In the last 25 years Poland achieved remarkable economic progress, which was accompanied by an expansion in international trade.

However, Poland’s success mostly relied on price competitiveness and its current product specialisation is biased towards low or medium-low technological content.

A key policy challenge is to manage the transition towards sectors with higher technological content and value added to sustain strong growth performance.

HIGHLIGHTS IN THIS ISSUE:

- Securing Poland’s economic success: A good time for reforms

By Piotr Bogumil and Rafał Wielądek*

Summary

Since the end of central planning 25 years ago, Poland has staged an impressive economic expansion and was, more recently, the only EU country that weathered the post-2007 global financial and economic crisis without going through a recession. Notwithstanding this undeniable success, our analysis indicates that Poland’s product specialisation is biased towards low- or medium-low-technology goods, the production of which relies on comparatively low labour costs. Moreover, and unlike other Central and Eastern European Countries (CEEC) in the EU, Poland’s product specialisation has been relatively static with little progress towards a higher share of medium- or high-technology goods.

The key challenge in the coming years is to implement reforms that would support and facilitate a transition towards sectors with higher technological content and value added. The challenge lies not only in identifying and designing the appropriate array of reforms - there is in fact a broad consensus about the type of reforms Poland needs to implement - but, more importantly, in addressing the political economy of reforms. Poland needs to take advantage of the currently favourable economic conditions before the growth impulse from the catching-up process peters out. Europe, particularly Western Europe, has seen several economic miracles turn into economic stagnation: Poland has the benefit of learning from this experience.

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Valuable comments by Narcissa Balta, Laura Bardone, Patrick D’Souza, Martin Larch, Martin Schroeder and Tsvetan Tsalinski are gratefully acknowledged. The authors are grateful to Tomasz Żdródowski for providing excellent statistical assistance. The views expressed in the ECFIN Country Focus are those of the authors only and do not necessarily correspond to those of the Directorate-General for Economic and Financial Affairs or the European Commission.
Twenty-five years after the end of central planning, Poland has achieved remarkable economic progress. GDP per capita has more than doubled, outperforming regional peers like the Czech Republic and Hungary. The country has also been catching up fairly quickly against Western-European countries like Germany, Italy and Spain, especially after joining the EU in 2004. Income per capita climbed from slightly above 34% of the EU-15 average in 1990 to around 55% in 2012.

Without implying causality, the impressive growth record of the Polish economy was accompanied by an equally impressive expansion in international trade. Over the last 25 years, the value of Polish exports and imports more than doubled as a percentage of GDP and, since 1995, the country’s share of world exports has increased substantially reaching 1% of world exports of goods and 0.87% of exports of services in 2012. However, the role of net exports as a growth driver has changed over time (Table 1). During the first decade of the transformation, and quite typical for an early catching-up phase, the annual average contribution of net exports to growth was negative on the back of a strong expansion of domestic demand including in particular investment. The situation changed in the early 2000s and after EU accession, when net exports started to contribute positively and more consistently to real GDP growth.

Can the Polish growth record continue?

Poland has clearly benefited from the effects of the catching-up process, resulting in impressive productivity gains as measured by Total Factor Productivity (TFP). The country underwent a profound transformation towards a market-based system, tapping a remarkable growth potential that is typical in the early phase of an ‘economic conversion’
On the supply side, Poland’s growth was mainly driven by large productivity gains and capital accumulation associated with catching up.

However, Poland’s growth prospects may be endangered by the medium-income trap.

((Graph 2). As part of the transformation process, important and comparatively large contributions also came from capital accumulation with an important involvement of foreign sources. However, as economic transformation progresses and a country moves up the income ladder, efficiency gains are harder to achieve. This is already evident in the time profile of Poland’s TFP growth reported in the lower part of Graph 2. Moreover, and barring major migration inflows, demographic factors have already turned or will soon turn into a growth drag for most EU Member States including Poland. Poland is in fact among the countries with the least favourable long-run projections for the ratio of the elderly to working-age population. Graph 2 also illustrates two polar cases of more advanced EU economies: on the one hand Germany, which managed to safeguard respectable average growth rates thanks to solid productivity gains, on the other Italy and Portugal, which, since some time, have been locked into a period of sluggish economic activity, at times characterized by negative productivity growth.

To safeguard the impressive growth record of the Polish economy in the coming years and to avoid the so-called medium-income trap, Poland needs to make strategic choices. The hypothesis of the medium-income trap, empirically supported by, among others, Eichengreen et al. (2013), states that countries, which mainly exploit growth reserves based on cost efficiency gains, will, at some point after reaching certain level of income per capita, face a protracted slowdown in average real GDP growth. Such a slowdown emerges when a catching-up country fails to promote factors that support TFP growth in the medium-to-long run so as to match international competition with more advanced and innovative products and services. The key factors that promote TFP growth in the medium to long run are ultimately the quality of human and physical capital, the amount and intensity of innovation and R&D and elements that facilitate factor mobility.

Graph 2: Growth accounting: supply side decomposition of real GDP growth in selected EU countries in 1996 – 2013

...and the contribution of TFP to real GDP growth (3-year moving average) before the crisis

Source: European Commission

The product specialisation of the Polish economy

To obtain a measure of the technological content of Polish economic output, we apply a commonly-used OECD classification, which groups individual manufacturing sectors by their technology intensity: high, medium-high, medium-low, low technology, plus a
Poland’s product specialisation has been relatively static with little progress towards a higher share of medium- or high-technology sectors.

The economy could grow faster if the sectoral composition was more technologically advanced.

Graph 3 shows trends in the ratio of Gross Value Added (GVA) produced in high- and medium-high-technology industries to medium-low- and low-technology sectors. While Poland, the Czech Republic and Hungary started with broadly similar (and low) ratios, Poland has made little progress since the mid-1990s, although it managed to catch up with Italy, a country that is generally not considered to be at the forefront of high-tech production in Europe. In the case of Hungary, the main driving force was an increase of the GVA share of electronics and pharmaceutical products, whereas the Czech Republic has advanced due to an expansion of the motor vehicles and transport equipment industry. Although Poland has somewhat improved in certain high- and medium-high-technology sectors, its performance was noticeably dragged down by an increase in the medium-low-technology sectors, like manufacturing of rubber, plastic and other non-metallic mineral products.

The findings above suggest that there is clear growth potential in a possible upgrade of the technological content of the Polish economy. An admittedly rough but illustrative approach to quantifying this potential is via a shift-share analysis. This projects what Poland’s economic growth would have been if it had the economic structure, in terms of the sectoral composition of GDP, of another country. Our calculations show that Poland’s overall real economic growth would have been significantly higher not only with Germany’s sectoral composition but also with the composition of Italy, Hungary or the Czech Republic (see Graph 4).

Graph 4 shows potential GDP growth rates in Poland relative to Germany, Italy, Portugal, Hungary and the Czech Republic.
ECFIN Country Focus

- Poland has a revealed comparative advantage in low- and medium-low-technology goods

- Growth of Polish exports has been driven by strong price competitiveness gains...

- ... while non-price factors were less supportive, with particular weaknesses in the innovative capacity of the economy

The aggregated revealed comparative advantage (RCA) index for goods exports supports the indications of the shift-share analysis. From 2000 to 2013, Poland sustained its comparative advantage in low- and medium-low-technology goods (Table 2). Overall, Poland's exports lacked comparative advantage in medium-high- and high-technology goods. Most high-technology industries, like pharmaceuticals, office equipment, aircraft equipment, scientific and professional equipment, have a particularly low RCA; it is only in telecommunications equipment that Poland has a comparative advantage. RCAs for medium-high-technology goods show that only some product groups have a comparative advantage (dyeing materials, cosmetics, fertilisers, power generating machinery, road vehicles and railway equipment).

Table 2: Aggregated revealed comparative advantage index for Poland, the Czech Republic, Hungary, Germany and the EU 27

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<td>High technology</td>
<td>0.26</td>
<td>0.68</td>
<td>0.33</td>
<td>1.10</td>
<td>0.54</td>
<td>1.52</td>
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<td>Medium-high technology</td>
<td>0.78</td>
<td>0.88</td>
<td>1.11</td>
<td>1.09</td>
<td>0.91</td>
<td>1.09</td>
<td>1.18</td>
<td>1.18</td>
<td>0.99</td>
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<td>Medium-low technology</td>
<td>1.93</td>
<td>1.45</td>
<td>1.97</td>
<td>1.16</td>
<td>0.75</td>
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<td>1.06</td>
<td>0.88</td>
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<td>Low technology</td>
<td>1.97</td>
<td>1.46</td>
<td>0.80</td>
<td>0.96</td>
<td>0.88</td>
<td>0.60</td>
<td>0.70</td>
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Source: UN Comtrade

The role of price and non-price competitiveness in Poland’s product specialisation

The growth of Polish exports along with the comparative advantage in low- and medium-low-technology can mainly be attributed to cost competitiveness as a result of declining unit labour costs. During the last 15 years, real unit labour costs in Poland decreased steadily and considerably when compared to its main trading partner – Germany, but also in relation to Hungary and the Czech Republic (Graph 5).

Graph 5: Real unit labour costs 1996 - 2012

Source: Eurostat

However, Poland has been lagging behind in terms of non-price competitiveness. In particular, the innovative capacity of Polish companies reveals a clear weakness also in terms of international rankings. Poland consistently ranks fairly low in the Innovation Union Scoreboard, in the range of “modest innovators”. Although Poland’s R&D expenditure experienced an average annual growth rate of 9.7% between 2007 and 2012, reaching 0.9% of GDP in 2012, it is still much lower than the EU average (2.1% of GDP). In particular, private R&D expenditure remains negligible, also in relation to other regional peers. As regards other R&D indicators, weaknesses are mainly observed on the output side, e.g. in the decreasing level of innovation activities of companies, shrinking linkages between business and research institutions and low overall economic effects of innovative undertakings (Graph 6). In general, the Polish innovation support model is risk-averse, and is based mostly on publicly-funded grants. It has supported technology absorption and transfer, mainly via the FDI channel, while hardly generating endogenous innovations.

The business environment also weighs on the competitiveness of the Polish economy. Research shows that entrepreneurs suffer from a number of entry and exit barriers, which
A sustained effort in implementing necessary structural reforms is essential...
While such obstacles are part of the political reality and cannot be ignored, experience nevertheless points to a number of elements that, leaving aside the specifics of a country, tend to support successful structural reforms. As long as a country’s economy is doing reasonably well, making the case for reforms is clearly more difficult.

Only if the government effectively and consistently communicates the costs of the status quo (non-reform) will it be able to garner the necessary support among voters and stakeholders. Moreover, successful reforms need to be duly prepared and supported by careful study and consultation. Relying on ‘windows of opportunity’, which typically occurs immediately after elections, is unlikely to deliver lasting desirable results if the reform project has not been duly prepared.  

Conclusions

Poland’s growth record in the last 25 years has been remarkable. The country managed the transition from central planning to market economy very successfully. However, the past growth record is no guarantee for the future. The growth model underpinning Poland’s success is biased towards low-to-medium technology sectors using cheap and comparatively low-skilled labour. To avoid the middle-income trap and to safeguard the economy’s growth potential in the coming years, the growth model needs to evolve with a number of structural reforms.

While not all reforms necessary to boost the Poland’s future growth potential will be implemented overnight, the opportunity costs of non-reform are gradually increasing. Some reforms, such as improving the business climate, will not involve either significant budgetary or distributional costs and could be brought forward more forcefully even in the short term. Others are more complex and need better preparation and communication, and possibly also a clearer electoral mandate. As always the hardest part of any journey is taking the first step.
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1 See European Commission (2012) for detailed analysis and cross-country comparisons on demographic trends in Europe.

2 The risk of the medium-income trap is also part of the Polish economic policy debate; see for example I. Morawski (2013) or W. Gadomski (2014).


4 High technology industries include aircraft and space craft manufacturing and pharmaceuticals; medium-high technology industries include electrical machinery and motor vehicles manufacturing, machinery and equipment; medium-low technology industries include building and repairing ships, rubber and plastic products; low technology industries embrace wood and paper products, food and beverages. Here we refer to the NACE-compatible OECD classification of manufacturing industries based on R&D intensities as proposed by T. Hatzichronoglou (1997).

5 The shift-share analysis is a simple "what-if" exercise in which the actual growth rates observed in different sectors of an economy are applied to a hypothetical sectoral composition, typically a composition of another country. In our analysis we have used the NACE (revision 2) statistical classification of economic activities, which was broken down to 38 branches of the economy. The analysis covers the period of 1995–2012, being restricted by data availability.

6 The RCA indices use the trade pattern to identify sectors in which an economy has a comparative advantage, by comparing the trade profile of a country with the world average. In this exercise, we also refer to the classification proposed by T. Hatzichronoglou.

7 See European Commission (2007-2013) for details on cross country comparisons

8 See European Commission (2013b) for a detailed analysis of, inter alia, the innovation support model in Poland.

9 See for example Egert and Goujard (2014)

10 See European Commission (2014) on labour mobility obstacles in Poland.

11 The latest set of Council recommendations for Poland are available under http://register.consilium.europa.eu/doc/srv?l=EN&p-ST%2010800%202014%20NIT_Policy guidance by the IMF and the OECD covers the same reform areas.

12 See Tompson and Price (2009) for a comprehensive review of key determinants of successful reforms.