be targets for speculative attacks (Eichengreen et al. 1996, p. 468). The crisis spreads. Glick and Rose (1998) showed that trade linkages contribute significantly to the size and occurrence of currency crisis. Countries that had stronger trade linkages (which does not necessarily mean geographical neighbourhood) with the “first victim” of a crisis tended to depreciate more (Glick and Rose 1998, p. 16 f). And according to Fratzscher (2000, p. 3), financial (i.e. cross-border holdings of financial institutions) and real interdependence (i.e. trade linkages) both promote contagion.

Institutional Aspects

Poland as well as the other nine “new” member states went straight into “stage three” of the EMU when they joined the EU in 2004. Among other things this means that those countries had to adopt their central bank regulations to the needs of membership in the Euro-zone prior to accession to the EU. According to Article 122 EC-Treaty their status is the one of a member state “with a derogation”, i.e. certain monetary policy provisions, articles, rights and obligations concerning the ESCB, the procedure of giving formal notice in case of an “excessive” budget deficit as well as the possibility for the Council to impose financial and other penalties do not apply for Poland. However, according to the accession treaty there is no opt-out clause for these new members (contrary to the “old” ones and enacted by Britain, Denmark and Sweden), meaning that they are obliged to adopt the Euro once they meet the Maastricht convergence criteria (EU 2004), i.e. stability/convergence of prices, interest-rates, debts, and exchange rates.¹¹ An obligation especially these countries nevertheless have to meet is to regularly develop convergence programmes for four years in advance, including objectives to be achieved during these years of “convergence” (with respect to the economies in the Euro-zone).

Exchange rate stability is targeted relatively strictly by an institutional framework (the ERM II), and debt stability by a relatively weak one (the Stability and Growth Pact (SGP)¹²), while price and interest-rate stability (the long-term variant of price stability) are not directly targeted at all. While one could raise the question if the SGP is already dead or only seriously ill after the reforms of 2005, the ERM II is still living and healthy. Each country willing to introduce the Euro thus has to become member of ERM II at first and has to keep for at least two years an exchange rate close to a “central rate” against the Euro, which the ECB, the ministers of finance of the Euro-zone, and the “candidate” country have to mutually agree on (see for de-

¹¹ As expressed in Article 121 (1) EC-Treaty: a rate of inflation of less than 1.5 % more than the three members most price stable, a long-term interest rate of less than 2 % more than these member states, a budget deficit of less than 3 % relative to GDP, a debt ratio of less than 60 % relative to GDP, and two years of membership in the ERM II without devaluation (i.e., exchange rate volatility of less than +/- 15 % relative to the central parity mutually negotiated by the ECB and the member state against the Euro).

¹² See Exenberger (2004) for a critique on the SGP.

tails ECB 2005a). Although the standard band of deviation is +/- 15 %, it voluntarily may also be fixed closer, and the central rate ideally should be the future conversion rate (ECB 2004b, p. 13; Hitiris 1998, p. 173). Although the ERM II usually was designed as a “training ground”, it is now perceived by the member states as a “waiting room” (ECB 2004b, Polański 2004, p. 286).

Monetary policy is carried out by the European System of Central Banks (ESCB) in the EU and – with respect to the common currency – by the “Euro-system” centred on the ECB. While all central banks of all EU-countries are part of the ESCB, the Euro-system, exclusively responsible for all decisions concerning the common currency, consists only of the ECB and the national central banks (NCBs) of countries that have already introduced the Euro. The central body of the system, its “Governing Council”, is made of 6 members representing the “Executive Board” of the ECB (rather “European” in attitude) and 12 members representing one Euro-country each (relatively “national” in attitude). A major challenge for the system will be its enlargement: the more countries adopt the Euro, the more difficult and the more “nationalistic” will be the process of decision-making (usually by simple majority). Particularly the size of the body (up to 33 instead of 18 members within some years) and the diminishing influence of the ECB within the system are regarded as inefficient (Baldwin and Wyplosz 2004, p. 366, DeGrauwe 2003, p. 108ff). A reform of the Governing Council will avoid both problems (ECB 2003, p. 73ff): from the time on, when the Euro is introduced in at least 16 countries, there will be 6 permanent voting rights (for the representatives of the ECB) and 15 rotating voting rights (for the NCBs). The NCBs are ranked according to their countries’ “economic” size (measured by the size of GDP and the financial sector). As long as there are not more than 21 countries in the Euro-zone, there will be only two groups and the five biggest countries (the first group) will have permanent voting rights. From 22 countries on there will be three groups: the five biggest countries (with 4 voting rights), another group of at least half of all countries subsequent in size (with 8 voting rights), and a third group with the remaining small countries (with 3 voting rights). Poland will almost certainly be in the second group and thus be subject to rotating voting rights from the very beginning of its membership on.¹³

In the process of European integration the National Bank of Poland (NBP) had to undergo various adjustment processes such as the adjustment of the monetary policy principles and instruments to ESCB requirements (particularly Polish banking law and banking supervision). The adjustment of the NBP instruments to the ESCB requirements should reduce its level of over-liquidity in the money market and should amend some legal conditions in the Act on the NBP (NBP 2003, p. 15).¹⁴ The pri-

¹³ Belke and Styczynska (2005, pp. 6 and 14) found that members of this second group continuously lose relative power also after the accession of the 22nd country.

¹⁴ The focus of the NBP's activities for the years 2004 to 2006 will be, besides the monetary stability objective, financial system stability, technical preparedness for ESCB membership, reaching the status of a major academic centre, raising economic awareness, high quality of customer service and operating as an efficient institution (NBP 2004e, p. 7ff).

mary objective of Poland's monetary policy is already comparable to Europe: price stability, i.e. and inflation rate of 2.5 % with a tolerance of +/- 1 % (NBP 2004c, p. 3ff).

To adopt or not to adopt ...

... is, as has been said, not the question. Poland has to adopt the Euro, but it has certainly influence on the timing of its introduction as legal tender. Hence, some evidence useful to answer this question should be presented in the following sections.

Loss of monetary policy independence

The loss of the monetary policy independence remains the biggest cost of participating in a monetary union. In Poland this cost arise particularly form a rather high volatility of output and employment. Nevertheless, the NBP (2004a, p. 40) has concluded that the cost of giving up national monetary policy is lower than theoretically expected. The argument is that the role of the floating exchange rate as a stabilizer is restricted because of the already achieved free movement of capital. Furthermore, the floating exchange rate might be the very source of shocks. From this point of view, costs of giving it up are marginal. But this is not the full story: labour market flexibility could be used as an alternative adjustment mechanism, but – as discussed before – it is rather limited in Poland. For that reason, giving up monetary policy independence will create the risk of deep fluctuations in employment and income. To reduce this risk, reforms in the labour market are essential, for example to increase wage setting flexibility and to improve employment conditions (NBP 2004a, p. 25f). Following the endogeneity hypothesis, the entrance into the Euro zone, where exchange rate adjustment is no longer possible, will increase wage discipline in enterprises and support wages and labour productivity (NBP 2004a, p. 36). These are also priorities set by the Republic of Poland in its Convergence Programmes up to 2008 (RP 2004, RP 2006).

Another instrument commonly used to mitigate asymmetric shocks when abandoning the national currency and giving up monetary policy independence is fiscal policy. The fiscal adjustment mechanism can affect an economy through automatic stabilizers and discretionary measures, with a preference usually given to the former due to time-lags in effectiveness of the latter. According to the NBP, “an excessive structural deficit constitutes a major obstacle to Poland's effective use of automatic stabilisers after joining the euro zone.” (NBP 2004a, p. 29).

The cost of participating in the EMU also depends on the synchronisation of the Polish business cycle and that of the Euro zone. Several empirical studies indicate that the synchronisation of business cycles of Poland and the EU, the Euro zone or selected EU member states is already given to a moderately high level. Babetski et al. (2003) used the EU and Germany as reference economies and found that the correlation of demand shocks was growing over the period of 1990-2000. Fidrmuc (2001), by analysing the correlation of industrial production between 1990 and 1999 with

Germany as reference economy, also found a moderate degree of business cycle convergence. In a later analysis of supply and demand shocks Fidrmuc and Korhonen (2003) rate the correlation of demand and supply shocks between Poland and the Euro area as well as moderately high. Additionally, economic integration between Poland and the Euro zone is deepening, the result of which is an increase in cyclical convergence (NBP 2004a, p. 31ff).

Elimination of transaction costs

The most obvious benefit of a monetary union is the elimination of transaction costs (financial as well as administrative), including commissions, fees for hedging against exchange rate risk, spreads between buying and selling rates and in-house costs. These gains in transaction costs represent a rise in overall efficiency and are estimated by Borowski (2004, p. 153) to be around 0.22 % of GDP (two thirds of which come from financial transaction costs), a supplementary growth bonus not taken into account.

Elimination of the exchange rate risk and a decline in interest rates

Today the exchange rate risk partly explains the high level of interest rates in Poland (besides non-performing loans and additional entrepreneurial risks). The decline in domestic interest rates stemming from Euro adoption thus will represent one of the main benefits for Poland. Under the assumption that Poland – after EU accession – remains constantly outside the Euro-area, Borowski (2003, p. 153ff) calculated the currency risk premium and came up with the long-term result of 150-200 basis points. The NBP (2004a, p. 58) calculated a rather similar result, which would compensate for some macroeconomic costs of Euro-adoption.

Investment and trade activity in the long run

Several long-run-benefits of Euro-adoption have been worked out by the NBP by comparing a baseline scenario of monetary independence until 2030 with two accession scenarios in 2007 and 2010 (2004a, p. 46ff). The scenarios indicate that the average annual growth of investment will be augmented by 0.5–1 %. Not only domestic investment, but also FDI is stimulated by EMU-membership because of the elimination of exchange rate risk and greater macroeconomic credibility. This is quite relevant because the level of FDI is, compared with other accession countries, relatively low in Poland.¹⁵ From 2002 on there is at least a steady increase in the level of FDI, but below average (PIFIA 2005, p. 3).

Nevertheless increased trade activity is expected because of the elimination of exchange rate fluctuations. Borowski (2003, p. 164) expects the trade between Poland and the Euro zone to increase in the long-run by about 40 to 60 %, although the relationship between trade creation and trade diversion in the future is not completely clear, particularly because large external trading partners of Poland (Russia,

¹⁵ Measured per capita, cumulative FDI was in 2002 less than one third compared to the Czech Republic or Estonia and it was also lower than in Slovakia (NBP 2004a, p. 49).

China) are not easily substitutable by European ones. It is expected that increased trade activity will result in a deterioration of Poland's trade balance, which will amount for approximately -1.3 to -3.0 % (NBP 2004a, p. 72).

Considerations stemming from the OCA criteria

Labour Mobility

As in most European countries, labour mobility is not well developed in Poland. It is often stated that although unemployment is rather high in the East of the country, there is almost no migration even within Poland to the West of the country. To evaluate the migration potential, opinion polls are a rather useful instrument. Fortunately a time series of such polls exists, and the picture to be drawn is clear: in 2005 only 20 % of the Polish working population really think about migration (and only 6 are quite sure about migrating), while 74 % do not and 51 % would actively resist, even if they were offered a job abroad; the polls also reveal that EU accession not only clarify the peoples' opinions, but obviously does not promote but hinder migration, because potential migration numbers decrease over time (CBOS 2005, p. 15).

Table 1: Are you now interested in working in one of the EU Countries? (CBOS 2005, p. 15)

Answer	2001	2003	2005
YES (sum answers 1, 2 and 3)	27	25	20
NO (sum answers 4 and 5)	46	53	74
DON'T KNOW ("Difficult to say, don't know yet")	17	12	6
(1) "I am and I will definitely try to find a job there"	13	11	6
(2) "I am and I will probably try to find a job there"	10	10	8
(3) "I would be interested in an offer"	14	14	6
(4) "I am rather not interested"	15	18	23
(5) "I am not interested, even if I got an offer"	31	35	51

Wage Flexibility

Consequently, also the NBPs evaluation of the labour market adjustment mechanism found that the Polish labour force is characterised by limited international mobility. Besides the low propensity to migrate, there is a complex set of factors hampering labour mobility like linguistic and cultural barriers, human skills mismatch as well as institutional barriers restricting access to labour markets in several EU countries (also promoting illegal or illicit employment). There is also low wage flexibility in Poland because of a rather inflexible system of wage negotiations, connected to indexation mechanisms (Borowski 1999, p. 36). Furthermore labour market regulations are relatively strict and the degree of employment protection is relatively high.

For these reasons the Polish labour market is not a very efficient mechanism to absorb asymmetric shocks (NBP 2004a, p. 25f). Hence, with respect to labour mobility and wage flexibility, Poland is absolutely ready for Europe, where the situation (low propensity to migrate, low wage flexibility) is very similar, but it is – the same as Europe – not ready for the Euro.

Openness

On the contrary, Poland is – as well as Europe – a relatively open economy, and thus ready. Although Poland is a big country, overall trade (exports plus imports) amounts for more than 60 % relative to GDP, which is almost equal to Germany. There are also strong linkages particularly to the Euro-zone: the by far most important trading partner is Germany, 4 out of the top 5 export destinations and 4 out of the top 6 import countries of origin are members of the Euro-zone, and the Euro-zone as a whole accounts for more than half of Poland's overall trade, a share even steadily increasing (CSO 2005). This trend towards trade integration between Poland and the Euro zone increased trade openness and therefore also increased the dependence of real economic developments in Poland on economic activity in the Euro-zone (Borowski 1999, p. 39). This evidence is further strengthened by intra-industry-trade data: these numbers are generally rather high in the Euro-zone and they are increasing all over the 1990s and 2000s, as they are for Poland, which, although starting from a low level, has now even surpassed countries like Finland and Greece (NBP 2004a, p. 33ff). Hence, Poland does fulfil the openness criterion to a large extent. And as suggested by Frankel and Rose (1997), through more trade integration after the introduction of the Euro openness will even further increase.

Diversification

If one looks at trade patterns, one will see strong similarities between Poland and the Euro-zone (which consists, besides some weaknesses with respect to energy, of largely diversified economies) particularly in import patterns, which results in a comparable degree of exposure to supply shocks. This is not equally true for exports, where the Polish trade pattern shows a relatively high share of manufactured exports, but a relatively low level of advanced technology exports. This, mostly because of the production of subcomponents for processing abroad, makes Poland's economy dependent on the current business cycle in the destination countries, mainly within the Euro-zone itself, which alleviates the problem a little (Borowski 1999, p. 40f, Guerrieri 1998, p. 10ff). Hence, Poland's industry is still concentrated on labour-intensive products and thus subject to a different kind of demand shocks than most of the Euro-zone. But this problem is slowly vanishing, because due to the ongoing transformation process and the inflow of FDI, highly-processed goods will become more and more important. And again, intra-industry trade is expected to rise with deepening integration, particularly *ex post* Euro adoption. Hence, production is relatively diversified but could perform better with an increase in science based products. Through deeper integration within the EU knowledge transfers will occur as well as *ex post* increased production diversification, too.

Degree of Financial Market Integration

The participation in the EU Financial Market would allow Poland to enjoy those benefits of financial integration. For example, credit rating is worse for Poland (BBB+) than it is for the Euro-zone, thus a risk premium has to be paid and companies' access to foreign capital is limited. Euro-adoption would solve part of this problem and it will, via competition, improve the supply of financial services and raise the competitiveness of Polish financial intermediaries (NBP 2004a, p. 53f).

Breuss et al. (2004, p. 13ff) found that the financial market of Poland is still small compared to the Euro zone, in absolute as well as relative terms. While the level of total domestic financial intermediation in the Euro zone relative to GDP is at 318 %, it is only 56 % in Poland. Aggregate bank assets tell the same story: while in the Euro zone aggregate bank assets relative to GDP amount to 209 %, the share is below 60 % in Poland. In case of accession to the Euro zone, the Polish financial market is so small that it will not be able to cause major disturbances to the EMU (Breuss et al. 2004, p. 14 ff). Also the equity market capitalisation amounts in Poland to 15 % of GDP whereas in the Euro-zone it is 70 % on the average. Another serious problem is that Poland's level of non-performing loans amounts for 25 % of total loans in 2002, the highest level in the EU and a possible source of destabilisation and major disturbances in the financial market. This is one of the most critical issues facing Poland's EMU accession. A high level of foreign bank ownership is on the one hand used as a substitute for domestic financial supervision, but it leads on the other hand to dependence. The Polish financial system is further characterised by a high level of market concentration but some lacks in product availability. Overall, although Poland's financial market can not be regarded as fully integrated, and particularly non-performing loans are a serious obstacle, financial market development is under way and will be supported by full EMU-membership.

Inflation

In the early OCA theory, a similarity of inflation rates was regarded as precondition for monetary integration. The first and second of the Maastricht criteria are clearly influenced by that perception. Nevertheless, later developments stress the endogeneity of inflation, i.e. inflation rates will become similar after monetary integration (Tavlas 1993). Whatever may be true, it is clear that extremely different inflation rates are a serious obstacle, before as well as after integration (DeGrauwe 1997). Throughout the 1990s this was the case: in Poland inflation rates dropped from more than 70 % (1991) to 7.2 % (1999), while in the Euro-zone the respective numbers were 4.5 % and 1.1 %. Such a difference would be far from sustainable in a currency union. From 2001 on, the differences almost disappeared, as will be shown later.

Fiscal Transfers

Meeting the fiscal Maastricht convergence criteria to join the ERM II is one of the main objectives of Polish fiscal policy and is therefore mentioned as a first point in the Republic of Poland's Convergence Programme of 2004 (by the way, not again in

January 2006). This is followed by a description of how to reduce the deficit and how to contribute to the EU budget. Particularly the last point is interesting in this context and thus quoted extensively: “Not only is Poland’s accession to the EU connected with a wider access to EU funds, but also with a *necessity to contribute* to the EU budget. Poland’s contribution to the EU budget in 2005-07 is estimated at the equivalent of 1.1 % of GDP per annum. This *additional burden* shall not be fully covered by the lump sum cash flow facility to be received by the state budget from the EU” (RP 2004, p. 25, emphasis added). The two terms in italics are clearly referring to a limited Polish willingness to submit these transfer payments. It is not to be expected that the willingness to provide fiscal transfers within a possible EMU framework will be greater: while Poland clearly profits from funding out of the EU budget, EMU payments would be more equally distributed among members.

Homogeneous Preferences

To get an idea of the degree of homogeneity of policy preferences we may look at the similarity of supply and demand shocks between Poland and the Euro-zone. In case of a correlation of supply and demand shocks the exchange rate instrument would no longer be useful to stabilize. Fidrmuc and Korhonen (2001) examined the correlation of supply and demand shocks between ten Central and Eastern European Countries (CEECs) and the EMU in the 1990s. Their analysis shows that continuing integration within the EU during the last decades aligned the business cycles of the CEECs, too.

Table 2: Correlation of Supply and Demand Shocks, CEECs and EMU 1994-2000 (Fidrmuc and Korhonen 2001, p. 34)

	<i>Supply Shocks</i>	<i>Demand Shocks</i>
Bulgaria	-0.03	0.03
Czech Republic	0.04	-0.15
Estonia	0.25	0.12
Hungary	0.46	0.25
Latvia	0.30	-0.49
Lithuania	-0.11	-0.49
Poland	0.08	0.28
Romania	0.02	0.03
Slovakia	0.05	-0.05
Slovenia	0.15	-0.18

Generally, the correlation of demand shocks is lower than that of supply shocks. While Poland shows no correlation with respect to supply shocks, it has the highest correlation of demand shocks with the EMU among all CEECs. Hence, regarding the answer to supply shocks, the policy of the ECB and of Poland can be expected to differ, but being faced with demand shocks both, Poland and the ECB would answer with rather similar policies (Fidrmuc and Korhonen 2001, p. 24).

Commonality of Destiny

According to Geert Hofstede's research on Poland (Hofstede 2005) the main feature of the Polish society is uncertainty avoidance, resulting in a rule-oriented society. Therefore the implementation of further EU regulations and treaties would not pose much resistance as they will create even more certainty (this is also reflected in the poll about migration). For that reason, Poland has planned to achieve full membership in the EMU already in either 2007 or 2010 (NBP 2004a, p. 58).¹⁶ But Hofstede also rates the long-term orientation in Poland low, i.e. traditions and commitments do not hinder changes and thus changes (of the EU framework or with respect to Euro-adoption) can occur rapidly.

Nevertheless, the national identity is still strong in Poland and according to the Eurobarometer (EC 2004, p. 5) the number of people identifying themselves only with their own country increased in 2004 to 42 %. At the same time 94 % are proud to be "Polish", but 81 % are also proud to have "European" roots. Overall, Poland is to be expected as rather nationalistic force within the EU (and Euro-zone), and not as an advocate of "Europeanism". This also became clear in rather independent positions of Poland during the accession negotiations and the latest budget talks.

Factors that may promote financial crisis in Poland

Deterioration of balance sheets in the financial sector

During the last years, there is no deterioration in Polish bank's balance sheets, one danger that may cause banking panics. This holds for commercial as well as cooperative banks (which do not play a considerable role). Thus, Polish banks' ability to lend in general can be considered as given (see for example NBP 2004f, p. 40f, for an evaluation of the first half of 2004).

Increase in interest rates

Over the long run the development of interest rates (three-months) is almost without problems in Poland. Over the past ten years, although there are considerable fluctuations, there is a clear downward trend towards convergence with the Euro-area from 10.7 % in 2001 to 5.2 % in 2005 in Poland, compared to 5.0 to 3.4 % over the same period in the Euro-area. Only in the first half of 2004 the amount of corporate loans decreased. Among other reasons the decreasing level of loans is due to an unexpected increase in the interest rate in that year (NBP 2004b, p. 19). However, in 2005, Poland again turned into the convergence path.

Increase in uncertainty

¹⁶ A full accession in 2007 is now impossible, because Poland was not member of the ERM II by the end of 2005. To adopt the Euro in 2010, Poland has to join the ERM II until the end of 2007.

To promote credibility, it is necessary that a government follows over several legislative periods the same principles. This is easier in case there is no political turnover (although personally stable governments must not necessarily follow stable policies). But in Poland, the last two elections brought considerable political changes: in 2001 the SLD took over from Solidarity, and in 2005 the Euro-sceptical alliance of PiS and PO defeated the “old”, Europe-friendly SLD government by 288 (62 %) to 55 seats. The pro-EU and pro-NATO SLD government came under criticism concerning the high unemployment rate, the budget deficit and corruption. In March 2004 Prime Minister Leszek Miller was forced to resign and Marek Belka (not even re-elected into the Sejm) took over. While under Leszek Miller foreign investors hesitated to invest in Poland because of the danger of a fiscal crisis and chronic government instability, under Marek Belka they queued to buy bonds and boosted the value of the Zloty. Although there are also some positive aspects, now there is again uncertainty about the future course of the new government (The Economist 2005). Particularly differences between the PiS and PO on economic issues will limit the government’s effectiveness (PPA 2005).

Herding and contagion

Herd behaviour is not a country specific phenomenon and very much connected with expectations, particularly political stability. Hence, the probability that herd behaviour might occur in Poland is not very likely but as well not impossible.

With respect to financial interdependence (cross-border holdings of financial institutions), Poland is mainly linked to the EU, which accounts for three fourth of all FDI in Poland, particularly to France and Germany as well as the U.S. (PIFIA 2005). Real interdependence (trade linkages) exists as well mainly with EU-countries. Some danger may be posed by trade linkages to Russia and China, as well as the Czech Republic. But during the Crone-crisis (May 1997) and the Rouble-crisis (August 1998) Poland’s economy proved to be relatively robust. While for example the Ukraine was hit hard in 1998, the Zloty’s decline was moderate compared to the Rouble. Thus, Poland was hit slightly by the Russian crisis but no major damage was done. However, contagion is also a psychological phenomenon comparable to herding. Hence any crisis in comparable countries (for example Romania) could have adverse effects on Poland, too.

First and second generation models of currency crisis

Both concepts of crisis are based on the assumption that in case of rapid growth of domestic credit, foreign reserves vanish sooner or later. Hence, the question to be asked is, if Poland is running out of reserves or/and is expanding domestic credit unsustainably. The first question can easily be answered by a clear “No”, Poland built up reserves until 2000 (from 5 to 30 billion Euro over six years), and reserves remained rather stable ever since. Even the month-to-month volatility usually does not exceed 10 % and thus is within usual limits. Fortunately, also the second question is easily to be answered with “No”. Although money supply growth increased

steadily over the last years (from 1.5 % in 2003 to more than 10 % in 2005), domestic credit expansion remained rather limited, it even decreased from more than 5 % in 2003 to less than 3 in 2005 (OeNB 2005, p. 25). Hence, there is obviously not a big chance even for a successful self-fulfilling attack, because Poland's situation is far from the "windows" of multiple equilibria opened in these models, and even if, there is strong confidence that no collapse will occur.

Twin crisis

The Polish financial market is rather small and the Polish banking sector rather stable, although there is not much diversification (Breuss et al. 2004). A high level of foreign bank ownerships in Poland even increases domestic financial supervision (via the implementation of best practices and know-how). But as Thimann (2002, p. 10) mentions, there are not only advantages from high foreign bank ownership, because the key activities of these banks are mostly shifted to headquarters abroad.

The relatively high level of non-performing loans in Poland is certainly a major obstacle and could, together with other weak economic fundamentals, cause a banking crisis (Breuss et al. 2004). This high level of non-performing loans, although cut during the transition period by a "decentralized approach", has been, combined with other factors, the very source of banking crisis in Poland during the 1990s, as it was in several other CEECs. But only Bulgaria suffered a currency crisis following the initial banking collapse. Therefore Tang et al. (2000) mentions that the experience of CEECs was different to the experience in Latin America and East Asia where banking crisis commonly provoked currency crises (Tang et al. 2000, p. 12). Nevertheless, among all new EU member states, Poland has by far the highest level of non-performing loans: 25 % compared to 18 % in Malta and around 10 % in Slovakia, the Czech Republic, Slovenia and Cyprus, and up to 8 % in Belgium and the Netherlands, the worst-performing "old" member states (Breuss et al. 2004, p. 31).

Signs of balance-of-payments crisis that could lead into a banking crisis are not easily observable. Debts denominated in foreign currencies, another source of destabilisation, are, probably due to the appreciation of the Zloty, even declining in 2004 and 2005 (IMF 2004; IMF 2005a). Furthermore an improvement of the quality of such lending was observed. Hence, the analysis of the Polish banking sector reveals a high level of non-performing loans that might cause disruptions in the financial sector, as well as weak fundamentals (like the poor product range). At the same time, the level of foreign denominated loans is decreasing and limiting the danger.

Policies to prevent financial crisis

The political independence of the supervisory bodies is fully realised in Poland. The General Inspectorate of Banking Supervision (GINB), who is anchored within the structure of the NBP, is controlled by the Commission for Banking Supervision (CBS). The CBS is taking decisions while the GINB functions as an executive body (NBP 2001, p. 7ff; NBP 2005c, p. 7). Polish banking supervision entities also cooperate and exchange information with other financial supervision authorities such as the Securities and Exchange Commission (SEC) of Poland, the Agency for the Su-

pervision of Pension Funds and the State Agency of Insurance Supervision. Also accounting requirements in Poland are well defined and are meeting the standards of the EU. However, although the *acquis communautaire* is already implemented in Poland, according to the World Bank institutional strengthening as well as increased enforcement capacity is still necessary to fully meet the requirements of the *acquis* (World Bank 2005).

Due to privatisation and also due to the involvement of foreign investors in the reconstruction process of distressed banks, foreign bank ownership in Poland is relatively high. 61 % of all the capital in banks in Poland is under control of foreign banks (NBP 2004f, p. 6f). This percentage is even higher with regard to commercial banks where 76 % are foreign owned, which is well above the share of cross-border ownership within the EU. This relatively high level of foreign bank ownership brought many advantages in the past, like the adoptions of best practises and know how, more diversified portfolios, or lower affection of negative shocks are some advantages. Deeper integration in the EU, the full adoption of the *acquis communautaire* and the future deeper cooperation with the Eurosystem will be of further advantage to Poland (ECB 2004b, p. 41f). However, the high level of foreign bank ownership helps to insulate the Polish banking system from domestic shocks but exposes it to foreign shocks. On the other hand, state-owned financial institutions do not play a major role in Poland any more. Although in 2004 16 % of the capital in the banking sector is owned by the Treasury or other state institutions, according to the NBP (2004f, p. 5) there was just one out of 653 operating domestic banks left, which was exclusively owned by the state.

In 2003 the IMF (2003) initiated that there still are public enterprises which need to be reformed or restructured. The BTI (2003b, p. 7) indicates that in 2003 three quarters of the 500 biggest enterprises in Poland were already privatised. Contrary to the financial sector, in some key industries like steel and coal mining state-owned big businesses still exist. In its concluding statement in 2005 however, the IMF found that the process of privatisation developed very positive in the last year (IMF 2005a). Generally, the Polish programme to restructure the banking sector was comprehensive and aimed at the achievement of many objectives simultaneously. Institutional strengthening and privatisation were the main objectives. The restructuring was organised as a decentralised approach and pioneered successfully in Poland (Montes-Negret and Papi 1996, p. 26).

Poland's floating exchange rate, introduced in April 2000, is able to provide a warning signal to policymakers in cases of excessive depreciation. The Republic of Poland (RP 2004, RP 2006) expects the Zloty to keep a strong position against the Euro in 2005-2008. Considerable foreign exchange reserves are hold by the NBP mainly in convertible foreign currencies (IMF 2005b). At the end, with regard to capital controls the European Commission found that Poland has, to a large extent (i.e. not fully), adopted the rules and regulations on capital movements and payments within the *acquis communautaire* (EC 2003, p. 24f).

Considerations about institutions

Integration into the ERM II

The Interdepartmental Working Group for Poland's EMU integration released already in 2002 a plan of its activities (NBP 2002). This Work Group proposes a strategy that aims at Poland's soonest possible entry to the EMU. There is a common consensus that Poland should not limit the deviation band around the central rate but should instead try to remain within the normal deviation band of +/- 15 %. The Working Group as well as the NBP (2004a, p. 80) agreed that the determination of the Zloty/Euro central parity is of high importance. Not surprisingly, the central parity should be chosen close to the long-term equilibrium exchange rate to avoid disturbances. For that end, sustainable fiscal tightening will be unavoidable. Because a loose fiscal policy and a more tight monetary policy do not support economic growth in the long-run and may result in undesirable exchange rate fluctuations,¹⁷ the optimum macroeconomic policy might be a well-organised efficient fiscal policy with a moderately restrictive monetary policy. This policy mix will fulfil simultaneously all Maastricht convergence criteria and supports long-term economic growth. A quasi-fixed exchange rate regime is more vulnerable to speculative attacks and bears other risks hence the participation in the ERM II should be held as short as possible to avoid tensions in the foreign exchange market that might hinder nominal convergence (NBP 2004a, p. 80ff). To achieve this goal, the optimum date to enter ERM II obviously is as soon as all of the Maastricht convergence criteria are close to being fulfilled. Nevertheless in the aftermath of the last elections, Poland is even farther from fixing a date than before. In the recent update of the convergence report the only statement concerning the exchange rate reads as follows: "The projection of the zloty exchange rate assumes that zloty will remain strong against euro in 2006-2008, while it will be less volatile." (RP 2006, p. 14) This is not very encouraging, because it does not offer a perspective to sustainably stabilize the exchange rate of the Zloty.

The ESCBs new voting system

Poland's ability to decide on the common monetary policy will be limited from the beginning on, because it is impossible that Poland will be among the first 15 members of the Euro-zone. Nevertheless and despite of all reforms, Poland certainly will have more power in the voting system if for example population would be taken into consideration. Particularly in comparison to decision-making in the WTO (green room principle) the participation of all governors in the Governing Council's

¹⁷ Monetary tightening, namely rising interest rates, affect aggregate demand with a considerable time lag in comparison to fiscal tightening where general government spending is curbed down and aggregate demand responds immediately. Inflation and the exchange rate are influenced through changes in aggregate demand. Via changes in the interest rate differential monetary tightening affects the exchange rate in a negative way. When the exchange rate should be stabilised, movements in interest rates might result in exchange rate fluctuations (NBP 2004a, p.81).

meetings even under a new voting system is far more transparent and fair. However, if only a part of all governors are able to influence the decision making process directly, informal meetings will certainly emerge and may lead to flexible groupings.

The NBP

The judgement of the BTI is that the NBP is politically independent (BTI 2003b, p. 6). This independence is given through a limited period of presidency, the appointment of members of the Monetary Policy Council (MPC) by various political bodies, supervisory and control functions of the MPC and the Management Board of the NBP and by transparency through various publications.

Hence, the “priority task” that needs to be carried out by the NBP in the near future is to prepare the Zloty for participation in the ERM II (NBP 2004e, p. 10). First these preparations include the development of an operational and organisational framework for interventions in the foreign exchange market under ERM II, a macro-economic analysis to estimate the central parity and to filter the threats connected with ERM II participation. Those preparations aim to find the best macro-economic policy under the ERM II. Other adjustments will be made in the field of open market operations and reserve requirements. The preparations will also include the development of procedures for daily reporting to the ECB as well as preparations for the participation in the ESCB (NBP 2004e, p. 10 f).

Maastricht Convergence Criteria

At first, it should be kept in mind that all CEECs that are now members of the EU, fulfil the Maastricht criteria relatively better (particularly deficit and debt, but they perform also almost equally well at price, interest rate and exchange rate stability) than most of the recent members of the Euro-zone did at the same time relative to their adoption of the Euro, as was revealed by DeGrauwe (2003). Hence, the success of these countries is even more remarkable.¹⁸

The price stability criterion was no obstacle to monetary integration even during EMU formation. Among the potential candidates most of the countries (Latvia and Slovakia are the only exemptions) fulfil the criterion easily. As a country with rather high inflation Poland was far from sufficient price convergence during the 1990s. But with the exemption of 2004 it is now completely within the reference bands.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-12	1,7	1,2	1,1	2,1	2,3	2,3	2,1	2,1	2,2	2,2
Reference Value	2,7	2,3	2,1	3,5	3,8	3,2	2,8	3,3	3,4	3,5
Poland	15,0	11,8	7,2	10,1	5,3	1,9	0,7	3,6	2,2	2,3

¹⁸ All the data in this section is taken indirectly from Eurostat via the OeNB. Extensive tables covering country-by-country data can be found in an annex.

Also interest rates were no obstacle to monetary integration so far, because the expectation of convergence obviously fosters convergence to a certain extent and the spread within the Euro-zone is very limited. Hence, this criterion is the by far least violated one among the “old” members. Consequently (and encouragingly for future convergence), also all “new” members fulfil this criterion rather easily with the only exception of Hungary. Nevertheless, Poland ranks second relative to problems: it has only fulfilled this criterion in 2003 (by 0.3 %) and in 2005 (by 0.2 %) and clearly failed to in all other years.

	1997	1998	1999	2000	2001	2002	2003	2004	2005
EU-12	..	4,7	4,7	5,4	5,0	4,9	4,1	4,1	3,4
Reference Value	..	6,7	6,7	7,4	7,0	6,9	6,1	6,1	5,4
Poland	10,7	7,4	5,8	6,9	5,2

Contrary to the “old” member states, overall debt – at least with respect to the Euro adoption – never was a problem in all CEECs. Poland is no exception: while some Euro-zone countries still sustain debt ratios above 100 % relative to GDP, Poland’s rate is at around 45 %.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-12	74,9	74,2	72,7	70,4	69,3	69,2	70,4	70,8	71,7	71,7
Reference Value	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0
Poland	44,0	39,1	40,3	36,8	36,7	41,2	45,3	43,6	46,3	47,0

The same is not true for the budget balance, mainly due to structural problems inherited from the transition and especially pre-transition periods. Only four “new” member states fulfil the criterion now rather permanently (the three Baltic republics and Slovenia), while Poland has fulfilled it only from 1998 to 2000. But now the Polish budget deficit is 0.6 % too high and structural problems impede a fast recovery. The priority of the Polish government, particularly the newly elected one, clearly is employment promotion, in the short run contradictory to budget consolidation. Nevertheless it remains an important goal and progress is to be expected.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-12	-2,6	-2,2	-1,3	0,1	-1,9	-2,5	-3,0	-2,7	-2,9	-2,8
Reference Value	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0
Poland	-4,0	-2,1	-1,4	-0,7	-3,7	-3,3	-4,8	-3,9	-3,6	-3,6

Hence, for Poland one of the biggest challenges in the coming years is to meet the budget deficit criterion. The deficit has risen again, due to slow economic growth in the years 2001 and 2002 and the further financing of structural reforms since 1999. A reduction should be achieved by simultaneous progress towards real convergence. Nevertheless, in July 2004 the Ecofin Council considered Poland’s deficit as “excessive” and recommended sustainable results until at least 2007. According to the ESA

95 method (i.e. with a periodical inclusion of open pension funds) the goal even was achieved in 2005 and a further decrease of the deficit of another 1 % until 2008 is forecasted by the Polish government (RP 2006, p. 17).

Finally, the stability of the exchange rate is even more problematic. While the Zloty (since 2000 in a flexible regime almost without interventions) devaluated strongly and continuously in 2002 and 2003 (by more than 40 %), it appreciated strongly from 2004 on (by around 25 %). These movements can be attributed to external as well as internal factors, and they particularly indicate, how sensible the exchange rate is to changes in public finance. Therefore a disciplined fiscal policy in the years of ERM II participation (and before) is crucial for first of all, the fulfilment of the fiscal Maastricht criterion and secondly, for the fulfilment of the exchange rate stability criterion (NBP 2004a, p. 110f). However, the exchange rate projections in Poland's Convergence Programmes (RP 2004, p. 12, and RP 2006, p. 14) assume that the Zloty will keep a strong position vis-à-vis the Euro until 2008, while exchange rate volatility may gradually decrease.

Exchange rate fluctuations of the scope, the Zloty faced over the last five years, are well outside the bands of ERM II und thus would prevent Poland from adopting the Euro. This becomes even clearer if one compares the development of the Zloty with other potential Euro-currencies: while the Slovenian Tolar stabilized completely after a long period of steady depreciation with ERM-II-membership, the exchange rate of the Swedish Crone were and is much more volatile. Particularly the latter case is interesting, because Sweden is not member of ERM II for not willing to commit oneself to a rather fixed rate – although the volatility of the Crone over the last five years was only +/- 5 % (and thus well within the ERM-II-bands). Nevertheless, as long as the Zloty remains strong, Poland may at least enter the ERM II without the danger of failing by a depreciation of the central parity. Hence, a backdoor is kept open.

Conclusions

Poland's accession to the European Union in May 2004 obliged the country to enter the next stage of economic integration, the accession to the Euro-zone. But a date is not yet set and will be chosen not before Poland fulfils the Maastricht convergence criteria.

The main risk of introducing the Euro in Poland is associated with the loss of monetary policy autonomy. Through the adoption of the Euro and the common monetary policy of the ECB the risk of increased fluctuations in output and employment as well as income will increase. When launching the Euro, these fluctuations neither can be smoothed through independent interest rate policy nor through the stabilising function of a floating exchange rate. Fluctuations can be mitigated to a certain extent by a rather close correlation of demand shocks in Poland and the EMU. The Euro-zone as Poland's primary trading partner also fostered the synchronisation of

business cycles even more since Poland has entered the EU. Increased FDI, a narrower technology gap and an increased share of intra-industry trade fostered business cycle synchronisation and cyclical convergence.

Another way to neutralize potential shocks stemming from the loss of monetary independence is through alternative adjustment mechanisms. In the current situation shocks cannot efficiently be neutralised through wage adjustments and labour mobility because the labour adjustment mechanism is hindered by limited flexibility, relatively strict regulations and rigidity. On the other hand, the fiscal adjustment mechanism is considered to barely work due to the high structural deficits. If Poland manages to diminish its structural deficit, the effectiveness of the fiscal adjustment mechanism will increase. It can be assumed that areas or situations within which Poland would prefer a monetary policy different to the one set by the ECB will remain. Furthermore, through amendments of the ESCB voting system to a future enlarged Euro-zone Poland's ability to influence the monetary policy will be limited.

After introducing the Euro the expected further expansion of trade between Poland and the Euro-zone should lead to even more synchronised business cycles. Fluctuations in output and employment would therefore be similar in both Poland and the Euro-zone, which would lead to similar monetary policy requirements. Ex post developments in the field of alternative adjustment mechanisms are also expected to occur in the form of a stimulus that increases labour market flexibility. The process of integration will remove barriers in favour of free movement of the labour force and eliminates possible exchange rate realignments. These positive ex post developments should reduce the cost of giving up monetary independence.

Further costs will be due to the fulfilment of the Maastricht convergence criteria. Meeting the Maastricht convergence criterion on price stability will be accompanied in a temporary reduction in economic growth. The reduction of the state budget deficit to the reference value of 3 % of GDP will generate more short-term costs. The new Eurosceptical government of PiS and PO and a slowdown in economic growth (due to the fulfilment of the price stability criterion) might delay convergence further.

The financial sector is exposed to risk, too. Poland fulfils a considerable number of criteria to prevent a country of a financial crisis like prudential supervision and a high level of foreign bank ownership. These are important stabilising factors, as well as meeting accounting standards and disclosure requirements of the EU, encouraging market-based discipline, sequencing financial liberalisation and reducing state-owned financial institutions. Beside these efforts to build a healthier financial system, Poland still has to deal with problems in the financial sector. These problems include a high level of foreign denominated debt (which shows tendencies to increase), an insufficient protection of intellectual property rights and a moderate level of price stability, and uncertainty about future economic policies. All these weak economic fundamentals expose Poland to risk. The risk is curbed by the fact that these negative developments are well known. Furthermore ex post developments and a more integrated financial market are expected to diminish the high

level of foreign denominated debt. But connected with the relatively high level of non-performing loans in Poland, these weak fundamentals could destabilise the financial market, which is a major source of concern. Breuss et al. (2004, p. 21) point out that if all non-performing loans would default at once, a major banking crisis is very likely to occur. At the same time, the danger of a currency crisis spreading through contagion or herding to Poland within the foreseeable future is limited. Poland's financial interdependence with mainly Euro-zone countries and its real interdependence with the EU foster integration of the financial sector and improve bilateral trade linkages.

There are also a lot of benefits associated with Poland's Euro-zone accession. The elimination of the exchange rate risk, which is a direct consequence of Euro introduction, contributes to a reduction in interest rates (one of the main benefits for Poland's economy as a whole). Lower transaction costs and trade expansion as well as an increased inflow of FDI, enhanced competition and a more integrated financial market in Poland are further beneficial effects. All this leads to a raise in investment, improved labour productivity and faster economic growth. Increased investment is assumed to be accompanied by knowledge and technology transfers, which will result in an acceleration of innovation and the modernisation of the Polish economy (NBP 2004a, p. 68). Furthermore the exchange rate risk is eliminated after joining the Euro-zone as well as the risk of currency crisis. The eliminated risk of currency crisis helps Poland to gain credibility in macroeconomic policy. Ex post effects include an increase in economic openness, the reduction in interest rates, the better functioning of the labour adjustment mechanism as well as a deeper integrated financial market. Even more synchronised business cycles and a diminished cost of giving up monetary independence would be the result. Deeper integration in the financial market would support developments to translate still weak economic fundamentals and the poor product range into a dynamic financial market. The danger of a financial crisis in Poland which could damage the EMU is further limited by the size of the Polish financial sector.

The main policy task for Poland is to meet the Maastricht convergence criteria at the lowest possible costs and risks. Therefore it will be necessary to tighten macroeconomic policy in order to meet the inflation criterion. With tight fiscal policy the reduction in the inflation rate can be achieved and the risk of severe tensions in the foreign exchange market is smaller than by tightening monetary policy (NBP 2004a, p. 85). But during ERM II participation it will anyway be difficult to diminish Zloty fluctuations against the central parity. The best strategy to prepare and accompany Poland through ERM II would therefore be a cooperation of the fiscal and monetary authorities. The optimum macroeconomic policy mix thus consists of a tight fiscal policy and a sound, moderately restrictive monetary policy. This policy mix will fulfil simultaneously all Maastricht convergence criteria and support economic growth in the long-run.

Further recommendations concern comprehensive reforms. Poland should not wait for the adjustment mechanisms ex post the Euro introduction. Labour market reform which aims at increasing wage flexibility and labour mobility will be able to

benefit Poland before the adoption of the Euro. By reforms in the labour market the labour adjustment mechanism will improve, too. Reforms in the public finance sector will assure a smooth functioning of the fiscal adjustment mechanism. Poland will benefit from earlier reforms in both the labour market and the public finance sector. The tightening of fiscal policy and reforms in public finances previous to ERM II participation are further desirable in order to develop a higher degree of credibility of macroeconomic policy and to ensure the meeting of all Maastricht convergence criteria. Furthermore, it is recommended to keep the period of ERM II participation as short as possible (i.e. two years). This recommendation bases on the assumption that severe tensions in the foreign exchange market could hinder nominal convergence. On the other hand, in case of immediate membership the consequences for the whole Euro-zone would be almost insignificant: an increase in inflation and of the interest rate by 0.1 % could be expected, and a decrease of overall debt by 1.4 %, while deficit remains unchanged (Breuss et al. 2004; Eurostat 2005a; Eurostat 2005b; Eurostat 2005c; NBP 2005a). At the same time, the gains from a larger Union are more than marginal for both the Euro-zone and Poland. The small size argument (of Poland relative to the EU) is clearly in favour of an early adoption, too.

Poland's membership also leaves the certainly undersized "degree" of optimality of the Euro-zone almost unchanged. While labour mobility and fiscal transfers remain insufficient, diversification, openness and particularly the homogeneity of preferences are possibly even fostered (for the communality-of-destiny-criterion the evidence is mixed, but rather negative).

Overall, chances outweigh risks with respect to Poland's membership in the European Monetary Union. The degree of economic integration between Poland and the Euro zone is already high and will further be fostered by Poland's accession. Alternative adjustment mechanisms are expected to increase ex post and it is supposed that through synchronised business cycles the ECB monetary policy will be relatively adequate for the Polish economy, too. A possible slight and temporary economic slowdown will be compensated by long-term growth effects.

Nevertheless, political signals are not very encouraging and point to not earlier than 2010 or 2011. To give the Polish government the final word clearly revealing its priorities: "The intention of the government is for Poland to meet the Maastricht criteria within the present term of the Parliament (upon the application of the 'budgetary anchor'). It seems that in order to make the real convergence more dynamic, Poland may continue the integration process without any unnecessary risk and additional costs only if the economy is healthy, unemployment rate is low and investment growth is significant." (RP 2006, p. 6)

Literature

Alesina, A., Barro, R. and Tenreyro, S. (2002), Optimal Currency Areas, NBER Working Paper No. 9072.

- Artis, M. and Nixson, F. (2001), *The Economics of the European Union – Policy and Analysis*, Third Edition, Oxford University Press Inc., New York.
- Babetski, J., Boone, L. and Maurel, M. (2003), *Exchange Rate Regimes and Supply Shocks Asymmetry: the Case of the Accession Countries*, CERGE-EI Working Paper No. 206.
- Balcerowicz, L., Blaszczyk, B. and Dabrowski, M. (1997), *The Polish Way to the Market Economy 1989 – 1995*, in Wing Thyne, W., Parker, S. and Sachs, J. D. [eds.], *Economies in Transition*, MIT Press, Cambridge, pp. 131-160.
- Baldwin, R. and Wyplosz, C. (2004), *The Economics of European Integration*, McGraw Hill Education, Berkshire.
- Bayoumi, T. and Eichengreen, B. (1997), *Ever closer to heaven? An optimum-currency-area index of European countries*, *European Economic Review* Vol. 41, Nos. 3-5, pp. 761-770.
- Belke, A. and Styczynska, B. (2005), *The allocation of power in the enlarged ECB governing council: an assessment of the ECB rotation model*, *Diskussionspapier aus dem Institut für Volkswirtschaftslehre der Universität Hohenheim* No. 242/2004.
- Borowski, J. (1999), *How prone is Poland to Exogenous Asymmetric Shocks?* *Yearbook of Polish European Studies* 3/1999, pp. 33-43.
- Borowski, J. (2003), *Potential Benefits of Poland's EMU Accession*, in OENB. *Focus on Transition* 1/2003, pp. 148-173.
- Borowski, J. (2004), *Costs and Benefits of Poland's EMU Accession: a Tentative Assessment*, *Comparative Economic Studies* Vol. 46, pp. 127-145.
- Calvo, G. A. (1996), *Varieties of Capital Market Crises*, University of Maryland.
- Copeland, L. S. (2001), *Exchange Rates and International Finance*, Prentice Hall, pp. 435-466.
- DeGrauwe, P. (1987), *International trade and economic growth in the European Monetary System*, *European Economic Review* Vol. 31, Issues 1-2, pp. 389-398.
- DeGrauwe, P. (1997), *The Economics of Monetary Integration*, Third Edition, Oxford University Press Inc., New York.
- DeGrauwe, P. (2000), *Economics of Monetary Union*, Fourth Edition, Oxford University Press Inc., New York.
- DeGrauwe, P. (2003), *The Euro at Stake? The Monetary Union in an Enlarged Europe*, in: *CESifo Economic Studies*, Vol. 49 (1), pp. 103-121.
- ECB (2002), *"New Views" on the Optimum Currency Area Theory: What is EMU telling us?* ECB Working Paper No. 138, Frankfurt.
- ECB (2003), *Monthly Bulletin* May 2003, *The adjustment of voting modalities in the Governing Council*, pp. 73-83.
- ECB (2004b), *The Acceding Countries' Strategies Towards ERM II and the Adoption of the Euro: Analytical Review*, ECB Occasional Paper Series No. 10.
- Eichengreen, B., Rose, A. K. and Wyplosz, C. (1996), *Contagious Currency Crises: First Tests*, *Scandinavian Journal of Economics* Vol. 98, Issue 4, pp. 463-484.

- Exenberger, A. (2004). The Stability and Growth Pact. Experience and Lessons to be Learnt for Europe and the World, Working Paper 04-05 (accessible online at: <http://homepage.uibk.ac.at/~c43207/die/w0405.pdf>).
- Fidrmuc, J. (2001), The Endogeneity of Optimum Currency Area Criteria, Intraindustry Trade and EMU Enlargement, BOFIT Discussion Paper No. 8, Bank of Finland.
- Fidrmuc, J. and Korhonen, I. (2001), Similarity of supply and demand shocks between the Euro area and the CEECs, BOFIT Discussion Paper No. 14, Bank of Finland.
- Fidrmuc, J. and Korhonen, I. (2003), The Euro goes East, Implications of the 2000-2002 economic slowdown for synchronization of business cycles between the Euro area and CEECs, BOFIT Discussion Paper No. 6, Bank of Finland.
- Frankel, J. A. (1999), No single currency regime is right for all countries or at all times, NBER Working Paper No. 7338, Cambridge.
- Frankel, J. A. and Rose, A. K. (1997), The Endogeneity of the Optimum Currency Area Criteria, Revised Draft: 24 September 1997, also published in: *Economic Journal* Vol. 108, Issue 449, pp. 1009-1025.
- Fratzscher, M. (2000), On Currency Crises and Contagion, Institute for International Economics, IIE Working Paper No. 00-9, Washington D.C., also published in: *International Journal of Science and Economics* Vol. 8, Issue 2, pp. 109-129.
- Glick, R. and Rose, A. K. (1998), Contagion and Trade: Why Are Currency Crises Regional? Draft Version, University of California, Berkeley, also published in: *Journal of International Money and Finance* Vol. 18, Issue 4, pp. 603-617.
- Guerrieri, P. (1998), Trade Patterns, FDI, and Industrial Restructuring of Central and Eastern Europe, Berkeley Roundtable on the International Economy (BRIE) Working Paper 124.
- Hitiris, T. (1998), *European Union Economics*, Fourth Edition, Prentice Hall, Hertfordshire.
- Horvath, R. and Komarek, L. (2002), Optimum Currency Area Theory: A Framework for Discussion about Monetary Integration, Warwick Economic Research Paper No. 647.
- Kaminsky, G. (2003), Varieties of Currency Crises, NBER Working Paper No. 10193.
- Kaminsky, G. and Reinhart, C. M. (1999), The Twin Crises: The Causes of Banking and Balance-of-Payments Problems, Board of Governors of the Federal Reserve System, *International Finance Discussion Papers* No. 544, also published in: *American Economic Review* Vol. 89, No. 3, pp. 473-500.
- Kaminsky, G., Lizondo, S. and Reinhart, C. M. (1997), Leading Indicators of Currency Crises, World Bank Policy Research Working Paper No. WPS 1852.
- Kenen, P. B. (1969), The Theory of Optimum Currency Areas: An Eclectic View, in Mundell, R. A. and Swoboda, A. K. [eds.]. *Monetary Problems of the International Economy*, University of Chicago Press, pp. 41-60.
- Krugman, P. (1979), A Model of Balance-of-Payments Crises, *Journal of Money, Credit, and Banking* Vol. 11, Issue 3, pp. 311-25.

- Krugman, P. (1993), Lessons of Massachusetts for EMU, in Torres, F. and Giavazzi, F. [eds.]. *Adjustment and Growth in the European Monetary Union*, Cambridge University Press, Cambridge, pp. 241-261.
- Krugman, P. (1996), Are Currency Crisis Self-Fulfilling? in Bernanke, B. S. and Rotemberg J. J. [eds.]. *NBER Macroeconomics Annual 1996*, Cambridge.
- Maddison, A. (2001), *The World Economy: A Millennial Perspective*, OECD, Paris.
- McKinnon, R. I. (1963), Optimum Currency Areas, *American Economic Review* Vol. 53, Issue 4, pp. 717-725.
- Mishkin, F. S. (1996), Understanding Financial Crises: A Developing Country Perspective, NBER Working Paper No. 5600.
- Mishkin, F. S. (2001), Financial Policies and the Prevention of Financial Crises in Emerging Market Countries, NBER Working Paper No. 8087.
- Montes-Negret, F. and Papi, L. (1996), The polish experience in Bank and Enterprise Restructuring, The World Bank, Financial Sector Development Department.
- Mundell, R. A. (1961), A Theory of Optimum Currency Areas, *The American Economic Review* Vol. 51, No. 4, pp. 657-665.
- Mundell, R. A. (1973a), Uncommon Arguments for Common Currencies, in Johnson, H. and Swoboda, A. K. [eds.]. *The Economics of Common Currencies*, George Allen & Unwin Ltd., London, pp. 114-132.
- Mundell, R. A. (1973b)., A Plan for a European Currency, in Johnson, H. G. and Swoboda, A. K. [eds.]. *The Economics of Common Currencies*, George Allen & Unwin Ltd., London, pp. 143-172.
- Obstfeld, M. (1986), Rational and Self-Fulfilling Balance-of-Payments Crises, *American Economic Review* Vol. 76, No. 1, pp. 72-81.
- Polański, Z. (2004), Poland and the Euro Zone Enlargement: Monetary Policy, ERM II, and Other Issues, *Atlantic Economic Journal* Vol. 32, Issue 4, pp. 280-292.
- Saxena, S. C. (2004), The Changing Nature of Currency Crises, *Journal of Economic Surveys* Vol. 18, No. 3, pp. 321-350, Oxford.
- Tang, H., Zoli, E. and Klytchinkova, I. (2000), Banking Crisis in Transition Countries: Fiscal Costs and Related Issues, World Bank Policy Research Working Paper No. WPS 2484.
- Tavlas, G. S. (1993), The 'New' Theory of Optimum Currency Areas, *World Economy* 16(6), pp. 663-685.
- Thimann, C. [ed.] (2002), *Financial Sectors in EU Accession Countries*, European Central Bank, Frankfurt/Main.

Online Resources

- Breuss, F., Fink, G. and Haiss, P. (2004), How Well Prepared Are the New Member States for the European Monetary Union? (http://www.wifo.ac.at/Fritz.Breuss/Breuss_Fink_Haiss_JPM2004.PDF), also published in: *Journal of Policy Modeling* Vol. 26, Issue 7, pp. 769-791.
- BTI (2003a), *BTI Ranking 2003*, Ergebnisübersicht (<http://bti2003.bertelsmann-transformation-index.de/fileadmin/pdf/BTI-Tabelle.pdf>).

- BTI (2003b), *Ländergutachten Polen*, (<http://www.bertelsmann-transformation-index.de/169.0.html?&0=&type=98>).
- CBOS (2005), *The attitude to the EU membership*, Public Opinion Research Centre, (<http://www.cbos.com.pl/ENGLISH/charts.pdf>).
- CSO (2002), *Land use*, Central Statistical Office (http://www.stat.gov.pl/english/dane_spol-gosp/nsp/spis_rol/land.htm).
- CSO (2005), *Foreign Trade Turnover*, Central Statistical Office (http://www.stat.gov.pl/english/dane_spol-gosp/ceny_handel_uslugi/obroty_handl_zagr/2005/i_iii_05.htm).
- EC (2001), *New European Labour Markets, Open to All, with Access for All*, (http://europa.eu.int/eur-lex/en/com/cnc/2001/com2001_0116en01.pdf).
- EC (2003), *Comprehensive monitoring report on Poland's preparations for membership*, (http://europa.eu.int/comm/enlargement/report_2003/pdf/cmr_pl_final.pdf).
- EC (2004), *Eurobarometer 62*, Public Opinion in the European Union, Autumn 2004, (http://europa.eu.int/comm/public_opinion/archives/eb/eb62/eb62_hr_exec.pdf).
- ECB (2004a), *Konvergenzbericht 2004* (<http://www.ecb.int/pub/convergence/html/index.en.html>).
- ECB (2005a), *Frequently Asked Questions: EU enlargement and Economic and Monetary Union (EMU)* (<http://www.ecb.int/ecb/enlargement/html/faqenlarge.en.html>).
- ECB (2005b), *Long term interest rate statistics for EU Member States* (<http://www.ecb.int/stats/money/long/html/index.en.html>).
- ECB (2005c), *Objectives of Monetary Policy* (<http://www.ecb.int/mopo/intro/html/objective.en.html>).
- EU (2004), *Enlargement of the Euro zone*, Economic and Monetary Affairs <http://europa.eu.int/scad-plus/leg/en/lvb/l25066.htm>).
- EU (2005), *Consolidated Version of the Treaty Establishing the European Community* (http://europa.eu.int/eur-lex/en/treaties/dat/C_2002325EN.003301.html).
- Eurostat (2005a), Euro-Indikatoren, *Pressemitteilung 26-09-2005* (http://epp.eurostat.cec.eu.int/portal/page?_pageid=0,1136107&_dad=portal&_schema=PORTAL).
- Eurostat (2005b), *Inflationsrate* (http://epp.eurostat.cec.eu.int/portal/page?_pageid=0,1136173.0_45570704&_dad=portal&_schema=PORTAL).
- Eurostat (2005c), *Öffentlicher Schuldenstand* (http://epp.eurostat.cec.eu.int/portal/page?_pageid=0,1136173.0_45570704&_dad=portal&_schema=PORTAL).
- Hofstede, G. (2005), *Cultural Dimensions Poland* (http://www.geert-hofstede.com/hofstede_poland.shtml).
- IMF (2003), *Concluding Statement of the IMF Staff Mission – Poland 2003* (<http://www.imf.org/external/np/ms/2003/112003.htm>).
- IMF (2004), *Concluding Statement of the IMF Staff Mission – Poland 2004* (<http://www.imf.org/external/np/ms/2004/102004.htm>).
- IMF (2005a), *Concluding Statement of the IMF Staff Mission – Poland 2005* (<http://www.imf.org/external/np/ms/2005/042705.htm>).
- IMF (2005b), *International Reserves and Foreign Currency Liquidity Poland* (<http://www.imf.org/external/np/sta/ir/pol/eng/curpol.htm>).
- NBP (2001), *The Polish Banking System in the Nineties* (http://www.nbp.pl/en/publikacje/inne/system_bankowy.pdf).
- NBP (2002), *Release of the Activities of the Interdepartmental Group for Poland's Integration with the Economic and Monetary Union* (http://www.nbp.pl/homen.aspx?f=en/aktualnosci/2002/new_nbp_mf_081002.html).
- NBP (2003), *The Role of the National Bank of Poland in the Process of European Integration* (http://www.nbp.pl/en/publikacje/integracja/role_nbp_en.pdf).
- NBP (2004a), *A Report on the Costs and Benefits of Poland's Adoption of the Euro* (http://www.nbp.pl/en/publikacje/e_a/euro_adoption.pdf).
- NBP (2004b), *Financial Stability Review, First half of 2004* http://www.nbp.pl/en/SystemFinansowy/financial_stability_2004_1.pdf).

- NBP (2004c), *Monetary Policy Guidelines for the year 2005* (http://www.nbp.pl/en/publikacje/o_polityce_pienieznej/zal2005a.pdf).
- NBP (2004d), *National Bank of Poland* (http://www.nbp.pl/en/publikacje/inne/informator_en.pdf).
- NBP (2004e), *Plan of Activity 2004 – 2006* (http://www.nbp.pl/en/publikacje/inne/04_06_en.pdf).
- NBP (2004f), *Summary Evaluation of the Financial Situation of Polish Banks, First Half 2004* (http://www.nbp.pl/en/publikacje/o_nadzorze_bankowym/synteza2004_06_en.pdf).
- NBP (2005a), *Inflation Report* (http://www.nbp.pl/en/publikacje/raport_inflacja/iraport_february2005.pdf).
- NBP (2005b), *Official Reserve Assets* (http://www.nbp.pl/en/statystyka/czasowe_dwn/Rez98_2005a.xls).
- NBP (2005c), *Report on the Activity of the Commission for Banking Supervision 2004* (http://www.nbp.pl/onbp/organizacja/knb/%20knb_2004_en.pdf).
- OECD (2005), *Country Statistical Profile 2005 Poland* (<http://stats.oecd.org/wbos/viewhtml.aspx?QueryName=22&QueryType=View&Lang=en>).
- OeNB (2005), *Developments in Selected Countries, Focus on European Economic Integration 2/05*, pp. 10-56 (http://www.oenb.at/en/img/feei_2005_2_developments_tcm16-33476.pdf).
- PIFIA (2005), *The list of the largest foreign investors in Poland; December 2004* (<http://www.paiz.gov.pl/index/index.php?id=2056d8c1dec3d12cbce646b348d189d1>).
- PPA (2005), *Parliamentary Elections 2005*, Polish Press Agency (<http://www.elections.pap.pl/cgi-bin/news1.pl?id=29&g=01&lang=en>).
- RP (2004), *The Republic of Poland's Convergence Programme 2004 Update* (http://europa.eu.int/comm/economy_finance/about/activities/sgp/country/countryfiles/pl/pl20042005_en.pdf).
- RP (2006), *The Republic of Poland's Convergence Programme 2005 Update* (http://europa.eu.int/comm/economy_finance/about/activities/sgp/country/countryfiles/pl/pl20052006_en.pdf).
- The Economist (2005), *Polish Politics Right Turn ahead, Country Briefings Poland* (http://www.economist.com/displayStory.cfm?story_id=3672846).
- World Bank (2000), *Corporate Governance Assessment and ROSC Module Poland* (http://www.worldbank.org/ifa/rosc_cg_poland.html).
- World Bank (2005), *Report on the Observance of Standards and Codes – Poland, February 2005* (http://www.worldbank.org/ifa/rosc_aa_pol_0205.pdf).

Annex: Detailed Data about the Maastricht Criteria

Source: Eurostat (provided by the OeNB at <http://www.oenb.at/>)

Remarks: all data for 2006 are forecasts; fields coloured green mark countries fulfilling the reference value

Table 3: Inflation Rates (based on the HCPI) in % 1997-2006

PRICE STABILITY										
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Reference Value	2,7	2,3	2,1	3,5	3,8	3,2	2,8	3,3	3,4	3,5
EU-12	1,7	1,2	1,1	2,1	2,3	2,3	2,1	2,1	2,2	2,2
Belgium	1,5	0,9	1,1	2,7	2,4	1,6	1,5	1,9	2,5	2,6
Germany	1,5	0,6	0,6	1,4	1,9	1,3	1,0	1,8	1,9	1,6
Greece	5,4	4,5	2,1	2,9	3,7	3,9	3,4	3,0	3,5	3,1
Spain	1,9	1,8	2,2	3,5	2,8	3,6	3,1	3,1	3,4	3,3
France	1,3	0,7	0,6	1,8	1,8	1,9	2,2	2,3	1,9	2,1
Ireland	1,2	2,1	2,5	5,3	4,0	4,7	4,0	2,3	2,2	2,5
Italy	1,9	2,0	1,7	2,6	2,3	2,6	2,8	2,3	2,2	2,1
Luxemburg	1,4	1,0	1,0	3,8	2,4	2,1	2,5	3,2	3,8	4,4
Netherlands	1,9	1,8	2,0	2,3	5,1	3,9	2,2	1,4	1,5	2,0
Austria	1,2	0,8	0,5	2,0	2,3	1,7	1,3	2,0	2,1	2,1
Portugal	1,9	2,2	2,2	2,8	4,4	3,7	3,3	2,5	2,1	2,7
Finland	1,2	1,4	1,3	3,0	2,7	2,0	1,3	0,1	0,8	1,4
Denmark	1,9	1,3	2,1	2,7	2,3	2,4	2,0	0,9	1,7	2,0
Sweden	1,8	1,0	0,6	1,3	2,7	1,9	2,3	1,0	0,8	1,4
United Kingdom	1,8	1,6	1,3	0,8	1,2	1,3	1,4	1,3	2,1	2,2
Estonia	9,3	8,8	3,1	3,9	5,6	3,6	1,4	3,0	4,1	3,3
Lithuania	8,8	5,0	0,7	0,9	1,6	0,3	-1,1	1,2	2,7	2,8
Slovenia	8,3	7,9	6,1	8,9	8,6	7,5	5,7	3,6	2,5	2,5
Poland	15,0	11,8	7,2	10,1	5,3	1,9	0,7	3,6	2,2	2,3
Cyprus	3,3	2,3	1,1	4,9	2,0	2,8	4,0	1,9	2,0	2,1
Czech Republik	8,0	9,7	1,8	3,9	4,5	1,4	-0,1	2,6	1,6	2,9
Hungary	18,5	14,2	10,0	10,0	9,1	5,2	4,7	6,8	3,5	2,0
Latvia	8,1	4,3	2,1	2,6	2,5	2,0	2,9	6,2	6,9	6,0
Malta	3,9	3,7	2,3	3,0	2,5	2,6	1,9	2,7	2,5	2,6
Slovak Republic	6,0	6,7	10,4	12,2	7,2	3,5	8,4	7,5	2,8	3,6

Table 4: Long-Term Interest Rates (Government Bonds) in % 1997-2005

INTEREST RATE STABILITY									
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Reference Value	..	6,7	6,7	7,4	7,0	6,9	6,1	6,1	5,4
EU-12	..	4,7	4,7	5,4	5,0	4,9	4,1	4,1	3,4
Belgium	5,8	4,8	4,8	5,6	5,1	5,0	4,2	4,2	3,4
Germany	5,6	4,6	4,5	5,3	4,8	4,8	4,1	4,0	3,4
Greece	9,9	8,5	6,3	6,1	5,3	5,1	4,3	4,3	3,6
Spain	6,4	4,8	4,7	5,5	5,1	5,0	4,1	4,1	3,4
France	5,6	4,6	4,6	5,4	4,9	4,9	4,1	4,1	3,4
Ireland	6,3	4,8	4,7	5,5	5,0	5,0	4,1	4,1	3,3
Italy	6,9	4,9	4,7	5,6	5,2	5,0	4,3	4,3	3,6
Luxemburg	5,6	4,7	4,7	5,5	4,9	4,7	4,0	4,2	3,4
Netherlands	5,6	4,6	4,6	5,4	5,0	4,9	4,1	4,1	3,4
Austria	5,7	4,7	4,7	5,6	5,1	5,0	4,2	4,2	3,4
Portugal	6,4	4,9	4,8	5,6	5,2	5,0	4,2	4,1	3,4
Finland	6,0	4,8	4,7	5,5	5,0	5,0	4,1	4,1	3,4
Denmark	6,3	4,9	4,9	5,6	5,1	5,1	4,3	4,3	3,4
Sweden	6,6	5,0	5,0	5,4	5,1	5,3	4,6	4,4	3,4
United Kingdom	7,1	5,6	5,0	5,3	5,0	4,9	4,6	4,9	4,5
Estonia	..	13,2	11,4	10,5	10,2	8,4	5,3	4,4	..
Lithuania	..	..	..	..	8,2	6,1	5,3	4,5	3,7
Slovenia	..	..	..	..	..	..	6,4	4,7	3,8
Poland	..	..	..	..	10,7	7,4	5,8	6,9	5,2
Cyprus	..	..	..	..	7,6	5,7	4,7	5,8	5,2
Czech Republik	..	..	..	..	6,3	4,9	4,1	4,8	3,5
Hungary	..	..	..	..	8,0	7,1	6,8	8,2	6,6
Latvia	..	..	..	..	7,6	5,4	4,9	4,9	3,9
Malta	..	..	..	..	6,2	5,8	5,0	4,7	4,6
Slovak Republic	..	..	..	..	8,0	6,9	5,0	5,0	3,5

Table 5: Budget Balance in % relative to GDP 1997-2006

BUDGET BALANCE										
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Reference Value	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0
EU-12	-2,6	-2,2	-1,3	0,1	-1,9	-2,5	-3,0	-2,7	-2,9	-2,8
Belgium	-2,0	-0,7	-0,4	0,2	0,6	0,0	0,1	0,0	0,0	-0,3
Germany	-2,7	-2,2	-1,5	1,3	-2,9	-3,8	-4,1	-3,7	-3,9	-3,7
Greece	-4,0	-2,5	-1,8	-4,1	-6,1	-4,9	-5,7	-6,6	-3,7	-3,8
Spain	-3,2	-3,0	-1,2	-0,9	-0,5	-0,3	0,0	-0,1	0,2	0,1
France	-3,0	-2,7	-1,8	-1,4	-1,6	-3,2	-4,2	-3,6	-3,2	-3,5
Ireland	1,1	2,4	2,4	4,4	0,8	-0,4	0,2	1,4	-0,4	-0,3
Italy	-2,7	-2,8	-1,7	-0,6	-3,2	-2,7	-3,2	-3,2	-4,3	-4,2
Luxemburg	3,2	3,2	3,7	6,0	6,1	2,1	0,2	-0,6	-2,3	-2,0
Netherlands	-1,1	-0,8	0,7	2,2	-0,2	-2,0	-3,2	-2,1	-1,8	-1,9
Austria	-1,8	-2,3	-2,2	-1,5	0,1	-0,4	-1,2	-1,0	-1,9	-1,8
Portugal	-3,0	-2,6	-2,8	-2,8	-4,2	-2,8	-2,9	-3,0	-6,0	-5,0
Finland	-1,5	1,5	2,2	7,1	5,2	4,3	2,5	2,1	1,9	1,9
Denmark	-0,5	0,2	2,4	1,7	2,6	1,4	1,0	2,3	3,7	3,0
Sweden	-0,9	1,8	2,5	5,1	2,5	-0,3	0,2	1,6	1,4	0,8
United Kingdom	-2,0	0,2	1,0	3,8	0,7	-1,6	-3,3	-3,1	-3,4	-3,3
Estonia	1,9	-0,3	-3,7	-0,6	0,3	1,5	2,6	1,7	1,1	0,6
Lithuania	-1,1	-3,0	-5,6	-2,5	-2,0	-1,4	-1,2	-1,4	-2,0	-1,8
Slovenia	..	-2,2	-2,1	-3,5	-3,9	-2,7	-2,7	-2,1	-1,7	-1,9
Poland	-4,0	-2,1	-1,4	-0,7	-3,7	-3,3	-4,8	-3,9	-3,6	-3,6
Cyprus	..	-4,3	-4,5	-2,4	-2,3	-4,5	-6,3	-4,1	-2,8	-2,8
Czech Republik	-2,5	-5,0	-3,6	-3,7	-5,9	-6,8	-12,5	-3,0	-3,2	-3,7
Hungary	-6,8	-8,0	-5,6	-3,0	-3,5	-8,5	-6,5	-5,4	-6,1	-6,7
Latvia	1,5	-0,6	-4,9	-2,8	-2,1	-2,3	-1,2	-0,9	-1,2	-1,5
Malta	-10,7	-10,8	-7,6	-6,2	-6,6	-5,8	-10,4	-5,1	-4,2	-3,0
Slovak Republic	-5,5	-4,7	-6,4	-12,3	-6,6	-7,8	-3,8	-3,1	-4,1	-3,0

Table 6: Overall Debt in % relative to GDP 1997-2006

OVERALL DEBT										
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Reference Value	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0
EU-12	74,9	74,2	72,7	70,4	69,3	69,2	70,4	70,8	71,7	71,7
Belgium	124,8	119,6	114,8	109,1	108,0	105,4	100,0	95,7	94,9	91,1
Germany	61,0	60,9	61,2	60,2	59,6	61,2	64,8	66,4	68,6	70,0
Greece	108,2	105,8	105,2	114,0	114,4	111,6	108,8	109,3	107,9	106,8
Spain	66,6	64,6	63,1	61,1	56,3	53,2	49,4	46,9	44,2	41,9
France	59,3	59,5	58,5	56,8	56,8	58,8	63,2	65,1	66,5	67,1
Ireland	64,5	53,8	48,6	38,3	35,9	32,4	31,5	29,8	29,0	28,7
Italy	120,5	116,7	115,5	111,2	110,9	108,3	106,8	106,5	108,6	108,3
Luxemburg	6,8	6,3	5,9	5,5	6,7	6,8	6,7	6,6	6,8	7,0
Netherlands	69,9	66,8	63,1	55,9	51,5	51,3	52,6	53,1	54,0	54,2
Austria	63,8	64,2	66,5	67,0	67,0	66,7	65,1	64,3	64,3	64,2
Portugal	59,1	55,0	54,3	53,3	53,6	56,1	57,7	59,4	65,9	69,8
Finland	54,1	48,6	47,0	44,6	43,6	42,3	45,2	45,1	42,8	41,5
Denmark	65,7	61,2	57,7	52,3	48,0	47,6	45,0	43,2	36,0	33,0
Sweden	70,6	68,1	62,7	52,8	54,3	52,4	52,0	51,1	50,6	49,4
United Kingdom	50,8	47,7	45,1	42,0	38,7	38,2	39,7	41,5	43,1	44,3
Estonia	6,4	5,6	6,0	4,7	4,7	5,8	6,0	5,5	5,1	4,0
Lithuania	15,2	16,5	23,0	23,8	22,9	22,4	21,4	19,6	20,7	20,2
Slovenia	..	23,6	24,9	27,4	28,4	29,8	29,4	29,8	29,3	29,5
Poland	44,0	39,1	40,3	36,8	36,7	41,2	45,3	43,6	46,3	47,0
Cyprus	..	61,6	62,0	61,6	61,9	65,2	69,8	72,0	70,4	69,1
Czech Republik	12,2	12,9	13,4	18,2	26,3	29,8	36,8	36,8	36,2	36,6
Hungary	64,2	61,9	61,2	55,4	52,2	55,5	57,4	57,4	57,2	58,0
Latvia	11,1	9,8	12,6	12,9	15,0	14,2	14,6	14,7	12,8	13,0
Malta	51,5	64,9	56,8	56,4	63,5	63,2	72,8	75,9	77,2	77,4
Slovak Republic	33,1	34,0	47,2	49,9	49,2	43,7	43,1	42,5	36,7	38,2

Figure 1: Indexed Exchange Rates of Poland, Sweden and Slovenia (measured in units of currency per Euro, Index = 1.0 at Jan 2, 2001)

