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Economic development path of Poland: innovation and competitiveness in light of the situation of Southern European countries

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Abstract

The financial crisis of 2007 revealed structural weaknesses in many European countries, particularly in Southern Europe. The goal of this article is to identify the existing economic situation in the four main Southern European countries: Greece, Italy, Portugal, and Spain (*GIPS*), and in Poland, conduct a comparative analysis of the development paths and competitiveness levels of these countries using statistical data as well as existing scientific literature, and finally to formulate suggestions for a new development path of Poland. The results of the analysis suggest that Poland's development is currently on a turning point, portraying many similarities to Southern European economies after their EU accession, as well as before the crisis. The authors come to a conclusion that unless Poland undertakes crucial reforms, particularly in the field of its innovation system, business environment, implementation of EU funds, and overall strategic long-term planning, it is inevitable that its economic growth will slow down, possibly falling into a middle-income trap. Poland might not avoid the same mistakes of *GIPS*, that failed to implement adequate reforms in times of economic growth, what today results in suffering from serious consequences. This paper presents a unique view on the future economic development of Poland in relation to the paths already undertaken by Southern European economies.

Key words: Economic development, Government policy, Competitiveness, Innovativeness

JEL: O20, O38, O43, O57, H00

Introduction

The financial and economic crisis of 2007 revealed significant vulnerabilities of many European economies, primarily those of Greece, Ireland, Italy, Spain and Portugal, indicating their substantial disparities with other European Union members. The case of Italy, Portugal, Spain, and Greece in particular, which for the remainder of this paper will be referred to using the acronym *GIPS*¹, demonstrates that countries that are most vulnerable to economic shocks are those exhibiting deeply embedded structural institutional weaknesses. The authors have chosen not to include Ireland in this analysis, as it does not share the same structural weaknesses and has experienced a different development model from the Southern European economies. What connects these countries with Poland, and allows for their further comparison, is the fact that they were latecomers to the European Union (with the exception for Italy). Greece, Portugal and Spain joined the European Community in the period of 1973–1986, while Poland in 2004. As a result it is possible to examine the consequences of their EU membership with regard to macroeconomic performance, the quality of institutions and the reaction of these countries to the recent financial crisis.

The aim of this paper is to compare the development paths undertaken by *GIPS* and Poland, their economic development, innovation level, competitiveness, institutional environment, as well as the effects of EU accession and recent financial crisis on their socio-economic situation. The authors argue that Poland, although more resilient to external shocks than *GIPS*, needs to reconsider its economic policy and development in terms of competitiveness of the economy and its innovation system in order to avoid the same mistakes of *GIPS* and ensure sustainable growth.

The following paper is divided into 6 parts. Section 2 presents an introduction to the topic from a theoretical perspective, while section 3 provides a description of the economic development of *GIPS* in the last 40 years and Poland in the past 20 years, as well as the influence of EU accession and the effects of the latest financial crisis on these countries. Section 4 consists of a comparative analysis of the international competitiveness, innovativeness, business environment, development and quality of institutions of Poland and *GIPS*. Section 5 presents a discussion on the results of the analysis as well as a proposal of a new model of development and socio-economic policy of Poland, taking into account lessons learned from Southern European economies. Finally, section 6 concludes with the summary of major findings.

Economic growth and middle-income trap

The key role of technology and innovation in long-term economic development has been recognized in the theory of economics since Joseph A. Schumpeter introduced

it in his 1911 revolutionary publication "Theory of Economic Development". More recent empirical studies have investigated the relationship between public and private investment in innovation and the international competitive position of countries. A positive connection has been identified, particularly in the case of highly developed economies. However, this is also true in the case of developing countries, which are trying to diminish the income gap and converge with their more developed counterparts.

Less developed countries tend to base their development model on the adoption and imitation of imported technology and focus their competitiveness on low labor costs. Such development model can be very effective initially in providing economic growth, however, it cannot be maintained in the long term. When an economy reaches a certain point of maturity, where labor costs have risen and no longer contribute to international competitiveness, the marginal return on capital investment falls and the costs of imitating and importing new technologies are much higher, then concerned country must focus its development strategy towards strengthening the innovation system. If a developing country fails to transform itself from a resource-driven economy into a productivity-driven and knowledge-based economy, it risks falling into a "middle-income trap", with an economy facing declining competitiveness and dominated by low technology industries [World Bank, 2010].

The phenomenon of the "middle-income trap" has been receiving increased attention from scholars in recent years, particularly in the light of the financial crisis. There is no single precise definition of what it actually is, however, most researchers define the "middle-income trap" in terms of the characteristics that economies have to fulfill to be included in it. The middle-income can be measured by the level of GDP per capita (in PPP terms). A country risks falling into this category when it reaches 50–70% of GDP per capita (PPP) of a developed and highly competitive economy, typically the United States or a western European states, and then fails to further converge with it. Eichengreen et al. [2011], have analyzed the problem of the slowdown of economic growth in developing states. Their research indicates that, on average, the growth rate of economies slows down by at least 2 per cent when their per capita incomes reach 17,000 USD in 2005 constant prices, or 57 per cent of GDP per capita of a country that is an international leader in innovation and competitiveness.

Many countries in the Middle East and Latin America which have fallen into the middle-income trap, have been unable to attain a stable growth rate for many years and are considered to be among the least innovative nations. Examples of countries, which have broken this barrier, include South Korea, Israel or Finland [Felipe, 2012]. These countries have successfully transformed their economic development model and now are among the most innovative economies in the world. According to the World Bank [2010], the minimum conditions required to sustain economic growth and competitiveness that would allow a country to escape out of the middle-income barrier and enter into the high-income category are stable macroeconomic and regulatory

environment, along with sensible fiscal and monetary policies, high levels of investment in new technologies as well as an environment conducive to innovation and business development (particularly in terms of clearly defined property rights).

Currently Poland, as well as a number of other countries from Eastern and Central Europe, have entered into the middle-income category and have been observing a slowdown of the current and predicted long-term economic growth. The case of Italy, Greece, Portugal and Spain shows that the threat of experiencing a growth slowdown is present even among countries that are in the European Union – a community which has a strong innovation policy, structural funds for supporting development, as well as many other benefits.

Thesis

Despite a sound macroeconomic situation and greater resilience to external shocks, Poland shares many similarities with *GIPS* in its development path, what suggests that it needs to reconsider its economic policy, particularly in terms of international competitiveness, the business environment and the innovation system. This is necessary to ensure sustainable growth, avoid a slowdown in convergence with more developed economies, as well as to prevent Poland from falling into a middle-income trap.

Economic development, EU accession and financial crisis in Southern European economies

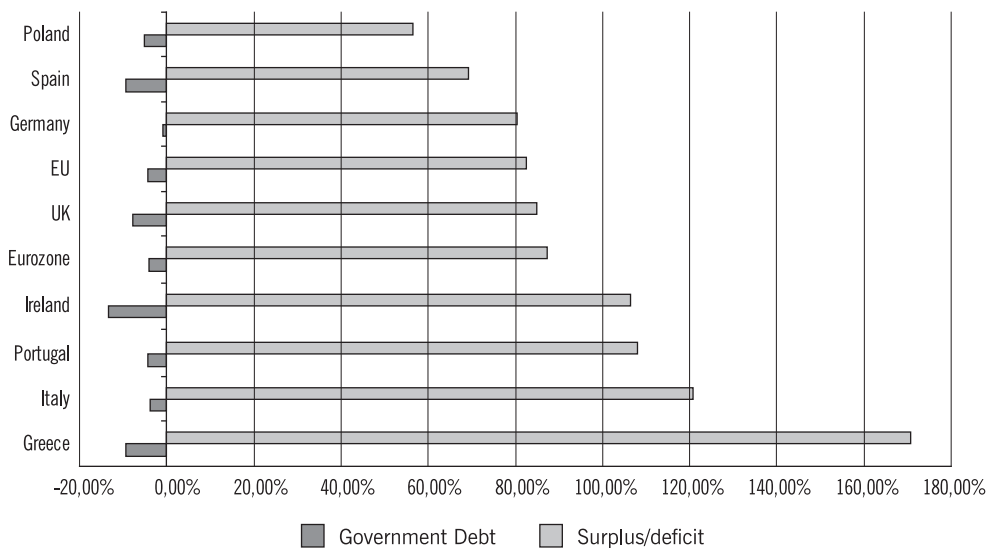
GIPS is an acronym referring to Greece, Italy, Portugal and Spain as countries representing similar economic environments and facing the possibility of a debt default. This is commonly seen as a result of the course of the economic policy and development strategy pursued by these countries since the time of their EU accession. Prior to the financial crisis, GDP growth in Southern Europe has been quite strong, originating primarily in the rapid expansion of private consumption and real estate investment. The only exception is Italy, which experienced a gradual slowdown of its growth levels since the economic boom of the 1960s. Prior to their membership in the European Union, the institutional framework of *GIPS* was relatively underdeveloped due to late industrialization, territorial dualism, as well as political instability. The inability of *GIPS* to modernize their economies at that time was strongly influenced by high levels of state intervention, poor governance, dominance of private interests, and a large share of the agricultural sector in the economy. Moreover, these countries experienced substantial immigration issues and suffered from excessive unemployment [Rangone, Solari, 2010].

Accession to the European Community introduced a long period of growth and convergence with more developed EU members. It granted certain stability to the existing

institutional framework and economic systems as well as a new opportunity for trade and investment. *GIPS* became the recipients of significant subsidies from the EU, particularly towards the agricultural sector and infrastructure. In the late 1990s (1980s in the case of Italy), the ruling governments introduced reforms towards reducing budget deficits, lowering inflation and interest rates in order to be able to join the European Monetary Union (EMU). The liberalization of labour and financial markets, privatization as well as many other reforms were also undertaken, however, major challenges still remained, including the need for further structural reforms, reduction of unemployment and strengthening of international competitiveness.

Fiscal sustainability continues to be a key issue for policy makers within the EMU, particularly for the preservation of fiscal discipline and compliance with the Maastricht convergence criteria (government debt-to-GDP ratio must be under 60% and the budget deficit must not exceed 3% of GDP), which should be consequently monitored according to the Stability and Growth Pact. This rule, however, has often been broken and according to Eurostat [2012] in 2011 fourteen Member States had government debt ratios higher than 60% of their GDP. Among them we could find: Greece (170,6%), Italy (120,7%), Portugal (108,1%) and Ireland (106,4%) as is shown in Figure 1. In addition, in 2011 one of the largest government deficits in percentage of GDP were recorded in Ireland (-13,4%), Greece (-9,4%), and Spain (-9,4%).

FIGURE 1. Budget deficit and government debt in selected EU countries in 2011



Source: Eurostat, <http://epp.eurostat.ec.europa.eu/>, accessed on Dec. 18, 2012.

With the development of the international financial crisis in 2007, fears of a Eurozone disintegration appeared. The market for government bonds displayed substantial differences in the level of confidence in bond issues between distinct Member States, resulting in sharply differentiated state borrowing costs. Among the worst affected countries were *GIPS*, along with Ireland. In 2009, the poor fiscal condition of these countries resulted in the downgrading of their international credit ratings. Substantial public indebtedness and vulnerability to the financial shocks highlighted structural and competitiveness problems of *GIPS*. Apart from Italy and Portugal, whose GDP growth averaged only 1% in the period 2001–2008 [Eurostat, 2012], other Southern European countries were developing relatively fast before the crisis. As a result, their structural problems were not treated as a threat to their growth prospects [Verney, 2009]. Today, when the inherent structural deficiencies are no longer hidden behind the low cost of financing, these countries are faced with the task of substantial public finance consolidation. This is an extremely difficult problem, taking into consideration the ongoing recession, bloated public expenditures, widespread tax evasion, double digit unemployment, low international competitiveness (with no possibility of exchange rate devaluation), increasing costs of foreign borrowing, as well as growing reliance on external support. The consequences of such radical fiscal tightening can be severe, particularly in terms of worsening of the socio-economic situation of the populations, including higher unemployment and poverty levels, which can result in widespread protests and the destabilization of the political scene. Furthermore, *GIPS* will experience slow GDP growth in the short-term as their economies regain stabilities, international competitiveness and the confidence of foreign investors. If necessary reforms are fully implemented, in the long term, *GIPS* should benefit from higher GDP growth and a more stable macroeconomic environment, similarly to the experience of the transition economies of Central and Eastern Europe (CEE).

Economic development, EU accession and financial crisis in Poland

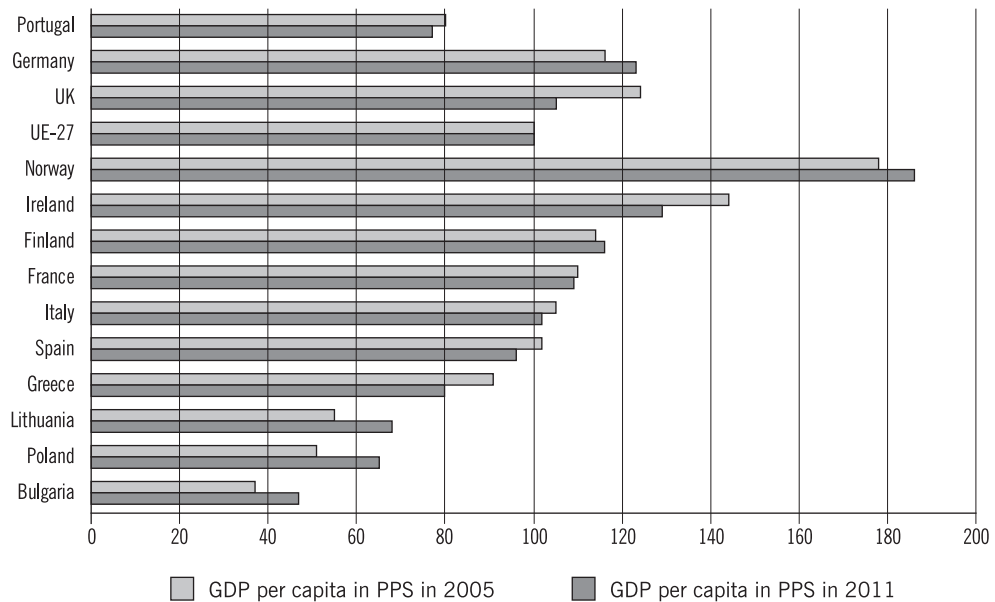
Poland is considered to be one of the most successful transition countries among all Central and Eastern European states. Taking into consideration the period from 1990 to 2009 Poland has, on average, experienced 3% GDP growth per year, significantly outperforming other countries, with the exception of Slovakia. Poland has also experienced the fastest economic convergence towards the old EU members. Its 18% gain, from 38% of the EU15 average development level (GDP per capita in PPP) in 1989 to 56% in 2010 was the largest in all transition economies [Rapacki, 2012].

Poland's success as a transition economy can be primarily attributed to the "shock therapy" method of implementing economic reforms and to the ambition and

determination of the politicians responsible for them. The most crucial reforms were introduced within the first years after the collapse of the centrally-planned economy, which allowed the economy to enter a high growth trend (although it was preceded by a large initial fall in GDP in the years 1990 and 1991). Poland's economic growth slowed down from 2000 – it no longer was the fastest growing CEE economy [Rapacki, 2012]. Nevertheless, in the years 2000–2011 Poland enjoyed the most stable growth, while its economy indicated surprising resilience during the financial crisis. Poland was the only country in the EU that did not experience a recession in 2009.

The potential for economic development has been further strengthened by Poland's membership in the European Union. Prior to Poland's accession in 2004 it had to implement many of the requirements of *acquis communautaire* (the total body of the European Union law), which required numerous reforms as well as the introduction of new standards and laws of more developed economies. This, along with the transition process of Poland and other Central and Eastern European countries, lies in contrast with the *GIPS* paths to EU membership, with already possessed fully functioning market economies, without dismantling the old institutions and without building compatible ones against them.

FIGURE 2. GDP per capita of selected EU countries (PPS in EUR) in relation to the EU-27 average (100%)



Source: Eurostat, <http://epp.eurostat.ec.europa.eu>, accessed on Jan 8, 2013.

Poland has also strongly benefited from a huge inflow of structural funds, which have boosted the development of infrastructure and significantly improved the situation of the agricultural sector. Overall, Poland received over 67,3 billion EUR in funds for operational programs from the EU Structural and Cohesion Funds during the 2007–2013 EU budgetary period, and is said to receive 73 billion Euros in 2014–2020 (Ministry of Regional Development of Poland).

Similarly to *GIPS*, Poland and other CEE countries, as latecomers to the European Union, had significantly lower levels of development when compared with the old EU members such as Germany or France. The authors of this article have chosen *GIPS* as the basis for comparison with Poland not only because of their current economic situation, but also because they are closest to Poland in terms of economic development out of all the old EU members (see Figure 2). The basic measure of the standard of living and economic development is the GDP per capita (measured at PPS) or national income per capita.

International competitiveness, business environment and innovation level of Poland in relation to *GIPS*

Despite Poland's success as a transition economy, EU membership, and its solid GDP growth in recent years, it will become increasingly difficult for it to retain sustainable growth levels in the long term. Poland was able to achieve positive economic performance during the 2007–2009 financial crisis as a result of a combination of factors, including structural advantages, large inflow of EU funds, astute economic policies and an industry structure dominated by low- and medium-tech manufacturing. In addition, Poland benefited from a flexible exchange rate, which improved its international competitiveness and supported strong exports, particularly to its key partners, including Germany [World Bank, 2012]. The same factors, which helped Poland to go through the crisis relatively unscathed, do not guarantee strong growth in the future when the global economy recovers. The existing economic development model is beginning to run its course, potentially pushing Poland into a “development stall” [Geodecki, et al., 2012]. The continuation of the current economic policy, characterized by a lack of decisiveness in implementing long-term development reforms, particularly in terms of the business environment, public finance, labor market, education and innovation system, as well as the strategic coordination of EU structural funds absorption, can push Poland towards a development path similar to these of Portugal, Italy, Greece and Spain. Although Poland currently enjoys a more favorable macroeconomic environment, including a higher GDP growth rate, lower unemployment, as well as a significantly lower public debt ratio (Table 1), its long-term economic growth and situation will be dependent on the political decisions undertaken in the near future.

TABLE 1. Economic indicators of selected countries

Country / indicator	Poland	Portugal	Italy	Greece	Spain
GDP growth rate (2012)	1,9	-3,2	-2,4	-6,4	-1,4
GDP per capita (in PPS) – EU average =100 (2011)	64	77	100	79	98
Unemployment rate (2012)	10,1	15,9	10,7	24,3	25,0
Employment rate 15–64 (2012)	64,7	66,5	61,0	55,3	59,3
Inflation rate CPI (2012)	3,7	2,8	3,3	1,0	2,4
Budget deficit / %GDP (2012)	-3,9	-6,4	-3,0	-10,0	-10,6
Public debt / %GDP (2012)	55,6	123,6	127,0	156,9	84,2

S o u r c e: Eurostat, <http://epp.eurostat.ec.europa.eu>, accessed on Mar 31, 2013.

International competitiveness, economic environment and quality of institutions

The Global Competitiveness Report 2011–2012 prepared by the World Economic Forum ranks Poland as 41st out of 142 countries (Table 2), which is a small drop against previous 2010–2011 ranking, where Poland was ranked at 39th place. This is a similar position to that of the other analyzed countries, particularly Spain (36), Italy (43) and Portugal (45), however, Poland rank was much higher than of Greece (90) one, which is not surprising taking into consideration this country's current macroeconomic situation.

The Report finds that the biggest obstacle for business development can be found in the quality of institutions, infrastructure, macroeconomic environment, labor market efficiency, business sophistication and innovation. These categories will serve as the base for comparison of the situation in Poland with the chosen countries.

The level of regulation and state involvement in the economy can have a significant effect on the competitiveness of a country. The quality of institutions, laws and regulations, as well as the level of tax burden influence the business environment and economic activity of the society. Poland has been relatively unsuccessful in creating a business friendly environment. According to the *2013 Doing Business*, a report prepared by the World Bank, which analyzes the overall environment to conduct economic activity, Poland is ranked on the 55th place, much lower in comparison to other EU countries, however, it has made impressive gains (top performer in implementing reforms according to the report) since the previous 2012 ranking, where it occupied the 62nd place. In comparison to the countries under analysis in this article, Poland fared better than Italy (73) and Greece (78), however was ranked lower than Portugal (30) and Spain (44).

According to the *2012 McKinsey Report*, the underlying problems of the Greek economy resulting in low levels of competitiveness, can be found primarily in the structure of the economy, which hinders investment and business activity, a large and

TABLE 2. Global Competitiveness Report 2011–2012 ranking of selected countries

Rank / score (1–6)	Poland	Portugal	Italy	Greece	Spain
GCI	41 / 4.5	45/4.4	43 / 4.4	90 / 3.9	36 / 4.5
Institutions	52 / 4.2	51/4.2	88 / 3.6	96 / 3.5	49 / 4.3
Infrastructure	74 / 3.9	23/5.5	32 / 5.0	45 / 4.5	12 / 5.8
Macroeconomic environment	74 / 4.7	111/4.2	92 / 4.5	140 / 3.3	84 / 4.6
Health and primary education	40 / 6.1	34/6.1	20 / 6.3	37 / 6.1	44 / 6.0
Higher education and training	31 / 4.9	35/4.8	41 / 4.7	46 / 4.7	32 / 4.9
Goods market efficiency	52 / 4.4	62/4.3	59 / 4.3	107 / 3.9	66 / 4.2
Labor market efficiency	58 / 4.5	122/3.8	123 / 3.8	126 / 3.6	119 / 3.8
Financial market development	34 / 4.6	78/4.0	97 / 3.7	110 / 3.5	64 / 4.1
Technological readiness	48 / 4.2	19/5.3	42 / 4.3	47 / 4.2	28 / 4.9
Market size	20 / 5.1	45/4.3	9 / 5.6	42 / 4.4	13 / 5.4
Business sophistication	60 / 4.1	50/4.2	26 / 4.8	77 / 3.8	34 / 4.5
Innovation	58 / 3.2	32/3.8	43 / 3.5	88 / 3.0	39 / 3.6

Source: Global Competitiveness Report 2011–2012, World Economic Forum.

inefficient public sector, low flexibility of the labor market, a cumbersome legal and judicial system as well as a high level of the informal economy. These productivity and competitiveness issues are shared by most Southern European economies, particularly in Italy, and to a lesser extent in Spain and Portugal. Poland's economy is burdened by the same problems, while its level is closer to that of Greece and Italy than to Spain.

The above mentioned issues significantly influence economic activity and business development. A high share of small and micro enterprises in the economy (Table 3) is a trait that is shared by all countries under analysis. Small and often family-owned businesses, particularly in the manufacturing sector, are associated with lower levels of productivity and innovative performance in comparison to large enterprises that benefit from economies of scale, specialization, ability to attract the most talented employees and allocate larger funds into international expansion as well as in innovation development.

The lack of large businesses, low levels of investment as well as slow development and growth of small enterprises is strongly influenced by high levels of red tape, complicated tax laws, and overregulation of labor and product markets [PARP, 2012]. Labor market regulations and flexibility are a crucial parts of the economic environment. Overly-strict regulations can hinder the adjustment capacity of firms, reduce worker mobility, decrease workforce participation rate and ultimately increase the unemployment of some groups of workers, particularly among the youth [Bassanini, et al., 2009].

According to the OECD Employment Protection Legislation (EPL) index, which shows the ease of the hiring and/or firing conditions in a given country, Poland and GIPS are among the countries with the highest labor market regulations (see Figure 3).

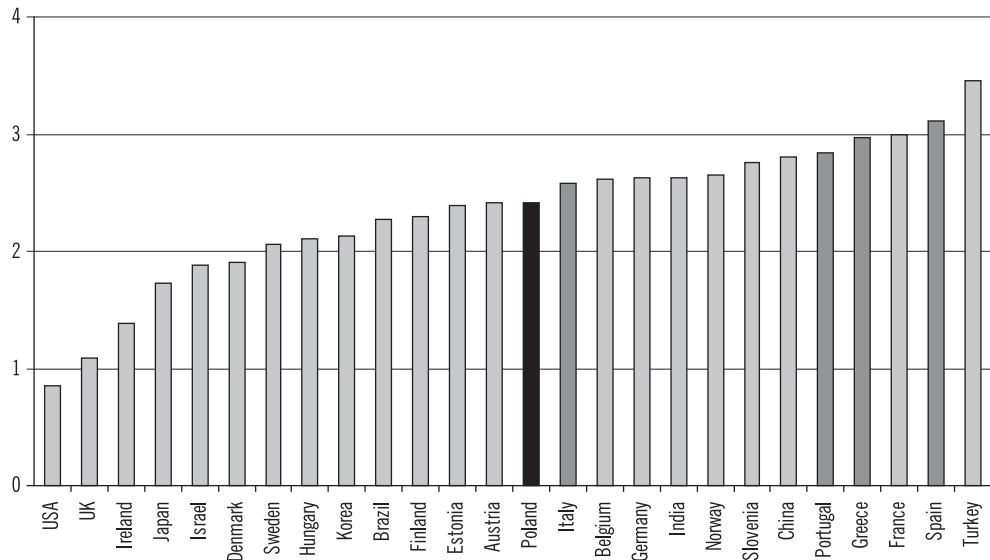
TABLE 3. Enterprise size class of non-financial business by country, 2009*

Enterprise size	Poland	Portugal	Italy	Spain	Germ.	UK	EU27
Micro (<10 employed)	95,4	94,1	94,5	93,8	82,8	89,2	92,0
Small (10–49 employed)	3,3	5,0	4,9	5,4	14,1	8,9	6,3
Medium (50–249 employed)	1,1	0,7	0,5	0,7	2,6	1,6	1,1
Large (>250 employed)	0,3	0,1	0,1	0,1	0,5	0,4	0,2

*No data for Greece available; Data represents the share in total number of enterprises in the economy.

S o u r c e: Eurostat, <http://epp.eurostat.ec.europa.eu>, accessed on Jan 7, 2013.

FIGURE 3. Employment Protection Legislation (EPL) index* in selected OECD and non-OECD countries in 2008

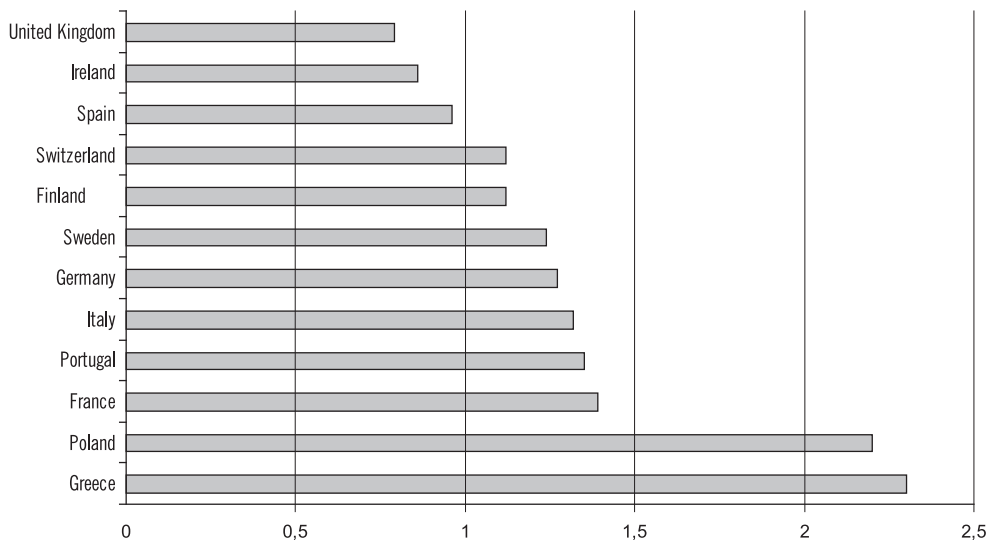


*Scale from 0 (least restrictions) to 6 (most restrictions).

S o u r c e: OECD Database, <http://www.oecd.org/>, accessed on Dec 18, 2012.

Product market regulation is equally a crucial part of the business environment, as it concerns laws and regulations that can affect competition in the economy, including barriers to entrepreneurship, trade and investment in the form of entry barriers, restrictions concerning inputs, supply or pricing among others. This in turn can have a strong influence on the allocation of resources and factors of production. More competitive markets will allocate capital and labor more efficiently what leads to higher productivity of existing companies. Additionally, a highly regulated economy will deter foreign direct investment [Schiantarelli, 2008]. Poland along with Greece display very high levels of product market regulation (see Figure 4), while Spain is on a level similar to the more developed and competitive economies.

FIGURE 4. Overall product market regulation index in selected OECD countries*



*higher score = higher regulation.

Source: OECD Database, <http://www.oecd.org/>, accessed on Dec 18, 2012.

Heavier regulation of the labor market is associated with a larger informal economy, lower labor force participation, and higher unemployment, particularly because it has a major effect on employers' costs and workers' incentives [Botero, et. al, 2004]. The size of the shadow economy can have significant effects on the competitiveness of a nation. Greece, Poland and Italy have one of the largest shadow economies in Europe (ranging from 29%–27% of GDP), followed by Spain and Portugal with an informal economy of about 23% of GDP [Andrews, et al., 2011]. An informal economy

includes illegal activities as well as unreported income from the production of goods and services. This can have wide-ranging negative consequences for the economy and society, including lack of social protection or insurance for workers, erosion of tax revenues, as well as unreliable official statistics, which can become an obstacle to the development of proper government programs, policies and decisions [Schneider, Enste, 2002].

Informal economies tend to be smaller in countries where government institutions are strong and efficient, and bigger in countries with poor quality of governance or a large and inefficient public sector. This is also connected with strong negative attitudes of the society towards the government and public institutions [Aghion, et al., 2009]. A general distrust of public institutions among the society and business community is a common theme among Southern European economies. Poland has a similar distrust of institutions, however its roots can be found in the previous political regime (strong government intervention in the centrally planned economies).

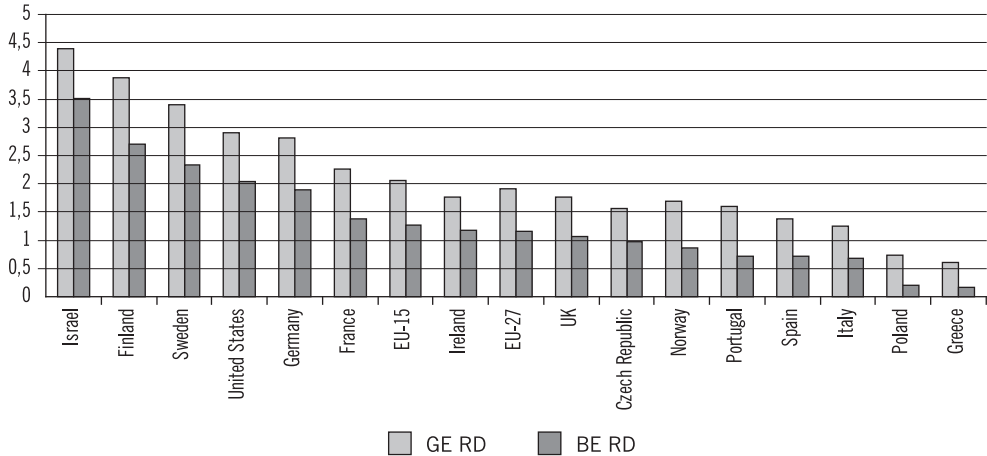
Another typical characteristic of Southern European countries is government inefficiency and political polarization [Kickert, 2011]. This means that they lack the political stability necessary to carry out structural reforms effectively. In Poland, with its fairly young democracy, the political scene is still undergoing significant changes, with new political parties appearing and disappearing. A similar political instability observable in Southern European countries, results in the inability to introduce structural reforms effectively and implement long-term development strategies.

National Innovation System

Poland has made the smallest progress in terms of creating an efficient National Innovation System (NIS)² that fosters high innovation levels of the business and science sector, often considered as a key factor of economic growth in developed countries, and an equally important one for developing economies on the path of escaping the middle-income trap. The 2012 Innovation Union Scoreboard by the European Commission has placed Poland on a distant 23rd place (out of 27 EU countries) in terms of the level of innovativeness. Poland, along with Slovakia are at the lower end of the group considered by the European Commission to be “moderate innovators”, which means that they are below the EU-27 average. Greece (20), Spain (18), Portugal (16) and Italy (15) are also considered to be “moderate innovators”, albeit they are in the higher end of this group.

An important element of the National Innovation System is the amount of capital dedicated by all actors in the system to Research and Development (R&D). Poland is behind its regional counterparts in terms of innovation expenditures, and at a similar level to the less developed Central and Eastern European states. Poland's Gross Expenditure on Research and Development (GERD) in relation to its GDP was only 0,74% in 2010, one of the lowest figures in Europe (Figure 5).

FIGURE 5. Gross and Business Expenditures on Research and Development as a percentage of GDP in selected OECD countries in 2010



Source: OECD Database, <http://www.oecd.org/>, accessed on Dec 19, 2012.

In comparison, the EU average was 2%, while Greece spent 0,6% of its GDP, Italy 1,26%, Spain 1,39% and Portugal 1,59% (OECD database, 2012). This is also almost 3 times less than the top performing countries (considered to be top innovators), which devote around 3 percent of their GDP to R&D expenditures annually.

Most of the expenditures on R&D in Poland come from outside the private sector, as the government is responsible for almost 61% of these expenditures. In 2009 the Business Expenditures on R&D (BERD) in Poland were equal to 0,2% of GDP, while the average in the EU was over 1,23% of GDP, and 54% of total GERD [Eurostat database, 2012]. The private sector is much more effective in implementing the results of R&D into the economy than are academic institutions or the public sector in general. Long term economic growth and competitiveness cannot be built without the substantial participation of the private sector in R&D and innovation.

In highly innovative countries R&D makes up more than 70% of investment in innovation development, as opposed to the purchase of existing and complete technology. In Poland the situation is dramatically different as companies decide to acquire technology and solutions almost entirely from the market without making effort to develop innovation through own R&D. This is a strong indicator that companies in Poland continue to be “market followers” instead of “market leaders” when it comes to introduction of new and innovative products. Technology absorption through acquisition of equipment, machinery and software crowds out innovative R&D and represents a major part of innovation spending (87 percent), while expenditures on the acquisition of knowledge as well as internal and external R&D amounts to only 13 percent of innovation spending of Polish enterprises [World Bank, 2012].

Apart from that, low overall expenses and a high participation of the public sector in R&D activities (low relation of BERD to GERD) have a strong influence on the patent activity and patents quality in Poland. Poland lags behind other European countries with a significantly lower fraction of patents registered in foreign patent offices, with more than 90% being registered in the Polish Patent Office [WIPO Statistical Database, 2011]. In the Southern European countries this figures ranges between 60% (Spain) and 80% (Greece). This might suggest that the major of the patents granted by the PPO are of low quality and of little or no economic value (the intellectual property is not worth the high costs of protecting abroad). In comparison, the relation between patents registered at home as opposed to abroad is entirely opposite in countries that are widely considered to be among the most innovative and competitive in the world, such as Israel (less than 10%), Sweden or Finland (less than 15%).

The inefficiency of the NIS is further enhanced by the relatively low cooperation level between scientific institutions and the business sector. As a result, the knowledge produced by scientific institutions is less suited for practical implementation in the economy, both in terms of the qualifications of the graduates who enter the labor market, as well as the quality and usability of research results.

According to the World Bank [2012] public spending on innovation in Poland is allocated relatively inefficiently. Most of the public support is assigned to low and medium technology sectors of the economy (trade, transport or construction) and much less towards high-tech industries. These funds also go towards innovative projects that are already in advanced stages of development, while few resources are allocated where they are most needed – into projects that are in their early stages of development. The institutional infrastructure supporting innovation is fragmented, with the responsibilities for strategic planning, financial coordination and implementation distributed unevenly among different agencies or ministries. Fragmentation makes it hard for proper strategic planning, raising administrative costs and duplicating responsibilities.

EU structural funds and the common currency

Poland's membership in the EU gives it a unique chance to boost its social and economic development as well as convergence with the economies of more advanced EU members. Unfortunately, similarly to Southern European economies, Poland focuses primarily on fast absorption of EU funds, which boosts the economy in the short-run, but stands in opposition to their strategic implementation that could have an actual and permanent influence on the economy. Currently, most of the EU funds are granted through the selection of short term projects that display lower risk and have low budgets, while ambitious long-term projects that would actually have an enduring influence on the society and economy are rarely implemented [World Bank, 2012]. The lack of policy coordination with a long-term development strategy in Poland and focus on fast absorption of EU funds makes it implausible that this will change in the near future.

Poland is currently facing a significant dilemma concerning its obligation to adopt the common currency of the EU. Prior to the financial crisis the Polish government was set to adopt the euro as soon as possible. The crisis, however, has shown the problems that the common currency entails. The appreciation of the euro and the inability to control monetary policy has decreased the competitiveness of many countries in the euro zone. Poland was able to maintain GDP growth throughout the crisis partially as result of the depreciation of its currency. However, there is a greater hidden danger associated with adoption of the common currency, as was the case of Greece (as the most prominent example), but also to some extent Spain and Portugal. The common currency has granted easy and cheap access to capital which led to a significant consumption and construction boom, resulting primarily in a high level of public and household debt, and to a much lesser extent development of competitive export-led industries and innovation. This is an important lesson to be analyzed for Poland both in terms of absorption of EU funds as well as adoption of the common currency. As Poland's economy converges with the EU average in terms of its level of development, the amount of funds transferred will decrease and go towards less developed EU regions. This is why Poland must not only make more effective use of EU funds, but also search for more reliable and independent sources of growth and development.

Society and demography

A significant threat, which looms over Poland as well as many other European countries, is the trend in demography. Poland's population is predicted to decrease to 32 mln in 2060, and along with it, the number of people in working age. As a result it will become increasingly difficult for Poland to achieve a sustainable economic growth to support the imbalances in the pension system. The old-age dependency ratio (ratio between the total number of people age 65 and over and the number of those aged 15–64), although still relatively positive in comparison to other EU countries (in 2011 this ratio was 19 %), will significantly increase in the next decades [Eurostat database, 2012]. In the table below we can see that Poland has the lowest ratio, however according to Eurostat predictions, by 2060 the old-age dependency ratio in Poland will reach almost 65%, much higher than in the analyzed countries (Table 4).

TABLE 4. Old-age dependency ratio in selected countries

	Poland	Portugal	Italy	Greece	Spain	EU 27
Ratio 2010	18,9	26,7	30,8	28,4	24,7	25,9
Projected ratio 2060	64,6	57,2	56,6	56,6	56,4	52,5

Source: Eurostat, <http://epp.eurostat.ec.europa.eu>, accessed on Jan 6, 2013.

The negative demographic trends could be partially offset by increased immigration, which currently is considered a problem for many Southern European countries. Unfortunately, it is unlikely that Poland will benefit from it, since it is not a popular destination for immigrants. Additionally, little effort has been made by politicians to transform public policies and attract young and talented workers from other countries to fill in the future gap in the ageing workforce. Unlike Poland, Spain, Italy and Greece, which are countries neighboring poor Mediterranean states, are currently suffering from too much immigration.

New economic development model for Poland – discussion

Poland's membership in the EU was a significant boost to its economic development and created a unique chance of rapid convergence with more developed states (Table 1). Poland's competitiveness on the international market has increased due to substantial improvements in the overall macroeconomic situation (Table 2), despite the relatively poor performance in various innovation rankings (Table 2, Figure 5). Whether further high growth rates and convergence will occur, will depend on the ability of policymakers to transform Poland's economic development model into the one that is best suited for the challenges of the modern global economy.

We can summarize the discussion of the economic development of Poland in the analysis of its strengths, weaknesses, opportunities and threats (SWOT), which are shown in Table 5.

It is evident that Poland is currently faced with weaknesses and threats to its economic development similar to those encountered by Southern European countries prior to the crisis. Their current poor economic condition stems from the introduction of inadequate economic reforms and development policies after their accession to the European Union. As described in the previous section of the paper, it could be observed that from the 1980s Southern European countries followed an expansionary fiscal policy, which led to a substantial rise in budget deficits and government spending. Greece and Spain displayed some of the largest government deficits as a percentage of GDP in the European Union, while the debt ratios of Greece, Italy and Portugal exceeded 100% of their GDP (Figure 1). Furthermore, the majority of funds received from the European Union were not used with the aim to promote investment, but consumption. In the short run, such strategies increase economic growth and social well-being, however in the long run, they do not promote private investment and do not create an environment sustainable for long-term economic growth. Such policies, along with the disproportionate role of the public sector in the economy, policies protecting domestic production and hindering competition as well as discouraging foreign direct investment were demonstrated by the analyzed Southern European states and their consequences are visible currently in their difficult socio-economic situation [Rapacki, 2012].

TABLE 5. SWOT Analysis – Poland’s Economic Development

	Strengths	Weaknesses
Internal	Significant improvement in quality of institutions and governance Stable economic growth Fast convergence with EU GDP per capita average Resistance to external shocks Availability of qualified workforce (human capital) Low labor costs Price competitiveness Strong exports High FDI attractiveness	Large development gap with EU average Relatively poor business environment Low innovation levels High levels of public deficit High unemployment rate Lack of large competitive enterprises Low business – science cooperation Low share of high-tech manufacturing and services in the economy Excessive role of public sector Low quality of governance and policy implementation Low levels of social trust towards public administration Low efficiency of EU funds investment
	Opportunities	Threats
Internal / External	UE cohesion funds Adoption of common currency Large infrastructural investments Market growth potential Increase in employment level Improvement of business environment FDI	Slow pace of structural reforms Declining price competitiveness Ageing and falling population Brain-drain and low immigration Persistence of high unemployment Reversal of reforms of pension system Poor coordination of long-term development strategy and policies Slowdown of GDP growth rate Possibility of middle-income trap

Source: Own preparation

Poland should not only avoid following the path of *GIPS*, but also take necessary preemptive actions and implement a “policy mix” to improve its institutional infrastructure, business environment, international competitiveness and macroeconomic situation to ensure sustainable long-term growth. So far, there has been very little debate among politicians on what should be done to confront such long-term dangers to the proper development of the economy and society. Reforms have been undertaken primarily in times of crisis and when absolutely necessary, while not in times of economic growth and prosperity when they would be much easier implemented. The disruption of the natural need of reforms is enhanced by the feeling of prosperity and potential for future growth resulting from access to large amounts of EU funds as well as low costs of public and private borrowing in countries that adopted the common currency. Even when undertaken during calmer periods in the economy, such changes in laws and regulations

are usually loosely connected, implemented on a need basis, without a strategy of follow-up reforms and analysis of how they will influence the economy in the long term. True reforms that will influence entire sectors of the economy require a change in the anticipation of future problems, not just in terms of their implementation, but also a change in the whole business environment and economic thinking of the society. Continuous public discussion on major development and economic issues is necessary to maintain pressure on the government, which often limits itself to short-term plans and promises of political parties. To assist in asserting such constant pressure, mature democracies have developed various institutions such as think-tanks responsible for analysing, designing and supporting long-term development strategies. Poland has a few prominent think-tanks³, however their number and influence is still insufficient to have an impact on decision-makers. Poland lacks a central institution for strategic studies, which would operate by the side of politicians and be responsible for research, consulting and preparing strategies. Although the Polish government has been recently active in introducing reforms, such as the increase of retirement age, deregulation of certain professions, or reducing administrative barriers in doing business, without a strategic long-term reform program and commitment to its implementation it will be difficult for Poland to enter a new development path that will allow it to improve its international competitiveness and continue to converge with the more developed EU countries.

The fulfillment of this goal requires further sophistication of the economy, with urgent attention in the field of innovation and R&D, where Poland has the largest shortcomings. From the experience of more innovative countries (Figure 5), the Polish government should increase expenditures on innovation to comparable levels. However, simple imitation of policies fostering innovation used by highly developed economies, where many innovative enterprises already exist, might not yield similar results in less developed economies. Poland should adopt a pro-innovation policy mix, which would strengthen the research sector and its linkages with the industry. The key is in the creation of a proper business environment that will foster the development of intellectual property, the transfer of applied knowledge from the science sector to companies, development of small business and start-ups as well as large innovative enterprises (often called the “national champions”) that will be able to successfully compete on the global market (and become “international champions” or simply trans-national corporations). Similarly, emphasis should be placed on increasing the share of higher value added manufacturing and services in the economy. Incentives should be made to allow companies to break from the dominating business models based on technological imitation (where the greatest focus is on the purchase of existing solutions and technologies) or based on providing cheap labour and simple services to foreign companies. Focus should be placed on key technologies with a chance to achieve a distinct competitive advantage. Polish companies must be prepared to face increasing international competition, while greater effort should be made to make Poland more attractive for FDI, particularly the R&D intensive type.

Poland is set to receive record high Structural and Cohesion Funds during the 2014–2020 EU budgetary periods. The inflow of EU funds has been a significant motor of growth for Poland since its accession to the European Community in 2004, so taking into consideration the issues described in the previous section of the paper, it is crucial that Poland makes more effective use of these funds, allocating them into ambitious long-term projects, as opposed to low-risk and low-budget projects. The allocation of these funds should be well coordinated with the long-term development strategy of the government.

Integral reforms are required to boost entrepreneurship and creativity of the Polish society in general. This not only includes changes in the regulatory environment and administrative procedures, but also reforms in the area of the education system and the public research sector. The academic and business community must change its attitude toward intellectual property protection, commercialization of research results as well as cooperation between universities and private companies. Necessary steps must be undertaken as soon as possible, taking into consideration that such changes in attitudes cannot be quickly dictated from above, but rather, developed slowly over time.

Without a change in the thinking and attitudes of politicians, science and business communities, as well as the society in general, the implementation of a new development model will be difficult to attain. Each day that passes brings new challenges, while demographic and social changes become permanent. It will become increasingly difficult to implement structural reforms that are necessary to transform Polish economy into a modern, innovative and sophisticated one.

Conclusion

The purpose of this article was to identify the existing economic situation in the four main Southern European countries: Greece, Italy, Portugal, and Spain (*GIPS*), as well as Poland, conduct a comparative analysis of their development paths and competitiveness levels using statistical data and existing scientific literature, as well as to formulate suggestions for a new development path of Poland.

The results of the analysis suggest that Poland's development is currently on a turning point, portraying many similarities to Southern European economies after their EU accession and before the crisis. During the past two decades Poland has experienced impressive economic development as a result of the transformation process as well as accession to the European Union. It has made remarkable progress in terms of introducing capitalism and converging with more developed European states, not only in terms of national income, but also in terms of governance, economic freedom, institutional quality and the overall business environment.

These changes, as well as the present economic structure, have allowed Poland to withstand the global financial crisis better than most countries. Nevertheless, Poland will not be able to sustain its economic growth and remain competitive on the international market without a new model of development, one that will allow it to change its strategy from merely “catching up” to one that allows it to go beyond, addressing the main issues of competitiveness and innovativeness. Poland shares many similarities with Portugal, Italy, Greece, and Spain, however, it still has the potential to alter its course of development without making the same structural mistakes as these countries, and avoid falling into a middle-income trap.

Notes

¹ The acronym *PIGS* has become more popular in describing these countries, particularly in the media, however, it is also viewed as offensive and controversial. The authors of this article have chosen to use its less offensive version – *GIPS*.

² The National Innovation System (NIS) is a macroeconomic perspective on the development of innovation in the economy with the focus on linkages between the actors engaged in this process. According to Metcalfe (1995, pp. 462–463) NIS is a “set of distinct institutions which jointly and individually contribute to the development and diffusion of new technologies and which provide the framework within which governments form and implement policies to influence the innovation process”.

³ For example: Forum Obywatelskiego Rozwoju, Centrum Adam Smitha, Centrum Analiz Społeczno-Ekonomicznych, or Polski Instytut Spraw Międzynarodowych.

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