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The institutional underpinnings of the prospective euro adoption in Poland

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The institutional underpinnings of the prospective euro adoption in Poland¹

Abstract

This paper aims to assess both the explicit and implicit convergence criteria for Poland's possible membership in the Economic and Monetary Union, with special emphasis on institutional underpinnings of the country's prospects of adopting the euro. While the former set of criteria (embedded in the Maastricht Treaty) comprises fiscal and monetary indicators of nominal convergence, the latter highlight the resilience of a country to adverse asymmetric shocks and its ability to compete internationally, and point to the importance of labor mobility in particular and institutional quality in general as key shock-absorbing mechanisms and main drivers of a sustainable comparative advantage of a country. The paper focuses therefore on the evaluation of existing institutions and their evolution in Poland vis-à-vis the standards prevailing in the euro zone, as key determinants of the country's readiness to become an EMU member. The theoretical background of the assessment involved comprises two chief pillars: the optimum currency area theory (OCA) and the 'diversity of capitalism' (DoC) approach.

Key words: Poland, EMU, euro adoption, nominal convergence, real convergence, institutions.

JEL classification: E66, O19, B52.

1. Introductory remarks

The eastern enlargement of the European Union between 2004 and 2013 involving eleven former socialist countries from Central and Eastern Europe (further on referred to as CEE11 or EU11 group), was to entail their subsequent accession to the Economic and Monetary Union (EMU) once they meet the Maastricht entry criteria of nominal convergence. By now, five countries of this group have already become members of the euro zone (with Lithuania joining the EMU on 1 January 2015) while six other states, including the largest EU11 economy - Poland, remain outside the common currency area. The short- to medium-run prospects of a further EMU enlargement are unclear, due to many uncertainties embedded - on the one hand - in the present and future shape of the euro zone itself in the aftermath of the global economic and financial crisis (including the threat of a 'Grexit'), and - on the other hand - in the non-eligible macroeconomic performance or/and ambiguous political positions regarding the approximate date of accession taken by individual CEE11 candidate countries.

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This paper aims to discuss the prospects of the euro adoption in Poland. To this end, we will tentatively assess the fulfillment of the explicit and implicit convergence criteria underlying Poland's eligibility for a membership in the Economic and Monetary Union, with special emphasis on institutional underpinnings of the country's prospective euro adoption. While the former criteria (established in the Maastricht Treaty) emphasize the role of nominal convergence and comprise fiscal and monetary indicators, the latter highlight the resilience of a country to adverse asymmetric or idiosyncratic shocks and point to the importance of labor mobility in particular and institutional development in general as main shock-absorbing mechanisms and drivers of a sustainable comparative advantage. The paper focuses, therefore, on the quality of selected key institutions in Poland and the progress of institutional convergence towards the EMU standards as most important determinants of the country's readiness to become an EMU member in the future.

The argument has been organized as follows. Section two below provides the reference framework for the subsequent assessment exercise of Poland's prospects of adopting the euro. In section three we overview the fulfillment of the nominal convergence criteria in Poland, against the background of the remaining EMU candidate countries from Central and Eastern Europe. Section four discusses the real economic or income convergence process in Poland in a comparative perspective. In turn, Section five focuses on the main implicit criteria of Poland's eligibility for the EMU membership, i.e. on key institutional determinants of the country's international competitiveness and its ability to withstand competitive pressure once inside the Euroland. Section six summarizes with main findings and conclusions of the discussion carried out in the paper.

2. Reference framework

The starting logical premise in our discussion is that the key word describing the preconditions for an effective economic and monetary integration in general, and for a successful participation in a common currency area by a newcomer country in particular, is 'similarity'. The word encompasses diverse dimensions of the similarity notion including its axiological, political, social, economic, cultural and institutional domains.

Hence, while discussing the prospects of the euro adoption in Poland, we decided to rely on selected criteria of convergence that should enable the assessment of how far (how dissimilar) or how close (how similar) to the target the country is on its road to the EMU and to what extent it meets the standards prevailing in the euro zone. In particular, we will focus

on three such criteria: (i) the nominal convergence, (ii) real convergence, and (iii) institutional convergence. Whereas the first category can also be dubbed 'explicit' convergence criteria, as they were officially established in the Maastricht Treaty, the two remaining headings will be further on referred to as 'implicit' criteria since they are officially not binding and can only be inferred implicitly from the underlying theory providing conceptual foundations of the common currency area.

In our discussion, we will use both theoretical and empirical benchmarks as parts of our reference framework. The theoretical background comprises two major components. The first is the theory of economic and monetary integration, with special regard to the optimal currency area theory (OCA), along the lines originally put forward by Mundell (1961), McKinnon (1963) and Kenen (1969) and later reinterpreted - among others - by Frankel and Rose (1997), De Grauwe (2003) and Mongelli (2005). The second pillar rests on new institutional economics and political economy, with special emphasis on the diversity of capitalism (DoC) approach, developed by Amable (2003) and Sapir (2006), and - quite similarly - the 'varieties of capitalism' (VoC) concept, proposed by Hall and Soskice (2001).

According to the 'traditional' optimal currency area theory, the most important OCA properties – also called by some authors 'prerequisites', 'characteristics', or 'criteria' (Mongelli, 2005) - that can be plausibly interpreted in terms of the implicit eligibility conditions for a prospective EMU member too, include in particular:

- synchronization of business cycles,
- similarities of inflation rates,
- diversification in production and consumption,
- price and wage flexibility,
- mobility of factors of production including, in particular, labor,
- fiscal integration,
- financial market integration,
- economic openness,
- political integration.

While the first three properties determine the resilience (vulnerability) of an OCA member or candidate country to asymmetric or idiosyncratic shocks, the remaining features affect its ability (institutional flexibility) to absorb the shocks involved.

Over time some key assumptions and findings of the 'traditional' OCA theory have been questioned and subject to reinterpretation. As a result of new theoretical and empirical

contributions a 'new' version of the OCA theory was developed. It emphasized in particular a distinction between the 'ax ante' and 'ex-post' optimality criteria and the importance of a possible endogeneity of the effects of monetary and economic integration (Frankel and Rose, 1996; Mongelli, 2005). The latter hypothesis builds on a presumption that there is a positive link between income correlation (similarities) and trade integration within a monetary union. Sharing a single currency is likely over time to promote mutual trade, economic and financial integration and foster business cycle synchronization as well as the real income convergence among the member countries. By the same token, they will better fulfill (*ex post*) criteria of an optimal currency area. One of the most interesting implications of the 'new' OCA theory boils down to a feasibility of relaxing the entry conditions for the EMU prospective CEE members and accepting the accession of countries that fulfill only the explicit convergence criteria even though they do not meet *ex ante* most of the key implicit criteria.²

The second component of our theoretical background draws from a relatively recent strand in the 'off-mainstream' or heterodox economics, known as the Varieties (Diversity) of Capitalism approach. The proponents of this approach argue that - parallel to the economic integration or ongoing convergence - in the European Union alone (and more generally - in the Western hemisphere) diverse models or types of capitalism co-exist, depending on different institutional architectures prevailing in particular countries or their groups. Although the original conceptual frameworks of both the VoC and DoC theories were aimed at developed market economies, a number of interesting attempts have also been made to either directly apply them to transition countries or to reinterpret and extend them with a view to better explain the institutional peculiarities of the emerging post-communist capitalism (e.g. Hanson, 2006; Knell and Srholec, 2007; Nölke and Vliegthart, 2009; Myant and Drahokoupil, 2011; Bohle and Greskovits, 2012).

While describing and classifying the co-existing types of contemporary capitalism Amable (2003) singles out five insitutional areas:

- product markets regulation (competition),
- wage-labor nexus and labor market institutions,
- financial intermediation and corporate governance,
- social protection sector,
- education and knowledge sector.

² In fact, this was already the case with Greece, Portugal and Spain at the time of launching the European Economic and Monetary Union in 1999.

As a derivative of varying characteristics of the five institutional areas concerned and the interrelationships among them, four models or types of capitalism in the European Union can be distinguished (Amable, 2003): (i) the Anglo-Saxon model, (ii) Continental European model, (iii) Social-democratic or Nordic model, and (iv) Mediterranean or South European model.³

The key underlying factor and a building block in the VoC framework are institutional complementarities. They can work both within a particular institutional area or between various areas. If present, they can give rise to positive synergies in the whole system (economy), enhance the international competitiveness and boost the 'institutional comparative advantage' of a country.

The chief rationale behind linking together the OCA and DoC theories, as parts of our conceptual reference framework is that this blend may shed some extra light on institutional underpinnings of the prospective euro adoption in Poland. In particular, it is argued that the application of the DoC approach may facilitate a more comprehensive assessment of the quality of main components of the institutional architecture in Poland and the prevailing trends in its evolution towards the standards of the optimal currency area. By the same token, we will be better fit to answer the question: to what extent Poland fulfills the implicit criteria of its prospective membership in the EMU and how much progress it has made since its accession to the European Union.

To conclude, for the empirical part of the paper, the pertinent results for Poland will be shown in a comparative perspective and contrasted with two benchmarks - firstly, with similar performance indicators for the peer CEE11 countries (further subdivided into current EMU members and non-EMU members), and secondly - with the EMU18 averages.

3. Nominal convergence

The official or explicit eligibility criteria for the membership in the European Economic and Monetary Union were set up in the Treaty of Maastricht in 1991. They comprise fiscal and monetary indicators of nominal convergence. Table 1 below gives account of the fulfillment of the nominal convergence criteria in seven CEE11 countries - the prospective EMU members.

³ There is one more category in Amable's classification, i.e. the Asian model of capitalism but it is not applicable for the purposes of the present paper.

Table 1. Fulfilment of the nominal convergence criteria in the prospective EMU members from Central and Eastern Europe (data as of 2014)

Country	Inflation	General government balance	Public debt	Interest rates ^a	Exchange rate
Reference value	0.4%^c 1.6%^d	-3.0	60.0	7.4%^c 6.1%^d	+/- 15%
Poland	0.1	-3.2	50.1	3.5	5.2
Bulgaria	-1.6	-2.8	27.6	3.4	..
Croatia	0.2	-5.7	85.0	4.0	..
Czech Republic	0.4	-2.0	42.6	1.6	10.8 ^b
Hungary	0.0	-2.6	76.9	4.8	8.3 ^b
Lithuania*	1.2	-2.6	39.0	3.8	0.0 ^b
Romania	1.4	-1.5	39.8	4.5	..

a – bond yields (annual data), b – 2005, c - including deflation countries. d - excluding deflation countries.

* - joined the EMU on 1 January 2015.

Source: Eurostat: <http://ec.europa.eu/eurostat>; Rapacki R., Matkowski Z., Próchniak M., *Transition Countries: Economic Situation and the Progress of Market Reforms*, „World Economy Research Institute Working Papers”, No. 324, Warsaw School of Economics, Warsaw 2015; own calculations.

As can be seen from the data, by end-2014 Poland was close to fully meeting all five criteria, exception being the size of its budget deficit. It should be added, however, that this last criterion of nominal convergence has also been met by mid-2015; as a result, the European Commission decided in June 2015 to lift the excessive deficit procedure from Poland that had been in force since 2009.

For benchmarking purposes, it is worth noting that two other countries of the reference group, i.e. Bulgaria and the Czech Republic (leaving aside Lithuania) have also fulfilled all nominal convergence criteria. The remaining candidate countries have still been facing problems with keeping their fiscal or monetary indicators below the required ceiling (with Croatia being the worst performer in this regard).

It ought to be highlighted in this context that meeting the nominal convergence criteria may also be interpreted in terms of the similarity in inflation rates, a property that is emphasized by the OCA theory as one of the key preconditions of the optimality of a common currency area.

4. Real convergence

Although the speed of a real economic (income) convergence or catching up process is not a binding or explicit eligibility criterion for the EMU membership, it can nevertheless serve as a useful gauge of readiness of a candidate country to join the euro zone. Narrowing the gaps in the levels of economic development between the prospective and current EMU members may be thought of as a proxy for the increasing similarity in their production, consumption and export structures and thus - bringing the former closer to fulfill one of the basic implicit convergence criteria. Similarly, the real convergence may simultaneously facilitate a greater synchronization of the business cycles and bring about more financial market integration among 'insiders' and 'outsiders' to the common currency area.

**Table 2. Real convergence in CEE11 countries vis-à-vis the EMU average, 1989-2014
(GDP per capita in PPS, EMU^a = 100)**

Country	1989 ^b	2004	2012	2013	2014
Non-EMU members					
Poland	38	45	61	63	64
Bulgaria	47	31	41	42	42
Croatia	51	52	56	57	55
Czech Republic	75	72	76	77	79
Hungary	56	57	60	62	63
Lithuania	55	46	64	68	69
Romania	34	31	49	50	50
Average ^c	51	48	58	60	60
EMU members					
Estonia	54	50	66	68	68
Latvia	52	44	56	60	60
Slovakia	59	52	69	70	71
Slovenia	74	79	76	77	78
Average ^c	60	56	67	69	69

a - EMU18 excluding Lithuania who joined the EMU on 1 January 20015.

b - the benchmark = EU15 average.

c - non-weighted arithmetic average.

Source: IMF, *World Economic Outlook Database*, September 2005 (for 1989); Eurostat (ec.europa.eu/eurostat) (for 2004-2014); own calculations.

As the data in Table 2 demonstrates, by 2014 Poland's GDP per capita in PPP terms stood at 64% of the EMU average. This was equivalent to a gain of 26 percentage points

between 1989 and 2014, of which 19 points have been gained since Poland's entry to the European Union in May 2004.⁴ These trends may be ascribed to a remarkable acceleration in the real convergence process in Poland after its EU accession - whereas between 1990 and 2003 it amounted in average to 0.5 percentage point per year, in 2004-2014 it quadrupled - to 2.0 p.p. annually.

Poland's growth and real convergence performance looks impressive in a comparative perspective, i.e. the remaining CEE11 countries and the EMU average, particularly from a long-run viewpoint or the hitherto systemic transformation process. Between 1990 and 2014 Poland was a top performer in growth and in the process of catching up with the economic development levels of the EMU members. The country has lost its leading position, however, since 2004. In the period following the EU enlargement, the real convergence process took the fastest pace in Lithuania (the income gap vis-à-vis the EMU average narrowed by 23 percentage points), followed by Poland, Slovakia, Romania, Estonia and Latvia (gains between 19 and 16 p.p. respectively); for the remaining EU11 countries the pertinent gap either decreased only insignificantly or even widened (Slovenia).⁵

It is also worth stressing that the economic growth in Poland relied to a substantial degree on steady increments in total factor productivity (TFP). The average TFP growth rate in Poland between 2005 and 2014 totaled 1.6 per cent annually and ranked among the fastest in the EU11 group (Prochniak 2015).

Notwithstanding the fast pace of the real income convergence in Poland, however, it should be noted that by 2014 the gap in the level of economic development towards the EMU countries has remained significant (64% of the EMU average or 36 per cent to the target level).⁶ For benchmarking purposes again, it is worth reminding that in 2003, i.e. at the very early stage of the euro zone operation, GDP per capita in PPS terms in Portugal (the least developed EMU member) amounted to 71% of the EMU18 average while that of Greece,

⁴ Diverging demographic trends provide another explanation of Poland's catching-up process with the target development level in the EU. While the Polish population increased only slightly between 1989 and 2013 (to 38.533 million from 38.173 million, i.e. by 0.9%), EU15 countries experienced more sizeable demographic growth. Their overall population increased by 8.3%, from 369 million to nearly 400 million. These demographic trends are reflected in larger GDP growth rate differentials in per capita terms. While the rate for Poland was 2.9% annually, the EU15 average for GDP per capita growth was 1.3% per annum.

⁵ More details on the real convergence in Poland compared to the CEE11 and the EU15 countries can be found, inter alia, in Matkowski, Rapacki and Prochniak (2015) and Koyama (2015).

⁶ It is to be mentioned however that at the same time the level of economic development in Poland in 2014 was above that of one EMU member from CEE11, i.e. Latvia (see Table 2) and was approaching the level for Greece (5% gap). Given the most recent growth forecasts of the European Commission, the income gap towards Greece (GDP per capita in PPS terms) is likely to be closed in 2015 (Eurostat 2015).

(second-least developed) - to 84% (Eurostat 2015). Seen from this perspective, only the Czech Republic in the CEE11 sub-group of non-EMU members (and Slovenia in the second sub-group) can be deemed comparable with Portugal and Greece.⁷

It also has to be pointed out in this context that the persisting gap in the level of economic development between Poland and the EMU benchmark implies, *inter alia*, sustained dissimilarities in economic structures and less diversification in production and exports in Poland. As a matter of illustration, a few indicators will suffice. First, at the most aggregate, sector level, the contribution of agriculture to Poland's GDP and total employment has substantially exceeded the EMU average, while the share of services has remained below this level. Second, the commodity composition of Polish exports has revealed a comparative advantage in primary and manufactured goods at relatively low levels of processing and a small component of value added (Weresa, 2014). Third, the share of high-tech products in Polish manufactured exports has for the last ten to fifteen years stayed very low (between 3.0 and 7.9%) and compared unfavourably with peer countries in the CEE11 group, let alone a much higher benchmark for the EMU (for details, see Table 8, sub-section 5.6).

As a wrap up of this section, the foregoing discussion has unequivocally shown that despite a fast progress in the real convergence Poland still has a substantial distance to cover on its road to meet one of the most crucial implicit criteria of convergence spelled out by the OCA theory, i.e. the similarity of economic structures and diversification of production and consumption.

5. Institutional development

5.1. Progress in structural reforms

We will start the discussion on institutional underpinnings of the prospective euro adoption in Poland from a short summary of major findings in the most recent EBRD report (EBRD 2014) on the progress of structural or institutional reforms in CEE11 countries. The EBRD scores reflect the assessments of four areas of reform: (i) enterprise sector, (ii) development of markets and competition, (iii) financial intermediation, and (iv) infrastructure, further subdivided into nine domains. Table 3 gives account.

⁷ According to recent economic growth projections co-authored by the present author (Matkowski, Prochniak and Rapacki, 2014), the income gap between Poland and the EMU (or more precisely - EU15) average (GDP per capita in PPS terms) may be expected to be closed in 16 or 24 years, depending on the assumptions concerning future GDP growth rates.

Table 3. Progress in structural reforms in EU11 countries, 2014

Country	Enterprise sector			Development of markets and competition			Financial institutions			Infra-structure	Average score
	Large scale privatization	Small scale privatization	Governance and enterprise restructuring	Price liberalization	Trade and exchange rate regime	Competition policy	Banking	Capital markets	Insurance and other financial services	Infrastructure reform	
Non-EMU members											
Poland	3.7	4.3	3.7	4.3	4.3	3.7	3.7	3.7	3.3	3.7	3.83 (85)
Bulgaria	4	4	2.7	4.3	4.3	3	3	2.7	3.3	3	3.43 (73)
Croatia	3.7	4.3	3.3	4	4.3	3.3	3.3	3.3	3.3	3.3	3.63 (79)
Czech Republic ^a	4	4.3	3.3	4.3	4.3	3	4	3.7	...	3.3	3.80 (84)
Hungary	4	4.3	3.7	4	4	3.3	3	3.3	3	3.3	3.63 (79)
Lithuania ^b	4	4.3	3	4.3	4.3	3.7	3.3	3	3.3	3.3	3.67 (80)
Romania	3.7	3.7	2.7	4.3	4.3	3.3	3	2.7	3.3	3.3	3.43 (73)
Average	3.86	4.19	3.19	4.24	4.29	3.33	3.33	3.19	3.28	3.33	3.63 (79)
EMU members											
Estonia	4	4.3	3.7	4.3	4.3	3.7	4	3	3.3	3.7	3.83 (85)
Latvia	3.7	4.3	3.3	4.3	4.3	3.7	3.3	3.3	3.3	3.3	3.70 (81)
Slovakia	4	4.3	3.7	4.3	4	3.3	3.7	3	3.3	3.3	3.70 (81)
Slovenia	3	4.3	3	4	4.3	2.7	3	3.3	3.3	3.3	3.43 (73)
Average	3.67	4.3	3.42	4.25	4.25	3.33	3.50	3.16	3.33	3.42	3.66 (80)
Average for EU11 countries											3.64 (79)
Average for SEE countries											2.97 (60)
Average for CIS countries ^c											2.67 (50)

a – scores for 2008, b - joined the EMU on 1 January 2015, c - score for 2012.

Note: Scale from 1 to 4.3; the higher the score, the greater is the progress in structural reform and the smaller the gap towards the benchmark or advanced market economies.

Source: EBRD, *Transition Report 2014*, London 2014; EBRD, *Transition Report Database*: <http://www.ebrd.com/pages/research/analysis/forecasts.shtml>; own calculations.

The distribution pattern of the respective scores for Poland and the other countries of the reference group allows a number of observations. First, in terms of the average score reflecting the overall progress in structural reforms or in the process of building market

institutions (last column of Table 3), by 2014 Poland was the best performer in the CEE11 group (similar to Estonia). Second, the same indicator can be also rearranged and expressed differently: Poland covered some 85 per cent of its distance to the benchmark or the development level of key institutions in the EMU area. Third, the score for Poland was above the CEE11 average (including the two sub-groups singled out in the table) and much above the respective averages for the remaining transition economies of Southeastern Europe and the CIS states. Fourth, within the four areas covered by the EBRD assessment, the fastest progress took place in Poland in the enterprise sector as well as in the development of markets and competition, while the slowest pace of reforms featured the field of financial institutions and in particular - insurance and other financial services.

Three more general conclusions seem appropriate as a summary of this part of the discussion. Firstly, compared to the real convergence process discussed in the previous section, the pace of the institutional convergence in Poland to the EMU standards tended to be faster. As a result, the institutional gap to the benchmark (15%) was smaller than that in the relative economic development levels (36%). Secondly, in terms of the DoC theory the field of 'financial institutions' may be interpreted as a proxy of 'financial intermediation and corporate governance' institutional area, singled out by Amable (2003). Thirdly, it may be also claimed that the progress made in some fields of structural reforms (EBRD scores involved) can be interpreted as a yardstick approximating the fulfillment of some optimality criteria, as seen by the OCA theory. This refers in particular to two properties of an optimal currency area, that is economic openness (where price and trade liberalization and floating exchange rate regime can be thought of as premises for an increasing openness of the Polish economy) and financial markets integration. In this regard, Poland appears to be closer to meeting the former prerequisite of the EMU membership than the latter.

5.2. Varieties of capitalism and the quality of selected institutions

In this sub-section we apply the 'Varieties of Capitalism' (VoC) framework (Hall and Soskice, 2001) with a view to shed some more light on institutional underpinnings of the prospective euro adoption in Poland, and, in particular, to get a better insight into the interrelationships between the VoC categories, on the one hand, and selected DoC institutional areas as well as some OCA implicit eligibility criteria, on the other hand. Table 4 provides the empirical evidence, coming from the studies by Knell and Srholec (2005) and Hanson (2006), on the

varieties of capitalism coexisting in the EU15 and CEE11 countries in 2005, i.e. close to the date of the European Union eastern enlargement.

Table 4. Varieties of capitalism and selected institutional indicators in EU15 and CEE11 countries (data as of 2005)

Country	pcGNI	Social cohesion	Labour market	Business regulation	Coordination index
EU15^a					
Greece	63.1	1.4	6.5	3.7	11.6
France	74.4	4.5	3.2	0.2	8.0
Portugal	52.8	1.1	4.4	1.0	6.5
Germany	80.7	2.4	3.3	-0.9	4.8
Spain	69.0	2.9	4.9	-3.1	4.7
Italy	69.8	2.5	1.7	0.3	4.5
Austria	84.2	4.1	0.7	-1.0	3.8
Netherlands	87.1	5.0	-0.2	-2.1	2.7
Sweden	83.4	5.6	0	-4.7	0.9
Denmark	85.0	1.6	-2.9	-0.3	-1.6
Belgium	80.2	3.9	-3.5	-3.9	-3.4
Ireland	72.4	-1.0	-0.9	-3.0	-4.8
Finland	77.3	1.6	0.2	-7.3	-5.4
UK	78.6	1.4	-2.9	-4.3	-5.8
CEE11					
Slovenia	58.0	3.0	2.1	1.3	6.3
Croatia	42.1	1.3	2.9	1.5	5.6
Czech Rep.	52.5	2.4	-2.0	4.0	4.4
Romania	31.8	-2.0	5.0	1.0	4.0
Latvia	38.6	-1.8	1.5	1.0	0.6
Bulgaria	29.1	-1.8	-1.8	2.8	-0.8
Poland	40.0	-0.6	-1.1	0.0	-1.8
Slovakia	48.4	-0.4	-4.5	2.1	-2.8
Hungary	41.8	-1.8	0.0	-1.5	-3.3
Lithuania	37.9	-1.3	0.1	-2.5	-3.8
Estonia	41.9	-4.4	0.4	-1.7	-5.7

^a excluding Luxembourg.

Notes: pcGNI = per capita gross national income in international dollars at purchasing power parity, 2009, USA = 100.

Social cohesion = the Knell-Srholec score computed for 2005; the four components include the Gini coefficient, top marginal personal income and corporate tax rates, and government final consumption expenditure as % of GDP.

Labour market = Knell and Srholec index for 2005 based on four components: difficulty of hiring and firing workers, cost of firing workers and rigidity of working hours.

Business regulation = Knell and Srholec index for 2005 based on four sub-indices: number of start-up procedures to register a business, time to resolve insolvency, number of procedures to register property and the role of stock market relative to banking sector.

Coordn = score on strategic coordination versus competition, is a sum of three indicators shown in the table: (i) social cohesion, (ii) labour market rigidity/flexibility, (iii) business regulation; + tending towards coordination; - tending towards competition.

Sources: P. Hanson, *The European Union's Influence on the Development of Capitalism in Central Europe*, mimeo, London 2006; M. Knell and M. Srholec, *Emerging Varieties of Capitalism in Central and Eastern Europe*, paper presented at a conference on „Varieties of Capitalism“, University of Paisley, 23-24 September 2005.

While interpreting the data shown in the table, it may be useful to apply a 'conversion key' which will enable translating the concepts inherent to the VoC theory into appropriate categories of the DoC framework. In particular, the social cohesion component in Table 4 roughly corresponds to the social protection sector in the DoC terminology; labour market approximates the wage-labour nexus and labour market institutions while business regulation may be seen as a proxy for product market regulation (competition).

In more general terms, the aggregate 'coordination index' implies the type of coordination mechanism (market-based vs. strategic or non-market) prevalent in the decision-making process of economic agents and social and political partners in a particular country. Countries displaying negative coordination scores fall into the category (variety of capitalism) of Liberal Market Economies (LME) whereas those with positive scores make up a variety dubbed Coordinated Market Economies (CME).

Given the results provided in Table 4, at the time of its EU accession Poland might be deemed a moderately liberal market economy (LME). This implies, inter alia, that economic agents (and especially firms) tended to coordinate their activities primarily via hierarchies and competitive market arrangements. This finding refers in particular to two out of three component indicators of the coordination index: social cohesion and labour market.

For benchmarking purposes, it is interesting to note that Poland represented the same LME variety of capitalism as three out of five current EMU members from the CEE11 group (Estonia, Slovakia and Lithuania); on the other hand, Slovenia appears to have been exhibiting the properties of a coordinated market economy (the scores for Latvia place this country in between the two varieties).

As a wrap up of this part of our discussion one general remark seems appropriate. In the case of Poland, being classified as a LME variety of capitalism may be interpreted, among other things, as a premise for a faster reaction to market signals compared to CME, and by the same token - more flexibility in absorbing negative external shocks. As a consequence, the

country may be perceived as getting closer to meet ex ante at least some of the implicit OCA criteria. In the next sub-section we will attempt to corroborate this general claim with more recent data for the product and labour markets.

5.3. Product and labour markets

With a view to further enhance our understanding of institutional determinants of Poland's potential readiness to join the EMU we will use the World Bank data on 'ease of doing business' and 'employment rigidity', as proxies for the regulation/competition on the product market and flexibility/rigidity of the labour market, respectively. The pertinent data for Poland and the reference groups involved are shown in Table 5 below.

Table 5. Indicators of product and labour market regulation in EU11 countries, 2004-2014

Country	Ease of doing business ^a			Employment rigidity index ^b		
	2006	2014	Change	2004	2009	Change
Non-EMU members						
Poland	54	32	22	37	25	12
Bulgaria	62	38	24	46	19	27
Croatia	118	65	53	50	50	0
Czech Republic	41	44	-3	31	11	20
Hungary	52	54	-2	33	22	11
Lithuania	15	24	-9	47	38	9
Romania	78	48	30	65	46	19
Average	60	44	16	44	30	14
EMU members						
Estonia	16	17	-1	61	51	10
Latvia	26	23	3	62	43	19
Slovakia	37	37	0	38	22	16
Slovenia	63	51	12	57	54	3
Average	36	32	4	55	43	12
EMU average	35 ^c	38	-3	48 ^c	39 ^d	9

^a Ease of doing business index: 1 = easiest to 155 (189) = most difficult. (The 2006 ranking covers 155 countries while the 2014 ranking - 189 countries).

^b Employment rigidity index: 0 = flexible to 100 = rigid.

^c Excluding Luxembourg, Cyprus and Malta.

^d Excluding Malta.

Employment rigidity index is compiled by the World Bank. However, since the World Bank ceased to publish this time series, the historical statistics have been taken from another source that publishes the World Bank data.

Source: World Bank, *World Development Indicators Database* (databank.worldbank.org); World Bank, *Doing Business in 2006*, Washington 2006 – for the aggregate ease of doing business index in 2006; *Countries Compared by Labor > Rigidity of employment index. International Statistics at NationMaster.com*, World Development Indicators Database, aggregates compiled by NationMaster, retrieved from <http://www.nationmaster.com/country-info/stats/Labor/Rigidity-of-employment-index> – for the employment rigidity index in 2004; *Encyclopedia of the Nations*, <http://www.nationsencyclopedia.com/WorldStats/WDI-business-rigidity-employment-index.html> – for the employment rigidity index in 2009.

A number of findings are worth highlighting, once we take a closer look at the data provided in the table. First, according to the World Bank, ranking the ease of doing business in Poland between 2006 and 2014 increased considerably, which may be interpreted as a derivative of a sizeable deregulation of the product market and of an alleviation of many bureaucratic hurdles that used to adversely affect the business environment in the country in the past.⁸

Second, by 2014 the ease of doing business indicator (Poland's rank in the world) was on a par with the average for new EMU members from the CEE11 group while simultaneously exceeding the benchmark for the entire euro zone (here, a lower value means a better outcome).

Third, a similar pattern seems to apply at first sight to the labour market in Poland. The employment rigidity index improved significantly between 2004 and 2009, implying a more flexible labour market.⁹

Fourth, in terms of employment flexibility, by 2009 Poland outperformed both the CEE11 benchmarks (the two sub-groups) and the entire EMU area. At the country level, however, four other CEE11 economies, i.e. the Czech Republic, Bulgaria, Hungary and Slovakia have done better than Poland.

As the labour market plays a vital role in the absorption mechanism of idiosyncratic shocks envisaged in the OCA theory¹⁰, the general picture just outlined needs some sharpening. Similarly, our findings above regarding employment rigidity/flexibility call for a

⁸ It is worth emphasizing, however, that the aggregate indicator being assessed may blur the picture of huge discrepancies in the prevailing conditions of doing business in Poland between various areas concerned. As a matter of example, Poland is ranked 137th in the world (in the sample encompassing 189 countries altogether) in terms of the ease of obtaining building permits. Only slightly better is the situation in the field of paying taxes (rank 87) and procedures connected with registering a new business (85). On the other hand, the Polish business enjoys relatively the most favourable conditions in terms of its access to credit (rank 17) [Rapacki and Czerniak, 2015].

⁹ The employment rigidity index is based on four component indices including the ease of hiring and firing workers, the rigidity of working hours and the cost of firing workers.

¹⁰ This refers in particular to labour mobility and wage flexibility as pivotal factors fostering the ability of a member country of the common currency area to resort to 'internal devaluation' as a main shock absorber.

number of qualifications. They centre on the fact that - despite a clear improvement, documented in Table 5 - the labour market in Poland continues to display several imperfections or weaknesses including important inter-temporal tradeoffs between the shock-absorptive capability and international competitiveness which may endanger the country's prospects to smoothly function in the common currency area in the future. The following qualifications are especially worth making:

- According to a recent report published by the European Commission (European Commission, 2015), the share of temporary employment contracts (or part-time jobs) amounts to 27% of the labour market in Poland and is the highest in the European Union. The share index in question in the 15-24 age bracket totals 66% and is the second-highest in the EU.
- The overwhelming majority of negotiations over wages and work conditions in Poland has taken place at the firm level. Only 2.9% of all Polish employees have had their wages established based on collective agreements at the industry level (European Commission, 2015).
- These two trends combined have contributed to enhancing the labour mobility and wage flexibility in Poland, which in the short-run may also be conducive to an increased ability of the country to absorb asymmetric shocks. This occurs through the adjustments process dubbed the 'internal devaluation' (if inside the Economic and Monetary Union) which appears to be consistent with at least two of the OCA implicit eligibility criteria for the EMU membership.
- However, the trends concerned have apparently also triggered some undesirable side effects that in the longer run may be seen as potential threats to Poland's sustained international competitiveness once in the euro zone. Two such threats in particular ought to be emphasized here.
- The first is due to the fact that firms relying heavily on temporary work contracts feel weaker incentives to undertake on-the-job or vocational training schemes for their employees. Similarly, the employees lack sufficient motivation to invest in their human capital through acquiring or upgrading the specific skills needed in a particular firm. This - coupled with a low level of continuous adult training in Poland - translates into a structural mismatch between the labour demand and supply and a high rate of natural unemployment, running close to a double-digit level.
- The second threat may be seen in the fact that according to a number of empirical studies

firms using temporary employment contracts more frequently tend to spend less on research and development (European Commission, 2015). This factor may be held partly responsible for the low innovative capability of the Polish economy (discussed in subsection 5.6 below).

- As a result of this pattern of labour market evolution and the prevailing labour market institutions, Poland developed its comparative advantage based predominantly on low labour costs and price competitiveness, mostly in industries and product lines at low levels of technological sophistication and requiring relatively low skills and competencies of the work force. In the medium- and longer-run this model of comparative advantage does not seem sustainable

Seen from the DoC theory perspective, the trends and effects prevalent on the Polish labour market discussed above may also be interpreted as a misfit or a lack of institutional complementarities between the labour market and knowledge and education sector, giving rise to adverse macroeconomic consequences.

5.4. Economic freedom and perceived corruption

As a complement to the foregoing discussion on the most salient features of product and labour markets in Poland, we will amend the picture with selected indicators assessing the scope of economic freedom and the incidence of perceived corruption. The former indicator, due to its design, may also shed some extra light on Poland's readiness to adopt the euro, seen from the angle of selected OCA criteria, in particular those linked with capital and labour mobility, economic openness, fiscal and financial market integration, while also giving a key to better assess the business cycles synchronization (see details on component indices beneath Table 6).

Table 6 below gives account of the present scores and their changes between 2004 and 2015 in Poland and the reference countries, based on the rankings by the Heritage Foundation and Transparency International respectively.

Table 6. Indicators of economic freedom and corruption in EU11 countries, 2004-2015

Country	Index of Economic Freedom, <i>Heritage Foundation</i>			Corruption Perceptions Index, <i>Transparency International</i>		
	2004	2015	Change	2004	2014	Change
Non-EMU members						
Poland	58.7	68.6	9.9	35 (67)	61 (35)	26
Bulgaria	59.2	66.8	7.6	41 (54)	43 (69)	2

Croatia	53.1	61.5	8.4	35 (67)	48 (61)	13
Czech Republic	67.0	72.5	5.5	42 (51)	51 (53)	9
Hungary	62.7	66.8	4.1	48 (42)	54 (47)	6
Lithuania	72.4	74.7	2.3	46 (44)	58 (39)	12
Romania	50.0	66.6	16.6	29 (87)	43 (69)	14
Average	60.4	68.2	7.8	39	51	12
EMU members						
Estonia	77.4	76.8	-0.6	60 (31)	69 (26)	9
Latvia	67.4	69.7	2.3	40 (57)	55 (43)	15
Slovakia	64.6	67.2	2.6	40 (57)	46 (54)	6
Slovenia	59.2	60.3	1.1	60 (31)	58 (39)	-2
Average	67.7	68.5	0.8	50	57	7
EMU average	68.7	68.2	-0.3	67	64	-3

Notes: Index of economic freedom – scale from 0 to 100; the higher the index, the broader is the scope of economic freedom. The index is an average of scores in ten areas (1) business freedom, (2) trade freedom, (3) fiscal freedom, (4) government size, (5) monetary freedom, (6) investment freedom, (7) financial freedom, (8) protection of property rights, (9) freedom from corruption, and (10) labour freedom. Places in ranking were provided in brackets – in 2009 it included 179 countries.

Transparency International corruption index – scale from 1 to 10; the higher the index the lower is the corruption level. The index is calculated based on similar indices of other institutions and own research. Figures in brackets represent countries' places in the ranking – in 2008 the ranking covered 180 countries.

Source: The Heritage Foundation, *2014 Index of Economic Freedom*, Washington, D.C, 2014: <http://www.heritage.org/index/>; Transparency International, *Corruption Perceptions Index*: <http://www.transparency.org/cpi2013/results>; own calculations.

The data shown in the table prompts a number of observations. Firstly, Poland made a marked progress in both areas, with the incidence of perceived corruption index (CPI) that saw the most spectacular improvement.

Secondly, by 2015 the score for Poland was slightly above all three benchmarks for CEE11 and the EMU area. Moreover, the score in question substantially exceeded the respective indices for the worst performers in the EMU, i.e. Greece (54.0) and Italy (61.7) being also above the levels recorded in France (62.5), Portugal (65.3) and Spain (67.6) [Heritage Foundation, 2014].¹¹

Thirdly, in terms of perceived corruption the index for Poland was in 2014 much higher than the averages for both CEE11 sub-groups and close to the mean level for the EMU. It is also to be noted in this context that the CPI indicators for two worst-performing EMU members, that is Greece and Italy, amounted to only 43 (Transparency International, 2015).

¹¹ A more comprehensive comparative analysis of institutional development in Poland and Greece (and more broadly - in the CEE10 and PIGS countries) can be found in Rapacki (2012).

5.5. Financial intermediation

An important yardstick of the progress of structural reforms and a country's readiness to join the common currency area, is the development of financial markets and the scope of financial intermediation. As shown in Table 7, which extends the picture of financial institutions and complements the EBRD scores shown in Table 3 (sub-section 5.1), in recent years Poland has experienced considerable progress in this area.

Table 7. Selected indicators of the development of financial markets in CEE11 countries, 1995-2013 (% GDP)

Country	Interest rate <i>spread</i> ^a		Domestic credit to private sector		Stock market capitalisation		Monetisation ratio (M2 / GDP)	
	2002	2013	1995	2013	1995	2012	1995	2013
Non-EMU members								
Poland	5.8	3.6^b	16.9	53.9	3.3	35.8	27.5	59.0
Bulgaria	6.4	6.6	39.9	69.6	0.5	12.7	57.2	83.8
Croatia	11.0	7.7	26.5	76.7	2.6	38.2	18.2	69.8
Czech Republic	4.7	4.1	70.8	55.4	28.3	18.0	65.6	77.0
Hungary	2.8	3.8	22.6	50.8	5.4	16.6	44.2	61.5
Lithuania	5.1	4.3 ⁴	14.7	46.2	2.0	9.4	18.5	47.3
Romania	16.2	6.0	0.0	41.4	0.3	9.4	24.3	38.3
Average	7.4	5.2	27.3	56.3	6.1	20.0	36.5	62.4
EMU members								
Estonia	4.0	4.9	16.2	73.7	21.8 ¹	10.3	22.4	66.7
Latvia	4.7	5.8	8.1	60.7	0.2	3.9	24.2	43.0
Slovakia	3.6	2.0 ²	36.4	45.0 ²	4.9	5.0	56.0	54.9 ²
Slovenia	4.9	4.5 ³	25.2	70.8	1.5	14.0	24.3	71.9
Average	4.3	4.3	21.5	62.5	7.1	8.3	31.7	59.1
EMU average	3.7 ⁵	.	63.9	125.8	29.6 ⁶	41.0	113.0 ⁷	156.5

1 – 1997, 2 – 2008, 3 – 2009, 4 – 2010.

5 – Data for Austria, Luxembourg, and Portugal refer to 1998.

6 – Data for Estonia refer to 1997.

7 – Data for Austria, Belgium, France, Germany, Portugal, and Spain refer to 1999; data for Luxembourg are for 2000; data for Greece - 2001.

^a Lending rate minus deposit rate (% points).

^b For Poland, interest rate spread refers to 2013 and is calculated as the difference between the annual average interest rate on credits and deposits in domestic currency from the National Bank of Poland data.

Source: World Bank, *World Development Indicators Database*: <http://databank.worldbank.org/>; National Bank of Poland: <http://www.nbp.pl>; own calculations.

The progress has been chiefly embodied in improved legal foundations and regulatory framework underlying the functioning of banks and the insurance market. It also entailed the increasing complexity, as well as the transparency and efficiency, of the securities markets. Simultaneously, the role of banks as financial intermediaries and a source of credit for the economy increased.

Nevertheless, if contrasted with the reference indicators in the peer EU11 countries, the present development level of financial markets in Poland has in many respects lagged behind. This refers in particular to the significance of the domestic credit to private sector as a source of financing, and the monetization ratio. On the other hand, Poland has done better in terms of capitalization of the stock exchange and interest rate spread.

It ought to be added in this context that the level of interest spread has been commonly interpreted by economists as one of the most important gauges of systematic risk inherent to the financial system in a country or otherwise - a yardstick measuring the efficiency of the banking sector and its derivative that is the security of financial transactions. Hence, the data on the level of interest spread just discussed may be interpreted as a reflection of the downward trend in the prevailing perception of systematic (or systemic) risk embedded in the Polish economy, both compared to the past and against the background of the remaining CEE11 countries (Rapacki and Czerniak, 2015).

As a final remark in this part of the paper, it should be stressed that the gap in financial market development in Poland vis-à-vis the EMU standards has remained big, especially in terms of the role of domestic credit as a source of funding the private business, and monetization ratio. Seen from the angle of the OCA and DoC theories, this finding may be interpreted as a relative underdevelopment of the financial intermediation and corporate governance area in Poland, which casts serious doubts on the country's ability to fully meet in the near future at least one key OCA (implicit) convergence criterion that is financial market integration.

5.6. Science and technology

The development of science and technology ranks among the most important drivers of the innovative capability of a country and determines to a large extent its international

competitiveness in the long run. Seen from the angle adopted in this paper, this factor (or its proxy within the DoC framework, i.e. the education and knowledge area) influences the type of comparative advantage a current or a prospective EMU member is likely to enjoy while competing inside the common currency area.

Table 8 below sketches a picture of Poland's readiness to adopt the euro in terms of country's innovative capability and gives one more key to assess the prevailing pattern of its comparative advantage vis-à-vis the EMU members. The table contains selected data showing both the input and output sides of the development of science and technology.

Table 8. Development of science and technology in Poland and the EU11 countries, 2004-2013

Country	R&D expenditure (% of GDP)		High-tech exports (% of manufactured exports)		License trade (2013, \$ mln)	
	2004 ^a	2012	2004	2013	Receipts	Payments
Non-EMU members						
Poland	0.56	0.90	3	7.9	318	2709
Bulgaria	0.48	0.64	4	8.0	28	204
Croatia	0.87	0.75	13	8.6	24	246
Czech Republic	1.54	1.88	13	14.8	283	996
Hungary	1.00	1.30	29	16.3	2184	1740
Lithuania	0.80	0.90	5	10.3	33	46
Romania	0.46	0.49	3	5.7	119	864
Average	0.82	0.98	10	10.2	-	-
EMU-members						
Estonia	1.15	2.18	14	10.6	11	57
Latvia	0.69	0.66	5	13.0	13	47
Slovakia	0.49	0.82	5	10.3	6	141
Slovenia	1.63	2.80	6	6.2	56	255
Average	0.99	1.62	7.5	10.0	-	-
EMU average	1.36	1.76	16.2	13.2 ¹	-	-

1 – Data for Belgium and Luxembourg are for 2012.

^a 2000-2006, latest available data.

Source: World Bank, *World Development Indicators Database*: <http://databank.worldbank.org/>; own calculations.

Before embarking on the discussion of major findings, one general remark seems appropriate. Although the level of R&D expenditure alone is not a sufficient condition for

ensuring a high innovative capability of an economy, it is however a necessary requirement.

Seen from this perspective, a low level of R&D expenditure relative to GDP in Poland - much below the CEE11 and EMU average share indices - leaves no doubt that the country has not succeeded in committing sufficient resources to support the development of its science and technology sector. In broader terms, this finding may also be interpreted as a symptom of the Polish government failure to generate positive externalities to the private sector including its propensity and ability to innovate.

Inadequate government support for the development of science and technology in Poland may be held responsible for the country's low innovative capability, as reflected, *inter alia*, by other data compiled in Table 8.

One of the basic gauges of an economy's ability to innovate is the share of high-tech exports in total exports of manufactured goods. As already mentioned earlier in the text, Poland ranked among the worst performers in this regard, with a share index of 7.9% in 2013, i.e. below the averages for both sub-groups in CEE11 and much below the EMU level.

Another important measure of the innovative capability of an economy is also the level of export receipts from the sales of licenses and the balance of license trade. Poland again stands out among the EU11 countries as the worst performer - by 2013 it exhibited the lowest export receipts/import payments ratio (1:9) and the largest deficit in the license trade in absolute terms (\$ 2.4 billion).

As a wrap up, three more general comments should be made. First, in the DoC framework, the data for Poland suggest the area of education and knowledge to be lagging behind the levels prevailing in all reference groups. Second, they also indicate the lack of or insufficient degree of institutional complementarities between the education and knowledge area, on the one hand, and product and labour markets, on the other. Third, these findings imply a low innovative capability of the Polish economy and by the same token - seen from the OCA theory perspective - low ability to develop sustainable, knowledge- and innovation-based comparative advantage and to successfully withstand the competitive pressure once in the EMU.

VI Summary and conclusions

The discussion carried out in the paper can be summarized with the following major findings.

- By mid-2015 Poland fulfilled all five criteria of nominal convergence.

- Between 2004 and 2014 Poland made remarkable progress in the real and institutional convergence. Yet, by 2014 the country only partly, and in varying degree, met the ex ante implicit criteria of the EMU membership. This may cast some doubts on Poland's short- to medium-run readiness to adopt the common currency.
- Between 1990 and 2014 Poland was the best performer among the EU11 countries in the real convergence towards the EMU economic development level, and the second-best performer since its EU accession in 2004. Nevertheless, the remaining income gap vis-à-vis the EMU standards remains significant, which implies persisting dissimilarities in the economic structures and insufficient diversification of production and exports, and thus - non-fulfillment of one of the key implicit eligibility criteria.
- Poland was also among the top reformers in terms of institution-building (EBRD scores). The institutional gap to the benchmark (15%) was smaller than the income gap (36%). The least progress was made in the field of financial institutions (a proxy for financial intermediation and corporate governance area in the DoC framework).
- The progress in some fields of structural reforms (EBRD) in Poland may serve as a yardstick approximating the fulfillment of some OCA optimality criteria. This refers in particular to economic openness (price and trade liberalization and floating exchange rate regime as premises for an increasing openness of the Polish economy) and financial markets integration. In this regard, Poland is closer to meeting the former prerequisite of the EMU membership than the latter.
- At the time of its EU accession Poland might be deemed - based on the results of an empirical study applying the VoC methodology - a moderately liberal market economy (LME) with important implications for labour market flexibility and thus – the country's short-term ability to absorb negative external shocks. As a consequence, Poland may be perceived as getting closer to meet ex ante at least some of the implicit OCA criteria.
- Selected key indicators of institutional quality ('Ease of doing business' and 'Employment rigidity' indices as well as those reflecting the scope of 'Economic freedom' and incidence of 'Perceived corruption') unequivocally indicate that during the last ten years Poland has substantially improved the institutional environment of its product and labour markets including the short-run shock-absorptive capacity of the latter. As a derivative, the country succeeded in either fully catching up with the respective benchmarks or being close.
- Despite a clear improvement, the labour market in Poland has continued to display crucial weaknesses including important inter-temporal tradeoffs between the short-run shock-

absorptive capability and lasting international competitiveness which may endanger the country's prospects to withstand the competitive pressure in the common currency area in the future.

- In particular, the prevailing trends on the Polish labour market discourage on-the-job training and investment in specific skills as well as R&D expenditure and innovative activity by firms. Seen from the DoC perspective, this implies a misfit or lack of institutional complementarities between the labour market and the education and knowledge sector.
- As a result, Poland developed its comparative advantage based predominantly on low labour costs and price competitiveness, mostly in industries and product lines at low levels of technological sophistication and requiring relatively low skills and competencies of the work force.
- The financial intermediation sector in Poland witnessed a marked progress between 1995 and 2012, in terms of its breadth and sophistication as well as the level of systematic risk. However, by EMU standards, it still features a sizeable gap to close.
- The development of science and technology (or education and knowledge sector in DoC terminology) in Poland lagged behind most of the peer CEE11 countries and ranks among the country's biggest weaknesses in view of its prospective EMU membership.
- One of the most essential factors adversely affecting the prospects of the euro adoption in Poland may be derived from the DoC theory. Its essence boils down to the institutional ambiguity of the emerging capitalism in Poland, its hybrid nature and insufficient institutional complementarities. This in turn may adversely affect the international competitiveness of the country and similarly - diminish its institutional flexibility and its longer-term ability to effectively absorb adverse idiosyncratic shocks.

The final conclusion stemming from the above list of main findings may be summarized as follows. In light of the empirical evidence scrutinized in the paper it seems clear that Poland does not meet *ex ante* all implicit criteria of the EMU membership, as spelled out by the OCA theory, even though the country has made remarkable progress in real and institutional convergence. The overview of institutional underpinnings of the prospective euro adoption, with special emphasis on the DoC perspective, does not give an unequivocal answer either. The question on benefits and costs of a scenario assuming the EMU entry and the ex

post fulfillment of pertinent criteria, and whether this is a winning proposition remains therefore open. Hence, the decision on the euro adoption in Poland remains strictly political.

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