

LOOKING FORWARD TOWARDS THE ERM II CENTRAL PARITY: THE CASE OF POLAND

Jakub Borowski, Anna Czogała & Adam Czyżewski¹

Article received on November 25, 2003

Accepted on July 13, 2004

ABSTRACT. This paper addresses issues related to the choice of the central parity for Poland's prospective ERM II membership. It discusses the relevance of different concepts of equilibrium exchange rate in the determination of the central parity and, on the basis of recent studies, it provides a tentative assessment of the equilibrium exchange rate of the Polish zloty. Risks resulting from a potential exchange rate misalignment are also analysed. Finally, in the context of the choice of the central parity, the paper gives insights into developments in the Polish labour market and factors behind the persistently high unemployment rate.

JEL Classification: E58; F33.

Keywords: ERM II; Poland; Equilibrium Exchange Rate; Labour Market.

RÉSUMÉ. Cet article porte sur le choix de la parité centrale que la Pologne devrait effectuer dans la perspective d'adhésion au mécanisme de change (MCE II). Il étudie la pertinence de différents concepts de taux de change d'équilibre pour fixer cette parité centrale et, en se fondant sur des travaux récents, il fournit une évaluation du taux de change d'équilibre pour le Zloty polonais. Les auteurs envisagent aussi les risques qui découleraient d'un mésalignement du taux de change potentiel. Enfin, se plaçant dans le contexte du choix de la parité centrale, ils donnent un aperçu des évolutions sur le marché du travail polonais et des raisons qui expliquent la persistance d'un taux élevé de chômage.

Classification *JEL* : E58 ; F33.

Mots-clefs : MCE II ; Pologne ; taux de change réel d'équilibre ; marché du travail.

1. Corresponding author: Anna CZOGAŁA, Economist at the Monetary Policy Division, Macroeconomic and Structural Analysis Department, National Bank of Poland (anna.czogala@mail.nbp.pl); Jakub BOROWSKI, Head of the Monetary Policy Division, Macroeconomic and Structural Analysis Department, National Bank of Poland and the Department of Economics II, Warsaw School of Economics; Adam CZYŻEWSKI, Director of the Structural and Macroeconomic Analysis Department, National Bank of Poland.

■ INTRODUCTION

In May 2004, Poland joined the European Union and became a Member State with derogation. Its next step will be to enter the final stage of European monetary integration: accession to the euro area. The adoption of the Euro will be conditional on Poland's fulfilment of the Maastricht convergence criteria. One of these criteria is exchange rate stability. The stability of the Polish Zloty will be assessed after a two-year period of Poland's membership in the Exchange Rate Mechanism II (ERM II). Before the entry into the ERM II, the central parity of the Polish Zloty against the Euro will have to be decided. It should be consistent with the long-term equilibrium of the economy. This paper addresses some important issues related to the choice of the central parity. It aims to provide a tentative assessment of the equilibrium exchange rate of the Zloty, based on the results of recent empirical studies, and to assess the risks resulting from a potential misalignment. The paper analyses recent developments in the Polish economy in the context of choosing the central parity. The focus is on labour market issues due to the high unemployment in Poland. The analysis allows to formulate some policy conclusions concerning the ERM II central parity.

The chief findings of the paper are as follows. Firstly, recent estimates show that the equilibrium exchange rate of the Zloty against the Euro is close to the present market rate. Hence, if there are no extraordinary exchange rate movements driven by non-fundamental forces, the central parity should be set at a level close to the market rate. Secondly, although the assessment of the equilibrium exchange rate is not an easy exercise and there is a potential risk of misalignment, in the case of Poland, the negative consequences of an overvaluation or undervaluation are reduced due to the relatively low degree of openness of the Polish economy. Thirdly, policymakers should be aware that setting the central parity at the equilibrium level will not resolve the problem of high unemployment in Poland. To a large extent, the currently observed high unemployment rate reflects the high natural unemployment rate in the Polish economy, which is confirmed by various studies on the non-accelerating inflation rate of unemployment (NAIRU) for Poland. Setting the central parity at the equilibrium level will help eliminate the cyclical component of unemployment; however, if structural reforms are not carried out, the unemployment level will remain high.

The paper is structured as follows. The first section deals with the issue of the equilibrium exchange rate in Poland. It briefly describes different concepts of assessing the equilibrium exchange rates and their relevance in the case of the Polish economy. It also provides an overview of existing studies concerning the equilibrium exchange rate of the Zloty. A tentative assessment of the equilibrium exchange rate for the Zloty is made on the basis of these empirical findings. This section ends with an analysis of the economic consequences of a potential Zloty exchange rate misalignment. The second section discusses the relationship between the estimate of the equilibrium exchange rate and the current high unemployment rate in Poland. It sheds light on the factors determining the unemployment rate in the Polish

economy which are independent of the exchange rate. The final section concludes with some policy prescriptions relating to the choice of the central parity.

■ **SEARCHING FOR AN EQUILIBRIUM EXCHANGE RATE FOR POLAND**

The decision on the central parity of the Zloty against the Euro in the ERM II is of fundamental importance for future economic development in Poland. Setting the central parity at a credible level will be crucial for stabilizing the Zloty within the ERM II. Misalignment of the real exchange rate encourages speculation and is usually followed by massive capital flows. In Poland's case this could lead to severe tensions in the currency market and jeopardize the fulfilment of the convergence criterion on exchange rate stability. Furthermore, the chosen central parity within the ERM II will predetermine the final conversion rate of the Zloty in the EMU and thereby determine the competitiveness of the Polish economy for many years. It is widely recognized that a misaligned currency can damage economic performance. The central parity should be set at the level that, on the one hand, guarantees sustainable economic growth and on the other hand helps reduce exchange rate volatility during Poland's membership in the ERM II. The central parity that fulfils these conditions is determined by the equilibrium exchange rate.

Concepts of Equilibrium Exchange Rate

Although the equilibrium exchange rate is an unobservable variable, various attempts have been made to define and calculate it. In general, it may be differentiated between concepts of exchange rate equilibrium relating to the short, medium and long term. In the short term the equilibrium exchange rate is a rate that is implied by current levels of fundamentals. In the medium and long term the equilibrium exchange rate refers to a rate that would prevail if the fundamentals were at their long-term equilibrium levels and internal as well as external balance were attained (ECB, 2002). Methods of calculating the equilibrium exchange rate can also be placed into statistical and structural categories. Statistical approaches, also referred to as direct methods, focus on the statistical properties of data relating to the exchange rates. They involve explicit estimation of a reduced form model for the real exchange rate. Structural concepts or so called underlying balance approaches are based more closely on economic theory. They rely on the specification and estimation of the equilibrium exchange rate equations in their structural form. A more detailed overview of various concepts of estimating the equilibrium exchange rate may be found in MacDonald (2000) and Clark and MacDonald (1998). This paper briefly discusses three of the most popular approaches which are usually applied to estimate the equilibrium exchange rates in the countries intending to enter the euro zone.

The universal starting point for the exchange rate analysis is the purchasing power parity (PPP). In the absolute version of this theory, bilateral nominal exchange rate equalizes price levels in two countries expressed in a common currency. The relative version of the PPP theory states that nominal exchange rates move in proportion to relative developments in domestic and foreign prices. However empirical studies show that exchange rates signifi-

cantly deviate from the level corresponding to the PPP (Edwards and Savastano, 1999). Whereas the theory may hold true in the long run, in the short and medium term exchange rates are determined by many other factors². Another shortcoming of the PPP is its implicit assumption that the real equilibrium exchange rate is constant over time. This is not always the case, particularly in developing economies due to the so called Balassa-Samuelson effect³. For these countries some modifications of the approach based on PPP have been developed which take this effect into account.

The most popular example of the statistical approach is the concept of the behavioural equilibrium exchange rate (BEER) developed by Faruquee (1995) and MacDonald (1997). Within this framework, the equilibrium exchange rate is delivered from a single-equation econometric model estimated with the help of cointegration techniques. The set of explanatory variables consists of short-term and long-term factors such as net foreign assets, terms of trade, relative productivity, interest rates differentials. The BEER approach corresponds to the notion of the short-term equilibrium exchange rate. It provides an assessment of the exchange rate that is relevant for the current economic situation and that is consistent with current levels of fundamentals. It is not judged if the fundamentals themselves are at their equilibrium levels, and hence if the economy is at the macroeconomic balance. The credibility of the BEER estimates is strongly dependent on the availability of long and internally consistent time series, which are crucial in order to obtain robust results (ECB, 2002). This is particularly problematic in the case of Poland and other countries entering the euro area because of the scarcity and unreliability of data. Moreover, due to the fact that the economies of the accessing countries have been undergoing rapid changes, it would be controversial to claim that during the period under study the fundamentals were at their equilibrium levels. Hence the BEER estimates are not necessarily consistent with the medium- or long-term equilibrium of the economy (Osbat and Schnatz, 2002).

The Fundamental Equilibrium Exchange Rate-FEER (Williamson, 1985) is the dominating structural methodology. In this framework the equilibrium exchange rate is defined as a value that is consistent with the internal and external balance. The FEER value is the exchange rate that would equate the actual current account to the target level and would bring the domestic GDP back to its potential level. Hence the FEER approach provides the assessment of the exchange rate that would prevail in the ideal macroeconomic conditions. It is assumed that the divergence of the exchange rate from the FEER will set in motion forces that will eventually eliminate this divergence. The FEER equilibrium exchange rate may be estimated in the framework of a partial or general equilibrium model. A severe deficiency

2. Some reasons why PPP does not hold true are the frictions in trade such as trade barriers, transport costs, existence of untradable goods and services, differences in consumer preferences across countries (responsible for permanent deviations from PPP) as well as price stickiness (responsible for short-term deviations from PPP).

3. In the emerging market economies the productivity increases in tradables relative to non-tradables are higher than in the more developed countries, which leads to a gradual appreciation of the real exchange rate (Balassa 1964, Samuelson 1964).

of the FEER approach is that it requires much judgment relating to target current account, trade elasticities and output gap. These variables are particularly difficult to evaluate in countries which like Poland are undergoing structural changes (Osbat and Schnatz, 2002). Furthermore, the FEER model assumes constant trade elasticities, whereas accession countries are often subject to changes in productivity, capital stock, and consumer preferences that may change their levels (Coudert and Couharde, 2002).

Estimates of the Equilibrium Exchange Rate for Poland

Most of the estimates of the equilibrium exchange rate for the Polish Zloty have been delivered with the help of the BEER and FEER methodology. TABLE 1 provides an overview of studies concerning the equilibrium exchange rate in Poland.

It is hard to compare the results of the studies as they refer to different concepts of exchange rates, apply various methodologies and use different estimation tools. They also refer to different time periods and this makes the comparison even more difficult. The results do not give an unambiguous estimate of the equilibrium exchange rate. The calculated equilibrium exchange rates and exchange rate misalignments are sensitive to the methodology used and to the various studies' differing assumptions. However, in most of these analyses, some general trends in the changes of the Polish exchange rate can be observed. At the start of the transition process, the Zloty experienced strong undervaluation. This was then followed by an appreciation of the domestic currency, which eventually resulted in a prolonged period of overvaluation. Development of the real effective exchange rate of the Zloty is shown in FIGURE 1. Most recent estimates suggest that since the third quarter of 2002 the market rate has fluctuated close to its equilibrium level (Rubaszek, 2003a; Rubaszek, 2003b; Égert and Lahrèche-Révil, 2003; Rawdanowicz, 2002).

In the case of countries entering the euro area the FEER approach to estimating the equilibrium exchange rate seems to be a particularly attractive concept. It precisely defines the notion of equilibrium and the consequences of setting the exchange rate at the equilibrium level. It is strongly rooted in economic theory and in comparison to the statistical approaches it is less sensitive to the scarcity and quality of data. It is of crucial importance that this model makes considerations concerning the level of sustainable current account (mirrored by sustainable capital inflows) and the equilibrium of the economy in the medium-term, whereas the BEER approach abstracts from these problems. Hence, despite the fact that the FEER estimates are sensitive to assumptions concerning foreign trade elasticities and sustainable current account, they may be regarded as the best approximation of the equilibrium exchange rate of the Zloty. Recent estimates based on FEER (Rubaszek, 2003a), tend to suggest that the current market rate is not far from its equilibrium level. The exchange rate misalignment computed with the FEER methodology is presented in FIGURE 2.

The presented estimates are based on a partial equilibrium model of foreign trade. The trade elasticities used in this model are calibrated on the basis of a range of estimates obtained in

Table 1 - Estimates of the equilibrium exchange rate for the Polish Zloty

Author	Dependent variable	Approach	Period	Misalignment ^a in IV quarter 1999	Misalignment ^a in I quarter 2002
Coudert, Couharde (2002)	REER ^b	PPP, PPP augmented by the B-S effect, FEER	2000 – 2001	–	–
Égert (2002)	REER	A method combining FEER and BEER	1999 1Q – 2001 1Q	about 5%	–
Égert, Lahrière-Révil (2003)	Real and nominal exchange rate against euro	A method combining FEER and BEER	1999 1Q – 2002 3Q	about 5%	about 15%
Halpern, Wyplosz (1997)	Dollar wage	BEER	1975 – 1995	–	–
Kim, Korhonen (2002)	REER, RER ^c	BEER	1990 – 1999	8% (REER), about –3% (RER)	–
Rahn (2003)	REER, nominal euro exchange rate	BEER, PEER ^d , PPP	1990 1Q – 2002 1Q	about 8% (BEER, REER) about 15% (PEER, REER) about 2% (PPP, REER)	about 10% (BEER, REER) about 15% (PEER, REER) about 20% (PPP, REER)
Rawdanowicz (2002)	REER	BEER, FEER	1994 1Q – 2002 3Q	–	3,6% – 5,7% (misalignment in 2002)
Rubaszek (2003a)	REER	FEER	1995 1Q – 2002 4Q	–	5.3%
Rubaszek (2003b)	REER	BPER	1995 1Q – 2002 4Q	–2.3%	2.6%

a. Positive figures mean an overvaluation, whereas negative figures stand for an undervaluation.

b. Real effective exchange rate.

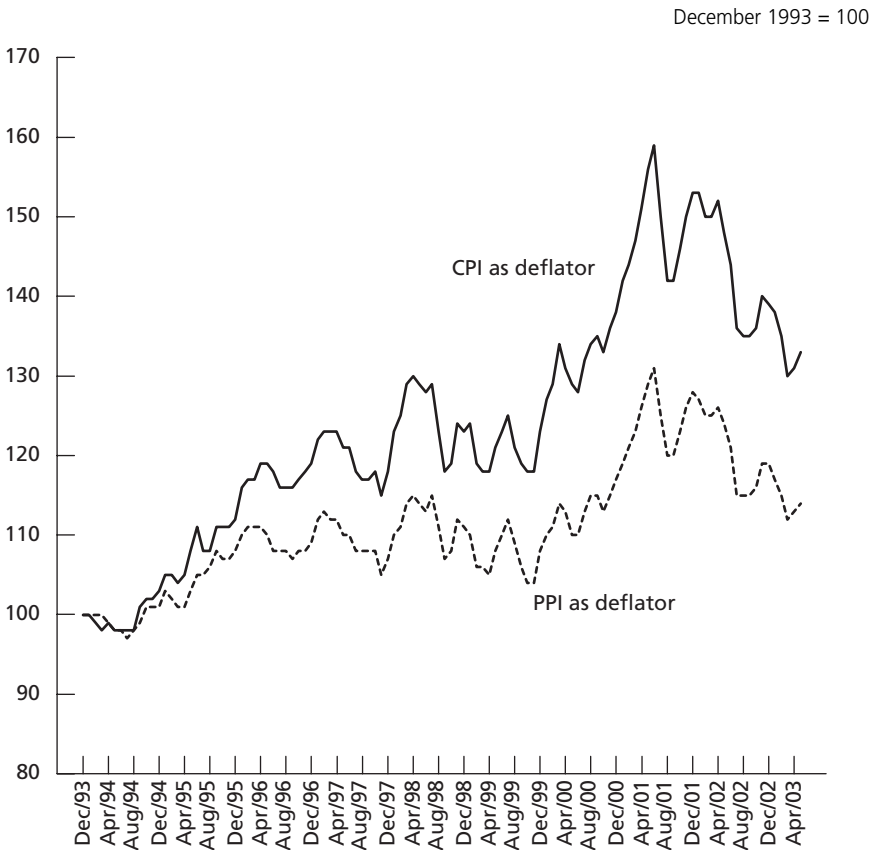
c. Real exchange rate against the US dollar.

d. Permanent equilibrium exchange rate – a concept of calculating the equilibrium exchange rate that builds on the BEER methodology and separates out the modeled variables into their permanent and transitory components.

various studies relating to Poland (Rawdanowicz, 2002; Mroczek and Rubaszek, 2003) and developing countries (Bayoumi and Faruqee, 1998)⁴. It is assumed that there is an imperfect pass-through effect on prices and that the full impact of an exchange rate movement on

4. It is assumed that the export elasticities versus RER and GDP in the euro area are equal to –0.52 and 1.5 respectively, whereas the import elasticities versus RER and domestic demand amount to 0.58 and 1.3 respectively.

Figure 1 - Real effective exchange rate of the Zloty, 1993-2003

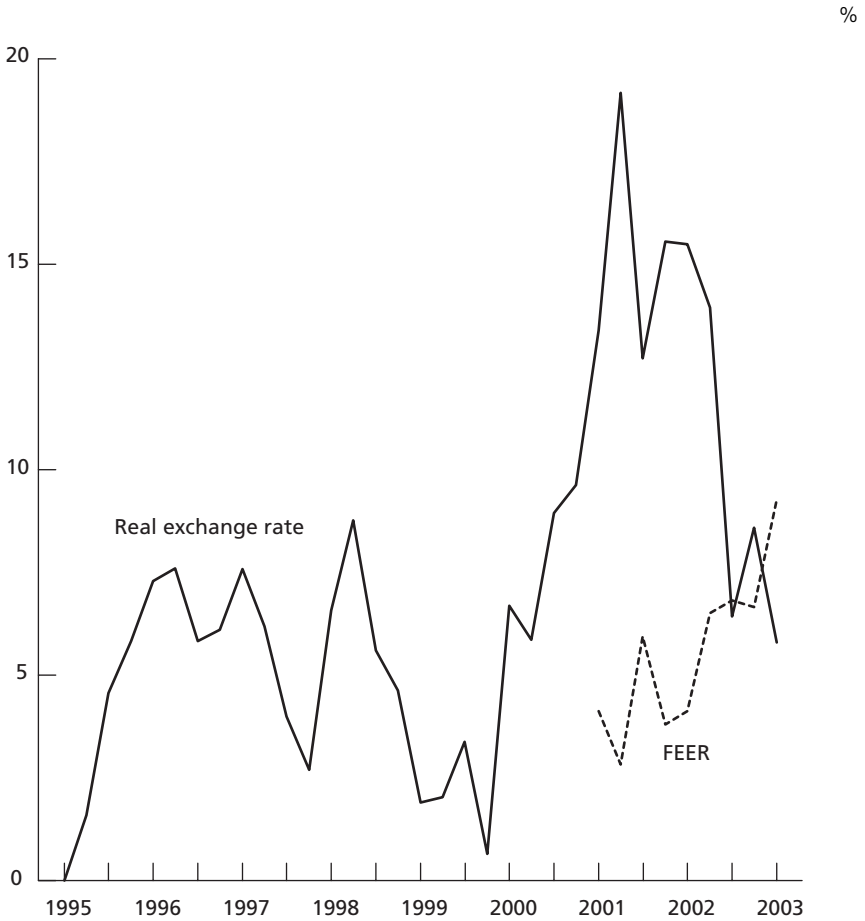


Source: National Bank of Poland.

trade volume occurs after three years. The output gap is computed on the basis of a structural VAR model. The target current account is calculated as a current account that stabilises the foreign debt to GDP ratio at the level of the previous year. Detailed description of the FEER model used in the computations may be found in Rubaszek (2003a).

According to the FEER model, in the recent years the actual current account balance in Poland was not very distant from the targeted one. It seems plausible, if we investigate the developments in the Polish current account and its financing structure. In the period 2001-2002 the current account deficit in Poland relative to GDP stabilized at less than 3 per cent. Despite the fact that during this period the FDI inflow to Poland decreased, the foreign non-debt generating capital still financed a large share of the current account deficit (TABLE 2). In consequence, in the first quarter of 2003 Poland was close to its external balance showing no need for the exchange rate adjustment.

Figure 2 - The FEER Polish exchange rate misalignment in 2001-2002



Source: Rubaszek, 2003a.

Table 2 - Developments in the current account deficit and FDI inflows to Poland, 1999-2003

	1999	2000	2001	2002	2003
Current account deficit relative to GDP	-8.1%	-6.1%	-2.9%	-2.7%	-1.9%
FDI inflow to Poland (EUR mln)	6.824	10.334	6.372	4.371	3.756
FDI relative to current account deficit	58.0%	95.6%	107.9%	76.7%	93.3%

Source: National Bank of Poland, Balance of Payments on Transaction Basis.

Exchange rate misalignment and economic performance

The lack of a unique concept of the equilibrium exchange rate, shortcomings of applied methodologies and the dispersion of empirical estimates lead to the conclusion that the equilibrium exchange rate for the Zloty cannot be delivered with a high degree of precision and the risk of misalignment is significant. Given this fact, it is worth knowing how large the economic costs of such a misalignment could be. In the case of Poland the analysis of the consequences of an overvaluation or undervaluation should refer to the risk of failing to fulfil the Maastricht criteria and to the influence of a misaligned currency on economic growth.

According to the Maastricht Treaty, Polish entry into the euro area has to be preceded by a minimum of two-year membership in the ERM II. During this time Poland will have to fulfil the convergence criteria including exchange rate stability⁵ and price stability. If the central parity is set at an undervalued level, this will lead to excessive demand pressure (positive output gap) and a rise in import costs. The inflationary pressure enhances the risk of failing to meet the Maastricht criterion on price stability and jeopardises the possibility of prompt accession to the euro area. Moreover when the financial markets have a different opinion on the equilibrium exchange rate, an undervalued currency promotes speculation. In particular, revaluation of the central parity may be expected, which was the case of Greece on the eve of its accession to the euro area.

If the central parity is set at an overvalued level the deterioration of the current account will give rise to speculation on a downward realignment and tensions in the currency market will arise. Due to the asymmetric nature of the exchange rate stability criterion such a situation seriously endangers its fulfilment. The experiences of other countries show that counteracting speculative attacks is extremely difficult and rarely successful (Goldfajn and Valdes, 1996). The ERM currency crises in 1993 and pound devaluation may serve as a good example⁶.

Apart from causing problems during Poland's membership in the ERM II, setting the central parity at an overvalued level would impede economic growth in the medium to long term. Overvaluation lowers the price competitiveness of the economy. It increases the costs of domestic production relative to foreign costs and hence disadvantages exports and promotes imports. Not only exporters but also import-competing industries suffer due to increased pressure from foreign competitors. Overvaluation damages sectors in which productivity advances are relatively high and thus it usually lowers productivity growth in the whole econ-

5. In order to meet this criterion the Zloty will have to be maintained within the adopted fluctuation band around the central parity without severe tensions in the foreign exchange market and currency devaluation. The present interpretation of the exchange rate stability criterion suggests that the assessment of the exchange rate stability will be based on the fluctuation band of $-2.5\%/+15\%$ with more tolerance towards exchange rate appreciation rather than depreciation (EC, 2002).

6. It is worth noting that due to the fact that the asymmetric interpretation of the exchange rate stability criterion shows more tolerance towards nominal exchange rate appreciation than depreciation and allows for the central parity revaluation, the potential costs of setting the central parity at an overvalued level would be larger than those of undervaluation in terms of the fulfilment of the convergence criteria. It may be possible to correct potential undervaluation by revaluing the central parity, although it must be remembered that such an action might well be politically difficult.

omy (Shatz and Tarr, 2000). An overvalued currency also leads to current account deterioration, heightens the country's risk premium and discourages foreign investment.

In a floating exchange rate system, real exchange rate misalignment can easily be corrected by a change in the nominal exchange rate. When the nominal exchange rate is irreversibly fixed, return to the equilibrium can only be accomplished by relevant adjustments in wages and prices, which is a costly and long-lasting process due to price and wage rigidities. If domestic prices and wages are inflexible, the economy will adjust by reducing output and unemployment, which may last for many years. A spectacular example of the negative consequences of an exchange rate overvaluation is the overvaluation of the Ostmark after the German reunification in 1993 (Sinn, 2000).

Not only theory and historical examples but also empirical studies show that exchange rate misalignment has a detrimental influence on economic performance. A strong relationship between real exchange rate misalignment and economic growth was found by Edwards (1988). His results were confirmed by Cottani, Cavallo and Kahn (1990), who discovered statistically significant correlations between misalignment and per capita growth, export growth and the incremental capital-output ratio. Razin and Collins (1997) separately investigated the influence of different levels of overvaluation and undervaluation on economic growth. They constructed an indicator of RER misalignment for a large sample of both developed and developing economies and then used growth regression analysis to explore the determinants of economic growth. Non-linearities in the relationship between the exchange rate misalignment and economic growth were found. It turned out that only very high overvaluations were associated with slower economic growth, whereas moderate to high (but not very high) undervaluations appeared to be associated with more rapid economic growth. The estimated coefficients imply that very high overvaluations (about 11 per cent) lower the annual growth in GDP per capita by about 0,6 percentage point. The cumulative output loss resulting from the overvaluation extended over the next years is the higher the less effective the price/wage adjustment mechanism is. These findings lead to the conclusion that a potential misalignment of the Zloty, if moderate, will not necessarily have severe negative consequences for long-term economic growth. This is, however, on the condition that the misalignment will not result in failing to fulfil the Maastricht criteria and the postponement of the euro area accession, which *per se* should act as an important engine of growth (Borowski, 2004).

Economic theory and existing evidence demonstrate that exchange rate misalignments may have negative impacts on economic performance. However, the strength of this influence depends on the characteristics of a given economy. In this context, the question arises of how detrimental an exchange rate misalignment would be for the Polish economy.

An important factor determining the costs of the exchange rate misalignments is the efficiency of the automatic adjustment mechanism, which depends on the prices and wages flexibility. Flexible wages and prices reduce the production decrease and labour shedding

that is needed to bring the real exchange rate back to its equilibrium level after initial overvaluation. Existing evidence shows that wages in Poland are of low flexibility, a situation partly due to the centralized wage bargaining system (Borowski, 2002; OECD, 2002). Indices of the wage rigidities in Poland belong to the highest among the OECD countries. Reforms aiming at introducing more flexibility in the labour market would decrease the risks related to setting the central parity at a misaligned level.

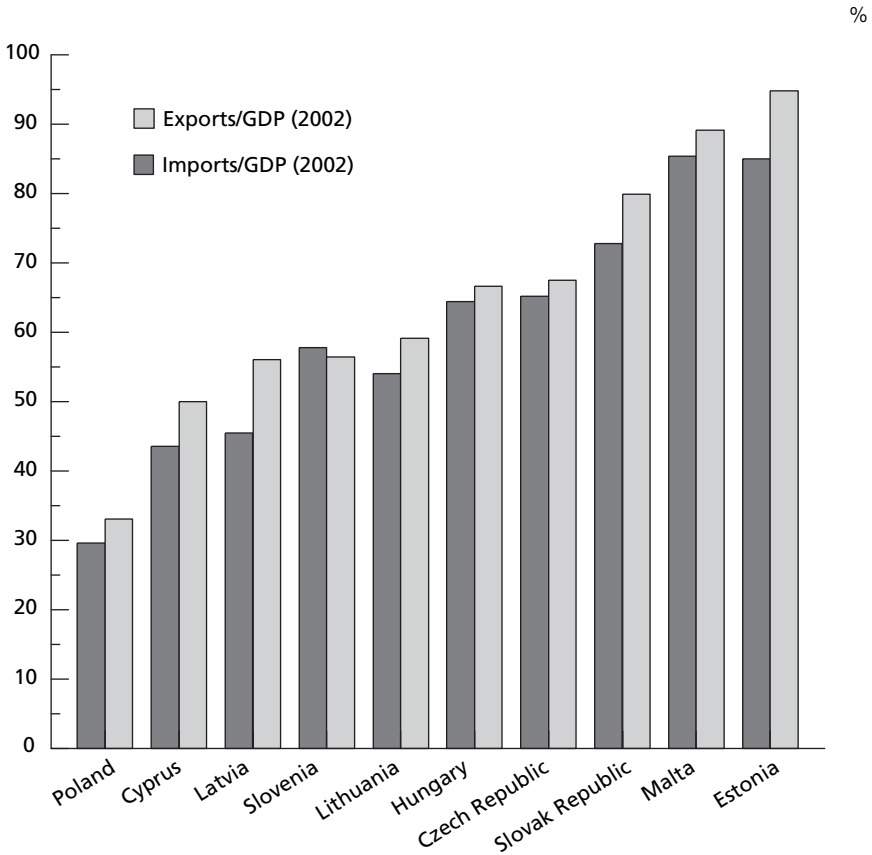
The main determinant of the economic costs of misalignment is the scale of the misalignment itself. The above mentioned empirical studies show that the negative impact of the misalignment on economic performance is significant only after a threshold value of the misalignment has been exceeded. A thorough analysis of the equilibrium exchange rate preceding the choice of the central parity should significantly reduce the risk of very high misalignment that has deleterious influence on the economy.

The costs resulting from a potential misalignment depend also on the degree of the openness of the economy. The more open the economy is, the more it is dependent on international competitiveness and the more it suffers from a misaligned currency. Poland, being a country of a large size, is characterized by a relatively small degree of economics openness. In terms of the share of imports and exports to the GDP it is the most closed economy among the accessing countries (FIGURE 3). On these grounds in Poland's case the negative consequences of a potential misalignment of the central parity are limited in comparison to other countries entering the EMU.

To conclude, the assessment of the equilibrium exchange rate is not an easy exercise as the application of different concepts and methodologies leads to different results. Studies based on the FEER approach, which seems to be the most relevant concept with which to assess the equilibrium exchange rate for Poland, show that at present the market rate of the Zloty is close to its equilibrium level. Hence if the Zloty exchange rate is not subject to strong influences other than that of the fundamentals, there will not be much need to set the ERM II central parity far away from the market rate. The fact is that the choice of the central parity will be accompanied by the risk of misalignment and the costs of such a misalignment can be significant – both in terms of Poland's chances to access to the euro area in the near future as well as in terms of the Polish economic growth. The risk of a large misalignment does not seem, however, to be high. Moreover, due to the degree of openness, which is low in absolute terms, the negative consequences of a potential misalignment are lower than in other accession countries.

■ THE EQUILIBRIUM EXCHANGE RATE AND UNEMPLOYMENT

The conclusion that the equilibrium exchange rate of the Zloty is close to the market level is, as shown above, in line with the developments in the Polish current account. It may however seem implausible in the light of the current high unemployment in Poland. This contradiction can be resolved: its explanation lies in the way in which the equilibrium exchange rate is

Figure 3 - Exports and imports in the accessing countries in 2002

Source: Authors' calculations based on OECD data.

defined and also in the phenomenon of the natural rate of unemployment. As mentioned above, in the FEER approach the equilibrium exchange rate is defined as the rate that would bring the economy to its internal and external balance. It is consistent with sustainable current account, output at its potential level and natural unemployment rate. This definition implies that exchange rate movements influence only that part of unemployment which constitutes deviation from its "natural" or in other words "equilibrium" level. There are a number of different concepts of the equilibrium unemployment rate. One of the most popular approaches, widely applied in empirical literature, is the non-accelerating inflation rate of unemployment (NAIRU), which defines the equilibrium unemployment rate as a rate that is consistent with stable inflation. It refers to the unemployment level that equates the level of "bargained" real wages required by the employees in the wage negotiations with the "price-

determined" real wages that are consistent with labour productivity. Hence, NAIRU depends on factors underlying labour productivity and the pressure on the wage rise in wage negotiations. It is directly affected by the current unemployment rate, the generosity of the social security system, the degree of labour protection, labour unions' power, the efficiency of public employment service, the intensiveness of job searching among the unemployed and the degree of structural mismatch in the labour market.

The natural level of unemployment in Poland

The actual unemployment rate in Poland amounts to 18%. It may be separated into the equilibrium rate of unemployment and a cyclical component. Setting the central parity at the equilibrium level will help eliminate the cyclical part of unemployment. The scope for unemployment reduction with the help of the exchange rate is however limited. Empirical studies on NAIRU for Poland show that it is at a relatively high level of 14-15%. TABLE 3 presents an overview of recent estimates of NAIRU for the Polish economy. Analyses suggest that in the period from 1993 to 2000 the share of the natural unemployment rate in the overall unemployment rate amounted to 70%-94%. This shows that real factors play a crucial role in determining the unemployment rate in Poland (Kwiatkowski, 2002).

Table 3 - Estimates of the NAIRU for Poland

Author	Methodology	Period	NAIRU
BRE Bank (2002)	SVAR, Blanchard-Quah decomposition	2001-2002	15%
Kuczyński, Strzała (2001)	SVAR, Blanchard-Quah decomposition	IV quarter 2000	14%
Kocięcki (2001)	Kalman filter	2001	15%-16%
Socha, Wojciechowski (2003)	Kalman filter and methodology of Staiger, Stock and Watson (2001)	2000-2002	14%-15%
Kwiatkowski (2002)	Method based on flows of the labour force	1993-2000	7%-13%

Source: Socha and Strzelecki, 2003.

It should be mentioned that even if the exchange rate is at its equilibrium level, the return of the economy to the equilibrium lasts up to three years (Rubaszek, 2003a). Therefore the deviation of the current unemployment rate from its natural level is partially a result of the fact that the Zloty was overvalued for a long period of time.

High NAIRU as a delayed effect of transition

In the light of the estimates of the NAIRU for Poland, the question of why Poland should have such a high level of equilibrium unemployment must be answered. The transition process offers a credible explanation for this phenomenon.

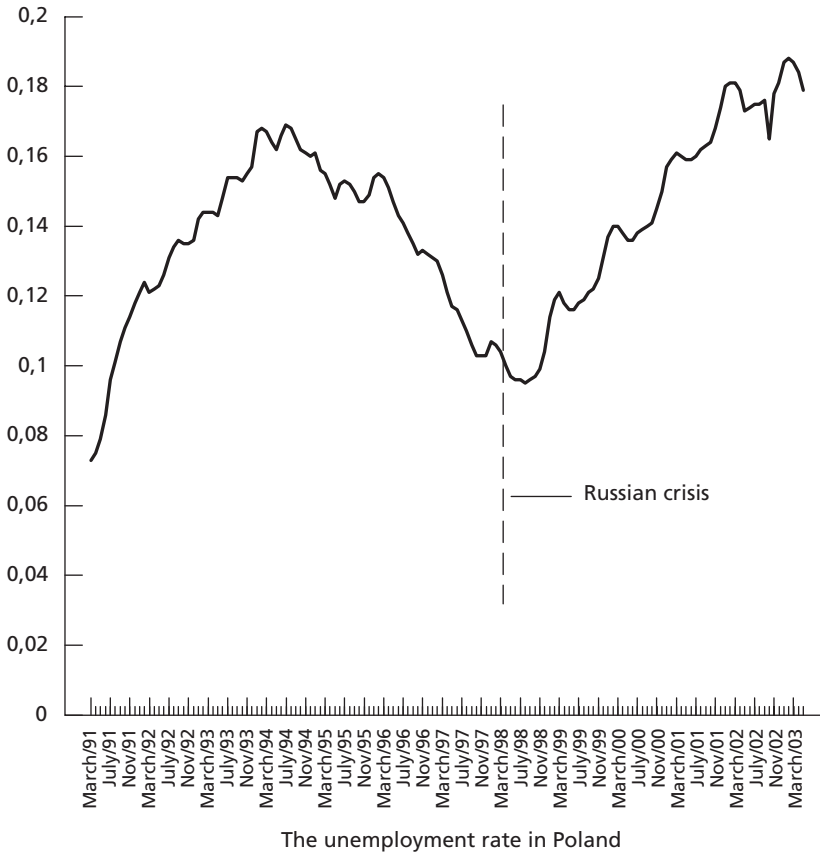
During the period of the centrally-planned economy, Polish companies were protected from competitive pressures. Industry was dominated by heavy sectors and characterized by low productivity. The introduction of the market economy into Poland in 1990 revealed severe mismatch between the supply and demand side of the market. After the opening up of the Polish economy production fell significantly. A large part of the industrial sector entered a prolonged crisis. About 30 per cent of the production capacity turned out to be useless in the new economic environment (Glikman *et al.*, 2000). In terms of physical capital the mismatch was quickly recognized and large investments were undertaken in order to improve the competitiveness of the economy. The second production factor – labour – did not attract so much attention. The problem that not only the structure and quality of the fixed assets but also the structure and quality of the labour force were to a large extent irrelevant to market needs was scarcely recognized.

At the beginning of the transition unemployment in Poland rose rapidly (FIGURE 4). It was however considered to be the result of a deeper than expected fall in production as well as elimination of underemployment and disguised unemployment. When in 1995 the unemployment rate started to decrease, it was believed to be a new long-term trend. The potential output was expected to grow at the rate of 6-7% a year, which should contribute to the creation of new jobs. However in the years 1995-1997 Polish economy suffered from overheating. This had to be followed by restrictive macroeconomic policy and led to a fall in economic growth. The Russian crisis of 1998 and the global economic slowdown after 2000 further worsened Polish economic performance. As a result, unemployment rose significantly.

There are a number of reasons why the unemployment effect of transition appeared with a significant delay. Firstly, at the beginning of the transition process some institutional barriers to employment reduction were introduced. Employment protection legislation was tightened and the ongoing privatization process was accompanied by employee protection programs, which hindered dismissals. As a corollary, some underemployment and labour inefficiencies prevailed in the economy. The deterioration of Poland's economic performance during the second half of the 1990s, followed by the Russian crisis and then the global economic slowdown, initiated the second wave of employment optimization in Polish firms. Worsening business conditions forced companies to improve their efficiency. This was achieved partly by employment reduction, which mostly hit less qualified employees. In this way, after a certain lag, the market forces eventually revealed the segment of the labour supply that was uncompetitive in the new economic conditions.

Furthermore, during the first period of transition the low quality production requiring less qualified workers could still be placed on the undemanding Polish domestic market. However, as the catching-up process of the Polish economy progressed, the economic environment developed and consumers' preferences and purchasing power changed. The demand for quality products and services requiring highly qualified employees rose and at the same time the demand for less skilled workers diminished. Additionally, domestic pro-

Figure 4 - The unemployment rate in Poland, 1991-2003



Source: GUS (Central Statistical Office).

duction met with strong competition from emerging Asian markets, which are characterized by a cheap labour force.

Last but not least, an important role in reducing unemployment in the first years after the introduction of the free market was played by the Polish trade with Russia and the former USSR countries. Some people who were made redundant at the beginning of the transition process opened up their own businesses and contributed to the development of the small and medium sized enterprise sector. Rapid development of this sector in the years 1993-1998 was possible due to the large demand market in Russia and in the former USSR countries⁷. The

7. In the period from 1993-1998 small firms operating in the households' sector in Poland produced 22 per cent of the GDP, a large figure when compared to about 10 per cent in the developed countries.

demand structure of these markets corresponded to the production potential of the Polish firms. Moreover, production for these markets was based to a large extent on the underground economy, which significantly lowered labour and production costs and increased the competitiveness of the Polish suppliers. However, most companies operating on that market did not survive the Russian crisis. After the Eastern markets had dried up, the companies were not able to switch to the more demanding domestic or foreign markets due to their high costs and the low education level of these firms' owners.

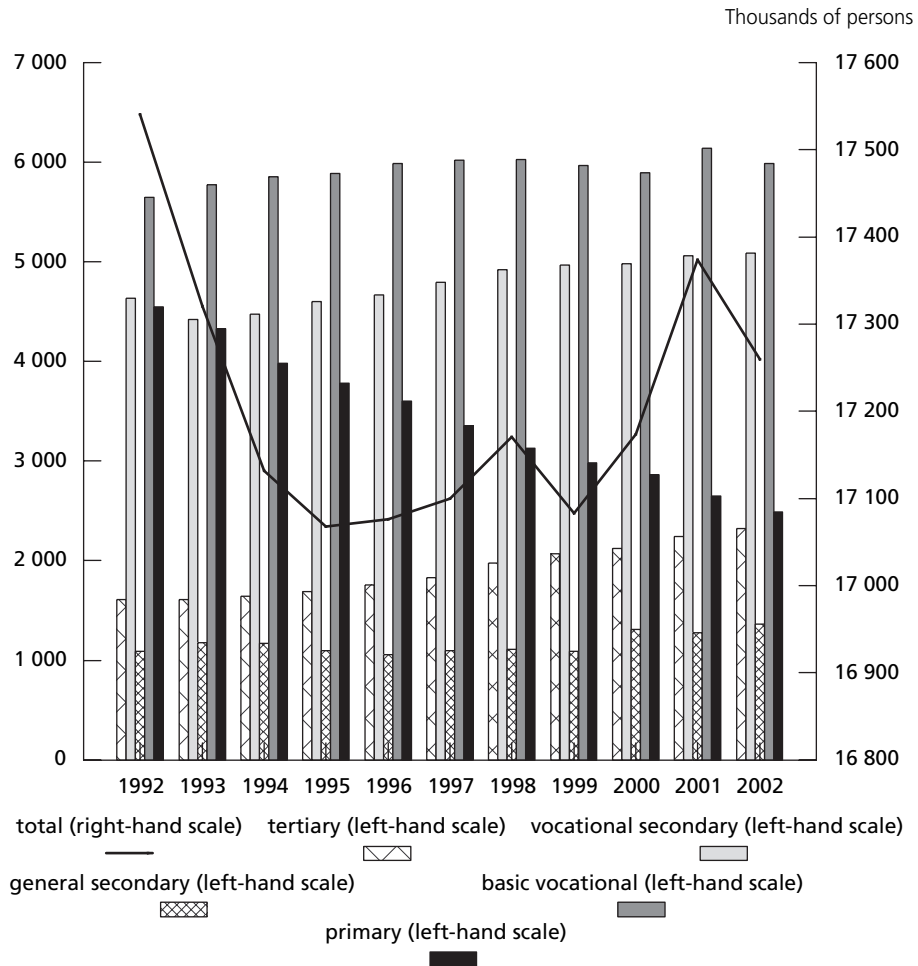
The problem of the Polish labour market structure

Poland entered the transition process with a very unfavourable labour structure, which did not correspond to the needs of the market economy. The overall level of education was low. In 1992 nearly 58 per cent of the workforce had not entered secondary education and only 9 per cent went through tertiary education (FIGURE 5). The inheritance of the socialist era's education policies was a large percentage of employees with vocational education in the labour supply. As a result, a significant part of the Polish labour force was characterized by narrow specialization in antiquated industries (Golinowska, 2000). The relatively large pool of unskilled workers and people with narrow, antiquated qualifications created the potential for high unemployment. The less educated are usually more vulnerable to economic shocks. Their ability to change jobs and adjust to the major shifts in demand and supply conditions is typically low in comparison to their skilled counterparts (Torres, 2003). As a result, unemployment among less skilled workers is disproportionately high, which is also the case in Poland. The Polish labour market is characterised by significant differences between the unemployment rates among different groups of the labour force, especially with regard to the level of education. The unemployment rate of people with basic vocational education varied during the last ten years between 39.5 per cent and 43.5 per cent. At the same time the unemployment rate among people with tertiary education in this period did not exceed 4.5 per cent (FIGURE 6). Rising unemployment hit the less skilled groups of employees to a much larger extent than well-educated people, as with the development of the Polish economy the demand for simple manual work has decreased.

Since the beginning of the transition, little has been done to improve the structure of the labour supply. Adjustment at the supply side of the labour market is undergoing a natural process, which is, however, very slow. Over the last ten years there has been a positive trend of improvement in the overall level of education. To a large extent, it results from the fact that older, relatively less educated people have been gradually leaving the labour market. However, the share of people with tertiary education also increased from 9.2 per cent in 1992 to 13.5 per cent in 2002.

It should be noted that the quality of education is another factor contributing to the mismatch in the labour demand and supply in Poland. Not only the level of education but also its effectiveness impact on the labour productivity. It is very difficult to measure the efficiency or quality of the education system. However the Pisa study of 2000 showed that

Figure 5 - The labour force in Poland by educational attainment, 1992-2002

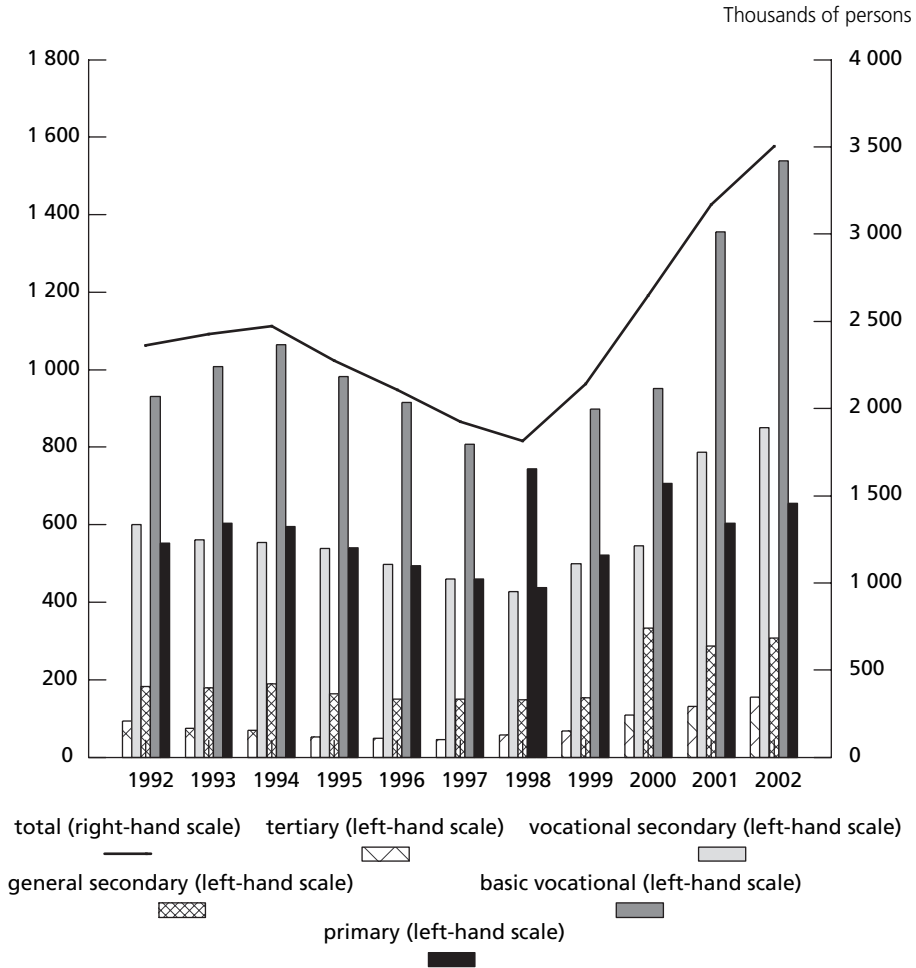


Source: BAEL (Labour Force Survey).

Polish education system performs rather poorly in comparison to other OECD countries (PISA, 2000).

It is worth noting that the degree of the mismatch in the labour demand and supply with respect to qualifications, branches and areas directly influences the pressure on the wage rise. Larger discrepancies in the unemployment rates among different groups of employees enhance overall wage requirements, as the requirements react more strongly to unemployment increase than to unemployment decrease. This constitutes one of the main factors determining the NAIRU (Kwiatkowski, 2002).

Figure 6 - The number of the unemployed in Poland by educational attainment, 1992-2002



Source: BAEL (Labour Force Survey).

Wage flexibility and the labour costs

In the face of shocks such as the transition, which lead to severe mismatch in labour demand and supply, resulting unemployment can be reduced through wage flexibility. At the macroeconomic level, income moderation helps reduce inflation expectations and thereby creates a stable environment supporting investment and job creation decisions. At the microeconomic level it is important that relative wages reflect the varying conditions of each company (Torres, 2003). The Polish economy is characterised by inflexible wages from both macroeconomic and microeconomic points of view (Borowski, 2002; OECD, 2002). In comparison to

Hungary, which underwent the similar shock of transition, the distribution of wages in Poland remains relatively flat. The minimum wage, which amounts to about 35 per cent of the average wage and is high in comparison to that of other European countries in transition (OECD, 2002), also contributes to the problem. Furthermore, despite significant differences in the unemployment rates in different Polish regions, the minimum wage is the same for the whole country. This is particularly harmful for the less skilled labour force, as their employment becomes unprofitable. The inefficiency, with which the wage distribution has adjusted to the underlying productivity distribution, results to a large extent from the Polish wage bargaining system and the insider power of employed workers.

The high unemployment rate in Poland stems from the relatively high labour costs in the Polish economy at the given labour productivity. In Poland, the tax burden on labour is very high in comparison to other countries (TABLE 4). High taxes and in particular high payroll taxes in the form of obligatory social security contributions in Poland significantly increase the cost of labour and reduce incentives to create new jobs.

Another factor supporting high unemployment in Poland is the relatively high degree of labour protection. Although the EPL index, which measures the strictness of employment protection legislation is lower in Poland than in most of the developed countries (TABLE 4), it is relatively high given the structure of the labour supply. High labour protection is especially detrimental when unskilled, low productivity employees have a large share in the labour force, which is the case in Poland. Moreover, according to a recent study by the World Bank (2003), the employment protection law in Poland is relatively strict, as measured by the ELI.

All this is reflected in the fact that in Poland much higher economic growth is needed to achieve a rise in employment. Empirical studies show that the minimum GDP growth that lead

Table 4 - Employment Protection Legislation (EPL), Employment Law Index (ELI) and tax burden on labour in Poland and selected countries

	Payroll tax rate (%)	Total tax rate (%)	EPL	ELI
Poland	48.2	80.0	2.0	55
Czech Republic	33.0	73.4	2.1	36
Hungary	44.0	81.5	1.7	54
Slovakia	50.0	81.0	2.4	61
Slovenia	38.0	69.1	3.5	59
U.K.	13.8	40.8	0.9	28
U.S.	20.9	43.8	0.7	22
EU average	23.5	53.0	2.4	
OECD average	19.5	45.4	2.0	
CEEC average	47.5	74.7	2.4	

Source: Riboud *et al.* (2002); World Bank (2003).

to an increase in employment lies between 4.4% and 5.3%, depending on the period under study. The elasticity of labour demand with respect to GDP amounts from 0.54 to 0.83. In the UE in the period from 1961 to 1994 these variables were equal to 2.75% and 0.41. In the United States – the economy with the most liberal labour market among all OECD countries – the minimum rate of economic growth that causes a rise in employment was 0.41% PKB, whereas the elasticity of labour demand in respect to GDP is 0.70 (Czyżewski, 2002).

Another factor contributing to high unemployment rate in Poland is the inefficiency of the Polish public unemployment service, where crucial job matching is often crowded out by passive income support. Furthermore, the underdeveloped infrastructure and housing market do not encourage labour force mobility, which could support unemployment reduction.

■ POLICY PRESCRIPTIONS

The above considerations lead to some policy conclusions concerning the choice of the central parity in view of Poland's future membership in the ERM II. Firstly, recent estimates show that the present market exchange rate of the Zloty is close to the equilibrium level. This leads to the conclusion that if the exchange rate is not subject to significant fluctuations driven by factors other than fundamentals, the central parity should be set at a level not far from the market rate. Setting the central parity at an equilibrium level will be of crucial importance for the fulfilment of the Maastricht criteria and it will influence Polish future economic performance. The decision on the entry parity into the ERM II should therefore be preceded by a thorough assessment of the equilibrium exchange rate. Although it is widely recognized that assessing the equilibrium exchange rate is not an easy task, especially in economies which, like the Polish one, are undergoing rapid structural changes, the fear of potential misalignment should not be exaggerated. Empirical studies show that only significant overvaluations can severely slow down the economic growth. Moreover, the negative consequences of a potential exchange rate misalignment in Poland are constrained due to the country's relatively low degree of economic openness.

It must be stressed that setting the central parity at the equilibrium level will not remedy high unemployment in Poland. It can only help eliminate the cyclical component of unemployment. The high unemployment rate in Poland mirrors the Polish high natural rate of unemployment, which is a delayed effect of transition. This high unemployment rate can be reduced only by structural and institutional changes. If necessary reforms are not introduced, Poland will face a continued high unemployment rate during its membership in the ERM II and after the entry into the euro area, even if the entry exchange rate is set at its equilibrium level.

J. B., A. C. & A. C.⁸

8. Authors are grateful to Witold Grostal and Michał Rubaszek for excellent research assistance. The standard disclaimer applies.

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