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POLAND'S LONG-TERM MACROECONOMIC PERFORM- ANCE AND RECENT TRENDS: A COMPARATIVE ANALYSIS

TADEUSZ KOWALSKI*

The aim of this study is twofold.¹ The first is an empirical evaluation and comparison of Poland's economic transformation from 1990–2012 against the results achieved in the same period by Hungary, the Czech Republic, the Slovak Republic and Ukraine. The second aim is to assess the economic performance of these five countries during the severe test of the 2008–2009 global financial crisis. The study focuses on major economic aspects of the market transformation. Consequently, the empirical analyses center on the initial macroeconomic stabilization frameworks and then on the general growth mechanisms because they are embedded in the standard descriptive growth model.

The paper consists of five sections and conclusions. The first three are devoted to the long-term perspective covering 1990–2012. The first section explains the selection of countries compared with Poland and briefly outlines the macroeconomic transformation context. A conceptual framework of the conventional production function is used to focus attention on the main determinants of economic performance. The second section discusses the initial conditions of the transition in Poland and the other countries under examination. Special attention is paid to major structural and macroeconomic conditions on the threshold of transformation. The third section is devoted to the assessment of selected growth factors and impediments to growth. The fourth section deals with the reactions of the Polish and other economies studied to the global financial crisis. It shows the

economic performance of the five countries in the 2008–2009 global financial crises and beyond. The fifth section focuses on the general outcomes of transformation in terms of GDP per capita and on the international competitiveness rankings of World Economic Forum. The analysis is summarized in conclusions.

Analytical background of comparative analysis of transformation

The selection of Hungary, Czech Republic, Slovak Republic and Ukraine as countries for the comparative analysis with Poland was based on the following grounds. Hungary has been reforming and transforming its economy since the end of the 1960s. An examination of Hungary allows a comparison between the results of gradual reforms and the results of the radical alternative of the quick pro-market shift implemented in Poland (Kowalski, Wihlborg and Vensel 2007). A comparison with Czechoslovakia,² which had considerably higher economic development, a relatively good initial macroeconomic situation and where reforms were introduced one year later than in Poland, should allow the assessment of the significance of initial structural differences and the specific premium resulting from the possibility of watching Polish pioneer experiences during the first months of transformation. Ukraine at the outset of transformation, used to bear a rather significant structural similarity to Poland, i.e. in the major importance of agriculture and natural resources to the economy. Moreover the Ukrainian GDP per capita level in 1990 was the same as in Poland. Furthermore, Ukraine, as a post-soviet economy, should shed some light on the soviet type-institutional and social heritage and its impact on business and macroeconomic performance. Incorporation of Ukraine into the analysis makes it possible to verify whether this country took advantage of a *delay premium*, since it had started the political emancipation process in August 1991. As a result, Ukraine had an opportunity to launch full



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¹ This paper draws on and develops my earlier publication (Kowalski 2010). I am grateful for the language and editorial assistance of Peter Wingrow and Anna Bogajewska and for the statistical assistance of Aleksandra Wojciechowska.

² On 1 January 1993 Czechoslovakia ceased to exist. It was replaced by the Czech Republic and the Slovak Republic.

market transformation as the independent country and to base its actions on the experience of Hungary, the then Czechoslovakia and Poland.

Any evaluation of the economic consequences of the transition process of 1990–2012 requires a coherent theoretical and methodological context. For this reason, the transformation process is seen as being composed of two major stages in this paper: a stage of macroeconomic stabilization and the implementation of fundamental institutional changes, and a subsequent stage of growth and adjustments of initial economic policy measures according to the specific challenges of a particular country. Finally, the global financial crisis can be seen as a specific crash test for all of the countries studied and demonstrates their differing ability to adjust to the slowdown that followed in the European Union economic environment.

The initial macroeconomic conditions were of crucial importance for the economic reform package required. In the longer-term perspective, the structural features of a particular economy played a decisive role. The first stage of economic transformation can be investigated both in the context of macroeconomic analysis and in the context of the microeconomic adjustments of companies and households to the new economic environment (Gorynia and Jankowska 2005; Kowalski and Janc 1999). An important analytical context, useful for describing both phases, is provided by the new institutional economics (Williamson 2000; Paldam and Grundlach 2008).

In the second phase of transition, qualitative factors and conditions started to prevail. The most important were: consistency and determination in the process of reforms, flexibility, privatization of the economy, the ability to improve business environment quality and innovation potential. With the exception of Ukraine, consistent implementation of the European Union's *acquis communautaire*, stemming from EU membership aspirations, also played an important regulatory and modernization role in the economic development of the studied countries. Those conditions and factors, together with objective structural constraints, have influenced economic growth and the scale of improvements in living standards. It is useful to analyse long-term aspects of transformation in the context of growth theory and shifts in international competitiveness. This second framework will be used in section four to assess the countries' reactions to the crisis.

Macroeconomics and institutional conditions in the stabilization phase

At the end of the 1980s, there was no normative theory for the transformation of a centrally planned economy into the market-driven economy based on private ownership. At the time, the source of inspiration could have been experiences relating to the consecutive failures of the stabilizing programs implemented under the auspices of the International Monetary Fund in South American economies. J. Williamson's 'Washington Consensus' became a general recipe containing conditions for effective market reforms (Williamson 1990). The Washington Consensus was developed in a context that differed greatly from the transition economies in Central Europe. The South American countries were basically market economies, but with deficient regulatory and political institutions (Wojtyna 2008).

In Poland in 1989, the general conviction regarding the necessity of deep institutional reform was accompanied by an awareness of the geopolitical barriers of the time. The basic problem was designing a macroeconomic stabilization framework. The scale of the problem stemmed from deep domestic and external disequilibria, a spread between the official and the market currency exchange rate, flight from the *zloty*, hyperinflation, biased price structure, an entirely monetized budget deficit, a near lack of a commercial banking sector, a 'tradition' of a negative real interest rate, and administrative credit regulations.³

In the case of each particular country, macroeconomic stabilization and constitutional reforms required designing and implementing a new institutional environment (qualitative policy). At the same time, the new authorities had to design and implement specific instruments of quantitative policy. All of this had to be accomplished under fragile new social and political conditions.

Transformation vs. growth theory and competitiveness

The second stage of the transformation can be described in the context of the growth theory.⁴ Due to the importance of broadly understood institutions for an efficient transformation to a market-led

³ At the end of 1989 the free market exchange rate (at 'bureau de change') was four times higher than the official rate of the NBP, and about 80 percent of household cash holdings were kept in US dollars and German Marks (Kowalski and Stawarska 1999).

⁴ See Campos and Coricelli (2002); Malaga (2004); Gylfason and Hochreiter (2009 and 2010).

economy, the basic framework of the growth theory is enriched with institutional aspects and economic governance and management quality issues.⁵ Following Gylfason and Hochreiter (2009 and 2010), this paper uses the Cobb-Douglas production function scheme to determine the general context for the comparison of the growth phase in the countries under examination:

$$(1) \frac{Y}{L} = A \left(\frac{H}{L} \right)^a \left(\frac{K}{L} \right)^b \left(\frac{N}{L} \right)^c,$$

where:

Y – production,
 L – labour force,
 A – social capital,
 K – physical capital,
 H – human capital
 N – resources, including land, natural resources, etc.,
 a, b, c – product elasticity of Y against H, K and N .

In this framework, growth is represented by changes in product per capita treated as a composition of four groups of factors: social capital (embedded in A), physical capital per capita (K/L), human capital per capita (H/L), natural resources per capita (N/L). Social capital affects efficiency broadly (see below) and can include the following elements: institutional environment quality, business environment and management quality, and the spill-over resulting from the participation of economies in international labour division (i.e. specialization and economies of scale resulting from the intra-industry trade and trade in tasks) – see Rynarzewski and Zielinska-Glebocka (2008); Grossman and Rossi-Hansberg (2008); Kellman and Shachmurove (2012).

The objectives of macroeconomic stabilization and liberal institutional reforms were high sustainable growth based on improved international competition. M. Porter applied an approach and instrumentation originally used to evaluate a company's competitiveness to the macroeconomic level of the analysis (Porter 1990). Porter's approach focuses on four potential groups of economic competitiveness factors: resources, the demand side of a given economy, the network of sectors, and the business environment. The transformation of these potential factors into actual comparative advantages requires beneficial

conditions, including adequate micro- and macro-economic policy (Kowalski 2012). In the context of the Central European transition economies and allowing for EU membership consequences, economy-specific qualitative aspects and the adaptive ability of businesses matter the most (Kowalski and Pietrzykowski 2010).

In general, the competitiveness of a given economy may be assessed using econometric models of real effective exchange rates or by applying uniform and composite performance measures. The latter are composed on the basis of primary statistical data and subjective measures of perception of the business environment quality of economies.

The first phase of the transformation process

Initial conditions in Poland and in the selected countries

The initial political and social conditions in Poland were relatively favourable for the reforms. The Round Table proceedings paved the way for the parliamentary elections and for the election victory of the reforming group – the Civic Committee by Lech Wałęsa. The government of Tadeusz Mazowiecki could count on the support of the Civic Parliamentary Club and of the other parties of the *Sejm*. Polish society demonstrated a relatively high level of self-organization achieved on the basis of the rise and evolution of Solidarity trade union during the years 1980–1981. In this area, the case of Poland and its group of political and trade union activists that had taken power as a result of the election was unique.⁶

The major macroeconomic conditions on the threshold of the transition process are presented in Table 1. The Czech Republic was in the best initial macroeconomic situation in terms of its GDP growth dynamics and industrial production at the time, as well as its inflation rate and the budget situation or public debt (Table 1). The Czech Republic also had the lowest share of agriculture production in the GDP structure and the highest GDP per capita by a clear margin (see also below). The macroeconomic

⁵ See Wojtyna (2008); Kowalski, Wihlborg and Vensel (2007); Gylfason and Hochreiter (2009 and 2010); Rodrik (2007); Dixit (2007).

⁶ The Polish democratic opposition, thanks to the broad social base and a tradition of self-organization, was the best prepared to exercise power. The situation looked different in the other countries. For example, J. Urban, one of the leading dissidents in Czechoslovakia, recalled in the *Lettre Internationale* in 1995 that, in 1989, the active opposition in the country amounted to about 60 people, and they could count on around 500 supporters. According to him, the existing opposition felt totally isolated and their contact with society was very difficult.

Table 1

Macroeconomic conditions in Poland, the Czech Republic, Hungary, the Slovak Republic and Ukraine in 1989

Specification	Poland	Hungary	Czech Republic	Slovakia	Ukraine*
GDP dynamics (%)	0.2	0.7	4.5	1.0	- 4.0
Industrial production dynamics (%)	- 0.5	- 2.1	1.7	- 0.7	- 0.1
Unemployment rate (%)	0.0	0.5	0.0	0.0	0.0
Inflation rate (average annual %)	251.1	17	1.4	2.3	4.2
Budget balance (% GDP)	- 3.0	- 1.2	- 1.2	- 0.6	ND
Currency reserves, excl. gold (billion US dollars)	2.31	1.25	5.74	ND	ND
Foreign debt/GDP (%)	49.3	65.8	11.4	10.3	ND
GDP per capita at PPP**	8038	12399	16211	12536	8063
Share of industry in GDP (%)	44.1	43.7	ND	58.5	44.6
Share of agriculture in GDP (%)	11.8	15.6	6.3	9.4	25.6
Share of the private sector in GDP (%)	30	5	5	5	10

Note: * Data for 1990; **PPP – Purchasing Power Parity (in USD of 2005); ND – no data.

Source: EBRD, World Development Index (WDI) database and national databases.

conditions in the Slovak Republic, together with the Czech Republic, which constituted one country at the time (Czechoslovakia), were thus relatively favourable.

The remaining three countries faced more difficult conditions. The worst macroeconomic situation was in Poland, where the centrally planned economy had ceased to operate, while the new mechanism, although the private sector accounted for the highest share of GDP creation, had not yet started to work properly. Poland was not able to service its foreign debt, and next to the galloping inflation, a discontinuity in the supply of consumption and investment goods emerged. Poland and Ukraine had the lowest GDP per capita (see also the fourth section). Ukraine also had a very difficult start as a market economy. This mainly stemmed from its links with other republics of the then Union of Soviet Socialist Republics and the disintegrating Russian Federation's economy, which were all falling into a deep economic crisis. However, the biggest problem for the Ukrainian economy and society proved to be the heritage of the soviet system that represents the destruction of social capital and the lack of tradition, experience, and the institutions indispensable to the appropriate functioning of a market-led economy. As time has shown, Ukraine, and its political sector, was not able to handle those problems adequately.

Stabilization programs and initial economic reactions

The implemented stabilizing programs had to reflect the specific situation of each particular country (Table 2). However, they all shared some common features: the re-establishing of monetary policy significance (both in the sense of nominal and real anchors) and the targeting of monetary policy at reducing inflation, the initial and step devaluations of the currency exchange rates, the introduction of internal convertibility of currencies for enterprises and limited external convertibility, and the implementation

of tough budget constraints in state-owned firms and entities.⁷

The program that had been implemented in Czechoslovakia since January 1991 was similar to that introduced in Poland a year earlier (see Table 2). The countries analysed differ significantly in the degree of determination and the consistency of the authorities responsible for shaping and implementing the stabilizing programs. A comparison of the situations of Poland and Ukraine clearly illustrates this point. In the latter case, the first attempts at reform were made in the year 1992.⁸ However, the reforms were partial and the authorities' actions lacked consistency. As a result of the worsening economic situation in Ukraine in 1994, another attempt at regulating the monetary, fiscal and exchange rate policies was made. Moreover, monetary reform was implemented in 1996 (Barisitz 1999). Those actions also turned out to be ineffective, and Ukraine can be viewed as an example of a reform failure caused by internal divisions and the inability of the political sector to work for the common good.

At the outset of economic transformation, the countries reforming and stabilising their economies also

⁷ When analysing the experience of the first years of the transformation, O.J. Blanchard emphasizes the importance of the implementation of hard budget constraints (Blanchard 1994).

⁸ Ukraine regained its independence in 1991.

Table 2

Stabilization programs and major initial conditions of the transformation in Poland, Hungary, Czechoslovakia and Ukraine

Specification	Poland	Czechoslovakia	Hungary	Ukraine
Launching the program	January 1990	January 1991	Continuum	November 1994
Monetary policy	Restrictive	Restrictive	Adaptive	Restrictive
Fiscal policy	Restrictive	Restrictive	Expansive	Restrictive
Incomes and wage rate policy	Restrictive	Restrictive	Moderate	Mild
Exchange rate policy	Devaluation	Devaluation	Crawling devaluation	Devaluation
Nominal anchor	Fixed exchange rate and wage control	Fixed exchange rate and wage control	Currency rate (periodically)	Managed floating rate
Real anchor	Interest rate	Money supply and interest rate	Money supply	Money supply and interest rate
Internal convertibility (for companies)	Yes	Yes	Yes	Yes
Internal convertibility (for households)	Yes	Restricted	Restricted	Restricted
External convertibility	Restricted	Restricted	Restricted	Very restricted
Main privatization method	Direct	Coupon	Direct	Coupon
Date of starting privatization	1990	1992	1990	1995
Launching the stock exchange	1991	1992	1989	1991
Year of the lowest level of GDP	1991	1992–1993	1993	1998
Scale of decrease (1989=100)	82.2	84.6–75.0	81.9	36.6

Source: The author's own synopsis based on national data and also on Gros and Steinherr (2004); Hochreiter (1999); Bennett *et al.* (2003).

faced external negative supply shocks (the rise of the oil price) and demand shocks (a dramatic decline in effective demand for many exported goods and the implosion of economies of the USSR and German Democratic Republic). Those factors, together with the objective path dependence in vast parts of the economy still controlled by state agencies, were responsible for the transformational recession (Table 2).

The course of the transformational recession differed in the individual countries. The Polish recession, measured as the decline in GDP and industrial production, was the mildest among all Central European countries, and the first fresh growth spurts were reported as early

as in 1992. The most difficult situation was in the post-soviet countries. In Ukraine (Table 2), GDP declined the most compared to the level achieved in 1989. Gradually, over the course of macroeconomic stabilization, the prime problem changed from inflation to high structural unemployment (see also below). This had strongly influenced social perception of the market reforms and the political transition, and also contributed to a divergence in income and wealth distribution.

The phase of economic growth

Population and human capital development

The new economic, social and political conditions increased uncertainty on the one hand, but opened up unprecedented new possibilities for social and professional mobility on the other, especially for young people. One of the most visible side-effects of these processes were significant population changes (Table 3 and Figure 1). During the years 1990–2005, all of the countries compared, except for Poland and the Slovak Republic, experienced negative population growth (Table 3).

Ukraine showed the strongest negative dynamics in population growth. These population trends, resulting from the decline in the birth rate and emigration, constitute a major challenge to economic policy.⁹ They also had an effect on the age structure of the region and the development of GDP per capita (see the fourth section). The direction of changes in the dynamics of population growth in the examined countries are continued (Table 3), and Poland and the Slovak Republic will also experience negative population growth in 2005–2015.

⁹ In 2004–2006 Poland had an emigration rate (the number of emigrants per 1000 inhabitants), ranging from 0.1 in the group 5–64 years to 0.7 in the group 15–24 years – see Schreiner (2008).

Table 3

Annual average population growth rate in 1990–2005 and the forecast for growth in 2005–2015

Country	1990–2005	2005–2015
Poland	0.0	– 0.2
Hungary	– 0.2	– 0.3
Czech Republic	– 0.1	– 0.2
Slovakia	0.1	– 0.1
Ukraine	– 0.6	– 1.1

Source: World Bank (2007).

Negative average annual rate of population growth was recorded in all countries of the region with no exceptions. However, at the same time, average life expectancy (Figure 1) increased when compared to 1990 in all of the examined countries except Ukraine. As shown in Figure 1, the biggest improvements in this measure of the quality of life, and of public health operations, were reported in 2010 in the Czech

Republic (77.4 years) and in Poland (76.2 years). It is also interesting that, during the transformation process, the diversification of the measure increased. In 1990, the lowest value was 69.3 (Hungary) and the highest was 71.4 (Czech Republic); thus, the difference between the five countries analysed was 2.1 years (Figure 1). After twenty years of transformation, in 2010, the lowest average life expectancy was 70.2 in Ukraine and the highest was 77.4 (the Czech Republic), so the difference increased to 7.2 years. Therefore, in this specific social rivalry, the Czech Republic (increase in life expectancy of 6.0 years) and Poland (increase in life expectancy of 5.3 years) experienced the greatest improvements.

The countries analysed had previously achieved a relatively high level of primary school enrolment. This aspect of state activity and spending was not significantly negatively affected, even during the transformational recession. Secondary school enrolment in

Figure 1

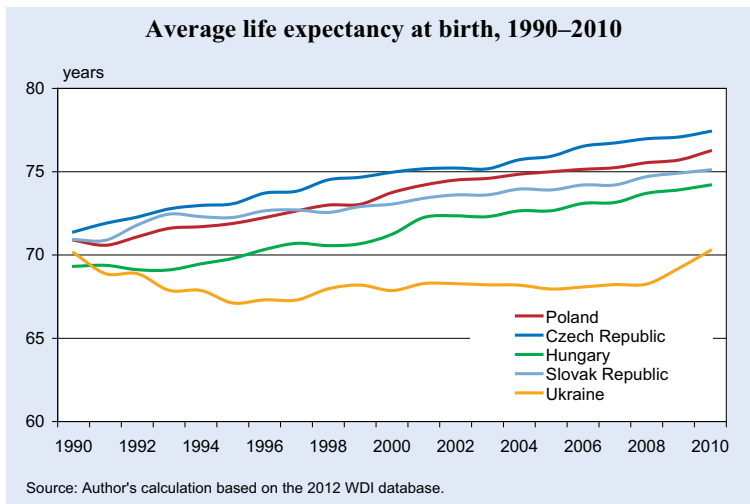
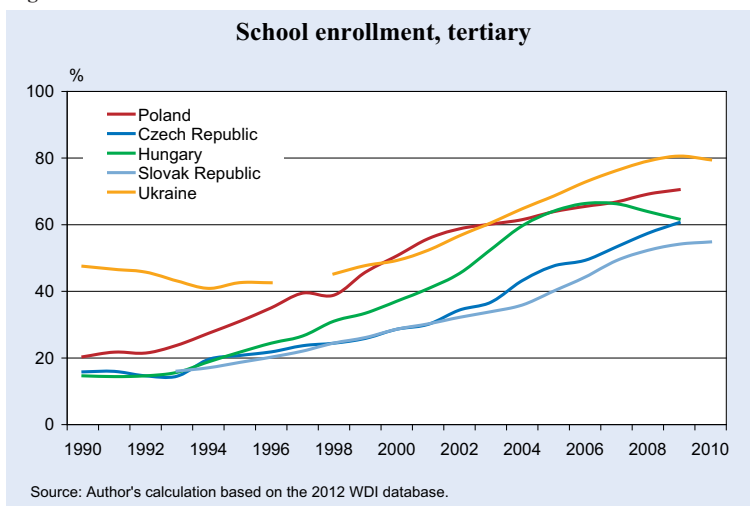


Figure 2



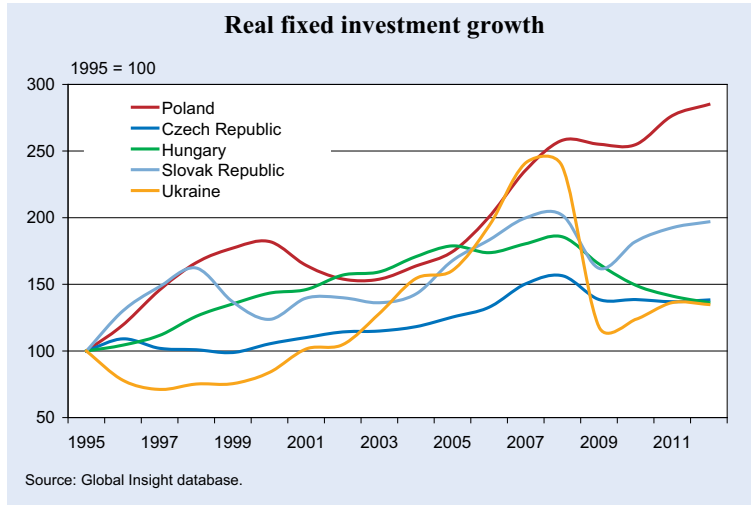
Poland and Hungary continued at 87 percent and 86 percent, respectively in 1991 (see WDI 2012 database). In 2009, the level of enrolment reached 97 percent (Poland) and 98 percent (Hungary). In the Slovak Republic (90 percent in 2010), Czech Republic (91 percent in 2009) and Ukraine (96 percent in 2010) a high proportion of young people also continued their education at the secondary level.

The situation in tertiary education was highly differentiated (see Figure 2). The weakest initial conditions were in Hungary, the Slovak Republic, and the Czech Republic, where only 15, 16 and 16 percent, respectively, of young people continued their education at the tertiary level. By the end of the analysed period Hungary's average tertiary school enrolment ratio reached a high of 64 percent (a spectacular increase of 49 percentage points compared to 1990), and Poland's average ratio reached a level of 69 percent (an improvement of 49 percentage points).

The situation also improved significantly in the Czech Republic

(about 57 percent) and in the Slovak Republic (ca. 54 percent). The highest school enrolment ratios (Figure 2) at the tertiary level of education were achieved by Ukraine (average level of 93 percent). The countries analysed, and particularly Poland, considerably improved the availability of this level of education mainly through their development of private education, focusing on the humanities and social sciences, rather than technical education.

Figure 3



The tertiary school enrolment ratio achieved in Poland and the other countries under examination was higher than in countries with medium-income levels. Moreover, in the cases of Hungary and Poland, the achieved level is similar to that of countries with the highest income per capita, and in Ukraine it was even higher. The quantitative data shows that the development of human capital achieved by the end of the examined period was good. However, rapid growth in the number of students and their concentration in the field of humanities and social sciences contributed to the mismatch between qualification supply and the actual demand for workforce. It also explains the frustration of the young generation and their readiness to emigrate in order to seek jobs in better developed European economies.

over the period 1990–2011. In the first phase of the transition process, total investment as a share of GDP fluctuated significantly. At the end of the examined period, there was a convergence of gross capital formation shares in GDP. In Poland, for most of the analysed period, total investment accounted for the lowest share of GDP.

During the entire period analysed, the average rate of total investment in Poland was about 21 percent of GDP – the lowest rate among all of the countries included in the study (Figure 4). In Hungary, this rate was 2 percentage points higher, and in the Czech Republic and the Slovak Republic, it was about 7 percentage points higher.

Investments

Investments, particularly in fixed assets, are the main driving factor of the increase in physical capital per capita. Figure 3 indicates the pace of evolution of real fixed investment growth since 1995. All of the countries studied sizably increased their fixed investment with Poland achieving the highest increase in comparison with 1995 level. Most striking perhaps is the very high fluctuation of growth in Ukraine and Poland (coefficients of variance of over 39 and 27 respectively).

The groundwork of investment and a precondition for the long-term sustainability of the macroeconomic equilibrium is an adequate supply of domestic sav-

Figure 4

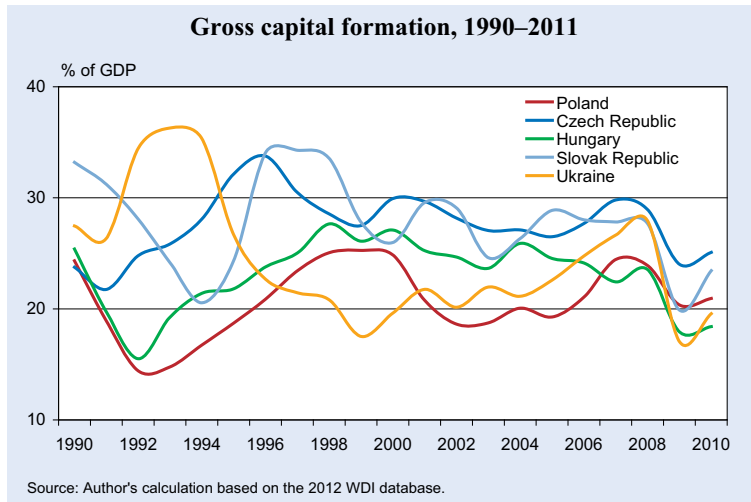


Figure 4 presents the share of gross capital formation in GDP

ings. Domestic savings in Poland and the compared countries were lower than internal demand. This meant that in the whole period analysed (with the temporary exception of Ukraine) these countries were net borrowers. This trend caused a structural current account deficit.

A supplementary source of funds and an important element in the reconstruction and modernization of the economies was the inflow of foreign direct investment (FDI). FDI supplemented domestic capabilities to invest.

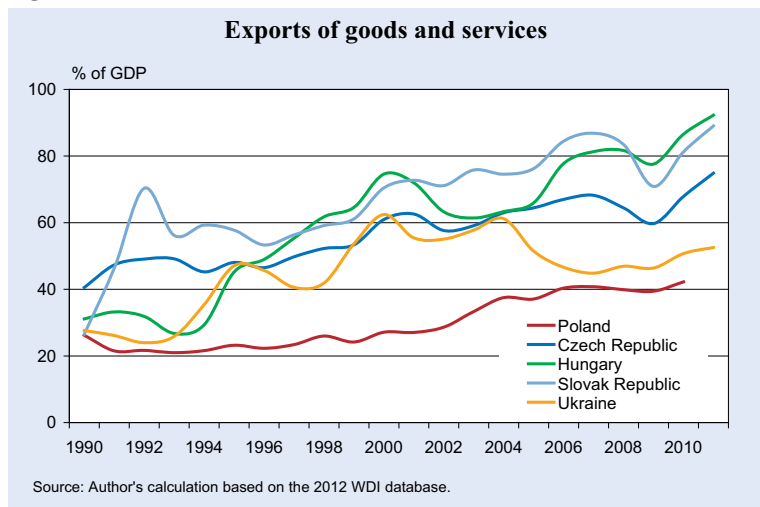
According to the World Development Index (WDI) database, the inflow of net foreign direct investment (net FDI) as a percentage of GDP was very high. The highest volatility of net FDI was registered in Hungary. The Slovak Republic – a country with a significant inflow of large investments in the automotive industry recorded significant fluctuations of net FDI (from 0.6 percent of GDP in 1997 to almost 12 percent of GDP in 2002). During the years 1990–2011, the average scale of net FDI in Poland, Ukraine and the Czech and Slovak Republics was around 3 percent of GDP, and this figure was significantly higher in Hungary (6.2 percent). The FDI inflow was a crucial element in the reintegration of the countries analysed, with the European and global markets affecting both the supply and demand sides of these transition economies.

Foreign trade liberalization

(a) Openness of the economies

As noted above, the liberalization of foreign trade was a common aspect of the stabilization programs implemented in all of the countries analysed. In economies already on the threshold of a market transformation, the importance of exports and imports of goods and services was diversified. It was largely a function of domestic market size, the availability of resources, and the competitive capacity of exports. The structure of foreign trade gradually changed, mainly due to the influence of FDI (Kellman and Shachmurove 2012). The ratio of the export value of goods and services to GDP is given in Figure 5. In 1990 in Poland, the Slovak Republic, Ukraine and Hungary, exports of goods and services as a share of GDP was at a similar

Figure 5



level of around 30 percent, while the Czech Republic started at a level of around 50 percent.

The years of market transformation saw high volatility in exports as a share of GDP. This was due to both changes in the value of the exports and the volatility of GDP dynamics in the countries in transition. The highest variation took place in Ukraine (Figure 5). It resulted from a strenuous search for diversification in the geographical structure of exports and the limitation of the dependence upon the market of the former Soviet Union.

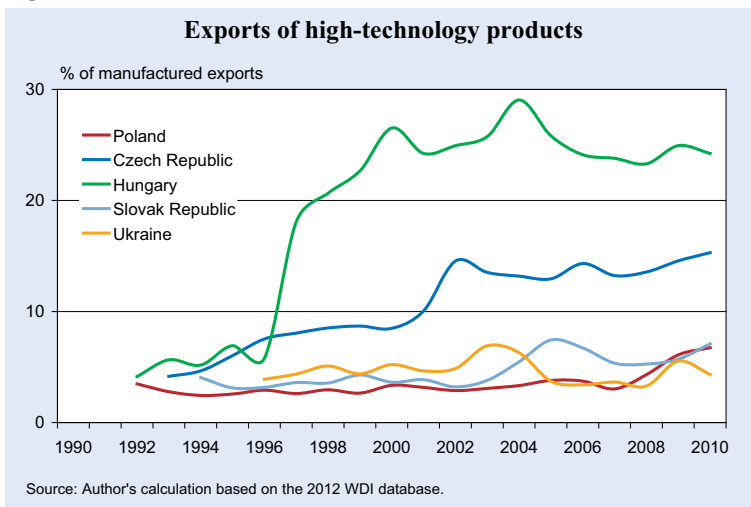
In the case of Poland and the Czech Republic in 2004, the effect of trade creation appeared as an increase in the share of exports in the GDP amounting to 4.2 and 8.3 percentage points, respectively. In general, all of the countries studied significantly increased their ratio of exports to GDP (Figure 5). The increase in export capacity can be interpreted as evidence of the ability of the countries analysed to meet strong competition in the Single European Market.¹⁰ The relatively smaller increase for Ukraine reflects the decline in trade among the former Soviet republics.

(b) Exports of high-technology products

Typically the share of high-technology products in total exports is seen as a major indicator of economies' innovativeness and competitiveness. Figure 6 indicates that the initial situation of Polish exports of high-technology products was disadvantageous.

¹⁰ The analyzed countries (with the exception of Ukraine) export over 65 percent of their goods and service exports to the market of the EU27.

Figure 6



This was due to both longstanding neglect and relatively low spending on research and development and the predominant significance of inter-industry trade, based on the relatively rich endowment of raw materials and labour resources. The low percentage of high technology products as a share of total exports in the first half of 1990s was also characteristic of the other countries of the region (Figure 6). Over time, as a result of FDI, the first significant modernization of the export structure and an increase in the value of high-technology products in total exports took place in Hungary and the Czech Republic. The biggest success was achieved by Hungary with an increase from 4.2 percent in 1992 to an average of 25 percent for the years 2004–2010. The Slovak Republic and Poland were less successful: in 2004–2010 they high-technology products on average accounted for over 6 and 4 percent of total exports respectively (see also Figure 6). This is an interesting outcome because the quality of human capital in Hungary did not differ from that in Poland or Slovakia.

Structural changes triggered by economic growth and transformation

Based on the findings presented in the first section, the focus of this study so far has been on identifying and assessing the most important initial conditions and factors determining the course of the transition from a centrally planned to a market-led economy. Important structural changes occurred as a result of these processes, but they also constrained development. Due to the specific situation in Poland, unemployment has been considered a main side effect of the process. Moreover, in order to emphasize the features of the Polish transition, attention should be paid

to the specific role of agriculture in the employment structure. The very low employment rate and the specificity of Polish agriculture had a significant impact on the growth of income divergence and social inequality and the general assessment of Poland's achievements in the years 1999–2012.

(a) Unemployment

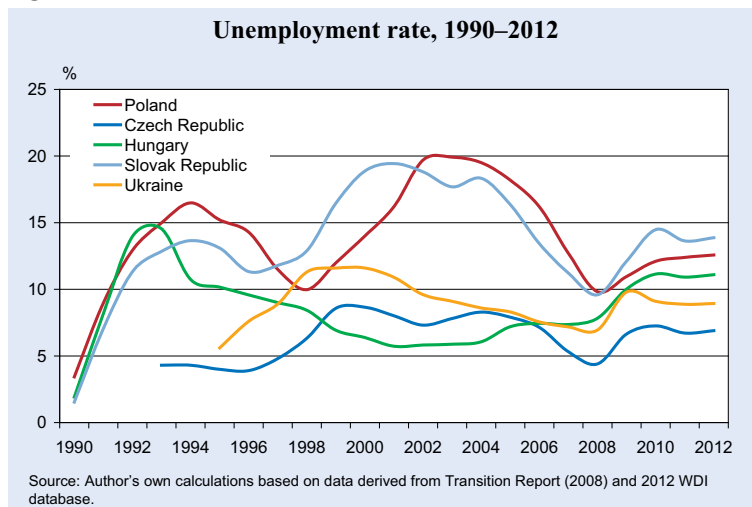
Open unemployment was an unknown phenomenon in centrally planned economies. Nevertheless, the actual scale of wasted

labour resources in the form of over employment was high. The fact of being formally employed blinded most citizens to the actual *status quo*. The implementation of tough budget constraints at a company level and trade liberalization led to the emergence of unemployment. This phenomenon became the most socially severe side effect of the transition process.¹¹ As clearly indicated by the data in Figure 7, there was an increase in the unemployment rate in each country analysed; while the scale of the increase varied considerably. It depended on structural and cyclical factors such as the enterprises' speed and their scope of adjustment to market signals, the degree of workforce mobility, and its supply and demand structural mismatches. In Poland, important factors behind the growth and durability of unemployment were the circumstantial solutions regarding access to benefits for loss of employment and to provision of health care. The path and scale of unemployment in Poland and in the Slovak Republic were similar (Figure 7). Without doubt, unemployment rates were highest in Poland and the Slovak Republic and thus constituted the most nagging side effect of the transformation process.¹² At the end of the period analysed, the unemployment rate in the countries most severely affected by this phenomenon began to decrease. This process was the result of a combination of favourable

¹¹ When looking at the implementation of stabilization programs, it is clear that the main effort and attention was focused on fighting inflation, which undoubtedly, especially in Poland, jeopardized the base of the economy. However, structural unemployment quickly emerged as the biggest ballast of the transformation process.

¹² The relatively mild course of the labour market adjustment process in Ukraine is worthy of attention. It resulted from the long-term state dominance in the economy and the lack of genuine company restructuring. The price of this *status quo* was a low, and sometimes negative, economic growth rate and the expanding gap between Ukraine and the other countries in transition analysed.

Figure 7



conditions: pre-2008 prosperity in major EU trading partners and in the world, the results of FDI and migration opportunities after 1 May 2004 (see, for example, Sinn and Werding 2001).

(b) The changing role of agriculture

In the period directly preceding the reforms and the market transformation, agriculture represented the highest share of GDP in Ukraine (Figure 8). The situation was similar in Hungary too (ca. 15 percent). In Poland, the Czech Republic, and the Slovak Republic, agriculture accounted for less than 10 percent of GDP in 1990. As the years went by, strong tendencies towards reducing agriculture as a share of GDP emerged. This process was particularly visible in Ukraine, where agriculture as a share of GDP decreased by 22 percentage points. During the period analysed, the significance of agriculture decreased in

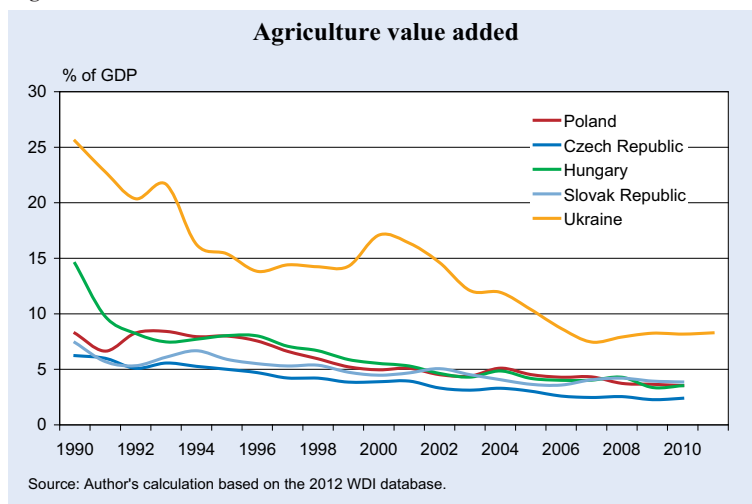
Poland and Hungary to a level of approximately 4 percent of their GDP, and to less than 3 percent of GDP in the Czech Republic and the Slovak Republic (Figure 8).

During the transformation process, the falling in agriculture production as a share of GDP was accompanied by a reduction in employment in this sector as a share of total employment. This stemmed from rationalization of production triggered by the withdrawal of government subsidies to this sector of the economy and

trade liberalization. The highest share of employment in agriculture in 1989–1990 was found in Poland, Ukraine and Hungary – over 25 percent, 19 percent and 18 percent respectively. In 1993–1994 this figure was about 10 percent and 8 percent, respectively in the Slovak and Czech Republics (see WDI 2012). After 20 years of a new economic environment agriculture employment as a share of total employment stabilized in the Czech and Slovak Republics at around 3 percent, and at over 4 percent in Hungary. In 2009–2010 this share was still about 13 percent for Poland and (the last available data for 2007–2008) and around 16 percent for Ukraine. The relatively slower decline in agriculture as a share of total employment in Ukraine and Poland, on the one hand, created some protection against a substantial influx of low-qualified workers to cities in many cases; on the other hand, and led to a continuation of the low productivity of the workforce in this sector.¹³ As Figure 9

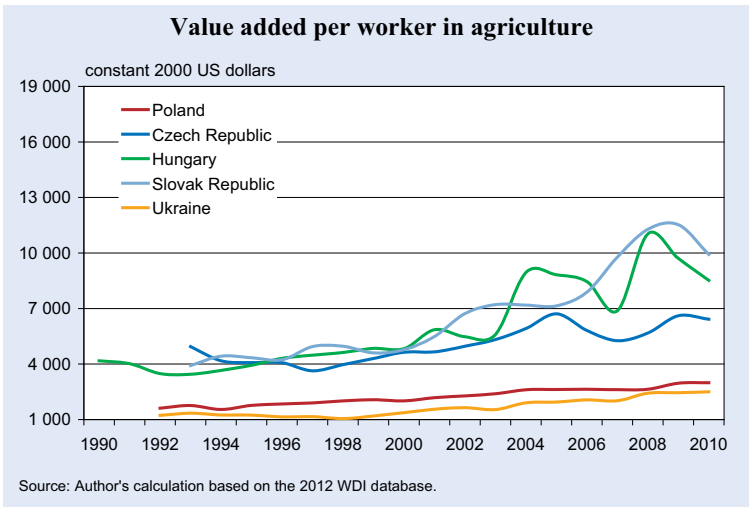
shows, there are two clear regularities in the group of countries analysed. The first is stable and low productivity in Ukraine (from about 1,200 to 2,500 US dollars per employee) and in Poland (from about 1,600 to 3,000 US dollars). The second is the emergence of the group of other countries, where the productivity of employment in agri-

Figure 8



¹³ In Poland the fact that employment in agriculture remained at a relatively high level prevented social tensions from building up in cities. Those tensions could have occurred if an influx of people seeking employment in industry and services had accompanied the low dynamics of job creation in those sectors.

Figure 9



culture was much higher and which experienced higher growth dynamics.

This was particularly visible in the case of Hungary, where the value added per employee in agriculture was about three times higher than in Poland during the years 2009 and 2010. This feature of agriculture in Poland was largely due to the agrarian structure, the production structure and overemployment in this sector. The excessive employment in agriculture was often a consequence of the lack of adequate job opportunities in urban areas located within the vicinity of the residences of agricultural workers. The low labour productivity in agriculture influences both the distribution of income in Poland and the relatively low level of GDP per capita.

Economic performance after 2007

In this study, focusing attention on real economy performance and following the approach by Kowalski (2012), it is assumed that the impact of the global financial crisis accumulated in such performance measures as real effective exchange rates, exports, labour productivity and industrial production growth rates. These general performance measures can signal economies' reactions to external shocks and may have reflected the induced domestic shifts, as particular companies and sectors had to

accommodate new demand and supply conditions.

The data in Figure 10 covering 2007–2011 indicate REER_{CPI} fluctuations; all countries recorded appreciation of their REER_{CPI} in 2008 compared to the 2007 level. All, except the Slovak Republic, subsequently faced the real depreciation of their currencies, with Ukraine and Poland experiencing the highest real exchange rate depreciation compared to the 2007 level (REER_{CPI} = 91 percent and 93 percent, respectively). After the 2009 low

all countries, again with the exception of Slovakia, recorded REER_{CPI} appreciation stemming from inflation rate differences. In 2011, in comparison with the pre-crisis level of 2007, the Czech Republic and the Slovak Republic faced a considerable appreciation of their REER_{CPI}, of 115 percent and over 113 percent, respectively. In the case of Ukraine, Hungary and Poland their annual real effective exchange rates deflated by the CPI were still below the pre-crisis level. Thus, in the course of 2007–2011, the gap between the worst and best performers in terms of this broad price competitiveness measure reached ca. 19 percentage points, reflecting both structural differences and different abilities of the service and manufacturing sectors to react to the demand shock caused by the financial crisis.

Cost competitiveness is well reflected in the quarterly real effective exchange rate deflated by nominal unit

Figure 10

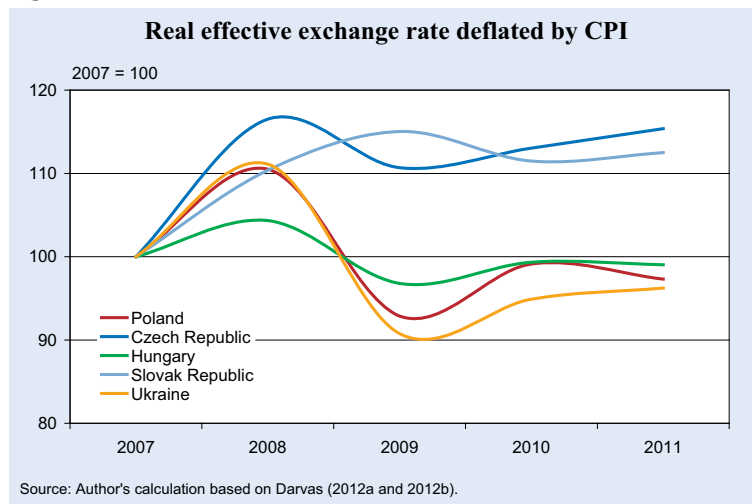
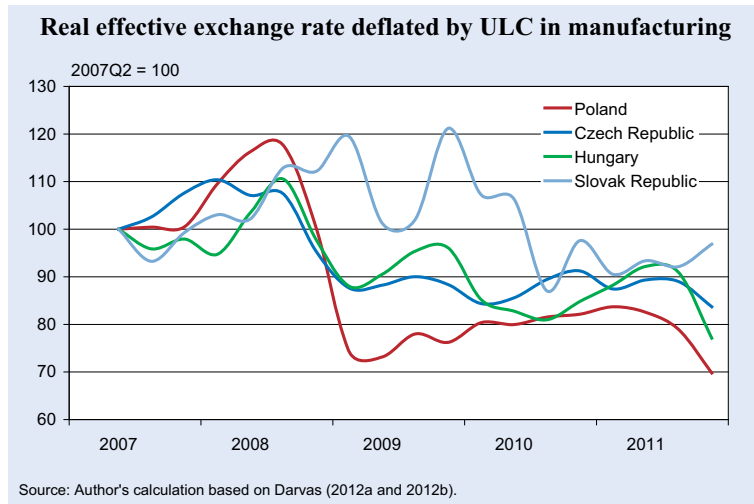


Figure 11



labour costs in manufacturing (ULC).¹⁴ As in the case of the REER_{CPI}, a rise in the REER_{ULC} index means a loss of competitiveness. In 2007–2011, the REER_{ULC} of particular countries displayed sizable fluctuations (Figure 11). In the whole period (2007 Q2–2011 Q2) the highest coefficient of REER_{ULC} variance was in Poland (over 16 percent), while other researched countries recorded relatively lower variance (ca. 9 percent).

The data in Figure 11 shows a rising trend in REER_{ULC} in all countries until mid-2008. Then, after the first signs of the global crisis hit the region, all of its economies had to adjust to its consequences by using their cost advantages embedded in manufacturing. The best performers in this respect were Poland and Hungary. In the Single European Market context of high competitive pressure, all of the countries were able to adjust their prices and costs, and cope with the recession or slowdown in their major trading partners in this way. In fact they had no choice but to reduce their manufacturing costs because of their position in supply chains and thus in intra-industry trade patterns.

Figure 12 shows merchandise exports growth rates in 2007–2011. This simple measure can reflect the countries relative ability to sustain the pre-crisis growth rates and thus show their sustainability capacity. All coun-

¹⁴ No data for Ukraine was available.

tries displayed the same pattern of changes over the crisis period. After a strong boost in 2008 *versus* 2007, all recorded a very sizable decrease in 2009. After 2009 the countries studied recorded a revival in export growth rates. The highest variability in exports growth was recorded by Ukraine (variance coefficient of almost 19 percent), while the other countries displayed a similar variability of about 11 percent–13 percent (Hungary and Slovak Republic, respectively). Exports played a major role in their efforts to cope with the crisis for

all countries. All were able to adjust their cost competitiveness, both through autonomous nominal and real exchange rate adjustments and adjustments in unit labour costs. In this last respect the Slovak Republic was an exception because it became an EMU member in January 2009.

Industrial production still constitutes a sizable part of GDP in Central European countries. The valued added in industry as a share of GDP in 2007–2011 varied from 36–37 percent (Slovak and Czech Republic, respectively) to 30–31 percent of GDP in Hungary and Poland respectively. Despite the relative decrease in the importance of manufacturing as compared with the service industry, it is manufacturing that ought to be given credit for the production of tradables in these economies. Figure 13 shows data on industrial growth rates on an annual basis comparing the levels achieved after 2007. In order to

Figure 12

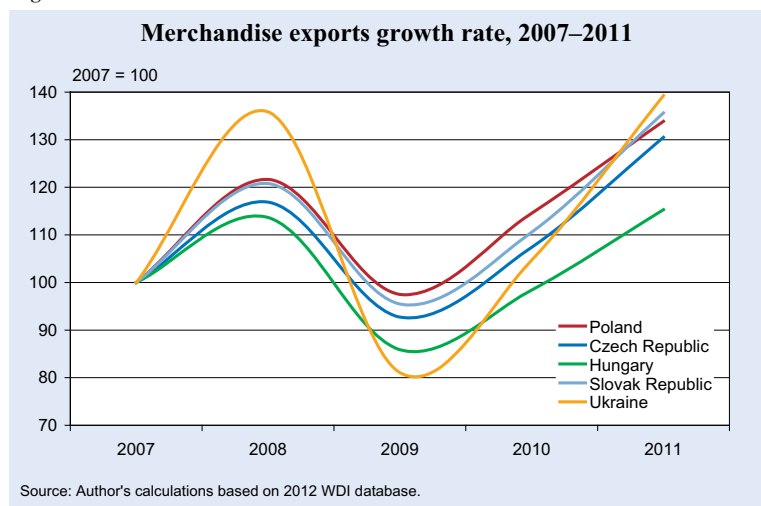
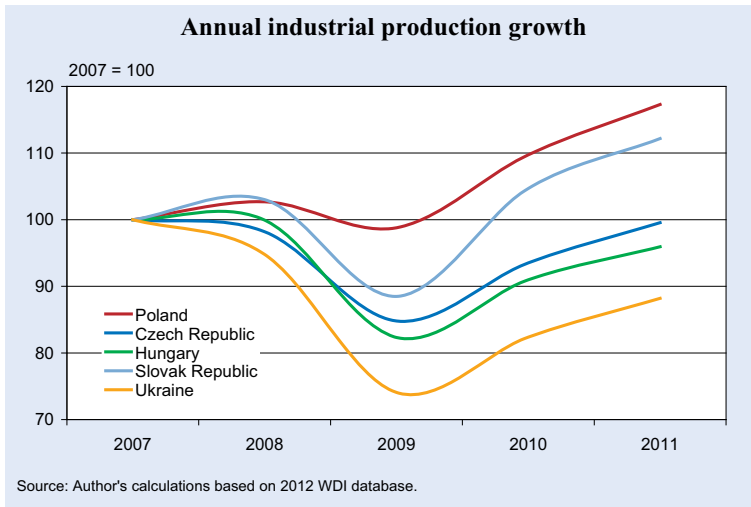


Figure 13



show the timing and scope of adjustments triggered in particular countries by the external shock, the data is set at 100 in the pre-crisis level of 2007 (Figure 13).

The growth of production of total industry was slow or declining as early as 2008 *versus* 2007. It decreased greatly in the crisis year of 2009, with the most severe reaction in Ukraine (74 percent) and Hungary (82 percent). The adjustment in Poland was the mildest (Figure 13). After the 2009 trough all of the countries studied recorded production recovery. In the whole period Poland did particularly well based on its ability to adjust costs and due to its relatively large domestic market. Generally the external shock made Poland and other countries aware of how extensive the imported recession-related phenomena might be. It also shed light on the varying adjustment capabilities of respective economies, including the potential and actual role of the autonomous flexible exchange rates adjust-

¹⁵ The author means the social mobilization and the ability of the society to self-organize themselves (Solidarity trade union). Poland could benefit not only from the Commercial Code existing since the interwar period, but also from an established culture of entrepreneurship and the experience of the relatively large private sector.

Table 4

Poland's GDP per capita as a percent of GDP per capita of each analyzed country

Country	1990	1992	1994	1996	1998	2000	2002	2004	2005	2006	2007	2009	2011
Hungary	62	68	73	81	85	86	81	82	81	83	88	100	105
Czech Republic	50	52	58	58	66	68	66	67	65	65	66	71	75
Slovakia	64	76	82	83	86	92	88	88	83	84	81	86	87
Ukraine	100	114	191	270	313	318	280	246	247	243	239	290	284

Source: Author's calculation based on 2012 WDI database.

ments. This recent experience, together with turbulence in the EMU itself, made Poland and other EU non-EMU members to reflect more on their pace towards ultimate EMU membership.

GDP per capita and competitive position

While assessing the overall course and results of the transformation process, one should take into consideration the circumstances that accompanied this process. It

is clear that some had a unique, specific nature; while others represented a set of common characteristics. Given the inheritance of centralised, totalitarian systems (with its milder variant in Poland and Hungary) and the opportunities those countries could have used in the phase of growth, it can be concluded that the comparative advantages which Poland had on the threshold of the transition process seem to have eroded rather quickly.¹⁵

Table 4 presents data on GDP per capita based on purchasing power parity. The defined measure takes into account the effects of GDP growth, as well as the influence of differences in price levels between countries, and of changes in population. In order to compare the transformation results achieved in Poland to those recorded in the selected countries of the region, Poland's GDP was calculated as a percentage of the GDP of the countries under examination.

As Table 4 shows, the relative level of Polish GDP per capita in 1990 was comparable to that of Ukraine. However, it was equivalent to approximately only 62 percent and 64 percent of the GDP per capita in Hungary and Slovakia, respectively. Poland's GDP per capita was only half of the GDP per capita in the

Czech Republic. These figures clearly show the size of the initial economic gap between Poland, the then Czechoslovakia and Hungary.

During the first years of the transformation in Poland, its GDP per capita was growing faster than in the neighbouring countries. In 2000, the gap in relation to Hungary and the Czech Republic decreased by about 20 percentage points and in relation to Slovakia by about 28 percentage points. Interestingly, Polish GDP per capita at PPP increased more than threefold compared to Ukraine. After the years 1999–2000, the relative levels of the Polish GDP per capita deteriorated (i.e. the Slovak Republic started to develop faster than Poland). The global financial crisis of 2008–2009 unveiled Poland's comparative strength. This was reflected by a faster narrowing of GDP per capita gap (see Table 4). Comparing the relative levels of this measure achieved in Poland in 2011 with the initial values recorded in 1990, the scale of progress is clearly visible. However, structural constraints and unseized development opportunities arising from insufficient determination of consecutive Polish governments to implement further economic and institutional reforms prevented even higher growth.¹⁶

The World Economic Forum provides detailed measures of countries' competitiveness positions. In 2005–2012, the Czech Republic consistently achieved the best position amongst the countries analysed (Table 5). Earlier the relative leading position was occupied by Hungary. Between 2001–2007 Poland's relative competitive position was seen as rather low, and only Ukraine was perceived as having lower than Poland competitiveness. In 2008, the relative position of Poland within the group had improved and since 2009 it has been ranked second in the group of countries analysed.

¹⁶ During the period analysed, Poland had the lowest rate of employment among the EU-25 (Gorynia and Kowalski 2008).

The following observations are also worthy of attention: the stable and relatively high position of the Czech Republic, the improvement of the Slovak Republic, and the worsening position of Hungary (Table 5). Hungary is an example of a country that was a leader in implementing reforms for many years, but which lost this position due to the lack of its will and ability to solve difficult fiscal policy problems. It was also perceived as an economy with a deteriorating quality of the institutional environment.

Throughout the period, Ukraine was ranked lowest among the countries investigated, and the gap between it and the leaders of the group had been increasing. Ukraine is a country that has not been able to seize the opportunities that opened for all the countries of the region after 1989 (see also Tiffin 2006).

Competitiveness ratings are sometimes criticized for their simplifications and diagrammatic view of economies. However, the assessments derived from the GCR are rather consistent with the general picture of transformation that emerges from our analyses. The methodology used in the rankings shed light on the course of the transformation processes and enable identification of problem areas inhibiting the process of catching-up with the developed countries.

Conclusions

In Poland, public disputes and controversies concerning the transformation process and its economic consequences are burdened with a high degree of subjectivity and ignorance about the specific initial conditions and the structural limitations accompanying the market reforms. In Poland, as in the other countries of the region, very recent economic history continues to produce emotions. Moreover, it is instrumentally used, in particular by populist parties to attack the authors of the reforms and those who took the risk of

Table 5

Relative position of Poland and the countries analysed in global competitiveness reports in 2001–2012

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Hungary	Hungary	Hungary	Hungary	Czech R.	Czech R.	Czech R.	Czech R.	Czech R.	Czech R.	Czech R.	Czech R.
Czech R.	Czech R.	Czech R.	Czech R.	Hungary	Slovak R.	Slovak R.	Slovak R.	Poland	Poland	Poland	Poland
Slovak R.	Slovak R.	Slovak R.	Slovak R.	Slovak R.	Hungary	Hungary	Poland	Slovak R.	Slovak R.	Hungary	Hungary
Poland	Poland	Poland	Poland	Poland	Poland	Poland	Hungary	Hungary	Hungary	Slovak R.	Slovak R.
Ukraine	Ukraine	Ukraine	Ukraine	Ukraine	Ukraine	Ukraine	Ukraine	Ukraine	Ukraine	Ukraine	Ukraine

Source: Author's own synopsis based on Global Competitiveness Reports.

managing the process of the institutional and market reconstruction. In the light of the presented analysis, it can be claimed that Poland and Hungary were the best prepared for the transition from a centralized economy to a market-led economy in terms of social capital. In the case of Poland, this was the result of a strong tradition of social self-organisation and the existence, even in a period of dominance of a centralized system, of alternative pathways of social capital development. However, it is often forgotten that the initial economic situation of Poland was very unfavourable. This refers to the stagnation of the 1980s and above all, to the structural characteristics of the Polish economy.

The relative abundance of natural resources and a centralized system of allocation formed the structure of the production capacity. During the transition process, this biased production capacity thwarted the comparative advantage of the economy. In addition, the low ability to generate domestic savings, and consequent relatively low investment level, together with high employment in agriculture led to a low level of capital-labour ratio and, more generally, to relatively low productivity. This feature of the Polish economy, combined with a low employment rate hampered progress in realization of social aspirations.

Despite the limitations mainly arising from the structural specificity of the Polish economy, in comparison to other countries, the results achieved after the institutional breakthrough of the years 1989–1990 should be highly evaluated. Poland has improved its position, measured by the most synthetic measure – the gross domestic product per capita, against all the countries analysed in the region.

While highly evaluating Poland's transformation process, the analyses also show many opportunities for an even more rapid reduction of the economic and social development gap that have not been seized. The most important of them are nonsufficient economic policy responses to one of the lowest employment rate in Europe, failure to bringing the privatization process to a conclusion, reform fatigue and a slowdown in fiscal reforms that could facilitate the ability of the Polish economy to meet the requirements of euro area membership and allow Poland to further improve its competitive position.

An important test for the durability of the economic results achieved and the adaptability of the countries

analysed was the way they responded to the global financial crisis. To date Poland has best proven its ability to withstand this particular crash test. This success should not conceal Poland's need to increase its domestic savings supply and investment rate, and to carry out structural adjustments and release the reserves of efficiency and competitiveness inherent in the improvement of its institutional framework.

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