Lessons from Poland, Insights for Poland:

A SUSTAINABLE AND INCLUSIVE TRANSITION TO HIGH INCOME STATUS
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POLAND, a development success story

Poverty Index
% of population living for less than $10 a day

Low inequality with Gini Index at 32.08

GDP per capita

Poland moved from middle-income to high-income status in a record time

Lessons from Poland...

Pentagon of policies that helped Poland achieve high-income status

Including
market economy with more jobs and higher wages

Growing
factor accumulation and technological improvement

Connecting
higher firm productivity and competitiveness through rapid international integration

Governing
reforms of political and economic institutions with remarkable policy continuity

Sustaining
macroeconomic stability with inflation and debt under control

Challenges

JOBS
BETTER PUBLIC SERVICES
WE WANT TO BE LIKE GERMANS

High expectations

Global uncertainty

Aging

Insights for Poland

Innovation and quality driving competitiveness

Prudent fiscal and monetary policies

Client-oriented public sector

Better balance between job security and labor market flexibility
Main lessons from Poland

**Governing**
- **Get the institutions right — economic but also political — and guide reform with a shared vision.** In Poland’s case, a shared policy vision of a market economy characterized by solidarity was accompanied by remarkable policy continuity, spanning 17 democratically elected governments since the transition.
- **Sequence reforms properly.** For Poland, rapid liberalization was quickly followed by the creation of a support structure of basic democratic institutions at local and national level — so as to create political consensus for deeper economic institutional change, while using EU accession as an anchor.

**Sustaining**
- **Ensure macroeconomic stability.** Poland did this through a rules-based but flexible fiscal framework that limited deficits and debt, and a flexible exchange rate backed up by a credible inflation-targeting monetary policy.
- **Mind the financial sector.** Poland’s effective restructuring, regulating and supervising of the financial sector ensured that banking crises were avoided.

**Connecting**
- **Integrate domestic into global markets to increase firm competitiveness.** Poland did this through rapid, but sequenced, integration: cutting tariffs first to help markets “get the prices right,” then tackling the more complex soft infrastructure in advance of EU accession, and finally making the most of EU hard infrastructure funds to connect domestic and external markets.
- **Participate in global value chains (GVCs).** Poland did this through welcoming foreign direct investment and strongly linking its domestic market to global markets, which provided access to quality inputs, capital goods, and technological transfers, while increasing competition and strengthening the incentives for firms to improve, innovate and focus on comparative advantage.

**Growing**
- **Use markets well to reallocate resources as the country grows.** Poland balanced factor accumulation — “perspiration” — and productivity improvement — “inspiration” — by allowing market forces to reallocate resources between sectors (structural transformation), within sectors (enabling the efficient firms to grow and the inefficient to shrink) and within firms (adopting better management and new technology).
- **Invest in human capital.** Poland did this with focused reforms and investments, resulting in large gains in educational performance.

**Including**
- **Provide opportunity.** Poland ensured broad-based access to quality education across income groups and regions.
- **Increase business opportunities, but also earnings.** Poland’s competitive and open markets provided business opportunities for firms and jobs for workers, but this was also complemented with regular raises in the minimum wage.

Key insights from Poland

**Governing**
- **Invest in transparent and accountable governance.** Sustaining prosperity requires making the public service more client-oriented, less corrupt, more transparent, and more efficient, including by involving citizens more directly in policy-making and public service delivery.
- **Improve institutional resilience.** Boosting the economy’s ability to innovate and sustain high growth needs strengthening the rule of law, regulatory quality, voice and accountability, and the capacity to design, implement, and evaluate policies.
Lessons from Poland, Insights for Poland

Sustaining
• **Create fiscal space as a buffer** to support counter-cyclical policies, to deal with aging and to sustain investment when EC structural funds decline.
• **Ramp up national savings** by strengthening individual incentives to save, increasing the availability of saving instruments, and developing local capital markets.

Connecting
• **Move up the global value chains** by improving the innovation ecosystem for more sophisticated tasks and closing the hard infrastructure gap to base competitiveness on quality rather than cost.
• **Maximize the contribution of immigrants to the economy**, offsetting the negative impact of aging by formalizing immigration, reducing discrimination in the workplace, and improving the process for recognizing foreign credentials.

Growing
• **Boost technology adoption and innovation to move to a new growth model** through higher use of high-speed broadband, a conducive environment for business online and greater investment in research and development, cooperation between academia and the private sector, technological parks and clusters, and new financial instruments.
• **Invest in tertiary education and training** to support the new growth model, including through life-long learning systems which allow worker skills to keep pace with technological progress.

Including
• **Improve labor incomes** by reducing segmentation of the labor market, better balancing job security and labor market flexibility, and supporting workers in their job transitions.
• **Strengthen the social compact** by implementing a more progressive tax system, improving social assistance programs and providing quality education and health care to low-income groups.

Poland’s economic ascent is remarkable. After transitioning from communism, its per capita GDP growth was fast and stable at about 4 percent a year. It moved from middle to high income in less than 15 years. The economy expanded rapidly thanks to two-parts perspiration (investment) and one-part inspiration (innovation). And prosperity was shared. Jobs and income growth were broad-based, and lagging regions were catching up. Throughout these changes, the income inequality coefficient — the Gini — did not increase. Poland has one of the lowest Gini coefficients among countries that have become high income since 2000 — the new high-income countries. It also has one of the lowest internal regional variations in GDP per capita.

How did Poland do this? Reforms were properly sequenced and anchored. The “big bang” liberalization reforms of the transition from communism ensured strong market competition at home. First, it quickly “got the prices right.” Later, it “got the institutions right,” namely the rule of law, property rights, democratic accountability, and basic market institutions. It then used EU accession and membership to anchor, reinforce, and further deepen the reforms. Sound macroeconomic policies provided considerable stability and resilience: Poland was the only European country to record positive growth in 2009 — the year of the global crisis — and it completely avoided a banking sector crisis. Poland’s domestic markets also connected to regional and global markets, providing powerful incentives for resources to be reallocated more efficiently across sectors, between firms, and within firms. This led to substantial efficiency gains. Labor productivity rose fast, as Poland reformed its education system — raising quality at one of the fastest rates in the OECD and providing access across income groups and regions. Equally impressive, infrastructure improvements, supported by generous EU structural funds, were seen all across the country: the length of motorways almost quadrupled since the transition.

This report discusses Poland’s experience along five dimensions. These five dimensions — a pentagon of policies and institutions — are governing, sustaining, connecting, growing, and including (Figure O.1). The main lessons from Poland and the key insights for its future, based on this pentagon, are presented in the lessons and insights summarized just before this overview and detailed in the rest of it.
Poland’s experience underlines the importance of a shared vision to sustain continuing reforms. After transitioning from communism, there was a consensus around the vision for the country: a market economy characterized by solidarity, with policies and institutions designed to rapidly catch up with its neighbors to the west. That vision would provide strong policy consistency and continuity throughout the period of rapid economic ascent. Internationally, such singularity of vision and continuity of policy reforms recalls the experience of the East Asian Tigers — Singapore, Korea, Taiwan China, and Hong Kong SAR China. But what sets the Polish Miracle apart from the East Asian Miracle is that Poland achieved this continuity of vision and reforms in the context of a vibrant multiparty democracy spanning 17 governments.

Poland’s rapid economic ascent created new challenges: the creative destruction on which the growth process was based, successfully, caused massive social change. For instance, workers moved from farms to factories and then to offices, with a significant increase in temporary or “junk” contracts and relatively limited social assistance. Together with the automation trend and its adverse impact on low-skilled jobs, a significant segment of working-class families now faces heightened anxiety and uncertainty about their future. In addition, there is frustration even among those favored by the economic trends. People’s aspirations and perceptions grow as welfare improves: Catching up with established HICs, and in particular its western neighbors, is perceived to be frustratingly slow by many. This includes catching up on governance, particularly in government effectiveness and accountability to citizens. And it does not help that, as in the rest of Europe, there has been a loss in confidence in the EU, a key support of the Polish social compact for past reforms.

Looking ahead, the Report provides several insights for Poland. First, better governing is needed to build more trust in government by making public services more client-oriented, less corrupt, more transparent, and more efficient, and involving citizens more directly in governing and public service delivery. Second, sustaining sound macroeconomic policies will now need to include creating fiscal space to deal with the increasing pressures coming from aging and the inevitable decline of EC structural funds for investment, as well as from a more uncertain global context. Third, connecting the country to allow citizens to continue reaping the benefits of trade and integration implies ramping up investments in the appropriate hard and soft infrastructure. And the stance on migration can be more inclusive. Fourth, continuing to grow robustly will mean moving Poland up the global value chains by focusing on the quality of products and services through more concerted support to innovation for it to become a key driver of growth. Finally, including all citizens means continuing to expand investment in quality education and health care for all, striking a better balance between job security and labor market flexibility, supporting workers between jobs, targeting social spending to aging and vulnerable parts of population, and increasing the progressivity of the tax system. Overall, Poland’s vibrant political institutions need to work on (re-)building a broad consensus on the vision and economic strategy for the country. The challenges just outlined need to be met while ensuring the long-term policy continuity that has served the country so well in the past.

The Report addresses two sets of questions. First, what are the lessons from Poland’s remarkable transition to high income? What policies were behind Poland’s economic achievements? Why was Poland able to achieve high-income per capita so fast, while many other countries remained in the upper-middle-income range for decades — “trapped middle-income countries (MICs)?” What policies were si-
What are trapped MICs, new HICs, and established HICs?

Three groups of countries considered here are: trapped MICs, new HICs, and established HICs. Trapped MICs that have spent more than the average amount of time in the upper-middle-income range are Algeria, Argentina, Brazil, Iran, Mexico, Romania, and Turkey (Box O.1). By contrast, the new HICs that took less than 20 years in the upper-middle-income range are Chile, Croatia, the Czech Republic, Hungary, Korea, Malaysia, Poland, the Slovak Republic, and Uruguay. Established HICs that have maintained a growth rate above 2 percent since entering HIC status are Australia, Austria, Belgium, Germany, Finland, Hong Kong SAR China, Ireland, Israel, and Singapore. The idea of countries being stuck in a “middle-income trap” is derived from the observation that challenges change as a country develops and unless policies and institutions also change profoundly to adapt to the new challenges, economies grow below potential and incomes per capita stagnate.

Box O.1 The Middle-Income Trap

World Development Report 2012 showed that only 13 of 101 middle-income economies in 1960 had graduated to high income by 2008, leading to the use of the term “middle income trap” and to an extensive literature on the topic. But some authors like Bulman, Eden and Nguyen (2014) question the existence of such a trap, arguing that countries experience slowdown in growth at different per capita income levels. However, in a recent review of the literature, Gill and Kharas (2015:10–11) concluded that:

A “trap” is characterized by a context where growth is below potential. Such traps can exist at all income levels, from low to upper income, but may well be different in nature at different income levels. If the purpose of defining a middle-income trap is to help policy makers in middle-income countries frame policy choices in the right way, then it is useful to describe those choices that are particularly pertinent to middle-income countries.

In such a spirit, this report attempts to learn more about the policies that helped new HICs graduate from upper MIC to HIC. It does so by benchmarking Poland’s experience with that of other countries that made a smooth transition to the HIC group (the “new” HICs) and comparing it with that of those countries that remained upper MIC for more than two decades (“trapped” MICs).

Several methodologies are employed to determine if a country crosses the trap threshold over time. The World Bank’s Atlas methodology ranks countries according to their GNI per capita in current dollars and based on thresholds set in 1987 that are adjusted for inflation. Its shortcoming is the brevity of the time series and its sensitivity to exchange rate volatility. Felipe (2012) therefore uses GDP per capita at purchasing power parity (PPP) exchange rates (from Maddison 2010) to rank countries, and recalculates the income thresholds that best match those of the World Bank Atlas with a longer data series. This report employs both methodologies (although it uses the Maddison tables of the Conference Board updated to 2014 using 2011 PPP, rather than 1990 PPP, which provides results similar to using Felipe 2012 but not identical). It considers as high income any country that has reached that status according to the Atlas or the Felipe methodology. Trapped MICs in this report are those that spent more than 20 years in the upper-middle-income range without reaching HIC status.

A few adjustments are made to these calculations. To limit the incidence of countries shifting back and forth between MIC and HIC status, a country is considered HIC only after it has remained at that level for three consecutive years. To limit the impact of idiosyncratic factors that may disproportionately affect outcomes in very small countries, only countries with populations exceeding 3 million in 2014 are considered. Finally, countries exceptionally well-endowed in natural resources (those with natural wealth in excess of $20,000 per capita in 2005 per World Bank 2011) are also excluded. These countries face special circumstances, and were extensively reviewed in the report “Diversified Development” by Van Eeghen et al. (2014).

Poland escaped the middle-income trap and entered the HIC group in the mid-2000s, after spending less than 15 years in the upper middle-income group. In the 1990s, GDP per capita in Poland was similar to those in the trapped MICs (Argentina, Mexico, Romania, and Turkey), but they have since diverged sharply (Figure O.2). By the 2000s, Poland had per capita levels comparable to those of Hungary and just below those of the Czech Republic — both significantly richer than Poland in 1990.
Lessons from Poland’s past

This section outlines lessons from Poland’s rapid transition to high income. It benchmarks Poland’s policies against those of trapped MICs to identify the policies behind Poland’s economic achievements. It also benchmarks them against other new HICs to discern policies that are common to new HICs and that other countries can follow, and those that are unique to Poland.

Governing

In pursuit of its vision of a socially responsible market economy, Poland quickly got its political and economic institutions right, through successful sequencing and external anchoring of its reform agenda. Poland first liberalized the economy with a big-bang economic reform. It then performed the political reform to create a consensus for the much deeper second phase of economic reforms. It did so by creating more inclusive political institutions by democratizing national and local governments and creating the basic political institutions of good governance, while using EU accession as an anchor. By many measures, Poland is now close to levels of governance of the established HICs, and well above those in trapped MICs (Figure O.3).

Figure O.2 Per capita GDP growth for new HICs and trapped MICs

Source: WDI; Groningen Growth and Development Centre.
Note: T = period when the country crossed the upper-middle-income threshold to high income for good.

Figure O.3 Robust political and improving economic institutions

Source: World Government Indicators; World Justice Project; EIU Democracy Index.
Poland’s economic ascent was driven by remarkable policy continuity inspired by a widely shared vision. After the initial big bang reforms following transition, the creation of more inclusive political institutions and the EU accession made it possible to form a consensus among political leaders on a vision of a market economy with solidarity. This vision helped sustain the reforms through 17 governments. The continuity of Poland’s policy through the structural reform process (such as trade openness and competition) contrasts strongly with the policy reversals in many trapped MICs (such as Argentina).

Reforms were properly sequenced. Poland started the process of transition with institutions that were unsuited for a market economy, but swiftly transformed them. The early post-transition “big bang” economic reforms counteracted the many monopolies established under the central planning system, while the rapid entry of many new firms created a constituency for further reforms and provided a countervailing power against the vested interests of existing firms that could have blocked them. After the big bang, more inclusive, democratic political institutions were created at national and local levels. Poland put in place strong mechanisms for ensuring that different groups could effectively participate in the political process and demand stricter accountability of government operations. Only in later stages were more far-reaching institutional reforms implemented to further strengthen competition and regulation, consumer protection, capital markets, and transparency and competition in public procurement, often as part of the preparation for EU accession.

Anchoring the reforms mattered. Poland galvanized political support for the reform of institutions around a common goal: accession to the EU. Poland adopted the EU’s _acquis communautaire_ — the EU policy package — wholesale, and it quickly became the largest recipient of EU structural funds. Poland and the other new HICs in the EU (Czech Republic, Hungary, and Slovakia) were all successful at using EU accession as an external anchor for institutional reforms. This was perhaps because of their shared history with European neighbors to the west, which facilitated fairly rapid and fundamental reform. There was institutional memory of the political and economic institutions common to the earlier EU members.

This “pincer” movement of sequencing and anchoring proved highly effective. It started with rapid liberalization, followed by creation of the basic political institutions of good governance to create political consensus for deeper economic institutional change, while externally anchoring the reform agenda to EU accession. Together the democratization of local institutions, which avoided elite capture, and the commitment to EU institutions, which helped push reforms through, exerted complementary pressure on institutional reform. It was this pincer movement between the sequencing of domestic reforms and the external anchoring which provided the sustained commitment, coordination, and cooperation needed to implement a wide-ranging policy reform agenda and create a successful market economy (see also Campos et al. 2014). This sequencing and anchoring sets Poland apart from several other economic success stories, which opened up their economies before creating more open and inclusive political institutions.

Poland inherited a relatively well-functioning bureaucracy, which it did not dismantle but gradually transformed. Once its political independence was established, the national bureaucracy proved more capable than originally anticipated. It was gradually reformed to increase transparency and accountability. It developed into an effective public management system, absorbing large EU funds efficiently. It implemented a huge privatization program and created an investor-friendly regulatory environment, exemplified by Poland’s quick ascent into globally recognized good business environments. The government taxed public enterprises heavily if they exceeded spending targets, created several institutions to oversee administration and provide essential checks and balances, and nurtured a stable and qualified human resource base, while offering generous pension benefits to older civil servants. The stellar performance of the public management system ensured sound fiscal management (revenue collections and spending controls) and effective development planning, with well-developed capacities for both strategic planning and compliance.

Increased bureaucratic accountability enabled successful tax reform. Poland undertook fundamental tax reforms, shifting tax collection away from production and large public enterprises toward consumption, workers, and small businesses. This created substantial and sustainable fiscal space. That the government was able

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to do so is testimony to the legitimacy citizens accorded it. Without reforms to political institutions, this would have been difficult to achieve. The fiscal space made it possible for Poland to weather major global crises in 1998 and 2008.

Local governments were subject to increased political accountability. Poland’s decentralization was a pillar of democratic and market reforms, pushing responsibility for service delivery to the local level to avoid capture by the central state. Local government has been effective across the country, without large regional disparities. The restoration of democratic, autonomous local and regional authorities played a prominent role in Poland’s improved governance. Decentralization was implemented in two stages, in 1990 and in 1999. The early reforms transferred decisionmaking authority to elected municipal governments and passed down central government tasks and some revenue-raising authority. The second round of administrative reforms reduced the number of provinces, restored counties, and decentralized public programs and services to increase citizen involvement and improve public service delivery.

Strong and accountable local governments improved service delivery. Local governments played a key role in improving education, health, and public investment. Similar to the national reforms, local reforms were based on longstanding administrative structures, rather than involving wholesale change. Subnational governments were able to increase local revenues, legitimized by greater local political accountability, while also benefiting from dependable inter-governmental transfers and absorbing large amounts of EU funds for investment, supporting regional growth potential. This also smoothed the impact of the economic downturn, unlike some other EU countries that responded to the economic crisis by making ad hoc cuts in intergovernmental transfers.

Sustaining

Poland’s effective macroeconomic policies drove a sustained, stable growth pattern. Poland and the other new HICs had more stable macroeconomic environments than the trapped MICs. During their upper-middle-income period, the annual average rate of GDP growth of the new HICs exceeded that of the trapped MICs by just above 1 percentage point. And for the new HICs growth volatility, measured by the average standard deviation of GDP growth, was more than 1 percentage point lower than for the trapped MICs (Figure O.4).

Figure O.4 High GDP growth and low volatility support graduation to high-income status

Three main macroeconomic policies stand out. First, Poland had a rule-based, but flexible, fiscal framework that sustainably managed the public sector deficits and debts of central and local governments. With this framework, like other new HICs, it had substantial success in implementing counter-
cyclical fiscal policies during crises. Both automatic stabilizers and discretionary actions played a role. Automatic countercyclical stabilizers were embedded in the tax and expenditure systems to compensate for changes in demand. The process was assisted by measures authorized before — but taking effect during — the economic downturn; in discretionary tax reductions and increases in public investment. Countercyclical policies at the central level were further assisted by a significant shift in the overall fiscal balance of local governments, which swung from balanced in 2007 to a deficit of 1.2 percent of GDP in 2010, the largest shift in local government balances of all EU countries. In this way, countercyclical fiscal policy at the local level strengthened the ability of the central government to pursue stabilization policies. The local contribution was possible thanks to ample spending autonomy of local governments in Poland.

Second was Poland’s use of its own currency — the zloty — with limited foreign currency intervention and backed up by effective, inflation-targeting monetary policy. No exchange rate targeting was applied, so exchange rate changes helped buffer the impact of external shocks in the short term. Long-term real exchange rate misalignment was avoided. The Central Bank’s credible, transparent, and flexible inflation-targeting system reduced inflation during the early 2000s and has maintained price stability since then. Inflation was significantly below the 4 percent average for the new HICs and substantially below the almost 10 percent average among trapped MICs (Figure O.5). The inflation targeting regime was not excessively narrow or focused solely on short-term inflation; it provided flexibility to consider the broader impact of monetary policy on the real economy and the financial system (particularly important after the crisis). Monetary policy worked in tandem with, rather than against, fiscal policy, using expansionary measures when needed, without damaging long-term credibility. Backed by this effective monetary policy, Poland allowed real exchange rate changes to buffer the impact of external shocks and avoid the overvaluation that affected some other EU member states. These sound monetary and exchange rate policies were implemented by a strong, independent, but accountable Central Bank that resisted attempts to encroach on its autonomy.

Third, effective restructuring, regulation, and supervision ensured the stability of Poland’s financial system, which compares well with the other new HICs and established HICs. Poland’s sound banking sector was grounded in a privatization policy of “no bailouts” that made banks accountable for their bad debts. And opening the sector to foreign banks built capacity and diversified the investor base. Competent and strict supervision was applied to ensure bank solvency and contain excessive credit expansion. As a result, the banking sector has been sound, competitive, well-capitalized, liquid, and properly managed and supervised. So, unlike many new and established HICs, Poland did not experience a surge in credit in the run-up to the global financial crisis. Its approach to bank restructuring during the transition — which involved forcing banks to manage their own bad debts and inviting in foreign partners with capital and banking expertise — created a competitive banking system with low concentration and a geographically diversified investor base, while the foreign banks ensured informed decisionmaking by employing local managers. The presence of strategic investors, rather than ownership by numerous shareholders, facilitated negotiations with owners about corrective actions, while the dominant role of foreign investors reduced the risks of regulatory capture and pressures for supervisory forbearance.

Figure O.5 Inflation, new HICs, and trapped MICs, 2000–14 (percent)

Connecting

Like other new HICs, and unlike trapped MICs, Poland’s greater openness to trade enabled it to reap larger productivity gains and deliver higher economic growth. Poland experienced remarkable trade integration: the share of trade in GDP went from 61 percent in 2000 (far below the trapped MIC average), to 94 percent in 2014, the average for the new HICs. Poland also scores high on the Open Markets Index, which captures market access and barriers to entry. Greater openness promoted competition and improved technological awareness, increasing firm productivity.

More openness enhanced the performance of Poland’s exports along three main dimensions — export growth, market and product diversification, and product quality. More trade opportunities, stronger import competition, and declining regulatory barriers to firm entry and exit enabled more productive firms to grow while hastening the exit from the market of less productive firms — a pattern common when trade is liberalized (Aghion and Bircan 2016). Export growth was impressive, peaking at 40 percent in 2004 and remaining well above global and EU averages for the decade to 2015. Exports also achieved substantial market and product diversification, on a par with high-income peers. During this period, Polish exporters gained market shares in all top 10 destinations, and in relatively sophisticated products. As in many other countries, Polish exports were highly concentrated in a handful of “superstars” that accounted for about 70 percent of exports in 2013. But the contribution of big firms to export growth fell from about 80 percent in 2006 to 52 percent in 2013, indicating that gains from openness to trade accrued not only to the large and powerful but also to smaller firms. Exported products also rose in quality, converging with that of more mature EU members, like Spain.

Sequencing also helped reforms to have some immediate impacts as integration gathered momentum. Integration of Poland’s trade with the rest of the world started with an impressive reduction of tariffs in the early 1990s. This brought most-favored-nation tariff rates down to the EU average even before accession in 2004, helping markets get the prices right and opening access to the large Western European market and its advanced technology. From then on, the focus was on the more difficult reforms of soft infrastructure (behind-the-border reforms) and then hard infrastructure to heighten the competitiveness of Polish exports not only in the EU but also in the rest of the world. This effort was remarkably successful.

Connecting to global and regional markets was also made easier through the substantial improvements in infrastructure, both soft and hard. First, Poland recorded major gains in soft infrastructure — border and transport efficiency — before EU accession. It then made steady gains in hard infrastructure — transport and information and communications technology (ICT) — largely funded by the EU. These improvements helped Poland surpass the hard infrastructure levels of trapped MICs and narrow the gap with new HICs. The significant infrastructure improvements also linked Poland’s peripheral areas to domestic and external markets.

Trade openness facilitated greater participation of Poland and other new HICs in global value chains (GVCs), which in turn enhanced integration and brought the new HICs significant economic benefits. GVC participation helped improve the performance of Polish firms through three channels. First, it provided access to quality inputs, capital goods, and technological transfers. Second, it increased competition, strengthening the incentives for firms to improve. Third, it provided new opportunities for innovation in processes and products through exchanges of information and knowledge, which allowed firms to learn what others were doing, how they were doing it, and the advantages and disadvantages of particular activities. With such information, firms leveraged comparative advantages to meet the competition by adapting current or adopting new processes, functions, and products. GVC participation also made it easier for firms to increase the sophistication of their production because they no longer needed to master all the stages in production of given goods, focusing instead on tasks in which they had comparative advantage.

The “neighborhood effect” of bordering Germany — an economic powerhouse and one of the world’s three GVC nodes — helped Poland firmly integrate into the internationally competitive German production networks.
As in other Central and Eastern European countries (Georgiev et al. 2017), GVCs boosted trade and investment integration, which in turn raised total factor productivity and economic growth in Poland. Deeper economic integration with Germany was an important driver of recent firm dynamics in Poland. In fact, following EU accession, total factor productivity and employment grew faster among firms operating in sectors where Germany had greater industrial capacity and outsourcing potential.

**Poland also connected to global markets through migration.** Poland experienced much higher emigration of workers than other new HICs and EU accession countries, except Romania. The emigration of workers increased following EU accession, and by 2014, the number of Poles residing abroad exceeded 6 percent of the population.

**Until now, migration has not led to labor market shortages.** In the early phases after the transition, migration reduced what was then a labor surplus. This helped avoid the hysteresis that persistent high unemployment could have brought about, similar to the role of migration in Southern European countries after World War II. Polish migrants were mainly young and educated workers, particularly post-accession. The downside has been a brain drain, largely concentrated in certain regions, with a consequent negative impact on local economies and gross domestic product (GDP). More recently, the emergence of labor shortages was curtailed by the global financial crisis.

**The direct brain gain, if any, has been small, but there have been some indirect benefits.** The direct brain gain has been limited because the return numbers have not been large and many Polish migrants abroad ended up in jobs for which they were overeducated. The direct benefit of emigration gave families strong incentives to invest in education and skill improvement, which in turn made the Polish economy more attractive for foreign and domestic investment in modernizing sectors.

**Growing**

Poland, like other new HICs, grew thanks to both perspiration and inspiration. This sets them apart from the trapped MICs. Poland’s capital accumulation and technological and institutional growth also differs from that of the Asian Tigers. Their rapid growth and structural transformation was built on several decades of perspiration in the form of factor accumulation: massive investments in human and physical capital at rates rarely seen in history. For Poland, perspiration (factor accumulation) accounted for two-thirds of GDP growth in 2000–14. While factor accumulation was strong in most countries, inspiration (improvements in total factor productivity), which accounted for the other one-third, allowed Poland to grow faster than established HICs and trapped MICs (Figure O.6). The policies implemented since the transition created solid incentives for firms to invest and innovate. Many firms rapidly adopted new technology as foreign direct investment expanded.

Poland’s productivity growth was driven by market forces through three channels: productivity-enhancing reallocation of resources between sectors (structural transformation), within sectors (between firms), and within firms. These gains resulted from both increasingly better allocation of resources from the less to more productive sectors and from low to high-productivity firms as the former left the market, as well as from firm improvements.

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*Figure O.6 Total factor productivity and growth in the new HICs, 2000–14 (percent)*

One-fourth of Poland’s overall productivity growth during 2000–14 is explained by structural transformation. This process led to more efficient reallocation of resources between sectors. Labor moved from low productivity agriculture to higher productivity services, such as retail and wholesale trade, transport, and professional services. And as manufacturing pulled labor from agriculture, the latter responded by increasing its labor productivity. Manufacturing slightly contracted in Poland and other new HICs (except for Slovakia) but remains a larger sector than in trapped MICs. These trends are the hallmark of a successful transformation from agriculture to manufacturing.

And within manufacturing, three-fourths of Poland’s productivity growth is explained by efficient reallocation of resources within sectors (Figure O.7). Increased competition facilitated the reallocation of resources away from inefficient firms and into efficient ones, allowing good performers to grow and bad performers to shrink. This, in turn, increased aggregate productivity.

Finally, productivity also improved within firms as they reorganized, expanded, and upgraded management. These gains were reaped not only by foreign firms but also by domestic firms independent of their size. In contrast to trapped MICs, the productivity gains were supported by the expansion of efficient small firms into larger firms, not just the expansion of large firms.

Economic growth was also spurred by an impressive and balanced accumulation of physical and human capital responding to market needs. While the emphasis on physical capital accumulation as a crucial driver of growth is similar for both the new and the trapped MICs, its composition is different. Poland and the new HICs give more weight to ICT capital investment to facilitate technological upgrading. Capital accumulation took place as a result of the integration of capital markets and EU structural funds. Education reforms supplied the higher skills needed as production processes grew more complex. Test scores for the Program for International Student Assessment (PISA) show that Poland’s increase in the quality of its education was one of the fastest among Organization for Economic Co-operation and Development (OECD) countries in the last decade. This provided workers with an improved set of skills to move from farms to factories. The rise in the supply of graduates and skilled labor was in line with the demands of the market as it grew in size and complexity: returns to secondary and tertiary education were stable over time. As for other new HICs, Poland’s growing market economy saw a steady increase of employment in higher-skilled, nonroutine cognitive activities, matching the increasingly sophisticated market structure of the economy (Figure O.8). The decline in middle-skilled occupations reflects the growing use of ICT to substitute for workers in these categories (such as automating back office functions).
Including

Poland’s pattern of economic growth was inclusive — Prosperity was shared. This eased the social strains associated with the dramatic restructuring of the economy over the past two decades. The particular pattern of growth increased jobs and wages across the board, reduced poverty, and kept inequality low. Between 2005 and 2014, Poland’s Gini coefficient fell from 0.351 to 0.343 and indicators of poverty also declined significantly (Figure O.9). An increase in the minimum wage relative to the median wage also contributed to reducing poverty.

Inequality in incomes and wealth was kept in check. Poland follows a pattern common to the other new HICs: they typically have less income inequality than the trapped MICs (Figure O.10). Poland has much smaller wealth inequalities than many European established and new HICs, as evidenced by a lower Gini coefficient for net wealth (0.58 vs. 0.76 in Germany and 0.73 in Hungary). Although wealth inequality is more pronounced than income inequality (the Gini coefficient for net income is 0.38), the difference is no higher than in other HICs.

Competitive markets, equality of opportunity, and effective public service delivery were the main factors that supported the sharing of prosperity to all citizens. Competitive and well-regulated markets for labor, capital, products, and services provided business opportunities for firms and jobs for workers. Increases in access to education (especially the proportion of workers with tertiary education) and in education quality led to across-the-board gains in educational outcomes, raising labor productivity. In both education and health care, access to improved services was provided to all, without significant regional differences.

The markets rewarded increased labor productivity with higher salaries across the distribution. This, together with increased labor force participation (including for older workers due to retirement reforms) and increases in the minimum wage, raised labor incomes, which helped reduce poverty and keep inequality
at bay. At the lower end of the market, a national minimum wage policy regularly and significantly has pushed up the minimum wage in the last decade to enable low-wage earners to share in the productivity gains. Between 2005 and 2014, labor incomes went up in real terms for all groups, but the real minimum wage grew nearly twice as fast as the average wage.

The key factor that helped avoid increases in inequality was improved access to education across income groups and regions. Education policies created broad-based equality of opportunity, a pattern common to the new HICs. It can be seen, for instance, in the smaller differences in educational attainment between regions within countries, as for Poland (Figure O.11). Effective policies included extending the length of general education, implementing a national system of examinations and tests, substantially increasing teacher salaries, and having relatively high overall public spending on education. As a result, among all OECD countries, Poland has one of the largest shares of attainment of at least upper secondary education. The proportion of Polish 25–34-year-olds who have acquired tertiary education also increased sharply between 2000 and 2014, from 14 to 43 percent, compared with the OECD average of 41 percent in 2014. Performance in reading, mathematics, and science, as measured by the PISA, is above the OECD average (OECD 2016). Importantly, the PISA scores on, for instance, mathematics show improvements across all income groups. Improved access to education accounted for 84 percent of the reduction in poverty over 2005–14.

Figure O.10 Income inequality, new and trapped MICs (Gini coefficient in 2000 and 2014)


Figure O.11 Equality of access to education by region, new HICs and trapped MICs (percentage share of workers with at least secondary education, 2014)

Economic growth also reached all Polish regions, supported by redistributive external (EU) transfers. During the past decade, some of Poland’s lagging regions grew above the country average (5 percent in nominal terms) and some of the richer regions grew below the country average (Figure O.12). As a result, Polish regional income disparities are actually smaller than in most other new HICs, and on par with Germany or Finland (Figure O.13). Regional inclusion was supported by providing lagging regions with larger capital transfers (mainly EU structural funds and agriculture direct payments). For 2004–13, the lagging regions of Eastern Poland received on average annual EU-related payments exceeding 2.5 percent of GDP, significantly higher than the 1.7 percent average for Poland as a whole. But large regional differences remain: on average GDP per capita is about 30 percent higher in regions bordering Germany in the west than in regions bordering Belarus and Ukraine in the east.

**Figure O.12** Regional GDP: average annual nominal growth, 2005–14
Source: GUS.

**Figure O.13** Regional income disparities: GDP per capita as a percent of the national average, 2013

Regional equalization mechanisms introduced in the 2000s, contributed to the inclusive educational and health outcomes. Poorer regions have the highest enrollment rates in both urban and rural areas. Competence test results in primary and secondary schools are also not related to a region’s development, and regions with low GDP per capita have lower ratios of primary and secondary students per teacher. And while the density of the number of physicians was below other HICs, these resources were much more equally distributed. This pattern changes only for the availability of hospital beds.
Insights for Poland

Like the rest of the world, Poland now faces a different global context — one of lower growth and greater uncertainty. Manufacturing is less labor intensive than before. The fourth industrial revolution, characterized by the automation of production processes, is causing the loss of significant numbers of medium-skilled workers in the developed world.

Poland’s growth challenge is not unique. Sources of growth that delivered major increases in prosperity in Poland now have less scope to bring about further large improvements in incomes. Many countries that reached high-income status have experienced relatively slow growth since. From the 1960s to the 1990s, only 10 countries entered the HIC club and had average annual GDP per capita growth close to or above 2 percent (Figure O.14).

The key external anchor of Poland’s reforms — the EU — has weakened. Accession and commitment to the EU’s *acquis communautaire* were key factors driving the vision and consistency of the reforms that propelled Poland into high income. But this anchor now faces challenges of its own:

Despite this progress, many Europeans consider the Union as either too distant or too interfering in their day-to-day lives. Others question its added-value and ask how Europe improves their standard of living. And for too many, the EU fell short of their expectations as it struggled with its worst financial, economic and social crisis in post-war history (European Commission 2017:2).

Against this backdrop, Poland is facing substantial challenges of its own. As incomes rise, so do people’s aspirations, with economic convergence with advanced neighbors not taking place as fast as desired. Demands for better governance are growing sharply due to perceptions of widespread corruption in government and poor functioning of the judicial system. Poland’s workforce is aging. Wages have been growing relatively slowly despite persistent economic growth. Job insecurity has increased since the global crisis, with Poland having the highest share in Europe of temporary jobs, so-called “junk” contracts. And throughout a period of profound economic change, overall social assistance has been low and mostly limited to poverty-targeted programs.
Governing

To make growth more inclusive and meet the new aspirations, a new political consensus needs to be forged around Poland’s vision and institutions. Poland needs to keep working on protecting and fostering more inclusive political and economic institutions to maintain the political consensus that has served it so well in the past. Central to that vision is better governance toward inclusive, transparent, and client-oriented institutions. Citizen trust in government needs to improve by making public service more client-oriented, less corrupt, more transparent, and more efficient — and by involving citizens more directly in governing and delivering public services. Poland also trails more developed countries in the use of new public management processes and in the use of ICT to promote accountability and responsiveness. Further modernization of the administration will be needed to sustain growth as the economy becomes more complex and knowledge-driven.

Poland’s political and economic institutions need to be rooted in a home-grown social and political consensus, if the policy consistency that has helped Poland so much in the past is to continue. Poland adopted the acquis communautaire speedily and wholesale based on its shared European institutional history. But for some of these institutions, there may not have been sufficient time to allow changes to put down roots.

Strengthening governance supports consensus building and growth — indeed, innovation thrives in a good governance environment. As economies enter the high-income group, institutions such as the rule of law, independence of the judiciary, property rights, and the quality of governance become increasingly important to sustain convergence (Plekanov et al. 2017). Priority governance reforms include enhancing voice and accountability, strengthening regulatory quality and improving government capacity to design, implement, and evaluate policies. Poland’s ratings on governance are about equal to the average for the new HICs, but well below that of established HICs (see figure O.3). Addressing gaps in governance matters, because the incentives of firms to innovate are positively correlated with institutional variables such as democracy and the rule of law (Nguyen and Jaramillo 2016). And the correlation between democracy and innovation and growth becomes more positive and significant as economies reach the technological frontier (Aghion et al. 2014).

Sustaining

Sustaining Poland’s record of high, stable growth will require adjustments to fiscal policy. Fiscal rules have contributed to fiscal stability but need strengthening. Increased flexibility in budgetary processes, more rigorous review of spending proposals, and adoption of a medium-term expenditure framework integrated with the annual budget process could strengthen control over public finances and make fiscal policy more flexible (for example, by reducing the number of expenditure items that are subject to automatic indexation).

Local governments need to mature into responsible partners with the central government in fiscal management, supported by local capacity-building in management and in economic analysis. Central government should encourage greater local autonomy, for example by ensuring that local governments have greater control over their own revenues and allowing them to take a more flexible approach to the economic cycle. At the same time, local governments must face hard budget constraints to ensure discipline.

Government will need to create the fiscal space to deal with the increasing pressures coming from aging, from the inevitable decline of EC structural funds for investment, and from a less certain global context. A considerable challenge to productivity and fiscal sustainability, Poland’s age-dependency ratio is projected to exceed almost all HICs, new and established, by 2050. Aging could reduce the average productivity of the workforce and place significant demands on social security transfers, potentially threatening the sustainability of the pension system and the provision of health care to the growing older generation. Lowering the retirement age when life expectancy is rising could put significant pressure on public finances and could exacerbate the threat of poverty for future pensioners, particularly women, whose retirement age was lower than men’s under the old system.
It will thus be important for the government to manage the projected growth in publicly financed age-related spending. Creating fiscal space will also be important to continue financing investment as EU structural funds gradually fall — and to support countercyclical policies to address external shocks.

Ramping up domestic savings is particularly important to finance large investment needs, sustain dynamic productivity growth, maintain income in an aging society, and reduce vulnerability to external conditions. Consumption-led economic growth over the last two decades has increased convergence, but it is also a source of risk. From 2004 until the crisis hit in 2008, private consumption increased to more than 80 percent of GDP, significantly above that in other HICs, new and established (Figure O.15). Private consumption growth was fueled in part by rising incomes but also by strong and mostly foreign-financed credit growth. The contribution of investment to GDP growth was significantly lower than the contribution of consumption, although EU funds increased investment after Poland’s accession in 2004. The high domestic consumption, fueled by borrowing and by high reliance on EU15 countries for exports and capital inflows, has created macroeconomic vulnerabilities that were exposed in the wake of the global financial crisis and the resulting economic slowdown.

**Figure O.15** Gross saving rates in Poland, percent of GDP, 2000 and 2014

![Gross saving rates in Poland, percent of GDP, 2000 and 2014](source: World Bank, WDI.)

Higher savings would enable Poland to reduce its vulnerability to interruptions in foreign financing, increase growth through more investment, improve the resilience of the financial system, and raise pension benefits. In addition to higher overall income, savings can be supported by raising household propensities to save and limiting government dis-saving. There is scope for the government to strengthen individual incentives to save (such as through private retirement savings) and increase the availability of saving instruments. Further development of a local currency capital market can also create a more stable domestic financial system that is less reliant on bank funding and that supplies the instruments that savers need, directly or indirectly (World Bank 2014).

**Connecting**

Poland must now move up within GVCs by improving the business environment, promoting trade in services and boosting innovation to perform more sophisticated tasks so as to base competitiveness on quality rather than cost. This challenge arises from increasing wages and an aging population, which together will undermine Poland’s comparative advantage based on low-cost labor, also the case for other new HICs. Focusing on other sources of comparative advantage, such as product quality and quality processing, will enable Poland to maintain competitiveness. But when compared with other new HICs, Poland is a latecomer in implementing policies that would support such a move up the value chain. These policies would focus on the business environment (including product standards), trade in services, and innovation in processes and products. These would help Poland heighten the sophistication of its products and integrate more deeply
into GVCs, especially upstream. Poland’s performance in these areas is currently closer to that of trapped MICs than to other new HICs.

**Facilitating trade in services domestically and internationally would boost not only GVCs but also trade integration more broadly.** It requires moving people across borders, easing the establishment of a local presence, and harmonizing home-host regulations. Progress on all this in Poland is mixed: Travel and financial services have done well, but other business services — especially those involving new technologies and the Internet — have not done so well. With better regulations, Poland’s trade in services could also increase significantly over the next decade, and productivity in the general services sector would increase.

**Closing the hard infrastructure gap is critical for sustaining Poland’s competitiveness.** The quality of Poland’s transport and ICT infrastructure, as measured by the global competitiveness index, is far below that of established HICs (Figure O.16). The gap can be narrowed by increasing the effectiveness of spending by rebalancing infrastructure spending toward construction of high-speed roads — the density of high-speed roads in Poland is lower than in other high-income EU countries. It can also be narrowed by investing more in maintaining rail infrastructure (Poland’s rail investment as a share of GDP is far below other HICs, new or established) and local roads (since 2012 the percentage of national roads in acceptable condition has plateaued at 60–65 percent). It will also be important to rebalance demand between different types of transport while continuing to improve services and investing in intelligent transport system solutions and in ICT infrastructure generally.

**Figure O.16** Hard infrastructure indicator averages, Poland and established HICs


The resources for a ramped-up infrastructure program could come in part from higher revenues from road (e-tolling) and rail transport and from creating conditions to crowd-in private finance, for both maintaining and building infrastructure. Transport services could also be better organized and integrated, particularly in urban and surrounding metropolitan areas, with better links between transport modes and cooperation between different governments in organizing transport. More generally, a long-term approach to managing and financing transport and ICT infrastructure will improve spending efficiency, prepare for the likely phasing-out of EU financing, and reduce the general infrastructure gap.

Forward-looking migration policies could improve the contribution of immigrants to the economy, by bringing needed skills and innovative ideas, while compensating for Poland’s aging workforce. Poland will need both highly skilled immigrants to meet the rapid demand for skills in the context of the emigration and aging of skilled workers — and low-skilled workers to fulfill basic jobs that may become unattractive as incomes and skill levels rise at the bottom of the income distribution. While the share of foreign-born workers in total employment is lower in Poland than in most HICs, new and established (Figure O.17), temporary immigration is increasing. Policies that make the most of temporary migrants and encourage greater permanent immigration include improving the productivity of immigrant workers, expanding opportunities for formal immigration, providing language training, incorporating immigrants into mainstream active labor management programs, removing barriers to their employment in the public sector, improving the process for recognizing foreign credentials, reducing discrimination in the workplace, and supporting immigrant start-ups. Problems unique to immigrants could be addressed by programs such as tailored approaches for disadvantaged youth with an immigrant background, linking child care with training of immigrant mothers, curtailing illegal and unfair employment practices, improving workers’ rights, and opening selective channels into permanent employment and settlement.

Growing

Poland, close to exhausting its engine of growth based on catching up, will need to move on to a new model of growth driven by innovation. While imitation of existing technologies has driven technology diffusion and productivity on the way to high income, sustaining Poland’s convergence requires cutting-edge technologies and frontier innovation. While Poland can still benefit from absorbing advanced technology to increase TFP, the scope for this will narrow as Poland moves closer to the technologically sophisticated countries. Further increases in TFP will need to be driven by investments in human capital, research and development (R&D), and innovation. But Poland is far below the established HICs in international rankings of the policy framework to support innovation (Figure O.18). The level of R&D public research and industries is low. And Poland, like Malaysia and Chile, still has a long way to go in both protecting intellectual property rights (Figure O.19) and ensuring the rule of law, both of which support engagement in innovation and the growth of innovative companies.
As Poland reaches the technological frontier, international evidence suggests that ensuring intense competition, openness to trade, research education, and equity financing become ever more important. More intensive investment by the private and public sectors in enterprise R&D will be critical to technology adoption and to frontier innovation, as will modernizing the public innovation system to support cooperation between scientific institutions and the private sector. The curricula of tertiary education and vocational training will need to adapt to meet the needs of a more sophisticated economy. Another important step to encouraging innovation is to lower the barriers to competition, trade, and investment. Here Poland made considerable progress between 1998 and 2013, but performance remains uneven. Poland is ranked by the World Bank’s Ease of Doing Business surveys below the EU average on half of the 10 areas surveyed, particularly in the ease of starting a business. And with a financial sector still dominated by traditional banks, Poland will need new financial instruments better-suited to the degree of risk inherent in innovation.

Supporting the development of the capital market would help open access to equity financing for innovation. While bank finance is well adapted to imitative firms, equity financing (such as venture capital) is better suited to an innovative firm at the frontier (Aghion 2012). Poland’s financial system relies heavily on banking (Figure O.20), and access to equity financing is more limited in Poland than in many HICs. So, the Polish government can support the development of capital markets (bonds, equity, and insurance) by improving the regulatory framework, encouraging the growth of institutions necessary for the market to function efficiently (such as rating agencies), providing services where private institutions are unwilling to participate (such as market-making), and spurring venture finance.
Along with frontier innovation, firms can still gain from catching up technologically. Firm and worker preparedness to adopt new ICT technologies (such as cloud computing, 3D printing, and online buyer-seller platforms) would enable Polish firms to keep up with the latest developments in German parent firms. Facilitating the development of ICT services and ICT-enabled logistics and business services would support further increases in productivity, and contribute to generate more and better jobs.

It would be in Poland’s interest to narrow the gap in ICT and ICT-enabled services, especially those based on the most innovative technologies. Important measures are to strengthen the rules governing e-commerce and the use of data for consumer protection, privacy, competition, and copyright protection; invest in infrastructure to speed delivery and promote high-speed broadband; reduce the administrative burden of doing business online; and support new approaches for content distribution and cross-sectoral online platforms to heighten the transparency and availability of information.

Improving tertiary education and training will be key to support the new growth model. During Poland’s rapid economic ascent, the large increase in the supply of workers with tertiary education played a significant role. However, going forward, the population will start ageing, the labor force will contract, and the economic growth model will need to transit from low wages to high skills and innovation. To meet this challenge, improving the quality of higher education and including more workers in a system of life-long learning (LLL) will be essential, while boosting apprenticeships in partnership with the private sector.

A more knowledge-based economy will put a premium on high quality tertiary education. Two types of skill sets will be needed. First, skills in the fields of science, technology, engineering, and mathematics. Second, the “soft” skills needed for learning, networking, communication, teamwork, analysis, self-organization and entrepreneurship. Tertiary education will also need to respond better and more systematically to the demands of the labor market, given the rapid pace of technological change, this responsiveness needs to be much more rapid and systematic than in the past. Involving the private sector more closely in institutional governance, curriculum development, teaching and learning and career guidance is needed. And more internationalization of staff, students and research will also improve the quality of education through a more intensive exchange of experience and good practice.

Increasing the productivity and innovativeness of workers is hardly possible without constantly upgrading their skills. To do this, “life-long learning” (LLL) systems for individuals already in the labor market should be established. Bringing the cost and accessibility of such training down, including by e-learning, will be essential. Higher education institutions should assume a central role within LLL systems. Finally, apprenticeships programs should be boosted substantially. An apprenticeship is a structured accreditation program that provides the worker with the building blocks to master a specific occupational area and learn hands-on skills under the direct supervision of a skilled expert, together with academic instruction that adds the conceptual foundation. Apprenticeships can provide the type of integrative learning (the ability to apply knowledge and skills to real-world settings) which corresponds to the needs of today’s dynamic global economy.
Including

As Poland’s recent experience shows, there still is a challenging inclusion agenda, even in the context of general, broad-based improvements in welfare. Any increase in vertical or horizontal inequalities — in income and wealth, but also in ownership, employment, or access to health and education can foment dissatisfaction and make the social compact unstable. And while perceptions of the fairness of the economic system are rather high in Poland compared with the new HICs, continuing improvements in the economic situation are likely to increase citizens’ attention to their relative position in the income and wealth distribution.

Poor workers and households need to feel that they are sharing fairly in the rising prosperity and enhanced opportunities. The happiness of Poles has indeed been improving — but not commensurate with economic growth. Indeed, people felt their lives improved rapidly in the early 2000s, but this was followed by a much slower rate of improvement from 2003 to 2015. And the poorest regions expressed the least happiness. Again, this did not change much between 2003 and 2013 (Figure O.21).

Three areas deserve attention: Low wages, a declining share of labor in total income, and a rise in temporary contracts. Trends in these areas may have produced a sense of horizontal inequity and relative unhappiness. And these relative, rather than absolute, deprivations may be at the heart of the current political dynamics.

Workers responded to competition from the market, but within the EU, Polish wages are among the lowest, and convergence is slow. In 2015, the average hourly labor cost (excluding agriculture and public administration) was €25.0 in the EU but just €8.6 in Poland, placing it in the bottom six of the EU28 countries. And the convergence with wages in Germany — its immediate neighbor to the west and an important destination for its workers — is occurring only slowly; productivity growth and real wages tracked each other significantly more in Germany than in Poland (Figure O.22). For instance, between 2000 and 2016, Polish labor productivity (the output of goods and services per hour worked) grew by about 51 percent, but compensation for workers grew only 33 percent.
At the same time, the share of labor in total income declined. The share went from 41 percent in 2000 to 37 percent in 2015, while the share of operating surplus (an indicator of profits) increased from 47 percent to 51.5 — a historical high. This decline of labor’s share in Poland was the highest in new HICs and one of the highest in the established HICs (Figure O.23).

There was a marked decline in middle-skilled, middle-paying occupations (clerks, plant workers, and machine operators) and a substantial rise in temporary contracts. Middle-skilled jobs, often replaced by automation, are disappearing in Poland and many other countries (see figure O.8). They are often replaced by far fewer high-skilled jobs or poorly paid low-skill jobs, comprising nonroutine manual labor, such as taxi drivers and cleaning personnel. At the same time, job insecurity as increased along with nonstandard contracts (Figure O.24). Although the resulting increased labor market flexibility contributed to growth, it also reduced incentives for on-the-job training and skills acquisition. And heightened job insecurity for workers is a serious downside that could undermine the social compact between employers, workers, and government.
How best to respond to these trends? First, segmentation of the labor market can be reduced. This could be achieved by changing the tax and social contribution regimes, streamlining legal dismissal procedures, and limiting the cumulative duration of temporary contracts. Increasing and improving enforcement of labor standards can also reduce job segmentation. Changes to labor standards that assist workers and their families to achieve a better balance between work and family can also help. Together, these measures could better link wage growth and productivity growth.

Second, improving social assistance programs and ensuring access to quality health and education for low-income groups would also strengthen the social compact while increasing the productivity of the future workforce. Social assistance spending in Poland is much lower than in established HICs. For instance, putting in place a better-targeted social safety net would support vulnerable groups such as the growing group of low-income pensioners.

In general, ensuring equal access to better health and preschool education services would consolidate and further expand Poland’s important gains. Boosting the efficiency of spending on health is part of the solution, since Poland spends considerably less on health services as a share of GDP than the established HICs. Another priority would be to channel more resources to preschool education (particularly for children under 2 years), where Poland has lower enrollment rates than the average for new and established HICs. In addition, many people report having an unmet need for a medical examination, with twice as many low-income earners reporting unmet needs than high-income earners. Moreover, the situation of low-income groups has been improving slower than that of high-income groups (Figure O.25).

Figure O.24 Nonstandard employment contracts, 2002–14 (millions)

Source: Lewandowski and Baran 2016, based on Eurostat and Ministry of Finance data.

Figure O.25 Unmet needs for medical examinations, selected HICs

Source: OECD.
Third, increasing the progressivity of the tax system would support shared prosperity. The redistributive effect of taxes and transfers in Poland is lower than in all other HICs (Figure O.26).4

Conclusion

Poland has come a long way since the early 1990s. Governing its remarkable ascent were inclusive political and economic institutions built on a consensus around the vision of a socially responsible market economy. More favorable conditions than in many other socialist countries at the start of the transition, the quick dismantling of price controls and trade barriers, and a comprehensive privatization program created a rapid transition to a market economy. Subsequently, the creation of more inclusive political institutions enabled the emergence of a strong and broad-based consensus to build a market economy based on solidarity and provided the consistency needed to pursue economic reforms in a focused and sustained fashion.

The result was an open economy, with trade oriented to the west, and improvements in the regulatory regime governing firm entry and exit, encouraging productivity improvements and facilitating the absorption of technology. Prudent fiscal policies, credible monetary policies geared to reducing inflation, and a sound and well-supervised banking system helped maintain stability, assisted by countercyclical policies — rising fiscal deficits, reductions in interest rates, and exchange rate depreciation — to sustain growth during the global financial crisis. This policy framework, strongly supported by the policy reforms surrounding EU accession and Poland’s access to GVCs through its ties to Germany, resulted in Poland’s rapid entry into the high-income country group after spending only a relatively short time as an upper-middle-income country.

Poland’s pattern of growth was inclusive — prosperity was shared. Growth increased jobs and wages across the board, reduced poverty, and kept inequality low. Poland’s Gini coefficient remained relatively low, and indicators of poverty declined significantly. Inclusive institutions, including open and competitive markets, the deviation of considerable resources to education and absolute increases in the minimum wage, were instrumental in creating this pattern.

However, Poland’s transformation is bringing new economic and demographic challenges. The creative destruction on which the growth process was based caused massive social change and, together with automation, has caused a significant segment of working-class families to face heightened anxiety and uncertainty about their future. There is frustration even among those favored by the growth process as their aspirations of faster convergence with the advanced economies, in governance and income, are not being met. Added to these pressures, Poland faces a rapidly aging population that will require more targeted social spending to ensure fiscal sustainability. These increased demands are coming at a time when

Figure O.26 The redistributive impact of direct taxes and transfers

Source: Brazil: Higgins and Pereira (2014); Mexico: Scott (2014); Uruguay: Bucheli et al. (2014); EU countries: EUROMOD G3.0+ (2013); Poland: Goraus and Inchauste (2016).

Note: The degree of redistribution is calculated using the total redistributive effect computed as the difference between the effect on inequality reduction without re-ranking and the effect of re-ranking resulting from the system (Atkinson 1980; Plotnick 1981).
productivity gains from traditional sources of growth are declining and the economy faces greater global uncertainty.

Achieving the income levels of established HICs and accelerating convergence with Europe’s high-income member states will require new policies. While there is still some scope for catching up by absorbing advanced technology, increases in productivity will increasingly need to be driven by innovation. A range of policy reforms would contribute to more rapid innovation, for example, by making it easier to start a business, boosting investment in R&D, devoting more resources to education from pre-primary school to university, encouraging more permanent employment contracts to enhance incentives to train workers, improving connectivity through greater investment in hard and soft infrastructure, and supporting the growth of capital markets to increase the availability of finance, particularly for risky ventures.

It will also require redoubling efforts to reduce poverty and income inequality. Improving governance, where Poland ranks far below established HICs, is essential to establish the broad framework conducive to growth and social stability. High-quality institutions prevent elite capture, foster competition, and create trust in government. Improving the progressivity of the tax system, increasing public spending on health services, and supporting targeted safety nets for disadvantaged groups would continue Poland’s achievements in ensuring equality of opportunity and rapid, sustainable growth in the coming years. Increases in the retirement age and measures to encourage both permanent and temporary migration could address the potential aging crisis.

Renewing the broad consensus around the vision for the country will be needed for Poland to continue its ascent toward established HICs and to meet citizens’ expectations. And revitalizing the democratic consensus around a socially responsible market economy will help ensure the reform commitment and policy consistency that have served Poland so well so far.
Endnotes

1 Institutions are defined as the organizations and rules that enforce and implement policies. Basic market institutions include rules for price and product liberalization, entry and exit of firms, regulation, corporate governance, and international trade and investment.

2 Governance is the process for state and nonstate actors to interact as they design and implement policies, within a given set of formal and informal rules that shape, and are shaped by, power.

3 The number of physicians includes general practitioners and specialists actively practicing medicine during the year in both public and private institutions. Density of physicians is defined as the number of active physicians per 1,000 people.

4 This is true whether pensions are treated as deferred income (with corresponding contributions as savings) or whether they are treated as transfers (with the corresponding contributions as taxes).
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Introduction

Starting in 1991, Poland successfully transformed its economic institutions, which now largely resemble those of other new high-income countries (HICs). Poland’s success can be attributed to the pace and scale of the accumulated reforms, which transformed the economy into its current well-performing, market-based configuration.

Today, by many measures, Poland is close to achieving levels of governance — the process of policy design and implementation — of the established HICs, well above levels in countries in the middle-income trap, or “trapped” middle-income countries (MICs). Two specific questions concerning the Polish transition are posed: how was this achieved? And, based on the experience of other countries, what needs to be done, after much of the catching-up has already been achieved, to achieve an even more inclusive economy and sustain the reform consistency that has served Poland so well in the past?

Lessons from Poland

Get the institutions right — economic, but also political — and guide reforms with a shared vision

In Poland’s case, a shared policy vision of a market economy characterized by solidarity was accompanied by a remarkable policy continuity, spanning 17 democratically elected governments since the transition. The massive institutional transformation established democratic national and local governments, the rule of law, market-based competition for goods and services, free movement of labor and capital, protection of property rights, sound economic regulation, prudent banking and financial sector regulation, constitutionally binding fiscal rules, and the bureaucratic capacity and accountability at the national and local levels necessary to implement these policies and deliver basic public services.

Sequence and anchor reforms properly

Rapid liberalization was quickly followed by the creation of a support structure of basic democratic institutions at the local and national level — so as to create political consensus for deeper economic institutional change, while using European Union (EU) accession as an anchor.

Poland started the process of transition with institutions that were unsuited for a market economy, but swiftly transformed them. The early post-transition “big bang” economic reforms counteracted the many monopolies established under the central planning system, while the rapid entry of many new firms created a constituency for further reforms and provided a countervailing power against the vested interests of existing firms that could have blocked them. After the big bang, more inclusive, democratic political institutions were created at national and local levels. Only in later stages were more far-reaching institutional reforms implemented to further strengthen competition and regulation, consumer protection, capital markets, and transparency and competition in public procurement, often as part of the preparation for EU accession.

The anchoring of the reforms to the EU mattered equally. Poland galvanized political support for the reform of institutions around a common goal: accession to the EU. Poland adopted the EU’s *acquis communautaire* — the EU’s “policy package” — wholesale, and it quickly became the largest recipient of EU structural funds.

The “pincer movement” between the domestic reforms, on the one hand, and the external anchoring to the EU, on the other, proved highly effective. It explains the remarkable sustained commitment, coordination, and cooperation necessary to implement the wide-ranging policy reform agenda for the transition to HIC status. This sequencing and anchoring sets Poland apart from several other success stories in which countries opened up economically first, and created more open and inclusive political institutions second.
The external anchoring of reforms may be somewhat peculiar to the Polish, and more broadly the EU accession countries’, experience. However, other countries may be able to find external anchors relevant to sustaining a domestic reform agenda, such as international, regional, or bilateral trade and investment agreements, and international benchmarking exercises.

Reform the public sector and create fiscal space

At the national level, Poland’s national bureaucracy developed quickly, and somewhat unexpectedly, into an effective public management system, absorbing large EU funds efficiently. It implemented a successful privatization program and created an investor-friendly regulatory environment, exemplified by Poland’s quick ascent into the category of globally recognized good business environments.

A lesson from Poland’s experience was that it did not dismantle the bureaucracy inherited from the communist era, but gradually transformed it. Once the national bureaucracy’s political independence was established, it proved to be more capable than originally anticipated. The government taxed public enterprises heavily if they exceeded spending targets, created institutions to oversee administration and provide essential checks and balances, and nurtured a stable, qualified human resource base while offering generous pensions to older civil servants. The strong public management system ensured sound fiscal management (revenue collection and spending controls) and effective development planning.

Poland also created sustainable fiscal space by implementing fundamental tax reforms, shifting taxation away from production and large public enterprises toward consumption, workers, and small businesses. Poland’s success is testimony to the legitimacy citizens accorded to its government. Without reforms to its political institutions, this would have been difficult to achieve. And given a sound fiscal basis, Poland successfully weathered two major global crises (1998 and 2008).

Create effective and accountable local governments

Poland’s decentralization was a pillar of democratic and market reforms, pushing responsibility for service delivery to the local level to avoid capture by the central state. Local government has been effective across the country, without large regional disparities. Subnational governments were able to increase local revenues, legitimized by greater local political accountability, while also absorbing large amounts of EU funds for investment, supporting regional growth potential. Local governments played a key role in improving education, health, and public investment. Similar to the national reforms, local reforms were based on longstanding administrative structures, rather than involving wholesale change.

Insights for Poland

Invest in transparent and accountable governance

Poland still has some way to go to catch up to the more established HICs, particularly in reducing corruption, building trust in public institutions, and enhancing public services. And growing perceptions of inequality and low trust in government have weakened the consensus around the existing institution-building strategy, based on the EU governance framework. Meeting these challenges implies redefining and developing institutions to distribute gains from growth more widely, and making the public sector more efficient, transparent, and accountable to the citizens.

Actions could include:

- Introducing performance-focused approaches and tools, institutionalize spending reviews and integrate multiyear budget frameworks into the annual budgeting, to better design and evaluate fiscal policies and manage the implementation of policy priorities.

- Enhancing the performance orientation of the budget, including at the subnational level, through greater transparency, accessibility of information, and a focus on results through performance information.
• Improving the use of information and communications technologies (ICT) to promote accountability and responsiveness.

• Strengthening public sector capacity and merit-based management, discontinuing ad hoc wage freezes and increasing management flexibility and accountability.

• Increasing investment in disseminating and monitoring good governance practices for subnational governments.

**Improve institutional resilience**

Institutions will need to adapt to support the future drivers of growth, enhancing productivity and innovation.

• Strengthening the rule of law and democracy, as these are positively associated with efficiency and innovation.

• Improving the quality of economic regulations, for example in contract enforcement.

• Using the Subnational Doing Business analysis and promoting the exchange of good regional practices to improve business regulations in lagging regions.

• Improving the efficiency of the judiciary.

**Renew the vision of a social-market economy and establish a new political consensus around it**

Poland’s reforms were driven by a remarkable policy continuity inspired by the broadly shared vision of achieving a market economy characterized by solidarity, and guided by the goal of joining the EU. However, Poland’s success has bred new challenges, which will require a renewed political consensus around the vision for the economy if the policy consistency that has helped Poland so well is to continue.

**This chapter is structured as follows:** The next section looks at the sequencing of the reforms and Poland’s success in establishing the institutions required for an efficient market economy, as measured against international standards. In the following sections the evolution of the rule of law and the quality of economic regulation are assessed. We then consider the development of administrative capacity to implement policies and deliver basic services at the national and local levels. The final section suggests areas of future governance reform for Poland to improve service delivery, trust, and accountability for its citizens, and support inclusive growth.

**Sequencing the reforms**

The sequencing of reforms, and the continuity of commitment to them, were critical to progress. After the initial big bang reforms, Poland continued to galvanize political support for the reform of institutions around a common goal: accession to the EU. In this way, from the big bang reforms of the early 1990s to the period of normal politics leading up to EU accession and afterward, the Polish reform program benefited from a broad, consistent political consensus, despite many changes of government — seventeen in all. This consensus facilitated the commitment, coordination, and cooperation needed to establish a market-based economic system.

Poland started the transition in the late 1980s and early 1990s with institutions unsuited for a market economy but swiftly transformed them. Fortunately, there was “broad acceptance of the radical economic reforms (which complemented the largely endorsed democratic transition) …helped by the then prevalent opinion that there was no alternative…. [and]...in the early transition period …. the surprisingly vibrant explosion of entrepreneurship, much more so than in other countries” (Orłowski 2011:40).
The early efforts focused on rapidly transforming the economy from a socialist to a basic market economy. Political consensus around the 1989 Balcerowicz reforms facilitated rapid macroeconomic stabilization, the elimination of most controls on prices and economic transactions, the imposition of taxation, the refusal to bail out failing state enterprises, and the restructuring of the financial system by welcoming foreign banks while refusing to bail out failing domestic banks. At the same time, the political consensus also demanded that the government protect and support rural areas, pensioners, and public sector workers.

However, several key issues were postponed, or addressed very gradually, because they needed more time for a political consensus. The restructuring and privatization of many public sector enterprises, such as in the coal sector and in telecommunications, was slow (Dabrowski, Gomulka, and Rostowski 2001). Similarly, the rules governing pensions, health care, education, and the reform of subnational public administration were not passed by parliament until the late 1990s.

Instead, priority was given to making political institutions more inclusive, ensuring civil liberties, improving accountability, providing for local government autonomy, and maintaining confidence in the stability of the political process. These efforts preceded deeper improvements in economic institutions, such as improving the quality of regulations and their enforcement. Ensuring a fair, transparent, and stable political system was a prerequisite to achieving the economic management improvements required in a high-income economy. Improvements in economic institutions started in earnest only in 2009, in particular with respect to the Doing Business regulations, and Poland did not catch up to the average of the new HICs until 2013. By contrast, the improvement in indicators of Poland’s political institutions began around the middle of the first decade of this century (Figure 1.1).

As Shleifer noted,

\[
\text{the speed of economic reforms is not the only important determinant of the success of the transition to a market economy: the transition of government from a communist state to an institution supporting a market economy is as critical. Survey evidence shows that Russia lags significantly behind Poland in the transition of its government, which may account for its inferior economic performance despite adopting similar economic reforms (1997:1).}
\]

In this way, sequencing the reforms — starting with rapid liberalization under the big bang of the early 1990s, followed by the creation of the basic political institutions of good governance to create the political consensus for deeper economic reforms — constitutes an important lesson from Poland.
Anchoring the reforms

EU accession promoted political convergence toward institutions and laws that promoted property rights, sound money and fiscal solvency, and trade and competitive market institutions. The successful accession institutionalized the first-order economic principles that sustain high levels of growth: the rule of law, protection of property rights, market-based competition, sound money and fiscal sustainability, and bureaucratic capacity and accountability. Poland took full advantage of the institutional reforms associated with EU accession, which suited the move toward a market-based economy, and it then quickly became the largest recipient of EU structural funds. This feature of Poland’s reform cannot be easily or fully replicated outside Europe.5

All EU candidate countries go through accepting the acquis communautaire6 to become members. The acquis includes the three sets of the Copenhagen economic accession criteria approved by the European Council in 1993: political — stability of institutions guaranteeing democracy, the rule of law, human rights, and respect for and protection of minorities; economic — a functioning market economy and the capacity to cope with competitive pressures and market forces within the EU; and institutional — adherence to the whole range of policies and measures that constitute the legal system of the EU that candidate countries must adopt, implement, and enforce.7

The criteria and acquis do not mean that all accession countries have to implement all EU laws perfectly, or adopt specific economic systems and institutional forms. Countries have considerable scope to adapt these to their historical, cultural, and economic conditions. While the full acquis is difficult to define precisely, it represents a powerful commitment and coordination device for candidate countries.8

The acquis was certainly powerful for Poland. For instance, Poland’s constitution, adopted in 1997, was explicitly designed to move the country toward its Western European neighbors by establishing “a democratic state ruled by law and implementing the principles of social justice.”9 The desire to integrate with the EU provided the political consensus to undertake significant legal reforms.

The pre-World War II history shared with the European neighbors to the west facilitated a fairly rapid and fundamental reform effort, as there was an institutional memory of political and economic institutions common to the existing EU members. However, Poland’s common historical legacy with Europe facilitated the adoption of the acquis more or less wholesale. “Countries such as Poland, the Czech Republic, and the Baltic republics share a similar historical trajectory with the rest of Europe, have previous experience with capital market institutions, and envisaged full EU membership within a reasonable period. The wholesale adoption of the acquis communautaire may have been the appropriate institution-building strategy for these countries” (Rodrik 2004; Rodrik 2007: 166).

EU membership acted as a strong commitment device for policymakers in Poland that reduced uncertainty about policy reversals, as many reforms were part of the integration package. The commitment supported investment and growth, in contrast to policy uncertainty, which delays investment and hiring decisions that are costly to reverse, as illustrated by the case of Argentina (Box 1.1).
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Box 1.1 Policy uncertainty: The case of Argentina

Box Figure 1.1.1 Economic policy swings in Argentina, 1963–2016

“In the Argentinean economy, the long term does not exist” Juan Carlos Pugliese, Argentinean Minister for the Economy for two years (1962–64) during Arturo Illia’s government, and just over one month (March–May 1989) in Raul Alfonsin’s government.

Arza (2006) looked at the effects of macroeconomic policy uncertainty and investment and innovation decisions in Argentina. For the period 1960–2001, he classified different historical periods into orthodox and heterodox economic policy orientations. For this box the period has been extended up to 2016 using the same approach. Orthodox policy orientation periods are those in which the authorities in charge of macroeconomic policies make explicit the following principles in their decisions: macroeconomic discipline, market oriented reforms, and openness to the world through trade and investment liberal policies (see page 57 in Arza, 2006). Heterodox periods are those in which decisions do not follow those three guiding principles. There are some periods, however, which do not allow a classification, either because there was no clear economic program or because the three principles were not consistently followed or opposed (see Box Figure 1.1.1).

Argentina has experienced very frequent economic policy swings over the last half century. Associated with the frequent macroeconomic policy swings are the extremely volatile changes in real GDP in Argentina, a trapped MIC, when compared with that of an established HIC (Box Figure 1.1.2).

Box Figure 1.1.2 Argentina’s real GDP growth rate is much more volatile than that of France

Annual GDP growth in Argentina and France, 1960–2015, percent

Source: World Development Indicators.
Note: France was chosen as a comparator as an example of an established HIC. The same message would emerge from considering any other established HIC.

Reforming political institutions

In 2013, an OECD governance review concluded that:

Poland has made great strides since the fall of communism in modernizing its governance structures and processes... [and] has made impressive efforts at articulating and setting a vision-driven strategy (OECD 2013).

Good governance and per capita income are closely correlated (Figure 1.2). Many causal explanations are provided in the literature. The correlation also holds for the six dimensions of governance as measured by the Worldwide Governance Indicators (WGI) compiled by the World Bank (Annex 1.1). It reflects the close link between the quality of institutions and the ability of governments to effectively provide public goods, support a regulatory environment that can generate jobs and growth, address market failures, and engage citizens in the processes important in a country’s development. The new HICs tend to enjoy markedly stronger governance institutions across the range of WGI dimensions than countries that have remained in transition for an extended period (trapped MICs).

**Figure 1.2** Good governance and per capita income correlate strongly

Source: WDI and WGI.
Three-digit country codes are from the International Standards Organization (ISO3).
LN: natural logarithm
R²: coefficient of determination
Poland’s governance indicators are close to the average of new HICs (Figure 1.3). Most new HICs, including Poland, are closer to the levels of established HICs in political stability and voice and accountability, while lagging behind the established HICs in the rule of law, control of corruption, regulatory quality, and government effectiveness.

**Worldwide Governance Indicators, 2014**

![Diagram showing governance indicators for various categories such as voice and accountability, control of corruption, political stability, rule of law, and government effectiveness.](Image)

Poland’s move toward better governance was not linear, however. After a period of decline in the lead-up to EU accession, caused by the uncertainties created by radical and massive institutional changes, Poland’s governance indicators saw a general pickup only after EU accession (Figure 1.4).

**Worldwide Governance Indicators, Poland 1996–2015**

![Diagram showing governance indicators for Poland from 1996 to 2015.](Image)

Poland greatly outperforms trapped MICs and many new HICs, and has almost caught up with established HICs, on the basic political institutions of order and security, civil liberties, voice and accountability, political processes, and constraints on government powers, with constitutional and institutional laws that effectively limit the powers of the government officials (Figure 1.5).

**Governance indicators, political institutions**

![Diagram showing various governance indicators including constraints on government powers, civil liberties, political culture, political process, and functioning of government.](Image)

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**Figure 1.3** Governance indicators are strongly related to development level

Source: WGI.

**Figure 1.4** Most of Poland’s governance indicators have improved since 1996

Source: WGI.

**Figure 1.5** Poland scores close to the established HICs and well above the trapped MICs on several governance indicators

Sources: WGI, World Justice Project, EIU Democracy Index.
The rule of law is key to inclusive political institutions. Measures of the rule of law need to capture not only the laws on the books, but the actual “rules of the game,” which depend on how those laws are respected and enforced; how they interact with social norms and de facto power. In other words, the “role of the law.”12 This largely explains why countries respond very differently when adopting the same laws and legal institutions.13 On average, the rule, and the role, of the law tends to be stronger in those countries that have moved to high-income status (see Figure 1.5 for the WGI measures of the rule of law14), whereas many of the trapped MICs have slower and less efficient criminal justice systems, and weaker constraints on government powers, than the HICs.15

Like other new HICs, Poland scores reasonably well on the World Bank’s measure of the rule of law (see Figure 1.5). The World Justice Project Rule of Law Index, another international ranking, ranks Poland 21 out of 102 countries in 201516 (Figure 1.6). As explained earlier, the legal reform momentum generated by EU accession largely explains why Poland compares well with countries of similar income on the rule of law, and comes close to countries of higher income.

However, Poland lags behind established HICs in three key areas under the rule of law: effective regulatory enforcement, absence of corruption, and civil justice. Regulations are less fairly and effectively implemented and enforced in Poland than in the established HICs (Figure 1.7). The largest problems are improper influence by public officials or private interests on government regulations, and lengthy and delayed administrative proceedings. Corruption is significantly more prevalent in Poland’s legislative and executive branches of government than in the established HICs (Figure 1.8).
Finally, the delivery of civil justice in Poland requires reforms to improve its accessibility and affordability, reduce corruption, and reduce delays in court proceedings. The court system is slow by the standards of more developed countries, with the average procedure lasting about two months, due in part to inefficient case management. In 2014, over 80 percent of Poles thought that courts worked too slowly. The WJP indicator (2015) for unreasonable delays in the civil justice system puts Poland below the average of some other new HICs and even below some of the trapped MICs (Figure 1.9).

Reforming economic institutions

Economic institutions are not organizations, but policies, or the “rules of the economic game.” They include the rules that govern and regulate markets for goods and services, capital and labor; property rights; and contracts. They also include the effectiveness of government and the rule of law. They shape the incentives for investment and innovation.

Poland improved its economic institutions first propelled by the post-communist transition period’s momentum, and later by EU accession. The strong and continuous economic reform program over the past 25 years consolidated a market-based economy. Momentum was strong throughout the 1990s and early 2000s in preparation for the EU accession once the detailed government roadmap to full EU membership was implemented from 1996 onwards. Momentum continued after accession, in part, to comply with new EU directives — for instance, in public procurement or services trade. Recent reforms have supported the transformation to a knowledge economy through targeted incentives for entrepreneurship, research and development, and higher education.

Today, the quality of economic institutions in Poland (as in the new HICs on average) is, as expected, better than in the trapped MICs. But Poland’s indicators remain well below those of the established HICs in nearly all major categories, except for the ease of doing business (Figure 1.10).
In fact, Poland recently became one of the most improved performers in the Doing Business indicators, with the likes of Estonia, Latvia, and Lithuania. Poland joined countries such as Malaysia and many other advanced EU members among the top 25 countries (World Bank 2016b). Poland’s Doing Business “distance to frontier” score, which measure how close it is to the best-performing countries, improved from 63 percent in 2010 to 76 percent in 2016, and Poland’s rank improved to 25 out of 189 countries.

As mentioned earlier, the early post-transition reforms focused on rapidly creating basic market competition and counteracted the many monopolies established under the central planning system. The entry of many new firms also created a strong constituency for further reforms, countervailing the vested interests of existing firms that could have blocked reforms. Only in later stages were more far-reaching institutional reforms implemented to further strengthen competition, consumer protection, capital markets, and transparency and competition in public procurement, often as part of the preparation for EU accession.

The removal of regulatory barriers to domestic competition improved allocative efficiency. Poland’s decline in regulatory entry barriers for domestic firms was strongest of all countries between 1998 and 2013. While in 1998, Polish regulatory domestic entry barriers were as costly as in Mexico and Turkey, by 2013 Poland’s product markets were substantially more competitive. The removal of regulatory barriers to domestic entrepreneurship accompanied the strong decline in barriers to foreign trade and investment (Figure 1.11).

Figure 1.10 The quality of economic institutions in Poland is below that of established HICs

Sources: World Government Indicators; World Justice Project; Doing Business 2016.

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Figure 1.11 Poland had the strongest decline in regulatory barriers to domestic entrepreneurship as well as to foreign trade and investment among all countries

(Domestic) Barriers to entrepreneurship

Barriers to trade and investment

Source: World Bank staff based on OECD.

Note: Indicators vary from 0 (no restrictions to competition) to 5 (highly restricted). Domestic barriers to entrepreneurship include three sub-indicators: complexity of regulatory procedures, administrative burdens on start-ups, and regulatory protection of incumbents. Barriers to foreign trade and investment include four sub-indicators: barriers to foreign direct investment, tariff barriers, differential treatment of foreign suppliers, and barriers to trade facilitation.
Other important economic institutions are the definition and enforcement of property rights and contracts, which are critical for investment and growth. A good contracting environment is a powerful source of comparative advantage, explaining more of trade patterns than physical capital and skilled labor combined. Sophisticated tasks or inputs tend to require relationship-specific investments (there is no thick market for them, with many alternative buyers and sellers) in which contracts are crucial to ensure smooth workings between clients and suppliers. When investments are relationship-specific, poor contract enforcement may lead to underinvestment. This is more relevant for Poland as its firms become more sophisticated in international production networks. A weak enforcement environment also influences ownership and control patterns and the functioning of different corporate governance mechanisms (Berglof et al. 2006). This is important for all firms, but particularly important for firms seeking foreign investment.

However, Poland’s performance on enforcing contracts and resolving insolvency is more similar to that of trapped MICs than that of established or even new HICs, according to Doing Business indicators. A firm in Poland must complete an average of 36 procedures to enforce a contract, while it takes less than 30 in new HICs (Figure 1.12). In Poland it takes on average more than 800 days to enforce a contract, against slightly more than 400 days in established HICs and about 500 in new HICs. Similarly, resolving insolvency may take about 1,100 days in Poland, versus about 400 in established HICs. For recovery, Poland performs better only than trapped MICs, at 40 cents to the dollar versus 30 cents, while it lags behind established HICs (80 cents to the dollar) and new HICs (45 cents).

Overall, Poland’s institutional reform agenda to support a competitive and more sophisticated market economy is not yet complete. Not only is Poland’s performance on enforcing contracts and resolving insolvency closer to that of trapped MICs than of established or even new HICs, but Poland still presents regulatory barriers to entry and competition for selected professional services, even though a 2013 reform started the deregulation of admission into some.

Finally, gaps in governance matter to growth, as firms’ incentives to innovate are positively correlated with institutional variables such as the rule of law (Nguyen and Jaramillo 2016) and democracy (Aghion et al. 2013). Backtracking on governance would undermine consensus and reduce growth.

Developing national government capacity

Developing the capacity of national government is essential for economic development. Poland’s performance in this area subsequent to EU accession was remarkable given its weak capacity at entry. A 2006 World Bank study on Poland concluded that “more than two years after the enlargement of the EU, administrative capacity remains an issue of concern for the new member countries” (World Bank 2006). The study compared the eight former Easter European countries that joined the EU around 2004. It rated Poland among the worst performers in almost every category,
as reforms introduced as part of the EU acquis had often "not stuck" and the risk of reversal was high. Low administrative capacity was considered an impediment to effectively using the huge volume of EU structural funds, which were expected to total up to 3.5 percent of GDP a year for new member states, in 2007–13.26

The 2006 report particularly criticized core government institutions as "severely weakened" and "heavily politicized," and recommended reforms to rebuild core government institutions as bodies of professional excellence, a condition for successful systemic reform. More specifically, the study noted that Poland had made "many failed attempts to strengthen the center of government," was backtracking on reforms to ensure the independence (and de-politicization) of the civil service, showed no evidence of the systematic introduction of performance management approaches, lacked overarching strategic planning systems, and suffered from weak policy coordination.27 Poland ranked particularly poorly on e-government systems, having established mainly one-way (rather than interactive) systems to share information.

That may well have been the nadir, before Poland bolstered the public planning, control, and compliance systems required to access and account for EU funds. EU funding comes with its own governance framework, which requires projects to be well prepared, openly procured, closely monitored during execution, and evaluated ex post (including audit by the EU Court of Auditors). Weak administrative capacity could therefore reduce a country’s ability to absorb such funds, as well as lead to less coherent investment strategies and/or lower-quality projects. Poland improved capacity at the strategy and planning stage, where National Development Plans and Operational Programs are prepared for each EU five-year budget perspective, as well as at the procurement, implementation, and evaluation stages. As a result, Poland became one of the most successful countries in using EU cohesion funds (Figure 1.13).

In addition, Poland implemented an ambitious privatization program to improve corporate governance, notably via listings on the Warsaw Stock Exchange. After 1989, Poland reduced the number of state-owned enterprises (SOEs) from 8,500 to around 700. Close to 500 companies were listed on the exchange with a domestic market capitalization of around €150 billion in 2015. Poland now has modern corporate governance thanks to the high quality of securities market regulation in Poland and in the EU.28 SOEs contribute significantly to the national budget, as opposed to requiring subsidies.

Today, Poland compares well with other EU members in efficiency of spending (see Figure 1.13). And Poland has done so while containing the public sector wage bill (Figure 1.14).29 EU studies (Box 1.2) have shown a positive relationship between the ability to utilize EU funds, which are subject to stringent governance requirements, and government effectiveness (Figure 1.15). Observing the EU requirements for public investment management promotes the development of broader government systems and capacity. For example, Ireland built a good track record in absorbing EU funds, which in turn helped the country build administrative capacity and strengthen public investment management more broadly.30
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Figure 1.14 The public wage bill in Poland is relatively modest

Source: Eurostat.
Notes: Wages and salaries paid by central and subnational governments, and social security contributions.

Figure 1.15 Effective governments can absorb EU cohesion funds

Source: Data from European Commission 2014, 2015; WGI; Eurostat.

Box 1.2 The quality of government is a determinant of the effectiveness of cohesion policy and support for innovation among EU regions

Recent studies commissioned by the EU have sought to assess the role of cohesion policy expenditure, the quality of government, and the interaction between the two. Using econometric models (a two-way fixed effect panel regression model for a total of 169 European regions during 1996–2007) the results indicate that EU cohesion expenditure had a significant impact on the growth of GDP per capita. In the regions that received the largest shares of funding (mainly the least developed regions), the higher the quality of government, the greater the impact. While low quality government was an impediment to the use of cohesion funds and growth, this could not simply be addressed by spending more.

These studies were then expanded to look at the impact of government quality and its components (control of corruption, rule of law, government effectiveness, and government accountability) on shaping patenting — as a proxy measure of innovation — across the regions of the EU. The results of the analysis — which are robust to controlling for the endogeneity of institutions — provide strong evidence of a link between the quality of government and the capacity of regions to innovate.

The quality of government has a considerable impact on local processes of knowledge production. High levels of corruption and low policymaking capacity are the two main government qualities that constrain knowledge generation and the effectiveness of innovation policies in the regions of Europe. Notably, relatively small improvements in government effectiveness or the control of corruption may yield substantial benefits for the creation of sound regional innovation systems and for new knowledge generation in the periphery of Europe.

Source: Rodriguez-Pose and Garcilazzo 2015; Rodriguez-Pose and Di Cataldo 2014.

Poland’s budget execution is fairly strong, with the government’s flexibility constrained by parliament. Macroeconomic and fiscal forecasting is also fairly strong. However, in some areas (notably independent fiscal agencies and budget unity) Poland lags behind more advanced countries, such as Germany, which traditionally has strong budget institutions and fiscal performance (Figure 1.16).\footnote{31} Poland has introduced a medium-term framework, but it should be better integrated with the
annual budget process, and a link to more detailed ministerial or sectoral priorities and resource allocations should be ensured. Poland has also included performance information in the budget process, but so far it has been largely a mechanical, supplementary exercise.

Budget unity remains one of the weakest elements for Poland, with the budget covering only 60 percent of central government expenditure and its spending subject to significant rigidity. While the government disseminates regular cash-based financial information on the state budget, this approach lacks transparency and covers only 21 percent of general government expenditure. Further, a comprehensive, quantified statement of fiscal risks, as well as information on assets and asset-related risks, are missing. And Poland lacks an independent fiscal council (the only case among EU members) to monitor and assess fiscal policymaking. A detailed evaluation of key features of the budget institutions in Poland is in Annex 2.

Raising the quality and comprehensiveness of public sector accounting and financial reporting would support better policy decisions and risk management. One key step would be to align public sector accounting with internationally recognized standards. Simplifying and standardizing public sector accounting regulations, which are complex and nonstandard across public sector entities, would improve usability. In addition, the Public Finance Act omits certain public sector entities, such as the Treasury and the Road Fund, from the definition of Public Finance Sector Entities (PFSEs), while the regulations inconsistently cover important transactions, such as tax and customs revenues. Enhancing IT systems to produce consolidated financial statements would also be desirable.

Transforming local government

Politicians viewed Poland’s decentralization as integral to democratic and market reforms, pushing responsibility for service delivery to the local level to avoid capture by a central state. Before the transition, Poland already had a well-defined structure of subnational regional and local administrations. In the transition, they were fundamentally transformed into independent, democratic political bodies with meaningful multiparty elections, where members of the opposition had a reasonable chance of success. This shift mirrored steps to democracy that southern Europe (Greece, Portugal, and Spain) made in 1974 and 1975 and Latin America a decade later. Today, local elections are freely contested.

Poland’s subnational governments, closely controlling key public services, account for half of public expenditures. They play a dominant role in education, health, and major infrastructure sectors, such as roads, water supply, and public transport. In education, for instance, local governments are free to determine the level of spending (provided minimum standards are met) and teachers’ salaries (as long as the centrally-determined minimum teachers’ salary is observed). Poland’s basic structure of subnational government is uniform throughout the country. However, the autonomy of subnational governments is circumscribed, depending on the sector. In education, for example, national requirements set out the years of mandatory school attendance, core curricula, rules for assessing and promoting pupils, minimum qualifications for teachers, and rules for their remuneration.
While central government regulations limit local borrowing, subnational governments enjoy considerable freedom in using central transfers and shared taxes because earmarking is relatively low. The role of subnational governments helped to smooth the impact of the economic downturns. Unlike some EU countries that responded to the economic crisis by making ad hoc cuts in intergovernmental transfers, Poland continued to fully fund local government mandates and made no drastic, ad hoc, changes in the system of local finance, helping local governments to sustain vital services. EU funding also required subnational capacity for implementing projects. Seventy percent of subnational revenues are derived from centrally-administered shared taxes and transfers, 30 percent of that is earmarked, and in turn one-third of that consists of pass-through of EU grants.

A new regional governance index — the European Quality of Government Index (EQI) by the Gothenburg Institute — shows that the quality of governance varies largely in line with income level, with many of the most recent entrants to the EU in the bottom two groups (Figure 1.17).

Figure 1.17 The quality of governance nationally generally stays close to the Worldwide Governance Indicators and income level

The European Quality of Government Index (EQI), 2013

Source: Charron et al. 2015.
Note: The European Quality of Government Index (EQI), presents a comprehensive index that captures the quality of governance for 206 regions in 24 European countries using a survey of 85,000 respondents to 16 survey questions in 2013. The index inquires about citizens’ perceptions and experiences with regional public services, particularly in education, health care, and law enforcement. The EQI country indices are scaled to the World Bank’s Worldwide Governance Indicators.

Poland shows relatively little regional variation in the EQI, similar to the countries with the highest perceived quality of government — the three Nordic countries and the Netherlands. However, Poland’s quality of local government is well below that of established HICs in the EU and will entail continued investment.

The Doing Business in Poland 2015 report goes beyond the capital, Warsaw, for the first time and looks at 18 cities across all 16 voivodships (provinces) in the country (World Bank 2015). It reveals significant differences. The report assesses business regulations relevant to four aspects of the operations of small and medium-size domestic firms: starting a business, dealing with construction permits, registering property, and enforcing contracts. While Bydgoszcz, located in the northern Kuyavian-Pomeranian Voivodship, topped the aggregate ranking, no city outperforms the others in all areas benchmarked: it is easier to start a business in Poznañ, to obtain construction permits in Bydgoszcz, to transfer property in Białystok, and to resolve a commercial dispute in Olsztyn. Comparing region’s governance indicators could point out where good practices can improve service delivery, business regulation, transparency, and accountability.
Engendering transparency, accountability, and trust in government

Poland has not yet built trust or enhanced the performance of its public services, and ranks poorly in the openness of public services. State institutions need to be more open and responsive to citizens’ demands, if political consensus around the country’s strategic direction is to be maintained.

Open, transparent systems that minimize corruption are closely linked to economic performance and equity. Developed countries have greatly reduced corruption by replacing patronage with merit-based recruitment in the public service and implementing transparency and accountability measures, including antitrust legislation. Reduced corruption allows these countries to focus on making their bureaucracies more responsive and reducing legislative capture by special interests (World Bank 2017).

Collusion and corrupt practices still pose a challenge, however, even in the most advanced countries, and are associated with lower trust in politicians (Figure 1.18). Once again, EU rules and oversight mechanisms have spurred countries to tackle corruption, although progress has been uneven. Countries with worse perceptions of corruption often have lower levels of satisfaction and confidence in core public services (Figure 1.19), and Poland is below the average in OECD countries.

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**Figure 1.18** Perceptions of corruption are closely associated with public trust in politicians


**Figure 1.19** Satisfaction and confidence in core public services, 2014

Source: OECD 2015c.
Note: Blue bands reflect the difference in satisfaction and confidence in core public services between the best-and worst-performing OECD countries (indicated by labels). Performance of Poland and the OECD average are also indicated.
Corruption can be combated not only with formal rules and procedures, such as strengthened external audits in the public sector or through an independent judiciary, but also through greater transparency. Transparency can come from simpler administrative procedures and regulations for businesses, or from greater use of e-government to enable citizens to monitor public sector activities. Changes to the design of formal rules and incentive structures in public agencies can make it harder for officials to collude with special interests. Stronger, broader channels of accountability to firms and consumers can provide a more direct counter to the influence of powerful, narrow interest groups. Then, higher fiscal transparency tend to be associated with lower government debt (Figure 1.20). As highlighted in a recent survey of the EU:

Surveillance by government agencies might indeed be indispensable, but the use of it is no proper way to gain trust; that is a job for surveillance by the citizens themselves. New technology should be recruited to allow complete transparency in fiscal matters and the monitoring of governments by their own citizens (ERCAS 2015).

However, Poland ranks low on availability and usability of information on the public sector (Figure 1.21), even though it provides the public with much information on the central government’s budget and financial activities. This is because Poland grants the public few opportunities to engage in the budget process, and because oversight legislation is limited. The first EU Public Sector Information Directive was issued in 2003, but implementation in Poland was heavily delayed — so much that Poland, with Italy and Sweden, was subject to infringement proceedings by the European Commission. Only in 2011 did the Polish government amend the 2001 Law on Access to Public Information to comply with the Directive, issue further implementation decrees, and launch a dedicated portal for open government data. An OECD (2015b) review concluded that changes had mainly focused on legal compliance with the directives and legislation, rather than seeking ways to use information to promote improved transparency and service delivery. Other drawbacks included: low availability of useful content; low accessibility of data on the national data portal due to inconvenient formats, lack of good tools, and poor functionality; and little proactive government support to foster innovative reuse and stakeholder engagement.

Figure 1.20 High fiscal transparency is associated with lower government debt

Source: World Economic Outlook (Debt to GDP); IMF staff estimated (Fiscal Transparency Index).
In recent years, information technology (IT) has opened the door to more transparent and efficient systems in public agencies. Such technology can make it harder for narrow interests to capture policies. Technology can also reduce inefficiency and corruption in public procurement. Even with open bidding for procurement, the difficulty of access to bidding information can exclude many firms, leaving space for collusion among bidders or for government officials to favor certain bidders. E-procurement could help address some of these problems. E-government services are strongly associated with reducing perceived levels of corruption, and with providing mechanisms to enhance the responsiveness of public services to citizens. Generally, richer countries have taken advantage of new technologies to not only inform citizens, but to engage them in service delivery (Figure 1.22).

However, Poland’s use of e-government services is still well below the EU average and, according to the OECD, at a very “early stage of development” (OECD 2015b: 2). Most government portals provide information, though often not in a user-friendly format to facilitate analysis of the data, and the number of users of such services remains small, according to Eurostat. Poland could also consider strengthening its commitment to being “open by default” by issuing a schedule for publishing high-value datasets and creating prioritization mechanisms for future releases (OECD 2015b). Around €2 billion is available for open government data projects as part of the EU’s Digital Agenda 2020 and the national implementation program “Digital Poland” for 2014–20. The country generally needs to improve the provision of e-government services.
Conclusion

Poland’s political and economic transformation from communism to a market-based democracy succeeded because of the coherent, mutually reinforcing opening up of its political and economic institutions. However, the transition has bred its own political and economic challenges, including popular perceptions of a lack of accountability and responsiveness of the bureaucracy.

Continued political support will be essential for further reforms necessary for Poland’s transformation toward high-income status and preventing policy reversal. The state will have to meet citizens’ demands for more efficiency, transparency, and accountability. Sustaining reform momentum and policy continuity served Poland well in the past. In no area was this perhaps more obvious than in macroeconomic policies, which are discussed in the next chapter.
Annex 1.1 Correlation between per capita income and WGI governance measures
Note: The Worldwide Governance Indicators six aggregate indicators are based on 31 underlying data sources reporting the perceptions of governance of a large number of survey respondents and expert assessments worldwide. Details on the underlying data sources, the aggregation method, and the interpretation of the indicators, can be found at www.govindicators.org. Estimates of governance performance range from approximately -2.5 (weak) to 2.5 (strong) in each category.
Annex 1.2 Budget institutions in Poland

Budget institutions can support fiscal outcomes

Public finances are influenced by many factors, but many studies argue that budgetary institutions38 have an important role in shaping fiscal outcomes. A positive relationship between the quality of budget institutions and fiscal outcomes has been confirmed in a number of studies covering different geographic regions and countries with various political setups and income levels (Gupta et al. 2015). It has been argued that strong institutions can improve fiscal performance irrespective of country-specific economic and fiscal prospects. They can do this by highlighting the need for sustainable policies, exposing the full cost of public interventions, emphasizing collective responsibility over sectoral interests, and raising the cost of deviating from stated fiscal objectives (Olden et al. 2012).39 Generally, the empirical evidence emphasizes the key roles played by comprehensiveness of the budget, its medium-term orientation, and top-down decision-making in the budget processes (Gupta et al. 2015).

Strong budget institutions can not only strengthen fiscal management in general but also help develop and deliver effective fiscal adjustments. Large long-term fiscal consolidation has become necessary in many countries following the global economic and financial crisis. In this context, well-designed budget institutions can help countries plan and deliver successful fiscal adjustments. More broadly, fiscal sustainability should remain the focus of long-term fiscal policy in all countries, given the fragility of the economic recovery and the need to implement key structural reforms to address longer-term fiscal challenges, such as population aging and growing pressure from age-related expenditures.

Following the global financial crisis, most progress has been seen in establishing fiscal councils and fiscal rules and developing medium-term budget frameworks. Reforms have been most prevalent among advanced G-20 countries, especially those in Europe, contributing to a growing gap in institutional strength between advanced and emerging G-20 countries.40 Moreover, countries with stronger budget institutions overall have tended to plan and deliver more fiscal adjustment in the wake of the crisis. Countries with comprehensive fiscal reporting, forecasting, and risk disclosure seemed to understand their post-crisis fiscal position and prospects better. Countries with more credible medium-term frameworks, performance budgeting systems, and intergovernmental fiscal arrangements were quicker to announce their adjustment plans and better at protecting public investment within those plans. Finally, countries with more unified and disciplined budget processes tended to more effectively implement their plans (IMF 2014).

A framework of budget institutions has been identified to support planning and to implement a credible fiscal strategy. In 2010, IMF staff reviewed the theoretical and empirical literature on the relationship between institutional arrangements for fiscal decision making and the success of fiscal adjustment (IMF 2014). Updated in 2014, the study identified 12 budget institutions (10 in the original study) at three key stages of the adjustment process: (1) understanding the scale and scope of the fiscal challenge; (2) developing a credible fiscal adjustment plan; and (3) implementing the plan through the budget process.41 This framework can analyze shortcomings and related reform needs in countries’ fiscal frameworks and assess institutional preparedness for the fiscal challenges ahead. However, it should not be viewed as a general guide to budget institution reforms and their sequencing, which depend on country-specific circumstances. This framework has been applied to a range of advanced and emerging economies (Gupta et al. 2015; Olden et al. 2012; IMF 2014).

The framework focuses on budgetary institutions42 and their key design features supporting successful fiscal adjustment. They include:

A. Understanding the fiscal challenge
1. Comprehensive, timely, and credible fiscal reporting
2. Robust macroeconomic and fiscal forecasting
3. Fiscal risk management  
4. Independent fiscal agencies

B. Developing a credible fiscal plan  
1. Clear and transparent medium-term fiscal objectives  
2. Medium-term budget framework  
3. Performance orientation of the budget  
4. Intergovernmental financial arrangements

C. Implementing the fiscal strategy through the budget process  
1. Budget unity  
2. Top-down budget preparation  
3. Constraints on parliamentary budget approval  
4. Constrained flexibility in budget execution

Budget institutions in Poland — evaluation

Based on the above framework, this section presents and evaluates key design features of the budget institutions in Poland.

Understanding the fiscal challenge

Fiscal reporting: The government’s annual financial statement (sprawozdanie z wykonania ustawy budżetowej referred to in Public Finance Act, art. 182.2) covers only the state budget with additional information on selected state agencies and earmarked funds. The statement, published and submitted to Parliament by the end of May, provides detailed information on budget execution with supplementary documentation, including aggregate information on local governments’ budgets, budget execution in performance-based classification, and public debt and guarantees, as well as a statement on compliance with the constitutional public debt rule. However, the statement lacks transparency because the format makes the information difficult to access and analyze. Moreover, the statement does not provide a complete and transparent view of public finance processes in a given year, the state of public finance, or the outcomes of public intervention and policies (reflecting the budget process and public finance in general). The statement does not include a balance sheet or other information on assets and liabilities. There is still therefore a way to go to make government data “Open, Useful, Reusable” (in the OUR Index Poland ranks second lowest among OECD countries, see OECD Survey on Open Government Data presented in OECD, 2015b).

The government’s statement is audited by the Supreme Audit Office (NIK) in its annual Analysis of the execution of the state budget and monetary policy guidelines (enshrined in the constitution), usually prepared within six months of the end of the financial year and submitted to the Sejm (lower house of parliament). The analysis evaluates both planning and execution of the state budget, taking into account its compliance with applicable fiscal rules. So far, no move toward a more comprehensive and inclusive accrual accounting system has taken place. In 2016, work started on the reform of the budget system, aiming to improve public finance management on the expenditure side. Government financial statistics, produced in line with ESA 2010, cover general government and are prepared by the independent Central Statistical Office (GUS).

Macroeconomic and fiscal forecasting: The first Multiannual State Financial Plan (MSFP) was prepared in 2010. Since 2014, following the amendment of Public Finance Act, the MSFP comprises the annual update of the Convergence Program (an element of EU budgetary surveillance) following guidelines on the format and content of Stability and Convergence Programs of the EU Member States. The MSFP forecasts main macroeconomic and fiscal variables for the current year and the following three years, and reviews the main objectives of the government and mechanisms for their implementation. It also contains a long-term fiscal sustainability analysis, focusing on the implications of population aging. The MSFP is approved by the Cabinet of Ministers by the end of April and, in accordance with the Public Finance Act, constitutes the basis for developing the annual budget for the subsequent year. In practice, however, the processes of preparing the MSFP and annual budgets are disconnected and the MSFP does not provide the framework for preparing the annual budget (for example, preliminary macroeconomic
forecasts and assumptions for the annual budget are prepared in a separate process following its own timeline.45

**Fiscal risk:** The MSFP provides information on potential contingent liabilities due to sureties and guarantees granted by general government (but no information on social commitments or public-private partnerships). The value of new sureties and guarantees granted by the State Treasury in a given year is limited by the Budget Act. Moreover, each year the Council of Ministers (by the end of May) submits to Parliament the *Information on sureties and guarantees issued by the State Treasury, certain legal persons and Bank of Domestic Economy (BGK) in previous fiscal year* (including a detailed list of sureties and guarantees issued and the total value of the resulting contingent liabilities, along with a list of biggest exposures by debtors and a list of values of contingent liabilities in long-term risk categories). However, a more comprehensive quantified statement of fiscal risks is not published. Sensitivity analysis of medium-term fiscal projections to the main risk factors is included in the Convergence Program. The government prepares a medium-term (four-year) debt management strategy (submitted to the Sejm along with the budget), including analysis of debt-related risks, but does not include asset-related risks.

**Independent fiscal agency:** The budgetary system does not foresee an independent fiscal agency to provide macroeconomic and fiscal forecasts or to scrutinize government’s projections and assumptions. Before the budget process, the Monetary Policy Council of the National Bank of Poland provides an opinion on the macroeconomic assumptions underlying the state budget. After a fiscal year, the independent Supreme Audit Office presents in its annual report an assessment of the financial management of the state budget during that.

**Developing a consolidation plan/formulating a credible fiscal strategy**

**Fiscal objectives and rules:** As obliged by EU regulations, Poland adopted the medium-term budgetary objective (MTO), targeting the structural balance of the general government at – 1 percent of GDP (set at this level to accommodate the impact of the business cycle). The annual fiscal adjustment toward the MTO (under the preventive arm of the Stability and Growth Pact) is specified — the improvement in the structural balance should be 0.5 percentage point of GDP until the MTO is reached. In addition, there is a set of rules specified in the national fiscal framework: (1) the stabilizing expenditure rule for the general government, which has determined the level of expenditure since 2015 as envisaged in *the Public Finance Act* (this is the correction mechanism unifying the national and EU policy frameworks); (2) the debt rule (threshold of 60 percent of GDP enshrined in the Constitution and supplemented with prudential thresholds defined in *the Public Finance Act*) for the public finance sector; and (3) the balanced operating budget rule and individual limits on the debt installments and service costs for local government units. However, the rules were subject to changes, most recently in December 2015 when the stabilizing expenditure rule was amended to create space for higher expenditure in the 2016 budget.46 The fiscal rules include an escape clause tightly defined by law and limited to the cases of martial law and a state of emergency, including due to a natural disaster.

**Medium-term budget framework:** The Convergence Program included in the MSFP includes estimates of main categories of revenue and expenditure for the current year and the following three years and is updated annually. However, the estimates of main categories may be deemed binding only for the current year, because the MSFP defines only a planned initial level of expenditures (Public Finance Act, art. 104.2.3). The plan presents the main fiscal categories at an aggregate (general government) level, and medium-term expenditure projections are not linked to more detailed ministerial or sectoral priorities or resource allocations. There is also no reconciliation of changes in sectoral allocations from year to year. Despite the MSFP and the stabilizing expenditure rule, the actual budgetary framework is still based on the traditional annual budget process. The fiscal impact of the most important new policies is presented, but the effects of current and new policies are not disclosed separately.

**Performance orientation of the budget:** Reform efforts in recent years have aimed at introducing a performance budgeting and management system. Performance-based budget classification has been introduced in addition to the traditional one, but it plays only a supplementary role to the line item budgeting and is largely...
Intergovernmental financial relations: The fiscal rules described above include limits on local government units designed to restrain debt levels. Medium-term deficit projections for the levels of government are presented in the Convergence Program. There is regular exchange of information between central and local governments but, formally, local government units remain independent entities.

Implementing the fiscal strategy

Budget unity: The budget does not include social security funds (due to their legally independent status) and as a result covers only around 60 percent of central government expenditure (NIK 2015), and as little as 21 percent of general government expenditure. This structure of public finances seriously limits control and management of overall expenditure in particular areas of public policy. Moreover, the legally determined state budget expenditure accounts for as much as 75 percent of total budget expenditure (Ruśkowski 2015). Rigidity of spending may be even higher, with as little as 17 percent of budget expenditure classified as non-rigid (according to the results of the pilot spending review on expenditure rigidity conducted by the Ministry of Finance and the OECD (Ministerstwo Finansów 2015). Consolidated information on tax expenditure is published by the Ministry of Finance.

Top-down budget preparation: Introduction of the stabilizing expenditure rule in 2015 should imply a change in approach to the budget process from bottom-up to top-down. In this approach, the overall maximum expenditure envelope, determined at the level of general government by the expenditure rule, is subsequently divided among budget priorities. In Poland, the planned initial level of expenditures, determined early in the budget process and presented in the MSFP prepared by the end of April, should constitute the basis for developing the annual budget. However, as already indicated, the processes of preparing MSFP and annual budgets are disconnected in practice, and the MSFP does not provide the budgetary framework or structure the negotiations in a top-down process for the annual budget. Revenue earmarking through special accounts is limited and major revenue and expenditure decisions are made as part of the annual budget preparation processes.

Parliamentary approval: The parliamentary approval process was not formally changed to accommodate the new top-down procedure; the medium-term financial plan is not endorsed by Parliament nor is it subject to consultations with social partners. There are restrictions in the right of Parliament to amend the government’s draft budget proposal (the proposed budget deficit cannot be increased). The budget has to be approved before the end of January — four months after the September 30 deadline for the government to submit it.

Budget execution controls: Appropriations cannot be carried over to the next fiscal year, unless decided and announced by the Cabinet of Ministers by December 15, but even then the appropriations should be used by March 31. There is an explicit general contingency reserve in the budget (up to 0.2 percent of budget expenditure) to finance unforeseen expenditure, such as for force majeure, and there can be reserves for specific expenditures (altogether not exceeding 5 percent of total expenditure). The Cabinet of Ministers can impose blocks on appropriations if there is a risk of overspending (the decision needs to be endorsed by the parliamentary committee). The multiannual expenditure commitments by line ministries are not properly controlled.
Endnotes

1. Throughout this chapter, institutions are defined as the organizations and rules that enforce and implement policies. Governance is the process through which state and nonstate actors interact to design and implement policies, within a given set of formal and informal rules that shape, and are shaped by, power. World Bank 2017: Box 0.1.

2. To provide a comparative perspective the performance of Poland is presented against three benchmark groups: (i) “Trapped MICS”—countries that i.e. that seem to be struggling to move beyond middle-income status (have spent more than the average amount of time for the group without reaching the HIC status: Argentina, Algeria, Brazil, Iran, Mexico, Romania and Turkey); (ii) “New HICs”—other high-income countries, that have sustainedly graduated to HIC status since 2000 (Chile, Czech Republic, Hungary, Korea, Malaysia, Slovak Republic and Uruguay); and (iii) “Established HICs”—successful high-income countries with stable economic performance i.e. with average annual GDP per capita growth above 2 percent since entering HICs (between 1960s and 1990s) (Australia, Austria, Belgium, Finland, Germany, Hong Kong, Ireland, Israel and Singapore). These three benchmark groups indicated in figures in red (Trapped MICS), yellow (New HICs) and green (Established HICs) are used throughout the report as a reference for the performance of Poland, indicated in blue.

3. It is important to distinguish between the myriad different “forms” that institutions may take from the “functions” that they perform (Rodrik 2004), which are the measures sought by most governance indicators. The functions are a combination of the particular form of state institution, which supports the commitment to specific policies, and the coordination and cooperation to deliver particular outcomes.

4. The rapid pace of reforms in Poland is often contrasted to those in “Romania and Bulgaria, which provide textbook examples of delayed reforms and their consequences…” if you initiate reforms with a five-year delay, the entrepreneurship environment improves five years later” (Balcerowicz 2010: 38).

5. A similar dynamic was present in the Czech Republic, Hungary, and the Slovak Republic. For these countries, the almost wholesale adoption of the EU's legal and institutional framework, notably the acquis communautaire, was considered (Rodrik 2007: 166).

6. The acquis communautaire is the accumulated body of European Union (EU) law and obligations from 1958 to the present day. It comprises all the EU’s treaties and laws (directives, regulations, decisions), declarations and resolutions, and international agreements, and the judgements of the Court of Justice. This acquis requires candidate countries to move to a political and legal system that is broadly consistent with that in older EU members, and supports market-based economic institutions, trade, and investment between member states. It requires the adoption of EU law as embodied in its treaties, legislation, international agreements, standards, court verdicts, and fundamental rights provisions, and “horizontal” principles in the treaties such as equality and nondiscrimination. Acceptance requires the capacity to transpose EU legislation into national law, implement it, and enforce it through appropriate administrative and judicial structures.


8. The full body of EU law is evolving, but includes the treaties, legislation, case law of the Court of Justice, related standards, declarations and resolutions, and so on. The different areas assessed to meet the accession criteria are called “chapters of the acquis.” The European Commission (the EU bureaucracy) assesses candidate countries’ compliance with the criteria, including their administrative capacity, in each area and provides an “Opinion” that helps inform negotiations.

9. The constitution provides protections for all democratic political, civil, and human rights; guarantees equality before the law; protects freedom of conscience and religion; ensures freedom of association and freedom of speech; and guarantees business and property rights. Poland also has a well-defined multi-level judicial system with the High Administrative Court, courts of appeal, provincial courts, and district courts. The Supreme Court is the highest central judicial institution and the highest court of appeal.

10. Acemoglu 2012; Rodrik 2007.

11. Voice and accountability; political stability; government effectiveness; regulatory quality; rule of law; and the control of corruption.


14. The WGI rule of law indicator reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

15. The constraints on power come through the independence of the judiciary, independent auditing, and the sanctioning of public officials for corruption.

16. The WJP Rule of Law Index relies on over 100,000 household and expert surveys to measure how the rule of law is experienced in everyday life. Performance is assessed through 44 indicators organized around eight themes: constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice. www.worldjusticeproject.org.

17. Heritage Foundation 2016 Index of Economic Freedom: http://www.heritage.org/index/Country/Poland. The inability to access justice services can be both a result and cause of disadvantage. Lack of good laws and regulations can result in social exclusion and inequalities among those who neither have the means nor the capabilities to solve their legal problems. In addition, the inability to solve legal problems can deny access to economic opportunity and undermine human potential (Beqiraj and McNamara 2014; OECD 2006). Indeed, unresolved legal problems such as inadequate access to justice can be costly for both the individual and society at large. The costs of inaccessible justice may include stress and health effects, loss of income and loss of employment (Stratton and Anderson 2008; Abel 2012). Providing suitable access to legal and justice services can play a crucial role in helping people move out of social exclusion and enable equal access to economic opportunities.


19. 2015 World Justice Project Rule of Law Index Poland Country Profile: http://worldjusticeproject.org/. A detailed description of the process by which data is collected and the rule of law is measured is provided in Botero and Ponce (2011).

20. EU member states on average rank 31 among 189 economies in the 2016 Doing Business survey of regulatory quality. This position largely reflects their global outlook. One-third of the top 20 countries are European, and practically all EU countries are in the top 50.
21 For instance, in 1990, the Office of Competition and Consumer Protection (UOKiK) was established as the Antimonopoly Office.

22 Jackson, Klich, and Poznanska 2005.

23 For instance, in 1996, an independent regulatory authority for energy markets was established, and in 2001, several other new independent regulatory agencies were created, such as the Office of Competition and Consumer Protection, the Securities and Exchange Commission, and the Office of Telecommunication Regulation. Other examples of the second phase of the reform of economic institutions were the new public procurement law of 2004 to enhance transparency and eliminate domestic preference and the National Research & Development Centre, established in 2007, to help finance and commercialize research and development.


25 Similar indicators are used by Nunn (2007).

26 The study considered key aspects of administrative performance in three areas: policy, people, and systems. Policy addressed issues of performance management, strategic planning, and policy coordination and formulation. People reviewed human resource management practices, such as recruitment and career management, incentive systems, and policy-administrative relations, to assess the extent to which public administrations can attract and retain high quality staff. Systems considered the extent to which states had introduced e-governance systems and used them effectively to enhance the business environment.

27 Indeed, the study concluded that “Poland would fail in virtually all of the benchmarks for good strategic planning” (World Bank 2006: 25).

28 This includes EU regulations and directives requiring companies listed on a regulated market to follow (full) international financial reporting standards (IFRS) and to set up an audit committee, and so on. Poland also created the strong Financial Supervision Authority (KNF), which monitors listed companies.

29 However, it has done so mainly through ad hoc pay freezes. In addition, levels for some positions may be too low to attract and retain qualified staff (World Bank 2013).

30 For example, see Ferris (2008) slide #9 and Rajaram et al., 2014.

31 See also OECD (2015a) for a concise overview of budget institutions in Germany.

32 See Von Trapp et al. (2015) for an overview of principles for independent fiscal institutions and case studies.

33 The present structure of subnational self-government consists of 16 voivodships (regions), which are divided into 380 powiats, in turn divided into 2,479 gminas. The 66 more-urbanized gminas, termed miastos, have the concurrent status of a gmina and a powiat, and have the functions and revenues of both levels.

34 By contrast, the perceived quality of government varies markedly between regions in Italy, Spain, Belgium, Romania, and Bulgaria. In the first three, governance quality was rated lowest in the less developed regions, implying that they may be stuck in a low-administrative quality, low-growth trap. In Romania and Bulgaria (as well as Hungary), the capital city region was more poorly rated than others, possibly reflecting the greater opportunities for corruption there.

35 Gminas are responsible for establishing and administering primary schools and lower secondary schools, but their role is limited by national laws and regulations emanating from the Ministry of National Education. These include the Teachers’ Charter of 1982 (with amendments), the School Education Act of 1991 (with amendments), the Act on the Implementation of the School System Reform (1999), and regulations of the Minister of National Education on the conditions and rules for pupil assessment, promotion, and examinations and tests in public schools and the core curricula for general education and pedagogical supervision.

36 Open Budget Index http://www.internationalbudget.org/.


38 Budget institutions are defined as the structures, rules, and procedures that govern the formulation, approval, and execution of government budgets (IMF 2014).

39 By increasing the credibility of announced policies, strong institutions can also foster more favorable macroeconomic conditions, such as lower interest rates, lower inflation expectations, and improved market confidence, which further support fiscal sustainability (Olden et al. 2012).

40 The IMF (2014) provides an overview of how budget institutions have strengthened across the G-20 since 2010 and how these institutions have supported their fiscal adjustment efforts.

41 These institutions and their key design features provided the basis for a 41-question evaluation that assessed the strength of each G-20 country’s budget institutions and identified priorities for institutional reform (IMF 2014).

42 More on the role of particular budget institutions can be found in Gupta et al. (2015).

43 “Ten Principles of Budgetary Governance” presented in OECD (2015d) could be another good reference point for evaluating fiscal frameworks.

44 According to the reform assumptions, the proposed solutions include introducing a medium-term expenditure framework; integrating yearly and multiyear state financial plans; redefining the role of the cabinet of ministers, minister of finance, and other ministers in the budget process; replacing the dual expenditure classification with a new performance-based budget classification; reorganizing data management systems (fiscal and financial reporting); and introducing spending reviews and other instruments for enhancing spending efficiency in the budget process. Information on the legislative work of the Cabinet of Ministers: https://bip.kprm.gov.pl/kpr/wyklad/r2384,zalozenia-reformy-systemu-budzetowego.html.

45 See Ministerstwo Finansów (2016) for a detailed overview.

46 The change entailed adjusting the expenditure ceiling to the medium-term inflation target of the central bank (2.5 percent) and allowing for increased expenditure in the event of one-off and temporary revenue measures.

47 See Ministerstwo Finansów (2016) for an overview of the budgetary processes.
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Chapter 2: SUSTAINING

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Introduction

In chapter 1, the remarkable and far-reaching institutional reforms behind Poland’s rapid ascent into the high-income category were assessed. In this chapter, we will focus on Poland’s equally remarkable macroeconomic stability, which is a necessary, but not sufficient, condition for sustaining stable and robust economic growth. Since 2002, Poland, similar to Chile and Korea, achieved both low output volatility and a relatively strong growth rate, even in the aftermath of the 2008 global crisis (Figure 2.1). And its financial sector avoided the excesses of many other countries. How did Poland achieve such a stable macroeconomic environment? What are the challenges going forward to maintain such stability? These are the two key questions that this chapter addresses.

Lessons from Poland

Run a fiscal policy that is counter-cyclical and rules-based

The main policies behind Poland’s successful, stable economic growth were, first, a rules-based but flexible fiscal framework that sustainably managed public-sector deficits and debts of both central as well as local government. Automatic counter-cyclical stabilizers were embedded in the tax and expenditure systems to compensate for changes in demand. Countercyclical fiscal policy at the local level (helped by central decisions on tax cuts and contributions from the EU) strengthened the ability of the central government to pursue stabilization policies. The local contribution was possible thanks to ample spending autonomy of local governments in Poland.

Maintain a flexible exchange rate, backed by inflation targeting led by an independent central bank

Second was Poland’s use of its own currency — the zloty — with limited foreign currency intervention and backed up by effective, inflation-targeting monetary policy. No exchange rate targeting was applied, so exchange rate changes helped buffer the impact of external shocks in the short term. Long-term real exchange rate misalignment was avoided. This policy stance was backed by a credible, transparent, and flexible inflation targeting system, safeguarded by an independent central bank. And monetary policy worked in tandem with, not against, fiscal policy, using expansionary measures when needed, without damaging long-term credibility.

Mind the financial sector

Third was strong regulation and supervision of the financial system aimed at stability. Poland’s sound banking sector was grounded on a policy of a “no bailouts” privatization that made banks accountable for their bad debts, and the sector was opened to foreign banks, which built capacity and diversified the investor base. Competent

Figure 2.1 GDP growth was higher and volatility lower in many new high-income countries than in current upper-middle-income countries (trapped MICs)

Source: WDI.

Lessons from Poland, Insights for Poland
and strict supervision was applied to ensure bank solvency and elude excessive credit expansion.

**Insights for Poland**

**Create fiscal space as a buffer**

Maintaining stabilization policies will help support a stable macro environment. These include maintaining sufficient fiscal space to sustain countercyclical policies (if necessary) without endangering sustainability; keeping an open capital account; limiting foreign exchange intervention to smoothing out short-term volatility so that the real exchange rate can be stable but market-determined; and conducting a transparent monetary policy targeted on inflation, but reflecting developments in the real economy. In addition, strong financial sector regulation and supervision of the banking system should continue, while further efforts are supported to increase firms’ access to capital through deepening capital markets.

**Make the fiscal rules more transparent and flexible**

An enhanced design of fiscal rules, an effective legal framework and enforcement mechanism, and good fiscal institutions such as medium-term planning would help address existing weaknesses. Too much rigidity in central government fiscal rules combined with reduced fiscal transparency in local government has led to some circumvention of the rules. Lags between discretionary decisions on revenues or expenditures and their implementation can impair the stabilizing effectiveness of fiscal policy, showing the importance of frequent reviews of fiscal policy given the macroeconomic cycle, and of reliance on stimulus measures that directly affect households. Strengthening the analysis of local government revenue and expenditure policies would help improve the sustainability of fiscal balances at the local government level. And introducing greater flexibility in the national budgetary processes (for example, by reducing the number of expenditure items subject to automatic indexation) and integrating the medium-term budgetary framework with annual budgeting could help maintain sustainability at the central government level. Finally, making the rules simpler, transparent, but responsive to the cycle would support their enforceability.

**Ramp up national savings**

An increase in national savings would enable Poland to cope with a likely reduction in external finance and the country’s growing dependence on relatively volatile portfolio debt flows. Increasing national savings also would help to maintain growth and incomes in the face of population aging and, as the catch-up process concludes, slowing productivity growth. Increasing savings will also help reduce Poland’s net negative investment position.

**Structure of the chapter**

This chapter focuses on the Polish experience in supporting the stable macro environment necessary for sustaining its growth, drawing parallels with other new high-income countries (HICs). The first section analyzes the extent and drivers of countercyclical policy during the global financial crisis at the central and local government levels. The next section reviews the importance of rules in maintaining sustainable fiscal balances, then discusses monetary policy. The next two sections consider the financial sector and the need to spur growth through raising savings.

**Fiscal policy was countercyclical**

Over the past 15 years, fiscal policy in Poland was countercyclical. Poland is unusual (Figure 2.2). In many countries, including most of our benchmark countries whether trapped MICs or established HICs, government spending is typically procyclical, with negative economic effects: it increases during periods of expansion, when the
economy should save, and contracts during periods of recession, when the economy should receive a stimulus. 3

During the global financial crisis, Poland’s fiscal stance was strongly counter-cyclical, due to automatic stabilizers, fortuitous policy changes that reduced taxes and increased pension receipts (through tightening early retirement schemes and indexation formulas for calculating benefits) at just the right moment, social benefits, and increases in investment funded by the EU. 4 In this way, during 2008–09, public expenditures rose relative to GDP, reflecting increases in both current expenditures and in investment (Figure 2.3).

Tax policy was countercyclical. Poland’s revenues declined from 41 percent of GDP in 2007 to 38 percent in 2009. Tax revenues have tended to be counter-cyclical in Poland, as the share of revenues in GDP is significantly correlated with the change in GDP and the output gap. This relationship, particularly for the output gap, is stronger in Poland than in most comparator countries (the correlation is negative in a few of the established HICs in our sample — Figure 2.4). Automatic stabilizers played a central role in fiscal stabilization in Poland, and were the principal reason for the fall in revenues, although discretionary tax measures (such as reduction in income tax rates) also contributed (Figure 2.5).
The contribution to automatic stabilizers varied across tax categories. Corporate income tax revenues fell sharply during the downturn beginning in 2008, and the ability to carry forward losses slowed the rise in revenues in the following years, once GDP recovered. Value-added tax (VAT) revenues, the largest source of revenues, dropped sharply in 2009, although they had not increased greatly before the crisis.5 The personal income tax (PIT) made little contribution to supporting demand because progressivity was low. Finally, social contributions played little role as automatic stabilizers.

Discretionary tax measures in Poland had a strong countercyclical impact during the global crisis, by design, but largely due to good luck. Since 2000, the main discretionary tax changes were a reduction in the corporate income tax rate in 2004, harmonization of the VAT law with EU legislation, the freezing of PIT threshold indexation, a reduction in PIT rates in 2008, the lowering of disability contributions in 2007–08, and an increase in the VAT rate and fuel levy in 2011–12. The discretionary actions that helped most to stabilize the economy included the reduction in personal income tax rates and declines in the disability contribution before the crisis. Changes in tax policy reduced revenues by 1.8 percent of GDP in 2008 and by 0.3 percent of GDP in 2009. However, all these decisions had been made in 2007, at the peak of the cycle and before there was any sign of recession. In short, Poland fortuitously followed an optimal fiscal policy in cutting taxes that supported demand during the growth downturn.

**Figure 2.4** The correlation between the share of revenues in GDP and the change in GDP is high in Poland

Regression coefficients: the share of revenues in GDP vs output gap and GDP growth (2000–14)

The difference between the net elasticity and the total, or gross, elasticity measures the impact of discretionary tax measures.

**Figure 2.5** Tax revenues acted countercyclically in Poland in 2009

Source: World Bank staff based on Eurostat.

Note: The figure shows the net tax elasticity, or the percentage change in revenues relative to the percentage change in GDP based on a filtering technique that measures the impact of automatic stabilizers.

The contribution to automatic stabilizers varied across tax categories. Corporate income tax revenues fell sharply during the downturn beginning in 2008, and the ability to carry forward losses slowed the rise in revenues in the following years, once GDP recovered. Value-added tax (VAT) revenues, the largest source of revenues, dropped sharply in 2009, although they had not increased greatly before the crisis. The personal income tax (PIT) made little contribution to supporting demand because progressivity was low. Finally, social contributions played little role as automatic stabilizers.

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Government spending was also countercyclical, in contrast to many other HICs. Government spending has historically been procyclical in the developing world, increasing during periods of expansion and decreasing during periods of recession (Tomell and Lane, 1999; Kaminsky, Reinhart, and Vegh, 2004; Frankel, Vegh, and Vuletin, 2013). This was also the pattern in our benchmark group. Spending was procyclical in most HICs, including established HICs. Poland was an exception, with expenditures rising from 43 percent of GDP in 2007 to 45 percent of GDP in 2009, thus supporting demand when GDP growth was falling. The rise in public expenditures relative to GDP reflected increases in current expenditures and in investment (see Figure 2.5).

Public investment also increased and helped to maintain demand during the GDP downturn. EU financing provided a large boost to investment at exactly the right time, as EU disbursements were relatively high, along with the run-up to the 2012 Euro Championship in football (Figure 2.6). The timing could not have been better from the countercyclical perspective. The rise in public investment compensated for the decline in private investment, so that total investment remained roughly unchanged in real terms during the crisis.

Ideally, local governments should also contribute to the central government’s countercyclical effort. And indeed, local governments in many other HICs, in particular those with high spending autonomy such as Germany, pursued countercyclical policies in 2000–14 (Figure 2.7). In Poland, local governments conducted an acyclical fiscal policy, which turned countercyclical in the crisis. Local governments moved from a balanced budget in 2007 to a deficit of 1.2 percent of GDP in 2010, the largest deterioration in the local government balance among all EU countries. The deepening in the deficit reflected higher expenditures and lower revenues. Local government tax receipts were hit by the slowdown in GDP growth. In addition, the central government introduced a tax break for families with children in 2008, and cut personal income tax rates in 2009, which together reduced local government revenues by 0.5 percent of GDP. At the same time, local governments received increased transfers from the EU from 2009 to 2011 (see Figure 2.7). Local governments argued, however, for a relaxation of fiscal rules to accommodate increased borrowing to meet co-financing requirements under EU programs (15 to 30 percent of the grant amount). By contrast, most local governments in the EU that experienced a substantial drop in revenues responded by reducing their spending.

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**Figure 2.6** EU funds supported a rise in public investment during the crisis

Source: Eurostat.

**Figure 2.7** Subnational government expenditures are highest in established HICs

Source: WDI.
Fiscal rules were effective…

Fiscal rules allowed the new HICs to lead counter cyclical policy (Figure 2.8), while keeping debt at sustainable levels across the spheres of government. In the last two decades, on average during significant adjustments, countries with fiscal rules experienced larger reductions in their debt, over a longer uninterrupted period, than countries without rules (IMF 2009). Recent research provides ample evidence of the beneficial impact of fiscal rules on budgetary discipline. However, fiscal institutions (high level legislation and strong enforcement mechanisms) must support fiscal rules. Poland successfully implemented a policy based on effective fiscal rules.

**Figure 2.8** Most countries in our sample that have fiscal rules follow counter cyclical fiscal policy

Source: World Bank staff.
Note: Cyclicality is measured by the correlation coefficient between the cyclical component of government spending and the output gap.

Government debt in most EU countries rose sharply during the global financial crisis. The EU-wide gross debt-to-GDP ratio climbed from 58 percent of GDP in 2007 to 85 percent in 2013. In most of the new HICs and middle-income countries (MICs) debt also increased but remained at prudent levels — except perhaps Hungary and Brazil (Figure 2.9). The appropriate debt target is country-specific, but debt-to-GDP ratios of 60–80 percent for developed countries and 40–50 percent for developing and emerging economies are often viewed as prudent. Poland, along with Australia, Israel, and Korea, is characterized by an efficient response of fiscal policy to the cycle, with a moderate cost in terms of debt uncertainty (Fournier and Fall, 2015b). Poland’s debt level has remained below the constitutionally-imposed limit of 60 percent of GDP since 2000. This level appears to be sustainable and not harmful to economic growth (see Figure 2.9). Note, however, that Poland was close to breaching this limit several times (Figure 2.10).

**Figure 2.9** Most new HICs and MICs kept their debt at prudent levels

Source: Eurostat; OECD; IMF.
Note: The dotted line shows the group average values in 2006, the solid line those in 2014.
Box 2.1 What is the prudent debt level?

There are two major perspectives on sustainable limits for public sector debt. First, governments wish to be able to rely on the markets to borrow. As the level of debt increases, however, risk averse investors may demand higher interest rates, which in turn increases the deficit and thus the level of debt (Fournier and Fall 2015b; Ghosh et al. 2011; Ostry et al. 2010). As default becomes more attractive to a government than ever-increasing borrowing, the markets may cut off lending. Market sentiment is notoriously hard to quantify, and perceptions play a crucial role. With these conditions in mind, Fournier and Fall (2015a) estimate that at the current (low) level of interest rates, the sustainable debt level for Poland is above 200 percent of GDP. However, the level where Poland faces a significant probability of entering a negative debt spiral is only around 70 percent of GDP.

Second, at some point the level of debt may reduce economic activity, as investment is limited by prospects for a future rise in tax rates to service the debt. Some researchers, most notably Barro (1979), claim that debt has no impact on the economy, based on Ricardian equivalence. However, this is not consistent with the mean-reversion pattern exhibited by debt as documented by Bohn (1998) and supported by the theoretical framework of Lucas and Stokey (1983). The explanations for the apparent failure of Ricardian equivalence focus mostly on distortionary taxes (Auerbach and Kotlikoff 1987; McGrattan 1994; Heathcote 2005). Other reasons include finite planning horizons and incomplete markets that prevent people from freely borrowing.

A consensus seems to be forming around two main conclusions: (1) the impact of debt on growth is non-linear, that is, lower debt seems to have little impact on the economy, but at some point a rise in debt hurts growth disproportionately; and (2) the level where debt begins to hurt the economy varies, but would start around 80–100 percent of GDP.

Figure 2.10 Poland was close to breaching the debt limit five times during the past 15 years

Source: World Bank staff.

Note: The figure was constructed using the debt dynamic equation under the assumption that the nominal GDP change and deficit remain unchanged at the level of the given year.

Poland was appropriately flexible when it came to the fiscal deficit rule. Poland breached the fiscal rule limit on the fiscal deficit of 3 percent of GDP and became subject to an Excessive Deficit Procedure (EDP) under EU rules in 2009. This experience led Poland to adjust its fiscal rules after 2010 and again in 2013.11 The new rule is more flexible and responsive to the cycle than the old rule was, and aims to reduce the size of the government. Although the fiscal rules framework has worked it may require further changes to increase its effectiveness. However, adjustments in spending to meet the spending rule could require very large reductions in public investment by the central government, because the rule limits total spending, while local governments, which have much autonomy in spending, make up about a third of total spending, and a large part of central government expenditures is mandated by law for military, basic education, debt servicing, and pensions. Avoiding sharp cuts in investment to meet the spending rule in the future will therefore require a medium-term plan to introduce more flexibility in spending. Policies could include reducing the share of current spending automatically indexed to inflation; increasing scrutiny of the fiscal costs of legislative proposals; and requiring continuous evaluation of the justification, effectiveness, and impact of government spending programs (targeted spending reviews are described in OECD 2016). And introduction of a medium-term expenditure framework clearly linked to the annual budgets could strengthen the multyear budgetary planning process and establish a clear link between policy aims (“bottom up”) and available resources (“top down”), facilitating better fiscal management (IMF 2016). Finally, fiscal rules for local government could be further improved.
In Poland, fiscal rules contribute to the sustainability of government fiscal balances at the local level. The local government fiscal rules framework, in place since 1990 but subject to many changes since, has been quite successful. Local government debt levels were low in good times, increased to moderate levels after the start of the financial crisis, but stopped rising as a result of pressure stemming from the rules and the fiscal adjustment that followed.

Poland’s local government sector is large relative to other regional countries’ and the EU average. In 2014, local government spending in Poland stood at 13.3 percent of GDP, one of the highest in the new HICs and 2 percentage points above the EU average (see Figure 2.7). Local governments in Poland are responsible for about 30 percent of total spending (and more than 50 percent of capital spending) and have considerable autonomy in their expenditure decisions. Grants earmarked for expenditures carried out by local governments on behalf of the central government account for less than 10 percent of total revenues.

The spending autonomy of local governments can facilitate the effective implementation of active stabilization policies. That is, local governments that have control over their own spending can increase spending to compensate for a decline in private sector economic activity at the local level, thus helping to reduce fluctuations in local output. Often, local governments’ weak control over revenues alongside high spending autonomy — sometimes known as “high vertical fiscal imbalance” — can encourage fiscal profligacy (Box 2.2). Because spending is financed by groups external to the local area, local government authorities do not incur the full political and economic cost of spending. Moreover, reliance on central government transfers increases the possibility of receiving a bailout from the center if difficulties arise, thus softening the budget constraint (Rodden 2002; Oates 2005). High vertical fiscal imbalances create incentives for excessive spending, and cross-country evidence indicates that when they are high, they undermine local fiscal rules’ compliance and enforcement (Kotia and Lledo 2016).

**Box 2.2 Local governments in Poland have more control over expenditures than revenues**

Local governments rely heavily on centrally administered taxes (20 percent of revenues) and transfers (60 percent of revenues, including those from the EU). Their own revenues represent only about 20 percent of local expenditures. The majority of tax revenues reflect participation in personal and corporate taxes, where local governments have no influence on tax rates. For local taxes, such as the real estate tax, local governments can set local rates (by far the largest source is the tax on real estate) below the government-mandated maximum. While local government decisions can have a substantial impact on real estate tax revenues (in 2014, below-maximum tax rates reduced receipts by about 11 percent), the implications for total revenues is small (1.8 percent of revenues in 2014).

Local governments have far more control over spending. In 2014, such expenditures stood at about 10 percent of GDP, one of the highest levels in the new HICs group, close to the EU average but below those in many established HICs. The structure of local government spending in Poland is broadly similar to peer countries; the distinguishing features are relatively high spending on education, economic affairs (mainly transport infrastructure), and health care (a large proportion of hospitals are owned by local governments). Local government control over some of these spending categories is limited, however. For example, teachers’ salaries are paid by local governments but set through centrally negotiated collective bargaining agreements. Still, local governments have considerable discretion on spending. Spending on investment, for instance, the most flexible category, accounts for about 25 percent of total expenditures and more than 2 percent of GDP. This compares favorably with all established HICs, MICs, and new HICs (except the Czech Republic, Hungary, and Romania).

In Poland, these negative incentives have been kept under control through strongly enforced local government fiscal rules. The fiscal rules governing local governments (Table 2.1) are broadly similar to those in other HICs but are subject to a much stronger enforcement framework, which ranks well on the European Commission’s Fiscal Rule Strength Index (Figure 2.11). The Polish rules have a strong legal basis, and the systems for monitoring and enforcement function well. While the definitions of these rules have changed over time, the institutional mechanism supporting the rules has remained largely unchanged. Poland ranked third in a sample of nine EU countries on the strength of fiscal rules (the sample is limited by lack of data on fiscal rules at the local level in many other countries).
Table 2.1 Limits on local government debt in Poland

<table>
<thead>
<tr>
<th>Areas</th>
<th>Provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current (operational) budget result</td>
<td>Mandatory “balanced budget rule” since 2011, which prohibits an operating (current) deficit.</td>
</tr>
<tr>
<td>Debt in relation to total revenues and debt service costs (through 2014)</td>
<td>15 percent limit on permissible debt service costs in relation to planned budget revenues, and a 60 percent limit of total debt at the end of budget year to total revenues.</td>
</tr>
<tr>
<td>Debt service costs in relation to revenues (from 2014)</td>
<td>Ratio of debt service costs to revenues in a given budget year cannot exceed the average value of operating surplus calculated for the past 3 years.</td>
</tr>
<tr>
<td>Regional clearing chamber issues opinion on capacity to repay debt.</td>
<td>A negative opinion from the Regional Chamber of Accounts on capacity to repay liabilities (loans, credits, redemption of securities) is not a formal ban on borrowing, but banks and other lenders generally refuse to lend to local governments with a negative opinion.</td>
</tr>
</tbody>
</table>


Poland has had strong controls on local government borrowing since the start of its economic transition. The first law on local government finances in the post-Communist period (passed in 1990) restricted annual interest payments and debt repayments to 5 percent of total expenditures of the local government unit. This law made it almost impossible for local governments to borrow, given very high inflation and nominal interest rates at the time, not to mention the risks that banks would assume in lending to local governments in an environment of elevated macroeconomic and institutional uncertainty.

Subsequently, the 1993 law on municipal financing restricted debt servicing (repayments plus interest) to 15 percent of local government revenues, and the 1998 Public Finance Act limited local government debt to 60 percent of total revenues. In 2014, the national debt servicing limit was replaced with a more complicated ratio calculated for each local government, based on surpluses achieved in the current budget in the past three years (see Table 2.1). This change was aimed at relaxing limits on borrowing for local governments having the revenue potential to service higher debt.

The effectiveness of the fiscal rules at the local level was tested during the crisis and thereafter. The aggregate local government deficit in Poland rose from a balanced budget in 2007 to a deficit of 1.2 percent in 2010, and Poland’s local government debt-to-GDP ratio saw one of the steepest increases in the EU (although that ratio was still below the EU average). The share of local governments with debt higher than 40 percent of revenues rose from 5 percent to 25 percent of municipalities and nearly 50 percent of large cities by 2011 (Figure 2.12). This trend would have breached the 60 percent revenue limit and forced many local governments to undertake fiscal adjustments. The debt level stabilized with the recovery over the last years, and is below 5 percent of GDP and 10 percent of the total general government debt.
However, some local governments have used accounting devices to evade compliance with fiscal rules. Many local governments approaching their borrowing limits rely on off-balance sheet borrowing by public companies and special-purpose vehicles, as well as sale-and-leaseback operations, to circumvent the rules. Although there are sound reasons for separating the financial statements of commercially run public companies from the budget (Liu 2011; Liu and Pradelli 2012) — and not all off-budget debt creates contingent liabilities — without good corporate governance and compliance with international accounting, reporting, and disclosure standards, off-budget operations can lift fiscal risks sharply.

Government recently revised the fiscal framework for local government. It stipulates different constraints on borrowing reflecting past fiscal performance. Indeed, the previous rule (based on a simple debt ceiling of 60 percent of revenues) was quite restrictive, particularly for local governments where the economy was growing, including some of Poland’s largest cities. However, the new rule is inherently less transparent, as assessment of compliance no longer involves a simple calculation.

The decision to introduce a more flexible framework was justified by infrastructure barriers to faster growth in higher-growth governments and by the very small interest burden on existing debt. However, reliance on limiting debt service (rather than the debt level), in particular the amount of debt maturing in a given year, creates an incentive to extend maturities: some local governments are issuing debt with a 40- or 50-year tenor, which could undermine the sustainability of future policies. Another area of unclarity is that borrowing to co-finance EU-funded projects is not counted in the debt until it is rolled over, which could be at least 10 years (previously it was counted 90 days after project completion). Whether the new rule will continue to ensure fiscal sustainability in those local governments facing reduced revenues from population aging and outward migration is uncertain.

Institutional control and monitoring of the fiscal situation of local governments could be further strengthened. The current system involves management control, internal audit, external audit, and oversight by Regional Audit Chambers (Regionalne Izby Obrachunkowe, or RIOs). The RIO reviews whether local government borrowing decisions comply with the debt and debt-servicing limits imposed by the Public Finance Act. The RIO also reviews the budget draft and amendments to the budget during the year. However, supervision by RIOs is limited to formal and legal compliance issues, with little economic or financial analysis of local government actions.

The balance on fiscal rules for local governments is hard to find. Excessive flexibility can increase the risk of undermining local governments’ fiscal sustainability, but too much rigidity can encourage creative accounting rather than real fiscal adjustment. Going forward, the focus should be on intensifying the monitoring of the implementation of the local government fiscal rules framework, including attempts to circumvent rules through creative accounting or shifting debt to municipal com-
panies. Monitoring should also cover debt maturities, so that efforts to comply with the rule today do not result in unsustainable debt burdens in the future under the financial impacts of an aging population. And monitoring should ensure that public investment is being used to deliver growth-enhancing infrastructure, and not vanity projects; and analyze how the new framework would perform after an economic shock.

Monetary and exchange rate policies

Establishing a strong, independent, central bank accountable to the government and the public was a cornerstone of effective monetary and exchange rate policies in Poland. The independence of the National Bank of Poland and the policy-setting Monetary Policy Council was established under the National Bank of Poland (NBP) Act of 1997. As in most other countries where authorities focus on inflation targeting, the NBP Act established price stability as the primary objective, although other economic policy objectives for the real economy and financial stability could be supported as long as they were consistent with this primary objective. Exchange rate depreciation, the adoption of easier monetary policies, and external support helped Poland avoid a recession during the global financial crisis.

Poland and other new HICs (except Uruguay) have cut inflation sharply (Figure 2.13). The MICs and HICs that have adopted inflation targeting (Annex 2.1) have been largely successful in anchoring inflationary expectations and stabilizing the real economy. During the 1990s, Poland relied on an exchange rate policy with a crawling peg, with gradually wider exchange rate bands and lower rates of crawl (Israel pursued similar policies — Box 2.3).

This regime had the two objectives of reducing inflation and increasing the economy’s ability to adjust to external and internal shocks, particularly in light of the structural transformation. The inflation targeting regime introduced in 1999 initially aimed at completing the disinflation process, with a medium-term (2003) inflation target of 4 percent along with a steady reduction in annual targets. Inflation in Poland fell from about 30 percent in 1995 to below 1 percent in 2003, and since then has remained low and stable (Figure 2.15). The central bank has maintained an inflation target of 2.5 percent (plus or minus 1 percent) since 2004.

The inflation targeting regime was not excessively narrow or focused on short-term inflation only, and provided for flexibility to consider the broader impact of monetary policy on the real economy and the financial system (the latter issue was particularly important after the crisis). It was also successful in reducing the volatility of output compared with trapped MICs and many other HICs (Figures 2.13 and 2.14).

Box 2.3 Transiting from exchange rate targeting to inflation objectives: Poland and Israel

Israel and Poland chose a gradual approach to exchange rate flexibility, moving from exchange rate targeting to full-fledged inflation targeting over prolonged periods (20 years for Israel, 10 years for Poland). Initially, exchange rate policies involved a tight horizontal peg with step adjustments and a small trading band, followed by a crawling band with fixed as well as widening limits (in Israel, these limits were asymmetric). Eventually, the inherent conflicts between the exchange rate and inflation targeting in an environment of increasing capital flows made the move to a floating regime necessary.

Supporting steps, such as a more developed foreign exchange market, a greater focus on interest rates, a supportive foreign currency intervention strategy, good communications, sound risk management and prudential regulation, and appropriate sequencing with capital account liberalization, were important in managing the transition.

Source: Fedorchenko and Malahov, 2013.
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The NBP used sterilized interventions to influence excessive short-term volatility of the exchange rate, while maintaining its inflation target. The remaining controls on short-term capital flows were abandoned in the early 2000s, and the NBP has intervened in the market only occasionally to counteract excessive short-term

Figure 2.13 Poland’s monetary regime significantly reduced inflation

Source: NBP.

Figure 2.14 Poland has made good progress on reducing inflation

Source: WDI.

Figure 2.15 The volatility of output and inflation in Poland has been relatively low

Source: World Bank staff based on WDI.
exchange rate volatility, while resisting pressures for more interventionist exchange rate management. Its strategy was to react when the exchange rate deviated substantially from equilibrium.

Monetary and fiscal policies cooperated successfully to support growth during the global financial crisis. Poland responded to the crisis with a gradual easing of monetary policy during November 2008–June 2009 in the context of falling inflation. And a 30 percent exchange rate depreciation in real effective terms helped to insulate Poland from the worst effects of the crisis (Figure 2.16). The Flexible Credit Line with the IMF and budget support provided by the World Bank supported the large fiscal expansion and helped to preserve confidence. Consequently, GDP growth fell to 2.8 percent in 2009 and recovered to 3.6 percent in 2010 and 5.0 percent in 2011.

As in most high-income economies, inflation has since fallen well below targets, while the influence of monetary policy on growth has been reduced by the increasing decoupling of inflation and output gap changes following EU accession and further global integration. Fiscal policy has played the main role in stabilizing the real economy, and the broadly balanced structural fiscal position has facilitated counter-cyclical policies without endangering debt sustainability.

Although it was at times hard to identify the source of exchange rate volatility and assess whether the associated shocks were in fact temporary, the NBP generally got it right. Despite considerable swings, the real effective exchange rate was broadly in equilibrium throughout most of the period after 2000 (see for example IMF 2005, 2006, 2007, 2009, 2011). Moreover, the volatility of Poland’s real exchange rate has been lower than in many benchmark countries, including all the trapped MICs and most of the new HICs (Figure 2.17). Maintaining the real exchange rate at an appropriate level and limiting volatility was important to the new HICs’ development (Eichengreen 2008, Eichengreen and Steiner, 2008).

![Figure 2.16](image1.png)

**Figure 2.16** The zloty depreciated strongly against the U.S. dollar during the crisis

Source: NBP.

![Figure 2.17](image2.png)

**Figure 2.17** The volatility of Poland’s real effective exchange rate was lower than in many benchmark countries

Source: Eurostat; IMF.
Unlike many other new HICs, as well as established HICs, Poland did not experience a surge in credit in the lead-up to the crisis. Credit growth in Poland remained moderate following EU accession, though it was beginning to accelerate just before the crisis. The importance of domestic banks in the Polish banking system and their reliance on retail rather than wholesale deposits (see below) probably contributed to a more prudent expansion of credit and allowed for more effective domestic supervision and regulation than would have been entailed in complex, cross-border coordination. The tight monetary policy of the early part of the 2000s and strong regulatory and supervisory policies also helped to preempt a credit boom. And as credit growth in Poland was broadly in line with the growth of potential GDP, it did not generate tensions or imbalances. This is an important difference between Poland and the established HICs, where credit growth was much higher than the growth of potential GDP, and the MICs, where credit growth was below potential output growth (probably holding back economic development).

With disinflation, interest rates on zloty deposits have been systematically higher than inflation plus the rate of zloty depreciation. Saving in foreign currency was increasingly less attractive than in zlotys because a vigilant deposit insurance system and growing financial literacy increased people’s trust in the financial system and helped to eliminate dollarization. Conversely, high interest rates led many small and medium enterprises (SMEs) to rely on their own funds for investment, and in general restrained the expansion of domestic credit, such that the ratio of nonfinancial entities’ debt to GDP in Poland is one of the lowest in the EU.

Policies undertaken in reaction to recent economic developments by other HICs have lessons for Poland. One issue is reconciling concerns over financial sector stability and macroeconomic policy in an environment of slow growth and low global interest rates. For example, Israeli authorities have addressed concerns over potential increases in asset prices through macroprudential policies (such as tightening loan-to-value restrictions for borrowers and capital-provisioning requirements for banks), while reducing interest rates in tandem with global reductions to avoid excessive exchange rate appreciation (Lederman, Pienknagura and Rojas, 2015). Canada achieved a rapid recovery from the crisis while maintaining a strong financial system through inflation targeting, set through a renewable, joint agreement between the central bank and the government that facilitated effective guidance by political leaders and central bank independence (Murray 2015).

Financial sector policies

Financial sector stability in Poland was achieved through strong supervision, adequately capitalized banks, an approach to bank privitization that reduced expectations of future bailouts, and high interest rates that led to practices, such as floating rate loans on both deposits and loans, that reduced interest rate risk on banks’ balance sheets. The banking system was competitive, well-capitalized, liquid, and properly managed and supervised, with moderate leverage and a limited reliance on foreign funding. The pace of credit growth was broadly in line with potential GDP (credit can grow slightly faster than GDP, but should not greatly exceed the longer-term trend). Supervision guarded against excessive credit expansion, particularly to the household sector, which can drive credit booms while contributing little to productive investment. Openness to foreign sector banks helped improve risk management and capital adequacy.

The global financial crisis provided further evidence that a sound financial system is critical for macroeconomic stability in HICs and MICs alike. As a country’s income approaches the level of rich countries’, its financial system grows (in absolute terms and relative to income) and becomes more complex and integrated with global financial markets. However, beyond a certain level, the positive effect of financial development on economic growth begins to decline, while costs of economic and financial volatility begin to rise if the sector is not well regulated. Most new HICs, including Poland (despite the rapid credit acceleration in the late 2000s), appear to have reached adequate financial sector development for supporting stable growth (Figures 2.18 and 2.19). For most MICs, however, further financial development can generate large gains for growth and stability. In contrast, several established HICs already have “too much finance,” impeding their stable development.
Financial sectors in many established HICs, in particular in Europe, were greatly stressed during the crisis. By contrast, the well-regulated Polish financial sector during the global financial sector proved robust during the crisis, and the country continues to outperform its peers in financial sector stability (Figure 2.20). Arguably, the most important contribution that the financial system made to the Polish success story was that it avoided the type of banking crisis that affected so many other countries, as the cost of a crisis can easily exceed all potential gains from earlier credit expansions.

The high resilience of the sector in Poland has its roots in policies adopted during the transition. Banks faced a very harsh macroeconomic environment in the early part of that decade, and many suffered large losses and required restructuring. The state treasury and the NBP took part in restructuring directly by taking over some banks, and indirectly by providing financial assistance to support rehabilitation plans. Parliament passed legislation allowing the use of state funds for restructuring and recapitalizing problem banks. Based on this, the treasury issued high-yielding restructuring bonds, which were distributed among state-owned banks and qualified as capital. This measure helped the state-owned banks by strengthening their capital position and generating substantial profits. But banks were not allowed to transfer their bad debts to so-called “bad banks,” instead they were obliged to establish a debt-collection department, separate from the credit department, and were thus forced to accept the consequences of their own bad decisions and learn how to manage bad loans (Box 2.4). Critically, efficient supervision helped to preserve the soundness of the banking sector.

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**Figure 2.18** Poland has close to the optimum combination of financial sector development and growth

Source: WDI; Sahay et al. 2015.

**Figure 2.19** The volatility of output in Poland is low as in other countries with similar level of financial development

Source: WDI; Sahay et al. 2015.
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Figure 2.20 The growth of credit was more restrained in Poland than in high-income benchmark countries

Source: Bank for International Settlements.

Box 2.4 The Polish approach to dealing with nonperforming loans

In Poland, banks were forced to deal with their accumulated portfolios of bad loans themselves, thus promoting expertise in debt restructuring and impaired-loan management. By contrast, several other countries dealt with financial crises in the 1980s and 1990s by creating a separate "bad bank" with responsibility for resolving nonperforming loans. This approach cleaned up banks’ balance sheets quickly, reduced the risk that banks would finance old insolvent borrowers ("evergreening"), and allowed management to focus on new business.

Polish authorities believed, however, that such carving out of bad loans would not have resolved the main problem, namely the banks’ lack of expertise in assessing credit risk in the new market environment. Simply removing the bad loans could have led to new problem loans down the road. In addition, the authorities believed it would have been difficult to create an effective, government-sponsored agency with highly remunerated and qualified staff, as rapid resolution of the bad loans would have meant that their jobs would soon disappear.

The privatization strategy adopted in the 1990s created a solid banking system with foreign involvement and strong domestic presence (Figure 2.21). The strategy helped to address the lack of domestic capital and expertise in banking thanks to the engagement of large foreign banks as first-rank strategic investors. It facilitated the transfer of knowledge, improved business culture and risk awareness, garnered capital and liquidity support (in some cases owing to legal requirements), and provided backing by strong, internationally acknowledged institutions. The privatization strategy generated a competitive banking system — as reflected in an H-statistic of 0.75 — low concentration, and thorough geographic investor diversification. While the share of foreign ownership of the system increased rapidly (Figure 2.22), banks to a large extent maintained their local character: they were separate legal entities, licensed and supervised domestically, had heavy participation of local investors as minority shareholders, were transparent and listed on the Warsaw Stock Exchange, and in most cases employed local managers. There is anecdotal evidence that the banks with local managers proved more efficient, due to their greater knowledge of local conditions and flexibility. Foreign banks that applied group-level unilateral governance and employed foreign managers did not manage to increase their market share, and there is some evidence that group-level management of risks by foreign banks transmitted external shocks to the Polish economy in 2009–10 because they reduced exposure to domestic enterprises. However, after the outbreak of the crisis foreign banks supported their subsidiaries, including by injecting foreign exchange liquidity — and deleveraging by some foreign banks was no greater than that by domestic banks.
Foreign banks’ support was an important reason for the only limited recourse to the NBP’s “Confidence Package,” and came even though Poland was not covered by the Vienna Initiative, which aimed to support foreign banks’ activity. The NBP began repo transactions to provide liquidity to the banking sector in October 2008. The NBP introduced and gradually extended the maturity of liquidity-providing repo operations (initially at three-month maturity, increasing to six months in 2009), broadened the range of assets accepted as collateral, lowered the losses imposed on banks from deteriorated portfolios, and enabled banks to obtain funds in foreign currencies through foreign exchange swaps. These operations provided banks with access to longer-term support.

New HiCs have made steady gains in prudential oversight over the last two decades, strengthening their banks’ soundness. Lessons from the financial crises in Latin American and Central European countries in the 1990s and early 2000s prompted efforts by many new HiC governments, regulatory agencies, and financial institutions to avoid excessive credit growth. By contrast, many developed-country supervisors were bent on easing intermediation through more market-friendly regimes. All new HiCs in Europe adopted a sound (and often integrated) supervisory regime for the financial sector in the 2000s. Since 2006, the central banks in the Czech Republic and Slovakia have had responsibility for supervision of institutions in banking, capital markets, insurance, and pensions. Hungary and Poland created financial supervisory authorities (a single body responsible for the supervision of all financial markets). Prudential oversight, alongside the structure of the banking system and “traditional business models” (Pawłowska 2012) helped banks survive the global financial crisis in relatively good shape.

The structure of the banking system supported effective supervision. The presence of strategic investors (rather than ownership by numerous shareholders) facilitated negotiations of supervisors with owners over corrective actions. The leverage of supervisors was supported by authority under the Polish banking law to suspend ownership rights if the owner “does not warrant cautious and safe management of...
the bank. In addition, the dominant role of foreign investors minimized links between bank owners and domestic politicians, which significantly reduced regulatory capture and pressures for supervisory forbearance.

Strong supervision in turn greatly increased the resilience of the banking system. The supervisory framework was rated as compliant or largely compliant with 23 of 25 Basel Core Principles. In fact, Poland’s supervisory rules are in some respects superior to the Principles — for example, Polish liquidity requirements adjust to the liquidity profile of individual institutions, unlike the Basel III recommendations.32

The focus on “soft” regulation was crucial for the effectiveness of supervision. Supervision in Poland mostly took the form of recommendations, either informal advice (in the form of so-called “Shepherd’s letters”33) or formalized documents issued on the basis of Polish banking law.34 Even recommendations that are not legally binding tend to be respected by the banks, given the high reputation and strong powers of the Polish supervisor. This approach has helped to develop market standards and introduced good practices, while limiting administrative decisions imposed on individual banks or long-lasting and politically sensitive changes in legislation.

Periods of high interest rates have encouraged banks in Poland to adopt funding models and interest rate risk profiles that are resilient to market turbulence. Floating-rate contracts for loans and deposits, especially for longer-term products, have become prevalent. The bulk of assets and liabilities are linked to short-term rates, which has significantly limited the interest rate risk on banks’ balance sheets and reinforced the impact of changes in the central bank’s monetary policy. And the relatively high interest rates demanded for wholesale funding has increased competition for cheaper retail deposits.

Significant interest rate differentials, the relative scarcity of longer maturity local currency debt instruments, and access to cheap financing within international financial groups resulted in an excessive build-up of foreign currency debt in many European countries, including the new HiCs. Before the global financial crisis, foreign banks in Poland (as in many other countries) started foreign currency lending mainly through consumer loans or mortgages, contributing to a boom in real estate and in the broader economy. In Austria, Bulgaria, Hungary, Latvia, Lithuania, Poland, and Romania, loans denominated in euros or other currencies reached a considerable share in bank portfolios.35

But these foreign exchange loans can increase banks’ credit risks due to currency mismatches on their borrowers’ balance sheets. Foreign currency lending to households is particularly risky, as they typically receive their income in local currency. As a result, local currency depreciation can both reduce the real income and increase the debt service burden of unhedged households borrowing in foreign currency. Moreover, a depreciation automatically increases the loan value in local currency, and a higher loan-to-value ratio reduces banks’ potential recovery if loans go bad.

The funding and hedging of foreign currency loans presents an additional risk. Without a foreign exchange deposit base, banks usually rely on wholesale markets or intragroup financing to fund or hedge their foreign currency loans. A sudden deterioration of interbank market liquidity or of the financial situation of the parent entity can therefore impair the liquidity of subsidiaries engaged in foreign currency lending.

Foreign exchange loans can also impair the effectiveness of monetary policy. A buildup of credit denominated in foreign currencies adversely affects the interest rate transmission channel, as domestic monetary policy cannot influence the cost of such credit as domestic economic agents substitute local currency debt with foreign currency debt. The appreciation of the local currency stemming from a rise in the domestic rate may also encourage foreign currency borrowing, as agents tend to form backward-looking expectations of exchange rate developments. Further, the exchange rate channel of monetary policy becomes more complex as households’ financial positions become more vulnerable to changes in exchange rates. All this additional “noise” in the monetary transmission mechanism has made it much harder for authorities in some countries in Central and Eastern Europe to steer their economies along sustainable economic growth paths.
The high profitability of foreign exchange lending in the boom phase made it difficult for supervisors in either host or home countries to challenge the banks. In most cases, operations in Central and Eastern Europe accounted for only a minor share of the consolidated balance sheet of banks headquartered in HICs. Thus group-level supervisors tended to view these risks as insignificant from their own group’s perspective, which made effective cross-border coordination of regulatory measures difficult — and, in fact, nearly all measures taken in Central and Eastern Europe to mitigate foreign exchange lending were ineffective. The large scale of economic integration of banks and markets enabled regulatory arbitrage, which was a major obstacle to effective supervision. Thus, aggressive measures to limit foreign exchange lending were circumvented or even became counterproductive. It was easy for banks to originate foreign currency loans and then sell the loan portfolios to nonresidents, including parent companies and private equity funds, which made it problematic to measure the size of foreign exchange lending or assess the risks involved.36

However, unlike in some other markets, foreign currency borrowing has not resulted in significant losses for Polish banks. For instance, “Recommendation 5” adopted by the banking supervisor in 2006 (amended in 2011) imposed tight lending standards on foreign exchange loans. This improved the quality of foreign exchange loans, although it did not slow the pace of such lending. Effective measures require reciprocity from home authorities (Table 2.2 lists regulatory measures taken to strengthen control over foreign currency mortgages).

### Table 2.2 Regulatory actions in Poland to limit foreign exchange mortgage risks

<table>
<thead>
<tr>
<th>Date</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2006</td>
<td>Recommendation /</td>
<td>Tightening the assessment criteria of customer’s creditworthiness for foreign exchange housing loans: sensitivity to shocks to the interest</td>
</tr>
<tr>
<td></td>
<td>moral suasion /</td>
<td>rate (200 bp) and depreciation of the zloty (30%); monitoring of loan-to-value ratios and information requirements.</td>
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<tr>
<td></td>
<td>supply side</td>
<td></td>
</tr>
<tr>
<td>April 2008</td>
<td>Prudential (capital) /</td>
<td>Increased risk weights on foreign exchange mortgage loans: 75% (against 35% for zloty-denominated loans).</td>
</tr>
<tr>
<td></td>
<td>supply side</td>
<td></td>
</tr>
<tr>
<td>September 2010</td>
<td>Recommendation /</td>
<td>Banks, when setting their policy in the area of loan to value ratios, should assume a buffer to cover effects of negative developments:</td>
</tr>
<tr>
<td></td>
<td>moral suasion /</td>
<td>10% of loan value for loans with maturities up to 5 years and 20% for the rest.</td>
</tr>
<tr>
<td></td>
<td>demand side</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>Recommendation /</td>
<td>Differentiated debt-to-interest ratio limits for foreign exchange and domestic currency loans: foreign exchange, 42% and zloty, 50%. For loans with maturities exceeding 25 years, banks are required to assess borrowers’ creditworthiness as the loan would have to be repaid in 25 years (measure does not differentiate between currencies).</td>
</tr>
<tr>
<td></td>
<td>moral suasion /</td>
<td></td>
</tr>
<tr>
<td></td>
<td>demand side</td>
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</tbody>
</table>

Currently, the high level of Swiss franc loans in Poland does not appear to present a systemic risk. While foreign currency-linked loan originations have been negligible since 2010, the residential mortgage portfolio linked to the Swiss franc still is around 8.9 percent of GDP (June 2015), and the level of bank loans linked to the Swiss franc is high relative to total loans and GDP, compared with many other countries in Europe (Figure 2.23). Foreign exchange lending is not a systemic problem,37 but rather a sociopolitical one.38 Proposals to “restructure” foreign exchange loans do not appear warranted and could entail financial costs for the banking sector, impair public confidence, and increase moral hazard in the future.
Finally, monetary policy that takes account of macro-financial stability, rather than simply focusing on inflation, is likely to be more effective in stabilizing output. While containing inflation will remain a primary objective of monetary policy and asset price stability may not be an explicit objective, asset price movements, credit booms, leverage, and the buildup of systemic risk affect economic stability. Indeed, the laws governing central banks often include the maintenance of financial stability among the central banks’ responsibilities (Fischer 2015). Thus ensuring price stability should be interpreted as a parallel mandate for central banks: too low inflation, or even deflation, for a prolonged period cannot be seen as consistent with price stability. By concentrating on inflation, a central bank can have the credibility and flexibility required to take corrective measures in a stability crisis. Finally, maintaining a very accommodative policy stance for too long carries risks: incentives for timely balance sheet repair may be undermined and new imbalances may ultimately emerge.

Raising national savings to improve sustainability

Increasing Poland’s relatively low national savings would help in meeting the challenges of declining EU structural funds, aging population, and possible interruptions in foreign investment, improving resilience of the financial system, and raising pension benefits. In the past, Poland’s external imbalances were relatively moderate, and it successfully relied on stable foreign direct investment (FDI) flows for its financing. Consumption-led economic growth over last two decades has increased convergence, but also created risks. Private consumption contributed almost 3 percentage points to Poland’s GDP growth over 2000–14, climbing very strongly, from 2004 until the global financial crisis in 2008, to more than 80 percent of GDP. Private consumption was significantly above the levels in nearly all other new and established HICs (see Box Figure 2.5.1 in Box 2.5). Its growth was fueled in part by rising incomes, but also by credit growth (mostly foreign-financed) and EU structural funds.

Poland’s consumption-led growth model has created macroeconomic vulnerabilities, exposed particularly by the crisis and the resulting economic slowdown (World Bank 2014), but also by the challenges facing the economy in the next decades (see Box 2.5). First, productivity growth is likely to slow, as catching up to productivity in other countries with similar income levels has been largely completed. Second, the old-age dependency ratio (population aged 65 and more as a share of the population aged 20–64) is expected to rise from 22 percent in 2013 to 57 percent in 2050,
and to 67 percent in 2060 (European Commission 2015). The size and pace of demographic change will affect the economy — particularly the labor market — and society. Third, foreign financing from the private sector fell sharply after the crisis, and flows are forecast to remain below their earlier levels for the foreseeable future. Finally, EU structural funds are likely to fall, given the more difficult financial positions of stronger members of the EU and Poland’s success in convergence (World Bank 2014).

In addition, there has been a shift in the financing of Poland’s current account deficit; it has shifted from relatively stable FDI to a more volatile portfolio investment, largely in debt (World Bank 2014). Foreigners now hold 40 percent of government bonds, against an average of 27 percent in emerging markets in 2013. Poland’s negative net international investment position (NIIP) is equivalent to 61 percent of GDP, higher than in benchmark countries (see Box Figure 2.5.4).

### Box 2.5 External imbalances a threat to a growth model

Under Poland’s consumption-based growth model, national saving remained relatively low. As an emerging economy, Poland’s vibrant growth depended heavily on consumption, which averaged 80 percent of GDP in 2000–15, much above the levels in the established HICs and also almost all new HICs (Box Figure 2.5.1). It was fueled in part by rising incomes, but more importantly by strong and mostly foreign-financed credit growth. Such a model — with the focus on domestic consumption — undervalued national saving, which remained relatively low by international standards (Box Figures 2.5.1 and 2.5.2).

Poland’s shift toward foreign saving through the significant inflow of foreign direct investment enabled the country to successfully integrate into global capital and financial markets. The gap between the low national saving rate and the investment rate was covered with net foreign savings (mirrored in current account deficits). This was possible as Poland liberalized its capital account in the mid-1990s and then experienced significant capital inflows. Capital inflows came in the form of stable, long-term financing — FDI inflows (also related to increased participation in GVCs). Financing of saving–investment gaps through FDI is reflected in the stock of FDI, which is, however, still low compared with the benchmark countries (Box Figure 2.5.3). Foreign investment in the manufacturing sector, stable inflows of intercompany lending, and later EU structural funds helped expand the capital stock, further supporting growth. In the EU, where capital flows downhill from richer to developing countries, Poland benefited from foreign capital inflows through increased access to capital, reduced costs of financing, and transfer of technology/FDI spillovers. Such a structure made Poland less vulnerable to external shocks than many other countries, and Poland avoided debt, banking, and currency crises.

### Box Figure 2.5.1 Final consumption expenditure, percent of GDP, average 2000–15.

![Box Figure 2.5.1](source: WDI)

### Box Figure 2.5.2 Gross national savings, percent of GDP, average 2000–15.

![Box Figure 2.5.2](source: WDI)

Note: 2005–15 for Austria and Ireland.
However, the economy has seen an increase in its vulnerability to external shocks. Financing investment with foreign saving is not negative per se. For a converging economy like Poland, it is an efficient way of expanding and upgrading productive capacity of the economy, especially when foreign financing comes with significant positive externalities. However, external financing can also create vulnerability to external shocks, as was the case in many countries during the financial crisis.\textsuperscript{41} Recording relatively modest current account deficits (varying over the years from 2 to 6 percent of GDP), Poland has nonetheless accumulated a relatively large negative net international investment position (NIIP).\textsuperscript{42} In 2015, Poland’s NIIP exceeded 60 percent of GDP, which is large and like the NIIP of Hungary or the Slovak Republic (Box Figure 2.5.4). This may be a source of concern, especially in view of the deteriorating external environment following the financial crisis.\textsuperscript{43} Poland also faces an aging population and a gradual reduction of EU structural funds as an important source of public investment financing. Increasing national savings would help meet these challenges.

This vulnerability is, however, mitigated by diversified FDI liabilities and associated intracompany lending (over 40 percent of foreign liabilities are FDI) and the projected improvement of the NIIP (IMF 2015). In addition, vulnerability is reduced because gross capital flows have historically been low, before and after the crisis (Figure 2.24). Gross capital flows matter, because vulnerabilities may also result from gross financial flows that are not necessarily related to current account imbalances (and savings–investment discrepancies).\textsuperscript{44} Poland recorded relatively low gross capital flows before the crisis and so was less vulnerable when they collapsed.
In this context, increasing national savings makes sense. Poland’s savings are low internationally (see Figure 2.24). Raising savings could raise investment levels and thus increase growth without jeopardizing the sustainability of external balances; improve financial market stability by expanding the deposit base; and strengthen financial resilience for individuals before retirement and their pension benefits after retirement. In a recent World Bank study, a range of policies is proposed to achieve a significant and sustained increase in national savings (Box 2.6).

**Box 2.6 Summary of policy options to support national saving in Poland**

I. Policies to support incomes and growth

1. Increase labor force participation and employment:
   - Invest in affordable quality childcare and preschool education
   - Promote the employability of older workers
   - Continue to deregulate professions
   - Strengthen cooperation between schools and employers
   - Shift the tax system toward less reliance on labor taxation, especially for low-skilled workers
   - Conduct a comprehensive review of tax and benefit system provisions that apply to families with children

2. Support internal and intersectoral mobility:
   - Reform the farmers’ social security scheme by phasing out the special pension system for farmers
   - Enhance the functioning of the housing market

3. Improve the education system:
   - Expand preschool facilities and the enrolment capacity of vocational and technical education schools
   - Introduce cost-related tuition fees in the public sector
   - Improve the quality of higher education institutions
   - Promote lifelong learning
   - Enhance job-matching services

II. Policies to encourage households to save

1. Revamp state support to the private retirement pension scheme:
   - Reconsider current tax incentives for private pension savings
   - Introduce a new, employer-based, automatic enrolment scheme

2. Embark on a financial literacy campaign

III. Policies to limit government dis-saving

1. Stick to short and long-term fiscal goals such as the medium-term objective

2. Expedite measures to moderate the projected growth in publicly financed age-related spending
   - Complete the pension reform by removing pension privileges for certain occupations, such as miners and the uniformed service (soldiers, police officers)
   - Resist pressures to reverse the defined contribution pension reform
   - Continue to guarantee minimum pensions
   - Revamp incentives for private pension plans
   - Contain upward pressure on public health spending, while maintaining accessible and quality care

3. Continue improving the quality of government spending
   - Minimize cuts in growth-enhancing investment
   - Reassess spending policies to increase the cost-effectiveness and efficiency of current spending

---

**Figure 2.24** Poland’s gross capital inflows are low in 2007 and 2014, percent of GDP

Source: World Bank staff based on IMF Balance of Payments Statistics; WDI.

Note: Gross capital flows equal the sum of inflows and outflows.
Chapter 2: SUSTAINING

IV. Policies on foreign savings
1. Pursue stable and restrained macroeconomic policies, both fiscal and monetary, to manage demand and strengthen the balance of payments:
   • Ensure that foreign savings are attracted in the form of long-term direct and portfolio investment (instead of relatively volatile short-term interbank and financial market flows)
   • Keep the exchange rate floating (prior to euro adoption)
   • Ensure export competitiveness
2. Implement new regulations

V. Policies to develop the local currency capital market
1. Reinvigorate the covered bond market
2. Facilitate other forms of securitization
3. Improve operation of pension funds and other saving funds:
   • Revise OFE pension fund investment guidelines
   • Lengthen the period of performance measure
   • Require a wider product mix for savers, including partial deferred


Strong fiscal and monetary policies enabled Poland to achieve macroeconomic stability and support growth. Countercyclical policies, combined with a generous amount of good luck, enabled Poland to avoid a recession during the global financial crisis. Strong fiscal rules helped limit debt and deficits of central and local government. A credible inflation targeting regime managed by an independent central bank reduced inflation to low and stable levels, while an open capital account and limited exchange rate intervention ensured an appropriate real exchange rate. And the successful bank privatization program during the transition, combined with effective regulation and supervision, established a sound, resilient financial system. This remarkable macroeconomic policy framework allowed Poland to connect successfully to global and regional markets. The next chapter discusses the details of these connections, which were an important driver of Poland’s growth.
# Annex 2.1 Inflation targeting in middle- and high-income economies

<table>
<thead>
<tr>
<th>Country</th>
<th>Inflation targeting adoption date</th>
<th>Inflation at adoption date (%)</th>
<th>Inflation at end of 2010 (%)</th>
<th>Inflation target (%)</th>
<th>Inflation in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>No inflation targeting</td>
<td></td>
<td></td>
<td></td>
<td>26.9</td>
</tr>
<tr>
<td>Brazil</td>
<td>1999</td>
<td>3.3</td>
<td>5.91</td>
<td>4.5 +/- 1</td>
<td>9.03</td>
</tr>
<tr>
<td>Algeria</td>
<td>No inflation targeting</td>
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<td></td>
<td></td>
<td>4.78</td>
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<td></td>
<td></td>
<td></td>
<td>13.71</td>
</tr>
<tr>
<td>Mexico</td>
<td>2001</td>
<td>9</td>
<td>4.4</td>
<td>3 +/- 1</td>
<td>2.72</td>
</tr>
<tr>
<td>Romania</td>
<td>2005</td>
<td>9.3</td>
<td>8</td>
<td>3 +/- 1</td>
<td>-0.59</td>
</tr>
<tr>
<td>Turkey</td>
<td>2006</td>
<td>7.7</td>
<td>6.4</td>
<td>5.5 +/- 2</td>
<td>7.67</td>
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<tr>
<td>Chile</td>
<td>1999</td>
<td>3.2</td>
<td>2.97</td>
<td>3 +/- 1</td>
<td>4.35</td>
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<tr>
<td>Czech Republic</td>
<td>1997</td>
<td>6.8</td>
<td>2</td>
<td>3 +/- 1</td>
<td>0.34</td>
</tr>
<tr>
<td>Hungary</td>
<td>2001</td>
<td>10.8</td>
<td>4.2</td>
<td>3 +/- 1</td>
<td>-0.07</td>
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<tr>
<td>Korea, Rep.</td>
<td>2001</td>
<td>2.9</td>
<td>3.51</td>
<td>3 +/- 1</td>
<td>0.71</td>
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<td>Malaysia</td>
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<td></td>
<td></td>
<td>2.10</td>
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<tr>
<td>Poland</td>
<td>1998</td>
<td>10.6</td>
<td>3.1</td>
<td>2.5 +/- 1</td>
<td>-0.99</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>Eurozone</td>
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<td></td>
<td></td>
<td>-0.33</td>
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<tr>
<td>Uruguay</td>
<td>No inflation targeting</td>
<td></td>
<td></td>
<td></td>
<td>8.67</td>
</tr>
<tr>
<td>Australia</td>
<td>1993</td>
<td>2</td>
<td>2.65</td>
<td>na</td>
<td>1.51</td>
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<tr>
<td>Austria</td>
<td>Eurozone</td>
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<td>Belgium</td>
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<td>Germany</td>
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<tr>
<td>Israel</td>
<td>1997</td>
<td>8.1</td>
<td>2.62</td>
<td>2 +/- 1</td>
<td>-0.63</td>
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<tr>
<td>Singapore</td>
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<td></td>
<td></td>
<td></td>
<td>-0.54</td>
</tr>
<tr>
<td>Taiwan, China</td>
<td>No inflation targeting</td>
<td></td>
<td></td>
<td></td>
<td>-0.3</td>
</tr>
</tbody>
</table>
1 Conversely, macroeconomic instability creates unstable growth by boosting the volatility of returns on investment and the misallocation of resources as price signals become distorted (Bergh Berggren, Bergh, and Bjørnskov, 2009; Fischer 1993; Fatas and Mihov 2012).

2 The issues surrounding savings rates and population aging are not unique to Poland. For example, Dobrescu, Kotlikoff, and Motta (2012) document the widespread decline in savings rates in major industrial countries over the past 40 years.

3 Tornell and Lane 1999; Kaminsky, Reinhart, and Vegh 2004; Frankel, Vegh, and Vuletin 2013; Êget 2012; Fatas and Mihov 2012.

4 A major issue in the research on the cyclicality of fiscal policy is the endogeneity problem — that the fiscal deficit follows a change in economic conditions (such as a decline in external demand) will reflect changes in policy (like a tax cut to stimulate demand). If the fiscal policy is successfully countercyclical, the correlation between policy and cycle will be weaker. Endogeneity might be especially relevant for Poland, which avoided outright recession in 2009.

5 However, changes in VAT revenues in other years are not well explained by changes in economic activity. For example, revenues did not rise sharply during the boom in 2006–07, for reasons that are not entirely clear. It is possible that our analysis does not account for the impact of changes in structure of consumption on VAT revenues, that the assessment of the impact of changes in VAT is inaccurate due to data availability issues, that consumers increased savings in anticipation of a future increase in taxes to retire the debt incurred due to the lower VAT rate (a perspective from the rational expectations literature), that reactions differed because many changes were one-offs (such as changing the maximum waiting time for tax reimbursement), and that compliance fails as VAT became a target for organized crime using intra-EU VAT rules to siphon off substantial revenue.

6 Blochliger et al. (2010) found a small and statistically insignificant countercyclical reaction of local governments in Poland to economic downturns over 1995–2009. In the more recent period, the correlation between local government net lending and the output gap equals 0.16, about the average across the Organisation for Economic Co-operation and Development (OECD).

7 Debrun 2008, Debrun 2013; European Commission 2009; Marnette et al.; Iara and Wolff 2011; and Hoeller et al. 2015.

8 The key elements of a prudent debt target are sustainability, the avoidance of a negative impact on incentives for investment, and a low probability (given the uncertainty of macroeconomic developments) of entering a debt spiral (Kumar and Woo 2010; Êget 2012; and Blaum, Checherita-Westphal, and Rother 2013: see also Box 2.1).

9 The OECD (2015) shows the trade-off between counter-cyclical and debt trajectory uncertainty: a counter-cyclical fiscal policy increases the uncertainty surrounding the debt level. The effectiveness of fiscal policy in damping short-term shocks can be assessed by the reduction of the recession risk when a government switches from a constant primary balance to a counter-cyclical behavior. The uncertainty surrounding the debt trajectory is assessed by the interquartile range of the debt level in 2040.

10 Subsequently, the government reduced the debt in accounting terms by transferring assets of the open pension funds (equal to 9 percent of GDP to the public pension fund, while simultaneously lowering contributions to the open pension funds and replacing mandatory, automatic enrollment by an opt-in. These changes reduced public financing needs over the medium term, but may also have a deleterious impact on pension payments relative to workers’ wages (the replacement rate) in the future. In addition, the changes may impair workers’ and pensioners’ trust in the pension system.

11 A “temporary fiscal rule” limited increases in all newly enacted and existing discretionary expenditure items to 1 percentage point more than the rate of consumer price inflation. In 2013, this was supplemented by a “permanent” expenditure rule covering almost all public sector expenditure categories, including spending by local governments, social security expenditures and even the national road fund (which is excluded from limits on the domestic public sector debt). A spending limit is first calculated based on the previous year’s limit, an 8-year average of real GDP growth, and the National Bank of Poland's inflation target. The limit is then corrected for discretionary revenue (such as changes in tax rates) and an extra factor that depends on the past fiscal balance.

12 Kotia and Lledo (2016) estimate Poland’s vertical fiscal imbalance to be moderate (0.5 on a scale of 0 to 1, the 8th lowest in the EU), but this is questionable. The measurement largely depends on whether sharing in revenue from income taxes should be treated as own revenue or not. There are at least two important arguments against including these taxes in own revenue: (1) local governments in Poland have no influence on income tax rates, and (2) the revenue shares are not permanently fixed but subject to negotiation and frequent changes, in the same way transfers are.


14 Ustawa z dnia 10 grudnia 1993 r. o finansowaniu gmin (Dz.U. 1993 nr 129 poz. 600).


16 See the Kosciuszko Institute Report (2011) and the National Council of Regional Chambers of Audit: Krajowa Rada Regionalnych Izby Obrachunkowych (2016), Niestandardowe instrumenty finansowania potrzeb po¿yczkowych jednostek samorządu terytorialnego.

17 In 2013–14, for cities like Warsaw, Gdansk, Poznan, or Wroclaw, interest payments accounted for just 1.5–2.5 percent of overall spending. For the whole local government sector this figure was even lower, as many smaller local government units do not carry any debt at all.

18 In 1999, the peg was changed from a basket of currencies to the euro and U.S. dollar.

19 Encouraged by the International Monetary Fund, Poland has introduced inflation targets for every year under the initial medium-term plan, not just the current year, and over time for a slightly higher continuous target than the 2.5 percent with a slightly larger band to account for Balassa-Samuelson effects (estimated at 1–2 percent a year) and supply-side shocks.

20 In particular, the government and Parliament exerted there were strong pressure to weaken the złoty after the sharp slowdown in 2001–02, which was blamed on excessively tight monetary policy and resulting strong real appreciation of the currency (some 25 percent between end-1999 and end-2002). Indeed, there were threats to amend the NBP mandate and Monetary Policy Council structure, though nothing came of them.
Before the crisis, the persistent current account deficits in the United States were the primary focus of concern. The assumption was that these deficits were financed by surpluses in the emerging Asian economies, whereas the eurozone, where the current account was more or less in balance, was not thought to be involved and was certainly not considered vulnerable. However, on the basis of analysis of gross financial flows, Asia did not really contribute to financing the credit boom in the United States, while the eurozone—especially its banks—played a crucially vulnerable role when the U.S. credit boom collapsed. In other words, countries or currency areas with a balanced current account can still develop fragile gross financial positions. See, for example, Borio and Disyatat (2011 and 2015).
45 Absent capital controls, savings would be channeled to the highest-return investment, foreign or domestic. Thus, an investor with a high-return project could borrow in international capital markets if domestic savings were not available, and one would not in theory observe any correlation between the level of savings and investment across economies. However, Feldstein and Horioka (1980), and a wealth of subsequent studies, show that domestic savings and investment rates are highly correlated, so that there is a marked home bias in the financing of investment. Increasing national savings in Poland is therefore likely to raise investment there, though not automatically.

46 An increase in savings may not, however, automatically translate into high investment. For instance, companies may have little need to replace depreciated fixed capital because of limited new production plans. Or labor-intensive production can reduce the need to upgrade production facilities and replace physical capital.
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Chapter 3: CONNECTING

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Introduction

This chapter examines the degree of connectivity of Poland along three dimensions — trade integration, labor markets, and infrastructure — and determines the extent to which they facilitate economic development. What role has connectivity played in Poland’s economic development, and how was this achieved? What role can connectivity play in furthering economic growth and helping Poland become an established HIC? These are the key questions for this chapter.

Like other new HICs, and unlike the trapped MICs, Poland’s greater openness to trade enabled the economy to reap larger productivity gains and deliver higher economic growth.

Labor market integration was also rapid, with Poland experiencing much higher emigration of workers than other new HICs and other EU accession countries. While labor emigration undoubtedly had its downsides, it played a crucial role after transition by avoiding the hysteresis that persistent high unemployment could have brought about. More important perhaps, the opportunities for emigration gave workers strong incentives to invest in education and skills, which in turn increased the attractiveness of the Polish workforce for investment in Poland, which created more and better jobs at home.

Finally, Poland recorded major gains in the connectivity brought about by better infrastructure, soft and hard. Improvements in soft infrastructure — the institutions that facilitate trading across borders — and steady gains in hard infrastructure — transport and information and communications technology — helped Poland overtake the hard infrastructure levels of trapped MICs and narrow the gap with the new HICs. These improvements helped link Poland’s peripheral areas to domestic as well as external markets.

The main lessons that can be drawn from how Poland connected to the global markets to enhance its economic development, as well as the main insights for Poland to make the most of connectivity going forward, are presented below. The rest of the chapter develops the lessons and insights in more detail.

Lessons from Poland

Sequence integration with markets by first getting the prices right, second dealing with more complex soft infrastructure reforms, and third improving hard infrastructure

Sequencing of the reforms helped ensure some immediate impacts as integration gathered momentum. Poland started integrating with the rest of the world with an impressive reduction of tariffs in the early 1990s. This brought most-favored-nation tariff rates down to the EU average even before Poland’s EU accession in 2004, helping markets get the prices right and reallocate resources accordingly, as well as opening up access to the large Western European market and its advanced technology.

From then on, the focus was on the more difficult reforms of soft infrastructure and then hard infrastructure to heighten the competitiveness of Polish exports. The improvements in soft infrastructure made well in advance of EU accession positioned the country well above trapped MICs, laying the groundwork for expanding trade with the EU and the rest of the world. Subsequently, and largely funded by the EU, steady hard infrastructure gains, best illustrated by an almost fourfold increase in the length of motorways and substantial improvements in access to broadband, helped link Polish peripheral areas to domestic and external markets.

These efforts were remarkably successful. Poland’s opening to global markets is largely responsible for the steep increase in productivity over the last decade and a half. The opening presented competition to Polish firms and improved their technological awareness, leading to increased firm productivity. This in turn raised firm competitiveness resulting in strong export growth.
Connect the domestic economy with global markets

Poland achieved integration through participating in global value chains (GVCs), with Germany a key investment and trade partner. GVCs provided a platform to increase participation in manufacturing exports, attract foreign direct investment (FDI), raise productivity, and help increase exports’ value added. Poland, like other new HICs, was able to do so because of improvements in infrastructure, the business climate, and labor skills, relative to trapped MICs. And the “neighborhood effect” of bordering Germany — an economic powerhouse and one of the world’s three GVC nodes — helped Poland firmly integrate into the internationally competitive German production networks.

Labor migration in the context of large workforce surpluses can help avoid hysteresis and support the structural transformation of the economy

Poland’s accession to the EU eliminated previous barriers to mobility and facilitated the outflow of workforce surpluses (through settlement migration) and the reallocation of labor resources in the domestic labor market (through temporary migration and return migration). This helped avoid the hysteresis that persistent high levels of unemployment could have brought about. It also led to a spatial reallocation of labor resources, facilitating modernization. Young and relatively well-educated people migrated particularly from peripheral regions that did not have the capacity to absorb them despite abundant natural resources. This resembles the role migration played in accelerating the modernization of Southern European countries after World War II.

The downside was a brain drain of young, educated workers, largely from certain regions, with a negative impact on GDP. The direct brain gain from return migration, if any, has been small, because many Polish migrants ended up in jobs abroad for which they were overeducated. However, the prospective benefits of emigration provided families strong incentives to invest in education and skills improvement, which in turn made foreign and domestic investment in modernizing sectors of the Polish economy more attractive.

Insights for Poland

Move up the global value chain to pursue a higher-value-added growth model that focuses on quality rather than low cost as the driver of competitiveness

The country now faces new challenges arising from successful development and increasing wages. Fortunately, Poland’s successful role in GVCs offers it (and the other new HICs) the chance to move upstream in production and perform tasks with greater value added (as established HICs do) promoting productivity growth. However, this requires bridging the gap with established HICs in providing a conducive environment for more sophisticated tasks, particularly in technological adaptation, research and development, and quality standards.

Formalize short-term and often informal immigration to offset pressures on wages and labor supply and maximize the contribution of immigrants to the economy

Population aging, a demographic phenomenon characteristic of established HICs, will place pressure on labor supply. The impact could be larger in Poland due to its large emigration levels, which constrain the ability to provide increased skilled and unskilled labor demanded by an expanding economy. Enhanced management that formalizes immigration — as Germany managed Polish immigration in the past — will make the most of immigrants’ economic potential and will head off labor shortages as the economy expands. Streamlining short-term and irregular migration into more official and permanent forms of mobility and applying measures to integrate migrants would help maximize their economic contribution.

Close the hard infrastructure gap with established and even some new HICs

Poland’s gap with new and established HICs is much greater in hard than soft infrastructure, and while public investment in transport and ICT has risen tremendously, it remains unbalanced. The quality of trade and transport infrastructure constrains Poland’s connectivity. This can be addressed by increasing the efficiency of spend-
ing through a rebalancing of infrastructure spending toward constructing high-speed roads and maintaining rail and local roads. A long-term approach to managing and financing transport and ICT infrastructure will help improve spending efficiency to prepare for the likely phasing out of EU financing and reduce the overall infrastructure gap.

Trade integration

Trade integration has had a huge impact on Poland’s development and should continue to do so if Poland chooses the right policies. Poland, like other new HICs and unlike trapped MICs, created a high degree of openness and integrated successfully into GVCs, which spurred sharp productivity gains at the firm and economy level. However, going forward, Poland (and other new HICs) will need to increase competitiveness by continuing to raise total factor productivity (TFP). This can be achieved by basing competitiveness on quality, rather than low price.

Openness to trade

Openness to trade is a common feature of Poland and the other new HICs, all of which, with the exception of Malaysia, have a greater openness to trade in goods and in services than trapped MICs. Their greater openness to trade is reflected in higher trade-to-GDP ratios adjusted for economic size (Figure 3.1). Poland’s trade — merchandise and services — expanded faster than the rest of the economy: the trade-to-GDP ratio increased after Poland’s 2004 accession to the EU from 0.61 in 2000–02 to 0.90 in 2011–13. Other successful EU accession countries also saw sharp increases over 2000–13, such as the Slovak Republic (from 1.1 in 2000 to 1.8 in 2013) and the Czech Republic (from 0.98 to 1.48).

Poland and the other new HICs also score well on the Open Markets Index, a measure that combines actual openness of markets with government measures considered barriers to market entry. Poland signed several preferential trade agreements with other countries during the transition and began to integrate with the rest of Europe with the signing of EU Association Agreements in 1994. As a result, it lowered its tariffs sharply and reached the EU average even before accession (Figure 3.2). This fast opening up to the EU and the rest of the world explains why the share of exports to the EU in Polish exports remained relatively stable before and after accession: EU membership, when it came, did not substantially increase market access.

Another common feature of Poland and the new HICs is the higher weight of services in their exports. Though the global financial crisis lowered the share of services exports in total exports, it remains larger than in trapped MICs (Figure 3.3).
EU trade integration was global trade integration

The reforms undertaken by Poland to join the EU increased the efficiency of exporting firms and raised their product standards, improving the competitiveness of Polish exports and supporting their expansion across the world. In this way EU accession in 2004 did not divert Polish exports to the EU, but rather created trade: exports to the EU and outside the EU increased in similar proportions. This reflected Poland’s increased overall competitiveness, a pattern common to several other EU accessing countries.

In addition, Polish exports to destinations outside the EU are greater than reflected in the data, which masked the participation of Poland in European value chains. For example, exports of car parts to a German car manufacturer may end up being consumed not in Germany, but in the final market that buys cars from Germany, a fact that the traditional “gross” data on exports tend to overlook.

Reforms that boosted Polish competitiveness included improvements in the business environment, restructuring the education system, and EU-supported improvements in infrastructure. The impact of these reforms was magnified by EU accession, which “bound” Poland to sustain such policies, creating a signaling effect that is one of the key features of the “EU convergence machine” (Gill and Raiser 2012).
Strong export performance on all dimensions

Poland enhanced the performance of its exports along four dimensions: growth, market and product diversification, product quality, and firm survival. Such multi-dimensional internationalization boosted overall productivity growth, as firms tend to learn by exporting and upgrading their products and processes.

The growth of exports was impressive, well above global and EU averages in the decade leading to 2013. Poland’s export growth in 2004 reached a peak of 40 percent, and on average achieved 20 percent in the years before the global financial crisis, on par with the strong export performance of the East Asian tigers. Even in 2013, when the European export market still showed no sign of recovery, Poland’s exports grew by 10 percent. In 2004, of every $1,000 exported worldwide, Polish exports accounted for $7; in 2014, they accounted for $12.

Poland’s export performance in the global market contrasts starkly with that of the eurozone as a whole. Poland’s international market share increased from 2005 to 2013, while the eurozone’s declined, as well as the EU10’s (EU11 excluding Poland) after 2011 (Figure 3.4). Polish exporters gained market shares in all of the top 10 destinations over 2003–13 (Figure 3.5). Polish exporters increased market share in electrical machinery products (transmission apparatus) and transport equipment products (car parts, small vehicles), while losing market share in engines and vessels (Figure 3.6).

Figure 3.4 Poland’s participation in the world market has significantly increased over time

Source: World Bank staff based on UN Comtrade.

Figure 3.5 Polish exporters gained market share in all the top 10 destinations

Source: World Bank staff based on UN Comtrade.

Note: This figure plots the compound annual growth rate (CAGR) of total exports of Poland in the vertical axis against the CAGR of exports of the world to the same destination in the horizontal axis. The size of the bubble reflects the share of Poland’s export value to that destination in Poland’s total exports in 2003, to show the importance of each destination for Poland. When the bubble is above the blue dotted line, Polish exports to that destination have grown faster than world exports to that destination.

Share in world exports, 5-year average (percent)

Annual growth of Poland’s and the world’s exports to Poland’s top 10 destinations (percent)
Exports achieved substantial market and product diversification. Poland increased the number of destination markets and products exported by par with high-income peers on country reach and product scope. Such dual diversification reduced the country’s vulnerability to product and country-specific shocks and in 2012–13 was responsible for more than one-third of export growth, up from one-sixth in 2005–07 (Figure 3.7).

The diversification of exports also took place in the size of firms, because trade integration benefited small as well as large firms. As in many other countries, Polish exports were initially concentrated in a handful of export “superstars.” However, the contribution of such superstars to export growth has fallen, from about 80 percent in 2006 to 52 percent in 2013. This shows that improved competitiveness and reduction of trade costs also benefited the entry of smaller firms.

The number of Polish firms in export markets surged from about 32,000 in 2005 to 44,000 in 2013. More and more small firms managed to enter demanding export markets, as reflected in the median size of an export flow decreasing from PLN 380,000 in 2005 to PLN 177,000 in 2013.

Exports achieved higher product quality. The quality of Polish exports has been converging with that of some mature EU members, such as Spain, as reflected in a quality index based on the prices that export products obtain in international markets (Figure 3.8). An examination of Poland’s export sophistication employing
the Hausmann, Hwang, and Rodrik (2006) EXPY approach also suggests a steady increase in quality and sophistication (Figure 3.9). Qualitative information gathered through field work also pointed to significant improvements in the reliability of Polish suppliers as perceived by multinational companies and the complexity of the production processes carried out in Poland.

**Figure 3.8** Polish exports have raised their product quality

![IMF Index of quality of exports](source)

Source: IMF.

**Figure 3.9** Exports from Poland have become more sophisticated

![Exports sophistication index (thousands of dollars)](source)

Source: World Bank staff based on WDI and UN Comtrade.

Exporting firms also showed significant firm survival, which compares favorably with that in other EU members. The chance that a Polish export of a given product to a given destination remains active after the first year is around 60 percent — a rate far higher than in other new HICs such as the Czech Republic or the Slovak Republic, or even Spain, and lower only than in Germany — the benchmark for export survival.

### Participation in GVCs and the German impact

GVCs facilitate growth, and insufficient GVC integration could be one reason why trapped MICs have not escaped middle-income status. For countries in Eastern Europe, EU accession provided a large market for inputs and for outputs and made the establishment of GVCs more attractive. EU reforms also created a conducive environment and reduced policy uncertainty for GVCs. A similar EU effect took place in countries developing close trade ties with the EU. In Turkey for example, proximity to the EU and partnership agreements supported textile upgrading, and the country is now home to some global lead firms (World Bank 2014a).
German-anchored GVCs were key in integrating the Polish economy with global markets and in raising productivity. They opened up an easier pathway for Poland to participate in manufacturing trade and to make the economy more productive to reach HIC status. Trade and investment linkages with Germany increased export participation and foreign ownership of firms in Poland (through mergers or acquisitions by foreign firms, or joint ventures). After EU accession, firms in Poland in industries in which Germany had stronger industrial capacity and worldwide outsourcing potential were more likely to become exporters or foreign owned (Figure 3.10), as well as experience faster TFP and employment growth (Figure 3.11).

**Figure 3.10** Polish firms internationalized their activities as Poland increased ties with Germany

(Effects of integration with Germany on export participation and foreign ownership)

GVCs improved firm performance through different channels

GVCs improved the performance of Polish firms through multiple channels. First, importing to export helped build domestic economic performance through access to quality inputs, capital goods, and technological transfers. Foreign sourcing promoted vertical spillovers, for example, through foreign buyers and lead firms subcontracting to domestic firms and transferring knowledge and technique, and supplying
more varied or better inputs for processing in Poland. These lead firms also spurred horizontal spillovers like the circulation of workers trained at foreign companies (Box 3.1).

**Box 3.1 Gaining from integration through FDI spillovers**

International research finds robust evidence on FDI spillovers, mostly through vertical linkages between FDI and domestic firms, via the supply of inputs (forward linkages) or the demand for inputs (backward linkages).\(^1\) Evidence on spillovers through horizontal linkages (through competition in the same sector) is more ambiguous.\(^2\) However, Albinowski et al. (2015) look into the anecdotal and quantitative evidence on vertical and horizontal spillovers from activity of multinationals in Poland, and report sizable effects.

A large investment that GM Opel made in the special economic zone (SEZ) of Gliwice is a good example. GM Opel received public support from the government in the form of tax holidays, and from the EU in the form of grants for innovation-related investments. This firm, the first to set up shop in the SEZ in Gliwice, created a chain reaction in the region, according to anecdotal evidence. The SEZ now has 80 plants, many of them supplying Opel, but also other carmakers in Poland and abroad. Once small and medium enterprises became accredited suppliers of GM Opel (which involves some training and supervision by GM Opel), they acquired the intangible asset of reputation or a demonstration effect (a “stamp of quality” as claimed by one of the entrepreneurs interviewed), boosting firms’ business opportunities with other clients. GM Opel also partners with regional universities, hiring and training interns who may continue to work for the company or for other firms.

Is this anecdote representative? Albinowski et al. (2015) suggest that it is. The increase in FDI in upstream sectors led to increases in productivity in downstream sectors. The effects were robust to controls for the presence of FDI in the same sector of activity (horizontal spillovers).

Vertical spillovers through forward linkages account for a substantial share of productivity gains observed in 2005–13. These spillovers were statistically and economically significant. In base metals one-third of the TFP gains could be attributed to positive vertical spillovers through forward linkages brought by increases in FDI. Gains were also substantial in fabricated metals, nonmetallic minerals, and chemicals and chemical products. The impact goes both ways: a decrease in FDI led to a TFP loss in textiles; wood and wood products; and office, accounting, and computing machinery.


Note:

1. Blalock and Gertler (2008) looked at Indonesia and found evidence of positive vertical spillovers from increased FDI in downstream activities of the manufacturing sector. They found strong evidence of TFP gains, greater competition, and lower prices among local firms in markets that supply foreign entrants. Relatedly, Blalock and Simon (2009) found that the vertical spillovers from increased FDI in Indonesia accured disproportionately to firms with greater absorptive capacities (better trained workers, more investments in research and development). In Lithuania, Javorcik (2004) found positive TFP spillovers from FDI taking place through interactions between foreign affiliates and their local suppliers upstream. Also, Javorcik found evidence of vertical spillovers through backward linkages Czech Republic and Latvia through multiple channels. Evidence through forward linkages has concentrated on how FDI in upstream services sectors affected the productivity of downstream manufacturers. In the Czech Republic, Arnold et al. (2007) found sizable effects on productivity of increased foreign entry into upstream services. Fernandes and Paunov (2008) used data from Chilean manufacturers combined with FDI stocks in the upstream services sector, and found that those manufacturing firms furthest from the technology frontier had most to gain in terms of productivity improvements as a result of services sector liberalization. For Indonesia, Duggan et al. (2013) found the contrary: it was the better performing manufacturers that benefitted the most from upstream FDI in services. These authors found that FDI specific upstream sectors mattered the most for manufacturers. These sectors were telecom and transport (a similar result was found for the case of India by Arnold et al. (2010). Davis, Lamia, and Schittbauer (2016) find positive backward linkages from foreign FDI to domestic services firms in Jordan between 2006 and 2011. The effects were, however, partly reversed after the exit of foreign companies during the 2009 financial crisis, implying that only part of the positive spillovers to domestic suppliers embedded permanent learning effects.

2. Iršová and Havránek (2013) find that horizontal spillovers are on average zero, and that the sign and size of these spillovers depend on the characteristics of the foreign investors.
Box 3.2 General Motors in Poland

General Motors has two car manufacturing plants in Poland, one each in Gliwice and Tychy. Production innovation is encouraged on the assembly floor, where company management solicits and tests worker ideas for efficiency upgrades continuously. This method, otherwise known as “Kaizen” (Japanese for “good change”), seeks to achieve small, incremental efficiency and quality changes to processes in lean manufacturing. For example, using sections of sewer pipe as an easily accessible and durable container for small parts, placed near their end use, has reduced worker travel time in locating and stocking them. Innovations like this are implemented at plant level and shared among intercountry management.

Externally, General Motors develops strategic partnerships with domestic technical institutions. Supported by EU research and development funding, the company facilitates collaborative projects in production and offers training apprenticeships for local junior engineers. For GM, these partnerships help to identify locally relevant production solutions and preferences, and select top candidates for future employment. For Poland, these partnerships contribute to domestic research and development capacity while developing employment opportunities.

General Motors is also an example of Poland becoming competitive in services, taking on more of General Motors’ global services activities. Polish workers’ high foreign-language skills were cited as contributing to this transition. While some services jobs are being outsourced to India, the branch in Poland sees more potential to transfer higher-skilled services jobs to Poland in shared services centers.

Source: Authors’ elaboration based on Albinowski et al. (2015).

Increasing participation in global value chains led to economic upgrading

The intensity of GVC integration, measured as the portion of foreign value added embedded in home exports (backward linkages) and as the portion of domestic value added embedded in other countries’ exports (forward linkages), is considerably higher in new HICs, including Poland, than in trapped MICs (Table 3.1).

Measures of GVC integration intensity — average and change — over 1995–2011 (%)

<table>
<thead>
<tr>
<th>Groups</th>
<th>FVAX</th>
<th>Change</th>
<th>DVAR</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Established HICs</td>
<td>20.3</td>
<td>37.8</td>
<td>21.8</td>
<td>27.7</td>
</tr>
<tr>
<td>New HICs</td>
<td>37.9</td>
<td>63.4</td>
<td>17.5</td>
<td>19.1</td>
</tr>
<tr>
<td>Poland</td>
<td>27.7</td>
<td>99.6</td>
<td>20.0</td>
<td>16.2</td>
</tr>
<tr>
<td>Trapped MICs</td>
<td>22.0</td>
<td>52.2</td>
<td>14.2</td>
<td>24.1</td>
</tr>
</tbody>
</table>

Poland’s enhanced participation in GVCs has been associated with significant economic upgrading (defined as increased domestic value added in exports). While the foreign content of Polish gross exports increased from 15.4 percent in 1995 to 27.9 in 2009, due to increased participation in GVCs, it also resulted in a sizable increase in Polish domestic value added in absolute terms, growing on average by 11.3 percent annually, reflecting significant economic upgrading.7

Poland achieved its strongest economic upgrading through GVC participation over 1995–2009 in electronics (20.3 percent growth in domestic value added embodied in gross exports), automotive (18 percent), and machinery (17 percent). In relative terms improvement was significant; Poland ranked 5th in electronics, 8th in automotive, and 4th in machinery on domestic value added growth out of the 57 countries with comparable measures. Over the same period most Eastern European countries also experienced a sharp increase in domestic value added embodied in gross exports of their automotive sector, especially Romania (22.4 percent), the Slovak Republic (21.6 percent), the Czech Republic (17.5 percent), and Hungary (17.5 percent).

Table 3.1 GVC integration is higher in established HICs and new HICs (including Poland) than in trapped MICs

Source: World Bank staff.
Note: FVAX is the amount of foreign value added embodied in exports as a percentage of total exports and measures a country’s backward linkages into GVCs — or GVC integration as a buyer. DVAR is the amount of domestic value added content in re-exports as a percentage of total exports and measures a country’s forward linkages into GVCs — or GVC integration as a seller. To avoid inflating the DVAR values, the statistics are calculated only on the basis of manufacturing and services sectors.
Economic upgrading was less pronounced in the agribusiness sector, which showed 13 percent growth in domestic value added embodied in gross exports, and the chemical sector, which showed 14 percent growth. Basic metal products and the remaining sectors showed a lackluster performance. The only sector in which the contribution of domestic value added to exports deteriorated over 1995–2009 was the financial industry (-1.7 percent). Other countries also saw their domestic value added growth rates embodied in gross exports decline in this sector, notably Indonesia (-10.9 percent), Hungary (-1.5 percent), the Philippines (-0.8 percent), and Japan (-0.5 percent) — hardly surprising given the global financial crisis of 2008.

Moving up the global value chains

Poland successfully exploited its comparative advantage in low-cost labor, but this part of its competitiveness will likely be gradually eroded by wage increases resulting from its very economic success. Like other new HICs, Poland would thus benefit from moving to a higher-value-added growth model, which would promote continued productivity gains, allow exports to remain competitive despite increases in wages (Figure 3.12), and spur economic growth. Shifting to upgrading other aspects of competitiveness, such as quality and process, will require firms to absorb technology, meet product standards, and innovate.

These shifts can be supported through further integration into GVCs. Recent firm-level analysis (World Bank 2015a) reveals that Polish firms are less well integrated than their peers on the exporting side in firm coverage and export shares (percentage of their sales). The same applies to Polish firms’ offshoring, the international sourcing of intermediate inputs, which is lowest by extent and firm coverage among peer countries.

Further, while Poland has moved its imports and exports closer to the final consumer, both remain upstream and far from final purchase. And the length of the domestic segment of these GVCs is relatively short, suggesting that little transformation is taking place in Poland. The country’s participation in higher-value tasks within GVCs is limited, in both sectors where it is stronger (auto, electronics, and machinery) and sectors where it is less integrated (chemicals, agribusiness, metals, and the financial sector).

Starting with comparative advantages based on current skills, capabilities, and capital endowments, a country or firm can achieve higher value added by moving into new sectors and by performing higher value-added activities within a sector through the upgrading of processes, functions, and products (World Bank 2015a). The World Bank (2015a) suggests that the high-value-added content of services in exports offers increased opportunities to stimulate domestic value added growth, both for exports within the sector and in downstream manufacturing sectors. However, trading in services is not easy: it often requires movement of people across borders, ease in establishing a local presence, and harmonious home–host regulations. Nonetheless, Poland could likely expand value added in exports and in domestic production by tapping its potential for services.
Integration with global labor markets

Migration of labor has been substantial, connecting Poland to the global economy. Early after the transition, migration helped to reduce the labor surplus and avoided the hysteresis that could be caused by long-term unemployment. The prospects of work abroad provided strong incentives to invest in skills and education, which over time also increased the attractiveness of the Polish work force for foreign and domestic investment and eased structural transformation.

As the economy continues to grow in size and sophistication while its workforce is aging, more immigration of both skilled and unskilled labor would be beneficial to the economy. The experience of some established HICs suggests that better management of immigration, including formalizing the status of informal migrants, could help Poland address population aging and potential labor shortages.

Trends in Polish migration

Poland experienced an unprecedented increase in emigration after EU accession. Before accession, institutional constraints in the main receiving countries closed most chances of settlement (or even temporary migration), but after accession (albeit gradually in some countries) these constraints were eased. However, not all countries that gained access to the EU labor markets recorded heavy outflows of labor: the Czech Republic and Hungary saw very little emigration. The outflows from Poland were exceptional, even from a global perspective. The scale of recent migration from Poland to OECD countries is only comparable to Mexico’s and Romania’s (Box Figure 3.3.1 in Box 3.3). The number of Polish migrants abroad jumped from around 786,000 in 2002 to 1 million in 2004 and 2.3 million in 2007 — the 2007 figure was equivalent to 6.6 percent of the country’s population that year (Figure 3.13). The number of Polish migrants temporarily abroad slightly declined during the global financial crisis but picked up again recently, mainly due to increasing flows to Germany.
Beyond numbers, EU accession presents a turning point for the structural features of migrants: they are younger, more skilled, stay abroad longer, and are more urban than earlier migrants (Figure 3.14). According to EU Labor Force Survey (EU LFS) data, the median age post accession was 28 years, against 30 before accession (Finel et al. 2012). Emigration in Poland is highest among those age 25–29 (11 percent of men and 13 percent of women), 30–34 (11 percent equally of men and women), and 35–39 (8 percent of men and women). Recent Polish migrants are relatively well educated, with almost 20 percent holding a university degree (15 percent before accession). The most numerous group are migrants with vocational education, but there is a clear overrepresentation of migrants with tertiary education (Brücker et al. 2009). There has also been a steady evolution toward long-term, or even settlement, migration. Emigration is more pronounced in cities under 100,000 inhabitants than in larger cities and rural areas, unlike before accession (see Figure 3.14). Emigration is also more pronounced in less-developed regions (Opolskie, Podlaskie, Pomorskie, Podkarpackie voivodships), some of which have seen losses among people in their 30s exceeding 20 percent of the population.

The destinations of migration after accession also became more diverse. Before accession, Germany and the United States were the most important destinations, but recent Polish migrants target particularly the United Kingdom (30 percent of total Polish migrants staying temporarily abroad), then Germany (26 percent), the Netherlands (5 percent), Ireland (5 percent), and Southern European countries.11

**Impact of migration**

The overall effects of post-accession migration on the Polish labor market have been negligible (Holland et al. 2011; Brücker et al. 2009; Figure 3.15) as in other benchmark EU countries (Figure 3.16). In the short run, migration contributed to reducing unemployment and increasing wages, lifting GDP per capita and lowering GDP, but none of these effects was large and, with the exception of GDP, the long-run effects were even smaller. In contrast, the migration from Poland and other benchmark countries brought substantial benefits to receiving economies, particularly the United Kingdom and Ireland (Holland et al. 2011; Brücker et al. 2009).
The reason for the negligible impact of migration on job vacancies and wages despite large volume was the oversupply of labor at the time. After the transition began, the Polish labor market was characterized by low participation and employment rates, structural mismatches, and a large rate of long-term unemployment (Fihel and Kaczmarczyk 2009; Figure 3.17). During most of the pre-accession period the unemployment rate remained very high, hitting over 20 percent in 2002. Vacancy rates were correspondingly low.

The economic effects on Poland of its post-accession migration are small but largely favorable (Figure 3.15). The favorable short run effects of migration on Poland’s labor market over 2004–07 are similar to those of other regional benchmark countries (Figure 3.16). With regard to the labor market model, the wage curve approach has been used. The model assumes that the capital-labor ratio adjusts partially to the labor supply shock in the short run scenario and that the capital-labor ratio adjusts completely to labor supply shocks in the long run. Effects are lower than noted in case of the National Institute of Economic and Social Research model (Holland et al. 2011) among others due to the different time period covered.

Migration increased, unemployment fell, and employment rose in Poland in 2004–14 (Figure 3.17). Outcomes based on a model using a nested production function to examine the migration effects for the different cells of the labor market.

Note: Migration outflow is approximated by the difference in stock of Polish migrants abroad between 2004 and 2007. Unemployment and employment rates are expressed as a percentage.
However, the high rates of migration created shortages in the domestic labor market for a few professions, generally in healthcare, and shortages in some regions. The professions were anesthesiology (where the share of potential migrants amounted to almost 16 percent of Poland’s total), chest surgery (12.8 percent), plastic surgery (14.7 percent), and radiology (7.7 percent). Outflow is thus most significant in specialties receiving the lowest average incomes in Poland’s medical labor market (anesthesiologists, radiologists) and those for which there is high demand within foreign labor markets (plastic surgeons). Some local and regional labor markets also experienced imbalances in their labor markets (Kaczmarczyk and Okólski 2005; Kaczmarczyk 2014).

These labor shortages were driven by the favorable economic situation rather than by outward migration. As shown by Gumula et al. (2011), in the most critical phase of post-accession migration (in mid-2007), almost 30 percent of employers declared migration of Poles an important factor responsible for pressure on wages. But this rate declined to 1 percent in 2008 and 2009, and to zero in 2010. As soon as the global financial crisis slowed the economy, the labor shortage ceased, even though the stock of migrants continued to be large (Figure 3.18).

Migration facilitated Poland’s structural transformation. Poland’s accession to the EU eliminated previous barriers to mobility and created for the first time the basis for, on the one hand, the outflow of workforce surpluses (as with settlement migration), and, on the other, the reallocation of labor resources in the domestic labor market (as with temporary migration and return migration). The outflow of workforce surpluses in the context of a large oversupply of labor helped the country avoid the hysteresis that continued high levels of unemployment could have brought about.

Migration also had a long-term outcome coined “crowding-out migration” by Kaczmarczyk and Okólski (2008). The term is based on Layard et al.’s (1994) suggestion that the mass outflow of labor in the aftermath of World War II accelerated the modernization of Southern European countries. Kaczmarczyk and Okólski (2008) argued that the recent migration from Poland led to a spatial reallocation of labor resources, facilitating modernization. The emigration of the young and relatively well educated took place particularly from peripheral regions with abundant natural resources, and poorly developed labor markets that did not have the capacity to absorb them. Emigration improved regional labor markets, according to pioneer studies such as that of Kaczmarczyk and Okólski (2015). And the prospective benefits of emigration provided families strong incentives to invest in education and skills improvement, which in turn made the Polish economy more attractive for foreign and domestic investment in modernizing sectors.

The economic impact of migration on the migrants themselves was below potential. The occupations of Polish and other EU10 migrants do not reflect their schooling, and severe overeducation has been observed (particularly in the United Kingdom and Ireland) (Drinkwater et al. 2009; Holland et al. 2011; Brücker et al. 2009; Kaczmarczyk and Tyrowicz 2015F). Well-educated migrants experience a wage penalty,
and it is much higher for Polish migrants. Wages of Polish and EU7 migrants are far below wages of native workers and immigrants from EU14 countries (and also lower than wages of Indian or Pakistani migrants).

The benefits of migration for the migrants appear to go beyond money. Kaczmarsczyk and Tyrowicz (2015) assessed, for 2004–11, returns to education of well-educated Polish migrants in the United Kingdom, controlling for possible selectivity bias. They found that such migrants attained remuneration levels close to their “statistical twins” in Poland (workers with a similar level of education); and that for Polish migrants with a degree the returns to human capital were very low, most probably even lower than those available in the Polish labor market. So why stay abroad? It seems that Polish migrants remain because of nonmonetary benefits, such as better public services and, for their children, greater opportunities than those available in Poland.13

The impact of the return of migrants on Poland’s economy has been small, as the size of returned migration to Poland is much lower than expected and the brain gains are limited. There is an increasing tendency toward long-term migration and an orientation toward settlement, which reduce returns. The brain gains are limited as return migrants to Poland only occasionally transfer back home specific occupation skills. Instead return migrants bring social competencies, including soft skills and language skills that can be used on return, sometimes called “social remittances.” Even if the size of these remittances is small, return migrants can operate as agents of change depending on the situation they return to.

**Increased immigration could ease the constraints created by aging and emigration**

Poland, like other HICs, has been experiencing a fall in its fertility rate, which will result in significant population aging over the next few decades (Figure 3.19), aggravated by recent migration. The reasons are the drop in Poland’s population; the change in the age structure (especially the loss of cohorts born at the turn of the 1970s and the 1980s and their descendants, and the later returns to Poland of the same people when they are older); and the lower number of births — if temporary female emigrants since 2004 had remained in Poland and had the same fertility rates as other Polish female residents, the total number of births in Poland would have been 32,900 higher (8.5 percent).

The old-age dependency ratio — 23.6 percent in 2011 — is likely to increase to 60.9 percent by 2060 (without counting the high unregistered emigration of young Poles), or 62.8 percent (counting all emigration but not return migration, which will likely make the dependency ratio even higher).

**Figure 3.19** Recent migration will dramatically change the age structure of Poland’s population

Source: http://populationpyramid.net.
This more-than-doubling of the old-age dependency ratio over the next decades will undermine economic growth and threaten the sustainability of the pension and welfare systems. But these impacts can be moderated if the government pursues labor market policies that increase labor efficiency and increase the number of the economically active; adopts pro-natal policies; and encourages greater labor immigration.

In addition to aging, Poland will face the challenge of accessing the skilled labor and less-skilled low-cost labor that an expanding economy will demand. On the one hand, expected continued emigration of highly skilled workers will eventually affect the supply of skilled labor. On the other, as the economy develops the local population will find low-skilled low-paid jobs less attractive, leading to labor shortages in some basic jobs.

Increases in Poland’s immigration can help address the two challenges. There is potential for immigration to increase, as it is starting from a low level compared with new and established HICs. Poland continues to see heavy emigration and is only now starting to become an immigration country (Okólski 2012; Kaczmarczyk and Tyrowicz 2015). The share of foreign-born in the labor force is lower than in other benchmark countries (Figure 3.20). It is not only lower than in traditional immigration countries (Australia) and EU15 countries (Austria, Germany, and Ireland), but also far lower than in other new HICs from the region (Czech Republic, Hungary, and the Slovak Republic). Poland, like trapped MICs Mexico and Turkey, has been part of the global labor market as a source, rather than destination, country.

Unskilled immigration has been rising, but its economic potential is not being fully tapped. Although unskilled immigration almost doubled in 2014 and 2015, its benefits for the economy and for public revenues are constrained by the short-term contracts (less than six months). The picture is slightly brighter for temporary (seasonal or circular) immigration, which saw a sharp increase in 2014 and 2015. Temporary workers (mainly from Ukraine) are filling gaps in the Polish market and the majority are benefiting from a program supporting circular migration (Box 3.4). The challenges are to make the most of these temporary workers and increase longer-term official immigration.
Chapter 3: CONNECTING

Box 3.4 Immigration’s role in supporting the Polish labor market

The scale of officially recorded immigration to Poland is very low. The number of work permits has risen since 2007 but is still negligible — around 43,000 issued in 2014 — with Ukrainians accounting for around 60 percent of them, followed by Vietnamese (5.4 percent) and Chinese (4.8 percent). Such data portray, however, only a small fraction of the dynamic foreign segment of the labor market. Post accession, mainly due to a booming economy and related labor shortages, Polish authorities started to gradually liberalize the rules of employment of third-country nationals and introduced in 2006 a simplified procedure for citizens of Armenia, Belarus, Georgia, Moldova, the Russian Federation, and Ukraine. The procedure grants them a right to work in Poland for a period less than six months within 12 consecutive months, with an employer declaration but without having to obtain a work permit (Duszczyk, Góra, and Kaczmarczyk 2013).

The use of 2006’s simplified procedure has surged (Box Figure 3.4.1). But not all foreigners use employer declarations to get a visa for Poland, nor is every declaration issued for a person residing abroad. Still, the scale of seasonal migration to Poland based on the simplified procedure is far higher than all other migration flows. Ukrainians dominate (around 96 percent in 2014) and seasonal workers are mainly registered by employers in agriculture (50–65 percent), construction (14–22 percent), and manufacturing (around 10 percent) (Kaczmarczyk et al. 2015).

This relatively new form of seasonal employment in Poland can be compared with the Polish–German seasonal migration program introduced in the late 1990s. Box Figure 3.4.2 shows its scale — the biggest migration flow from Poland in the first phase of transition (until 2004). It became very important for Poland (particularly at regional and local levels) and Germany (where agriculture became heavily dependent on foreign seasonal labor). It became one of the most successful temporary migration programs in Europe.

The most important factors were: geographic proximity and low transportation costs, clear and straightforward rules, easy administrative procedures and low costs, a double recruitment system involving official institutions (labor offices and agencies) and migrant networks, and a purely economic rationale based on low costs (including very low separation costs) and high economic benefits (particularly in relative terms) (Dietz and Kaczmarczyk 2008).

Box Figure 3.4.1 The number of employer declarations has jumped, 2007–15

<table>
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<tr>
<th>Thousands</th>
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<td>0</td>
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Source: Kaczmarczyk et al. 2015.

Box Figure 3.4.2 The Polish–German seasonal migration program was one of the most successful in Europe, 1991–2004

Polish seasonal workers employed in Germany (thousands), 1991–2004

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Source: Ministry of Economy and Labor.

Immigration by skilled workers has been high and could be increased further. The share of immigrants to Poland with tertiary education in the 10 years before 2006 was 49 percent, higher than the OECD average of 31 percent. Similarly, the share of immigrants hired as managers, professionals, and associate professionals in Poland was 57 percent in 2006, higher than the OECD average of 30 percent. However, the weight of skilled immigrants in the Polish economy was very low because of the very low rate of registered and long-term immigration. Immigrant employment accounted for just 0.3 percent of total employment, one of the lowest shares among all OECD countries. In high-skilled jobs, the share edged up to 0.5 percent, still the lowest among all OECD countries. The share among professionals was also 0.5 percent — again the lowest among OECD countries, where the average was 10.5 percent in 2006.
In addition to attracting migrants, a country must make the most of their skills. The average share of workers with tertiary education who are overqualified for their jobs in OECD countries was 13 percent in 2006, a share similar to Poland’s, 11 percent. Skills or competencies of immigrants, particularly those originating from non-EU countries, are commonly undervalued, often due to poor language skills, wariness of foreign education systems, and inefficient skill recognition systems.

**Implications for migration policy**

As Poland continues to develop, an effective migration policy would help address potential labor shortages of an expanding economy with an aging population (Czaika and de Haas 2013). Based on the OECD experience, Liebig and Huddleston (2014: 44) identify the following policies for better using the potential of immigrants and their children:

- Easily accessible integration programs (including introductory programs and bridging courses), efficient and transparent procedures for recognizing foreign credentials, and evaluating and validating immigrants’ skills, eased contact of immigrants with employers, inclusion of immigrants in effective mainstream active labor market policies (ALMPs), and removal of barriers to public sector employment.

- Language training that prepares for labor market integration but does not delay it, vocational language training, basic language skills for all immigrants, bridging courses and mentorship as early as possible, education for immigrants’ children, and early family reunification.

- Focus on disadvantaged youth or women with an immigrant background, training immigrant mothers linked with childcare opportunities, anti-discrimination measures, engagement of employers, and support of immigrant startups.

Other insights from the experience of established HICs with temporary or seasonal migration are the need to control illegal and unfair employment practices; improve workers’ rights; and open selective channels to permanent employment and settlement. Though there are no accurate measures of informal immigration in Poland, anecdotal evidence suggests it is sizable. Informal immigration represents a missed opportunity for the government, migrants, and the private sector alike. When formalized, migration enables workers to fiscally contribute to public revenues and help finance the welfare system. And it increases migrants’ well-being and reduces uncertainty, encouraging firms to provide training to migrant workers, further increasing their economic contribution.

**Infrastructure**

Well-functioning infrastructure is key to connect goods and people. After transition, soft infrastructure — border and transport efficiency — saw huge improvements. Poland’s hard infrastructure — transport and ICT physical investments — was upgraded later, largely financed by EU funds. Combined, soft and hard infrastructure greatly improved connectivity for goods, people, and information. Yet the country’s infrastructure is still some way behind that of established HICs, with the gap narrower in soft than hard areas. Rebalancing infrastructure spending and spending more efficiently could bridge the infrastructure gap.

**Quantity and access have improved by leaps and bounds**

Poland substantially improved its soft infrastructure before EU accession, paving the way for trade integration. With the signing of the EU Association Agreement in 1994, Poland began to integrate with the rest of Europe and reduced not only its tariffs but also the requirements for documentation and border compliance. Poland
also improved its domestic transport, thanks to investments in the early 2000s. By 2007, Poland’s border and transport efficiency for goods, as measured by the Trading Across Borders index of Doing Business, was therefore already at the 2014 new HIC average (Figure 3.21). Poland became a member of the Schengen Agreement in 2004, which enabled the movement of citizens from one country to another within the Schengen area without border controls and certain formalities.

**Figure 3.21** Poland’s border and transport efficiency is higher than trapped MICs, similar to new HICs, and lower than established HIC averages

“Distance to Frontier” (difference from best performance) for the Trading Across Borders index of Doing Business

![Graph showing Poland's efficiency compared to other countries.](image)


After transition, Poland had the lowest share of motorways and express roads and one of the lowest levels of Internet penetration in the EU (Ministry of Regional Development 2010; European Commission 2016). There was also a great need to improve quality, as reflected in the unsatisfactory condition of the road and rail networks; a shortage of ring roads for cities and of roads with appropriate load-bearing capacity; and the inadequate condition of the rail network.

However, since the early 2000s, the transportation system has recorded huge improvements, with a leap in public investment beginning in 2003. In particular, a massive building program increased the length of motorways almost fourfold, the length of expressways sevenfold, and modernized rail almost ninefold (Ministry of Infrastructure and Development 2015a). Investments in information and communications technology, particularly broadband, similarly accelerated, including 9,500 km of infrastructure for five eastern Polish regions (European Commission 2014b). Poland’s overall infrastructure quality and the technological readiness of its ICT climbed steeply from 2009–10 to 2015–16, getting closer to the new HIC average (Figure 3.22).

**Figure 3.22** Poland has narrowed the gap with new HICs and has better hard infrastructure than the trapped MIC average

**Quality of transport infrastructure**

Global Competitiveness Index, Quality of overall infrastructure, 1 (worst) to 7 (best)

![Graph showing quality of transport infrastructure.](image)

The EU provided large funds to co-finance these major projects. Within the EU, the inflow of EU funds to Poland in 2007–13 was the highest in nominal terms (€68 billion) and among the largest as a share of GDP — 22 percent of 2007 GDP (OECD 2016).

The outcomes of these infrastructure investment programs included greater access to and from peripheral areas, with travel times shortened and access to broadband upgraded (Ministry of Infrastructure and Development 2013). After the investment programs in 2004–13, total travel time between 18 voivodship (regional) capitals (there and back) was shortened by 15.8 percent, with the highest effect for Warsaw. And the "road potential accessibility indicator" (reflecting travel times between populations of particular Polish gminas — municipalities) improved by 13.9 percent for Poland as a whole, and in some voivodships by more than 20 percent. The international accessibility of the country also picked up sharply — 13.4 percent. Internet access more than doubled, from 30 percent of households in 2005 to over 75 percent in 2015 (World Development Indicators).

However, progress has been slower in eastern than western Poland (Ministry of Infrastructure and Development 2013). There are still regions well connected neither to national centers nor to the European core transport network (Rosik et al. 2015). On broadband, in contrast, convergence of eastern Poland with the rest of the country is on track, thanks to an EU program that has extended coverage to some 90 percent of the population (European Commission 2014b).
Challenges

In 2014, Poland ranked quite well among its benchmark countries on the overall Logistics Performance Index (LPI). In almost all areas Poland fared better than the average of the new HIC group (customs efficiency, ease of arranging shipments, quality of logistics services, ability to track and trace consignments, and delivery times).

It scored, however, significantly worse on quality of trade and transport infrastructure (World Bank 2015a). Similarly, on the domestic LPI, shipment costs, as measured by the cost per kilometer of exports and imports using land supply chains, are fairly steep (Figure 3.23). And the quality of the land export-import supply chains lags far behind its peers, notably in estimated lead time.

Figure 3.23 Poland ranks relatively well on international logistics, but less well on associated quality, and poorly on domestic supply chain costs

International Logistics Performance Index 2014

Overall LPI and Infrastructure, rank

Domestic Logistics Performance Index 2014

Cost per kilometer of exports and imports, land supply chain (U.S.)

Though public investment in transport and ICT has soared, it remains unbalanced: the density of high-speed roads remains lower than in other EU countries; local road maintenance has been poor (since 2012 the percentage of national roads in acceptable conditions has stabilized at around 60–65 percent); and rail investment is lagging.

Rail infrastructure has only been partly modernized, with only €5 billion in EU funds allocated over 2007–13. In terms of investment in rail infrastructure Poland lags behind all its peers (Figure 3.24). As a result, the share of rail transport, both passenger and freight, is declining (passenger traffic has shrunk by about one-half since 1993) and the quality of the rail infrastructure and services is perceived as low. The density of the rail system is still above the EU average, but due to systematic underinvestment in maintenance over the last 20 years (as estimated by European
Commission 2014a), over half of rail infrastructure requires significant repair work (OECD 2016).

Poland also lags behind its peers in the EU’s Digital Economy and Society Index 2016 (European Commission 2016), where it was tagged as “falling behind” on connectivity, human capital, and integration of digital technology by businesses. On broadband networks, Poland’s connectivity rating is dragged down by poor performance of fixed broadband coverage and take-up. On a positive note, the next phase of EU funds (2014–20) and the new national investment programs foresee more balanced allocation of funds across transport modes, including higher funding for the railway sector and for urban transport projects to address congestion and maintenance. Similarly, the Digital Poland program (Ministry of Infrastructure and Development 2014) predicts a balanced allocation of investments in further development of broadband network and delivery of government electronic services. The Digital Poland project does not, however, pay enough attention to firms increasing their ICT skills and adoption of technology, which will otherwise remain a barrier to the more efficient functioning of the economy.

**Figure 3.24** Poland’s public investment appears unbalanced relative to other groupings — too much in roads and too little in rail

The current plans for 2030 and 2050 project sizable investments in transport and energy infrastructure. Until 2020, they will be supported by EU funds, which are set to reach nearly 3 percent of 2013 GDP each year; after that, EU funds are likely to be phased out and other resources will be needed. A rise in maintenance costs, for example, stems from earlier road spending being heavily tilted toward new investments, which will impose long-term costs. The financing of this maintenance is often problematic, especially for local roads (95 percent of all roads), which are administered by local governments lacking resources, long-term asset management strategies, and staff and staff skills (OECD 2016). Further, implementation of the EU’s Intelligent Transport Systems Directive (2010/40/EU) will require heavy investment in ICT across all transport modes. Alignment between public investments in transport and ICT infrastructure should remain a priority.

Poland therefore needs a long-term approach to plan and manage transport and ICT infrastructure, and to finance investment beyond the current period of high EU financing. Poland’s goal should be to continue to improve services and rebalance demand among different types of transport, while continuing to invest in Intelligent Transport Systems solutions and ICT infrastructure more broadly. Poland could increase revenues from road (e-tolling) and rail transport infrastructure, and attract alternative sources of infrastructure financing, including private finance, both for infrastructure maintenance and development. Transport services could also be better organized and integrated, particularly in urban and surrounding metropolitan areas, with better linkage between transport modes and cooperation in transport organization among different government partners. Road safety — still a serious problem in Poland — remains an area in need of upgrading (World Bank 2016).
Conclusion

Poland has connected to markets remarkably well, and its trade openness was at the heart of its high economic growth. Poland’s workers also connected to global markets, with extremely high emigration. And Poland improved soft infrastructure — the institutions that facilitate trading across borders — dramatically after transition, while expanding hard infrastructure — transport and information and communications technology — later, benefiting from large inflows of EU funds. In the next chapter we will explore the nature of the gains in productivity growth unleashed by Poland’s connecting to global markets.
Lessons from Poland, Insights for Poland

Endnotes

1 The integration of the capital market is covered in chapter 2.

2 Hysteresis refers to a situation where persistent unemployment has caused unemployed workers to lose their skills or has demotivated them, resulting in structural unemployment. This unemployment is very difficult to reduce without significant increases in demand that would cause inflation.

3 The trade-to-GDP ratio is an indicator of openness to foreign trade. It weighs the combined importance of exports and imports of goods and services in an economy, and gives an indication of dependence of domestic producers on foreign demand, and of domestic consumers and producers on foreign supply.

4 International Chamber of Commerce.

5 The key channel through which greater openness contributed to economic growth in Poland and other new HIC EU members, such as the Czech Republic, Hungary, and the Slovak Republic, was increased productivity, which is discussed in detail in chapter 4. Manufacturing productivity in Poland increased by 22 percent a year over 1997–2005.

6 See Albinowski et al. (2015) for a description of how stronger German industrial capabilities and outsourcing potential are measured. Results reported in this section are robust to alternative specifications. Reassuringly, placebo tests using similar measures of industrial capability for Russia and other neighbor countries—notably Ukraine and Lithuania—fail to identify systematic links with the evolution of firm performance following EU accession. The analysis uses a difference-in-differences strategy.

7 Kummritz, Taglioni, and Winkler (2017).

8 Central Statistical Office (CSO). However, CSO data are not directly comparable with the EU LFS and OECD data. According to EU LFS data, the stock of Polish migrants residing in EU27 countries was 1.7 million (Janicka and Kaczmarczyk 2016). OECD data (Database on Immigrants in OECD Countries) provide a number as high as 3.2 million in 2011 in all OECD countries, and 2.4 million in EU OECD countries.

9 Unfortunately, it is not possible to present structural characteristics of Polish migrants referring directly to the Central Statistical Office estimate. Below we refer to the EU Labour Force Survey data and census data (2011). All the available data point to serious overrepresentation of people aged 20–40 in the migrant population compared with the domestic population (in the post-accession period the share of such people was over twice as high among migrants).

10 As shown by the value of the permanency indicator, which changed substantially between 2009 and 2012 (among other reasons due to a complex set of factors related to the economic crisis) (Janicka and Kaczmarczyk 2016, based on National Bank of Poland data).

11 Central Statistical Office data.

12 Due to the oversupply of labor, sectors in Poland overall did not experience a significant brain drain. There are no reliable data on the real scale of migration of, for example, medical professionals from Poland, but the number of medical certificates issued (confirming qualifications and professional experience, as required by employers in EU15 countries) suggests there was no threat to the health system. In the most active period of post-accession migration, until the end of 2007, the number of certificates issued to doctors — 6,724 — was 5.7 percent of the number of medical doctors in Poland, and the 9,300 certificates issued to nurses and midwives were 0.3 percent of that group in Poland. The outflow therefore was not large enough to threaten the healthcare system in the short term. To some extent, the migration of medical specialists may be viewed as another example of overflow rather than a drain of workers, particularly if we consider that the Polish education system continues to turn out medical professionals at a rate that exceeds the outflow to other states (OECD 2016; Kaczmarczyk 2014).

13 The wage penalty experienced by Polish migrants seems to be an extreme case of an overeducation effect and the lack of proper returns to skills. Similar effects have been noted for migrants from other countries. The labor position of highly educated Mexican (and other Latin American and Eastern European) migrants in the United States, even after controlling for structural characteristics, was much worse than the situation of immigrants from Asia and well-developed countries. These differences have been commonly attributed to the low quality of skills or their limited transferability (Mattoo et al. 2008; Chiswick and Miller 2009). The lower return rates to human capital of Polish immigrants may be explained by the imperfect transferability of human capital, which is strongly conditioned by linguistic skills and lower quality of education, and by selective migration strategies, which drive people to accept jobs below their qualification level.

14 This section draws on the approach of Portugal-Perez and Wilson (2010) and looks at hard and soft infrastructure, as defined in the text.

15 EU funds are projected for 2014–20 as follows: €78 billion has been allocated to Poland (around 20 percent of 2013 GDP), out of which €2.5 billion is allocated to the program Digital Poland and €28 billion to the program Infrastructure and Environment. Basic transport infrastructure (roads and rail) remains the main recipient of the latter program: €20 billion over 2004–06, €25 billion over 2007–13 (equivalent to 36 percent of the funds allocated over that period), and €20 billion projected for 2014–20 (25 percent of the 2014–20 allocation, including €2.3 billion for low-emission collective urban transport) (Ministry of Infrastructure and Development 2015a).
References


Chapter 4: GROWING

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Introduction

This chapter focuses on Poland’s growth process in its transition to high-income status. Some countries, having achieved middle-income status, struggle to make the leap to high income and are caught in the "middle-income trap." Poland did not get caught. What are the lessons from Poland for other countries that strive to avoid the middle-income trap? And what insights are available from other countries for Poland to successfully meet the new challenges ahead?

Poland avoided the middle-income trap through the pentagon of policies described in this report: governing, sustaining, connecting, growing, and including. In chapter 1, we described how the overall strategic policy direction toward a market-based economy was kept consistent for decades through many government changes. In chapter 2, a set of prudent macroeconomic policies, together with some luck, sustained economic growth. In chapter 3, rapid global integration connected Poland to international markets and competitors.

Together, this first triad of the pentagon of policies provided powerful incentives for growth. Within a relatively short period, buttressed by EU accession, Poland created an enabling environment for investors and workers to build up their physical and human capital, while connecting them to the powerful growth platform that international production networks provided.

This chapter describes the nature of the growth created by this policy environment. The main lessons that can be drawn from the features of Poland’s economic growth, as well as the main insights on desirable features going forward for Poland to continue growing fast, are presented below. The rest of the chapter develops them in more detail.

Lessons from Poland

Use markets well to efficiently reallocate resources as the country grows

Poland balanced factor accumulation ("perspiration") and productivity improvement ("inspiration") by allowing market forces to reallocate resources to their most efficient uses. This sets Poland and other new HICs apart from the trapped MICs, which have based their growth on factor accumulation. Poland’s capital accumulation and technological and institutional growth also differs from those of the Asian Tigers, which built their rapid growth and structural transformation on several decades of perspiration in the form of factor accumulation: massive investments in human and physical capital at rates rarely seen in history, and improvements in infrastructure.

For Poland, factor accumulation accounted for two-thirds of GDP growth in 2000–14. While factor accumulation was strong as in most countries, improvements in total factor productivity, which accounted for the other one-third, allowed Poland to grow faster than established HICs and trapped MICs. Capital accumulation was spurred in Poland by the integration of capital markets and large EU structural funds. The policies implemented since the transition created solid incentives for firms to invest and innovate. Many firms rapidly adopted new technology as foreign direct investment expanded, propelling growth. While the emphasis on physical capital accumulation is similar for both the new and trapped MICs, its composition is different. Poland and the new HICs give more weight to information and communications technology (ICT) capital investment to facilitate technological upgrading.

Poland’s productivity growth was driven by market forces through three channels: productivity-enhancing reallocation of resources between sectors (structural transformation), within sectors (enabling the efficient firms in the sector to grow and the inefficient to shrink), and within firms (adopting better management and new technology). One-fourth of Poland’s overall productivity growth during 2000–14 is explained by structural transformation. The reallocation of resources from relatively lower productivity agricultural activities to more productive manufacturing and services sector activities increased productivity in the economy. And as labor was pulled out of agriculture, agriculture responded by increasing its labor productivity.
Within manufacturing, three-fourths of Poland’s productivity growth during 2000–14 is explained by efficient reallocation of resources across manufacturing firms. Increased competition prompted the reallocation of resources away from inefficient firms and into efficient ones, allowing good performers to grow and bad performers to shrink. This took place across other sectors also, increasing aggregate productivity levels. Manufacturing slightly contracted in Poland and other new HICs (with the exception of the Slovak Republic) in favor of services, but remains a larger sector than in trapped MICs.

Finally, productivity also improved within Polish firms as they reorganized, expanded, and upgraded management. These gains were reaped not only by foreign firms but also by domestic firms regardless of size. In contrast to trapped MICs, Poland’s productivity gains were supported by expansion of efficient small firms into larger firms, not just expansion of large firms.

**Invest in human capital**

Poland achieved its high economic growth with focused reforms and investments that resulted in large gains in educational performance responding to market needs. Test scores for the Program for International Student Assessment (PISA) show that Poland’s improvement in the quality of its education was one of the fastest among Organisation for Economic Co-operation and Development (OECD) countries in the last decade. The improvement provided workers with better skills to move from farms to factories. The supply of graduates and skilled labor rose in line with the demands of the market as it grew in size and complexity: returns to education at secondary and tertiary levels were stable over time. As in other new HICs, in Poland the growing market economy saw a steady increase of employment in higher-skilled, non-routine cognitive activities, matching the increasingly sophisticated market structure of the economy.

**Insights for Poland**

Poland is close to exhausting its engine of growth and will need to move on to a new model of growth driven by innovation. The productivity gains from a more efficient allocation of resources across sectors have been largely tapped with the structural transformation of the economy. Sustaining Poland’s convergence with established HICs will increasingly require cutting-edge technologies and innovation.

**Boost technology adoption and innovation**

There remain potential productivity gains from catching up and narrowing the differences across Polish firms in making use of cutting-edge technologies developed elsewhere. The majority of Polish manufacturing and services firms still have gaps in frontier technology adoption. In particular, Polish firms lag relative to established HICs and new HICs in the adoption of ICT. In addition, workers’ skills need to improve so that they can move up from middle-skilled occupations susceptible to automation and meet the needs of more sophisticated production.

As Poland converges to the global technological frontier, the gains of catching up will eventually be exhausted and growth will need to be driven by innovation. International evidence suggests that emphasis on education for research, equity financing, and ensuring openness to trade and a conducive business environment will be critical for growth, because they facilitate innovation.

More intensive investment in enterprise research and development will be needed to drive technology adoption and innovation. Modernization of the public innovation support system for cooperation between scientific institutions and the private sector is crucial, too, as is the development of technological parks and clusters. Poland’s financial sector, still dominated by traditional banks, will need new financial instruments better suited to the risk inherent in innovation.

Continued improvements in the business environment and innovation ecosystem in an open economy will also help Poland to increase innovation. For instance, the time required in Poland to enforce business contracts is more than double that in established HICs and more than 50 percent larger than in other new HICs. More generally, Poland lags relative to established and new HICs in creating an environment conducive to innovation.
Finally, it will be important to address the gaps in governance, as firms’ incentives to innovate are positively correlated with institutional variables such as the rule of law (Nguyen and Jaramillo 2016) and democracy (Aghion et al. 2014). Backtracking on governance would not only undermine the consensus needed for ongoing reforms, but also reduce growth.

**Improve the quality of tertiary education and training**

During Poland’s rapid economic ascent, the large increase in the supply of workers with tertiary education played a significant role. However, going forward, the population will start ageing, the labor force will contract, and the economic growth model will need to transit from low wages to high skills and innovation. To meet this challenge, improving the quality of higher education and including more workers in a system of life-long learning (LLL) will be essential, while boosting apprenticeships in partnership with the private sector.

Going forward, a more knowledge-based economy will put a premium on high quality tertiary education, in general, and two types of skill sets, in particular. First, skills in the fields of science, technology, engineering, and mathematics. Second, the “soft” skills needed for learning, networking, communication, team work, analysis, self-organization and entrepreneurship. Tertiary education will also need to respond better and more systematically to the demands of the labor market, given the rapid pace of technological change, this responsiveness needs to be much more rapid and systematic than in the past. Involving the private sector more closely in institutional governance, curriculum development, teaching and learning and career guidance is needed. And more internationalization of staff, students and research will also improve the quality of education through a more intensive exchange of experience and good practice.

Overall, increasing the productivity and innovativeness of workers is hardly possible without constantly upgrading their skills. To do this, LLL systems for individuals already in the labor market should be established. Bringing the cost and accessibility of such training down will be essential to support the life-long learning model. Higher education institutions should assume a central role within LLL systems. Finally, apprenticeships programs should be boosted substantially. An apprenticeship is a structured accreditation program that provides the worker with the building blocks to master a specific occupational area and learn hands-on skills under the direct supervision of a skilled expert, together with academic instruction that adds the conceptual foundation. Apprenticeships can provide the type of integrative learning (the ability to apply knowledge and skills to real-world settings) which corresponds to the needs of today’s dynamic global economy.1

**Growing the Polish economy**

What were the main policies driving high economic growth in Poland? Several elements from the “pentagon of policies” have been crucial. First, creating and reforming the institutions needed for a competitive market economy, discussed in chapter 1, incentivized the reallocation of resources toward comparative advantage activities, while, in general, the transition to market-based institutions enabled firms to appropriate the gains generated by their own activities. Second, connecting to the global economy, discussed in chapter 3, increased returns to investment and innovation because it allowed firms to exploit economies of scale, reduce technological constraints through imported inputs and capital goods, and partake in the powerful growth platform that international production networks provide. Third, investing in human capital through market-oriented institutional reforms in the education and labor markets provided workers with the skills the markets needed. This allowed production to expand, compete, and increase in sophistication. And fourth, policy reform continuity and a stable macro environment reduced firms’ uncertainty, making investment and innovation less costly.

As a result, by 2014, Poland produced almost 2.5 times more goods and services than it did in 1990. What was the pattern of this growth, and how does it compare with those observed for established HICs, new HICs, and trapped MICs? How
important for growth was “perspiration” — that is, working harder by accumulating physical or human capital — relative to “inspiration” — that is, working smarter and gaining efficiency? Does it matter if growth is led by perspiration or inspiration? To answer these questions, we decompose GDP growth rates into contributions of labor accumulation (quantity and quality), capital accumulation (ICT and non-ICT related), and higher efficiency in combining the factors of production (Total Factor Productivity growth, TFP), following standard growth accounting methods and focusing on 2000–14 (Figure 4.1).³

Polish growth had three features: it was fast (real average growth of 3.7 percent a year) and stable; it was grounded in efficiency gains; and it was supported by market-oriented upgrading of human and physical capital. These features are broadly common to those seen in the other new HICs, but different from the growth pattern of trapped MICs.

Growth was grounded in efficiency gains

Since the turn of the century, Poland’s growth was strongly grounded in efficiency gains (measured by the contribution to growth accounted for by TFP gains). These explained one-third of GDP growth. But the earlier transition period leading up to 2000 had been characterized by fast production factor accumulation. In general, the contribution of TFP to growth is far more relevant in new HICs (17.5 percent) and established HICs (14.3 percent) than in trapped MICs (0.6 percent). In Poland, aggregate TFP in manufacturing grew at an astonishing 22 percent a year during 1997–2005.⁴ After 2005, TFP growth in Poland decelerated, but still remained high internationally, averaging 4.75 percent a year in 2006–13.

Connecting Polish firms to world markets played a major role in firm performance by stimulating technology transfer, improvements of product quality, and better managerial and organizational practices among Polish manufacturing firms (see Box on FDI spillovers in chapter 3). In particular, Poland’s location next to Germany, a high-income country and an export powerhouse, played a significant role. Following EU accession, total factor productivity and employment grew relatively faster among domestic and foreign firms operating in sectors in which Germany had a stronger industrial capacity and outsourcing potential (see chapter 3 for a detailed description of results).

Growth was supported by balanced factor accumulation and ICT investment

In trapped MICs, capital accumulation typically contributes about three-fourths of growth, while the rest comes from increases in labor force participation, with little contribution from improved labor quality. Poland and the other new HICs exhibit a more balanced growth pattern, with capital accumulation explaining 60–69 percent of growth, increases in labor quantities 13 percent, and improved quality of human capital (labor quality) 24 percent.
At transition, Poland had archaic infrastructure and little domestic savings to finance investments in infrastructure. However, like other new and established HICs, Poland’s connecting to international markets helped channel substantial foreign savings into firm infrastructure investment. For instance, the inflows of foreign direct investment (FDI) as a share of GDP — proxying the contributions of foreign savings to finance investment — is far higher in established HICs than in new HICs, which are in turn higher than in trapped MICs (Figure 4.2). In Poland, these inflows were 3.4 percent of GDP on average over 2000–14, slightly below the average for new HICs, but higher than for the trapped MICs. Finally, in the Polish case, the large inflows of structural funds from the EU played a key role in upgrading Poland’s hard infrastructure (see chapter 3).

Poland’s accumulation of capital also had a higher share of ICT than the trapped MICs. ICT capital accumulation accounted for 21 percent of Poland’s growth, and non-ICT capital accumulation accounted for 38 percent. The important role of ICT characterizes most other new HICs and sets them apart from the trapped MICs. For instance, ICT capital was an important growth factor for Poland, the Slovak Republic, and Hungary, which all received substantial FDI inflows in the post-transition period that facilitated the adoption of new technologies.

### Growth was based on human capital improvements

In Poland, increases in labor quantity played a very small role in contributing to GDP growth. They only contributed 0.07 percentage points to growth over 2000–14, in contrast to increases in quality of employment, which contributed 0.18 percentage points to GDP growth. One reason for the low contribution of labor was the large emigration of Poles, particularly in the two years before the global financial crisis, when job shortages were significant. This contrasts with any of the country groups, where the growth contribution of increased quantity of employment was greater than that of improved quality. However, measuring human capital quality is difficult, while the impact of higher education may express itself in more innovation and hence TFP.

Poland transformed its human capital base to facilitate the movement of labor from low productivity to higher productivity sectors facilitating TFP growth. At the beginning of the transition, Poland had labor that was ample in quantity, but not necessarily with the quality of skills to fit its new role in the global marketplace. Starting in the mid-1990s, Poland made substantial investments in education and met the demands of the market.

For instance, a manager in the automotive industry operating in Poland for over 20 years reported that, in the early 1990s most complex and design activities had required the involvement of German engineers, but these tasks were now performed by Polish engineers (Albinowski et al. 2015). Such anecdotes indicate increased sophistication in production, which is confirmed by trends in the overall quality of Polish exports: it is converging to that of established HICs (ibid.).

Accordingly, employment in high-skilled occupations has surged in Poland since the late 1990s. These occupations intensively require non-routine cognitive and interpersonal skills. The increase in high-skilled occupations was similar in other new HICs in Europe but strongest in Poland. Employment shares of high-skilled, high-paying occupations (managers, professionals, and technicians) increased on
average by 0.5 percentage points a year in Poland over the last decade, or about 10 percentage points for the whole period. In contrast, employment in middle- and low-skilled occupations, which are intensive in routine skills, declined (Figure 4.3).

Tasks performed in the Polish labor market (percent change)

Mirroring these trends, the skills of the Polish workforce increased dramatically. The share of workers with tertiary education rose from 10.2 percent in 1992 to 32.4 in 2014, while the share of workers with only primary education fell from 24.3 to 5.7 percent (Figure 4.4, see Lewandowski and Baran 2016 for more detail).

The supply of employees with tertiary education met the strong demand for high-skilled occupations reasonably well: the returns to tertiary education were high, but varied very little in Poland between 2005 and 2012 (the last year with data). In contrast, several trapped MICs have higher and often increasing returns to tertiary education, suggesting that the demand for these high-skilled workers outpaces the supply (Figure 4.5). In established HICs, returns to tertiary education are typically lower, signaling that the supply of tertiary educated labor there is keeping up with the demand for these workers, without creating significant shortages.
The quality of education improved substantially, as measured by students’ performance in standardized tests. Poland significantly improved its performance on PISA between 2003 and 2012. In mathematics, its score increased by 2.6 points per year, while the OECD average remained broadly unchanged. Poland’s main score in PISA 2012 mathematics was 518 points, against an OECD average of 494 points. And in the last decade, Poland was among the very few OECD countries that simultaneously increased its share of top performers and reduced its share of low performers in mathematics, reading, and science.

The growth pattern in more detail: Three channels

Poland’s growth in aggregate efficiency was driven by three simultaneous processes: efficiency-enhancing structural transformation across sectors; reallocation of resources toward more efficient firms within sectors (crucial at the onset of the transition period); and efficiency gains within firms.

This section examines the productivity gains through sectoral and firm dynamics. It shows that resources moved from relatively lower-productivity sectors to higher-productivity sectors; that within sectors, in turn, there was a strong “Darwinian” effect, reallocating resources from low productivity to high productivity firms and increasing aggregate productivity; and that within firms there were also substantial efficiency gains as firms expanded, reorganized, upgraded management, and innovated. Within the manufacturing sector, for example, the reallocation of resources from low productivity to high productivity firms accounted for three-fourths of total productivity growth.

Reallocation of resources between sectors: Structural transformation

The sectoral reallocation associated with structural change helps explain the higher aggregate productivity growth of the new HICs. Structural change is the reallocation of resources among different broad activities in an economy. A large share of the labor force in less developed countries works in agriculture, often in low productivity subsistence farming. Throughout development, labor moves to sectors with higher productivity. In the “normal” pattern of development, the labor share of agriculture typically declines, while manufacturing, first, and services activities, later, expand. While productivity across sectors can differ substantially in developing countries, market forces should reallocate resources to the sectors with the highest marginal productivity over time, equalizing labor productivity across sectors. But market failures and distortions, for instance those imposed by rigid product or labor market regulations, can block this convergence. Empirical studies reveal stark differences in labor productivity levels across sectors in developing countries, while differences in labor productivity levels across sectors in HICs are typically small, reflecting past structural change. The sectoral reallocation associated with structural change can thus explain cross-country differences in aggregate labor productivity growth if countries are at different stages of structural change (Echevarria 1997; Duarte and Restuccia 2010). In particular, Duarte and Restuccia (2010) reveal that during structural change, the reallocation of labor from agriculture to manufacturing leads to a catch-up of countries’ aggregate labor productivity relative to the United States, and that the reallocation from manufacturing to services leads to the opposite.

The new HICs are at a more advanced stage of structural change than the trapped MICs, and resemble the established HICs more. The new HICs have a much lower share of the labor force working in agriculture than the trapped MICs — 7 percent versus 17 percent in 2014 (Figure 4.6). They also have a higher share of labor in manufacturing and potentially more tradable services sectors, such as finance and professional services, similar to established HICs. The share of employment in government-dominated sectors such as public administration or social sectors
is similar among the new HICs (23 percent) and trapped MICs (25 percent), while established HICs have a significantly larger public sector (31 percent).

In the new HICs, manufacturing is an important employer, but labor was reallocated from agriculture and manufacturing to potentially more modern, tradable services sectors over 2000–14 (see Figure 4.6). While the share of labor in manufacturing was still relatively high in 2014 (19 percent), it had declined by 3 percentage points since 2000. In contrast, services such as financial, professional, communication, and transport services expanded.

**Structure of employment, group average, 2000 and 2014 (percent)**

Figure 4.6 The share of labor in agriculture is lower in the new HICs while the labor shares in manufacturing and private sector services are larger

![Figure 4.6](image)


Labor reallocation among 11 broad sectors accounted for 23 percent (0.7 percentage points) of the average annual aggregate labor productivity growth of 3.1 percent in Poland over 2000–14. The growth of labor productivity within these sectors contributed the remaining 77 percent (2.4 percentage points). The growth-enhancing labor reallocation was primarily driven by the decline in the labor share of the least productive sector — agriculture — and the contemporaneous increase of the labor shares of more productive service sectors, such as trade, transport, hotels and restaurants, professional services, and construction (Figure 4.7). The contribution of the reallocation of labor to aggregate labor productivity growth in Poland over 2000–14 was large relative to other countries — only seven countries (including Turkey) of the 40 countries in the Groningen database had a higher percentage point contribution; in 17 countries (including Argentina, Korea, and Malaysia) the within-sector productivity growth contribution was higher.

**Sectoral productivity (related to average productivity) and the change in employment share, 2000–14**

Figure 4.7 The reallocation of labor across sectors associated with structural change contributed to aggregate labor productivity growth in Poland

![Figure 4.7](image)

Source: Staff calculation based on Eurostat.

Note: The figure plots the logarithm of sectoral value added per worker (relative to the average across all sectors) and the change in the employment share for 11 economic sectors in 2000–14. The size of the circle reflects the employment share in 2000. On the vertical axis, sectors above zero are more productive than an average sector in an economy. On the x-axis, sectors to the right of zero have had increases in their employment shares. Abbreviations: agr: agriculture; con: construction; fin: finance; ict: communications; man: manufacturing; mu: mining and utilities; oth: other services; pro: professional services; res: real estate; soc: health, education, and social services; th: trade, transport, hotels and restaurants.
Successful structural transformation requires the sectors that shed labor to increase their productivity, so that labor can leave the sector without causing inappropriate declines in production of non-tradable basic goods, which would raise their prices and requires an increase in real wages. In Poland, this succeeded: agriculture and manufacturing labor productivity surged, growing by 6.3 and 6.7 percent annually over 2000–14 (Figure 4.8, left panel). Labor productivity also increased among services sectors, albeit at a slower pace; it declined in mining and utilities and in construction. Labor productivity converged across sectors in Poland: agriculture and manufacturing, with some of the lowest productivity levels in 2000, had the fastest productivity growth (Figure 4.8, right panel). Agriculture and manufacturing remain large employers in Poland, accounting together for 40 percent of jobs in 2000 and 30 percent in 2014.

**Figure 4.8** Labor productivity growth was highest in agriculture and manufacturing, together still employing 30 percent of the labor force in 2014

Average annual labor productivity growth in Poland, within-sector, 2000–14 (percent)

Source: World Bank staff based on Eurostat data.

Note: The right graph shows the average annual labor productivity growth rates by sector over 2000–14. It plots these growth rates against the labor productivity level in 2000; the size of the circle reflects the labor share of the corresponding sectors in 2000. Abbreviations: agr: agriculture; con: construction; fin: finance; ict: communications; man: manufacturing; mu: mining and utilities; oth: other services; pro: professional services; res: real estate; soc: health, education, and social services; tth: trade, transport, hotels and restaurants.

Successful structural change in Poland and other European new HICs required that labor have sufficient education to move to high-skilled occupations. This was the case. Between 1998 and 2013, employment in high-skilled occupations grew dramatically in Poland and the other new European HICs (Figure 4.9). Labor moved relatively rapidly from low- or medium-skill employment in agriculture to higher-skilled services jobs such as real estate and business activities. For the period between 1998–2000 and 2011–13, structural transformation explained 25 percent of the total increase in Poland’s high-skilled employment. The share was even larger in the Czech Republic, Hungary, and the Slovak Republic. As expected, the most important determinant of the increase of employment in high-skill occupations in Poland as well as in the other new high-income European countries was the increase in education.
Reallocation of resources between firms

The aggregate total factor productivity (TFP) growth of Polish manufacturing firms had three characteristics: it was impressively fast, with double-digit growth over 1997–2004; it was mainly due to a “Darwinian” process, with more efficient firms thriving and gaining market shares, and less efficient ones shrinking; and it was widespread, accruing to both domestic and to foreign units.14

Aggregate TFP growth is the product of three forces at play: existing firms becoming more productive, more productive firms entering or gaining market share, and less productive firms shrinking or exiting the market. In Poland, the three forces help explain the growth observed, but in particular, the fact that more productive firms gained market share at the expense of less productive firms shrinking (the “between-firms effect”) accounted for three-fourths of aggregate TFP growth (Figure 4.10).15

The strength of allocative efficiency in Poland indicates that markets are working efficiently. Misallocation of resources would cause large, persistent differences in productivity between firms, including in narrowly defined industries.16 Persistent differences would indicate misallocation of resources across firms with negative effects at the aggregate level.17 However, in Poland more efficient firms grew and less efficient ones shrunk. This indicates that misallocations are narrowing through market mechanisms that enable resources to shift toward more efficient uses (Box 4.1).

In only three years — 2005, 2007, and 2012 — was the growth-enhancing selection mechanism interrupted, and sometimes the between-firm effect has been negative. It was so negative in 2012 as to drive down overall TFP growth. This was driven by relatively more productive firms in computing, electronics, base metals and beverages sectors losing market shares. (See annex B for a year-by-year decomposition of TFP growth.)
Box 4.1 How did Poland’s allocative efficiency transform into jobs?

Poland’s improvements in allocative efficiency are reflected in its private sector firm dynamics: many small firms were either forced to exit or lay off workers, but a few grew fast and created many new jobs, more than compensating for the exiting or downsizing firms (Box Table 4.1.1). The stronger firm size dynamics in the early 2000s — when the economy was to some extent still adjusting to the market forces unleashed by economic liberalization — mirror the stronger contribution of improvements in allocative efficiency to aggregate productivity growth in the same period.

Box Table 4.1.1 Employment transition in Poland (percent)

<table>
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<tr>
<td>Status in 2004</td>
<td>Exited</td>
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<tr>
<td>Status in 1999</td>
<td>Exit</td>
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<tr>
<td>Small</td>
<td>47</td>
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<tr>
<td>Medium</td>
<td>40</td>
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<tr>
<td>Large</td>
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Source: Authors’ calculation based on census data.

The probability that small or medium firms grew to become large was higher in the manufacturing than in the service sector in the early 2000s, but probabilities converged toward the end of the decade. Almost one of four manufacturing firms (24 percent) with less than 100 but at least 10 employees in 1999 grew and became large firms by 2004, against only 11 percent of all services firms of the same size category. But many smaller services firms also grew more strongly toward the end of the decade, when one of five small or medium services firms in 2004 grew and became a large firm by 2010.

The few fast-growing firms (“gazelles”) — defined as firms that double their employment over four years — accounted for more than half of all net job creation in Poland and more than compensated for the job losses incurred by less productive firms. Poland had relatively few fast-growing firms between 2006 and 2011: only 2.4 percent of all firms were gazelles compared with 4.2 percent in Turkey and 6.3 percent in the United States. While firms are less likely to be gazelles in Poland, they accounted for 54 percent of all net job creation during this period. In contrast, more firms in Turkey can be characterized as gazelles, but these firms account for a smaller share of job creation than in Poland. In the United States, the few fast-growing firms accounted for all job creation — they created 184 percent of all net jobs, compensating for the net job destruction (84 percent) of all other firms (Box Figure 4.1.1).

Gazelles emerged in most sectors and are more often services firms. Fast-growing firms are not a sector specific or high-tech sector phenomenon. They emerge in all sectors of the Polish economy. For instance, food or printing and publishing companies are as likely to become gazelles as transport and communication companies. And manufacturers of plastic or machinery and electronics are as likely to become fast-growing firms as retail service providers. Transport equipment companies had the highest probability (15 percent) of becoming fast-growing firms followed by construction companies. In turn, real estate, hotels and restaurants, and textile firms had the lowest probability (Annex 4.2).

Box Figure 4.1.1 Poland’s few gazelles accounted for more than half its net job creation

Source: World Bank staff based on F01 dataset; World Bank staff based on firm data from Polish CSO.

Note: Firms with at least 10 employees. Gazelles are, for Poland and Turkey, firms that at least double their employment; for the United States firms that double both employment and sales.

1 The analysis is restricted to firms with more than 10 employees. Apart from sampling restrictions, this also avoids considering micro businesses as gazelles that increased employment, for instance, from two to four over a four-year period by hiring two more family members. In Turkey, only firms with at least 20 employees are included. No size restrictions were applied for the United States. The U.S. gazelles are based on a somewhat stricter definition: firms whose sales and employment have at least doubled over the same four-year period (Spencer 2011).
Reallocation of resources within firms: Within-firm efficiency gains

Within-firm improvement has also been an important driver of productivity growth, due to increased efficiency of both domestic and foreign firms. This channel of growth accounts for one-fourth of TFP gains during the period, and is associated with improvements in firms’ internal organization, management, and innovation. Poland’s foreign-owned firms are more productive than domestic firms, but domestic firms have shown greater TFP improvements, similar to what is found internationally. Further, gains have been experienced at all levels of productivity, shifting the entire distribution toward the more productive foreign firms. Foreign firms have, on average, increased their productivity, but their improvements have mainly been among less productive firms (Figure 4.11).

Converging with established HICs

Innovation-driven productivity gains are crucial for sustainable economic growth, whether a country absorbs innovations that others have developed or creates innovations on its own. Poland already benefits greatly from the former. Moving forward, Poland must continue to secure the gains from continued adoption and diffusion of existing innovations, but also from “frontier” innovations. Improving tertiary education will boost both: adoption and innovation.

Technology adoption

Policymakers often focus on supporting new, cutting-edge innovations created at the technology frontier by a few individual firms, but the adoption of less glamorous innovations developed elsewhere in a country is often overlooked as a source of productivity growth.

Recent evidence suggests that it took on average 45 years for new technologies to be adopted across countries, and this cross-country variation may account for at least 25 percent of per capita income differences. While the speed of diffusion of technologies across countries has increased for recent technologies such as the internet, the penetration rate of these new technologies across all firms within a country has been slower than for past technologies, constraining aggregate productivity growth and helping explain slow cross-country convergence in incomes.

Despite the significant growth opportunities of the digital revolution, for example, firms’ use of digital technologies differs substantially across sectors and countries. More advanced digital technologies have not yet diffused widely even within Euro-
pean HICs. Firms in Poland, too, have been slow to adopt these technologies, pointing to forgone opportunities for higher productivity growth (Figure 4.12). For example, as in all other European HICs, almost all formal sector firms in Poland with at least 10 employees use a personal computer (94 percent) or have broadband internet (90 percent). But only 65 percent have a website, which is well below the average for established HICs (85 percent) and new HICs (73 percent).

While firms in Poland are relatively advanced in using supply chain management software, which allows them to manage their inventory more efficiently, they lag behind most European countries in e-commerce. Only 16 percent of formal sector firms buy goods or services online, and only 10 percent sell online. Forty percent of established HICs firms buy online, and 19 percent sell online; 27 percent of new HICs firms buy online, and 10 percent sell online. For instance, firms in the Czech Republic are three times more likely than Polish firms to purchase goods or services over the internet. The share of firms purchasing online is also larger in Romania (18 percent), despite its lower income per capita. Likewise, firms across all European countries are on average 1.5 times more likely to sell their goods or services online than Polish firms. E-commerce, especially online sales, is often used more intensively in the service sector, pointing to untapped opportunities for Polish services firms to raise their productivity.

Firms in Poland also lag behind their European peers in using cost-efficient cloud-computing services to license software or hardware. Only 6 percent of firms in Poland use cloud computing services to license the use of basic software or computing services buying instead the full versions of the corresponding software or hardware. Only 3 percent use efficient cloud computing services to access more advanced software solutions such as supply chain management (SCM), economic resource management (ERP), and customer relation management (CRM) software. The adoption of these cost-effective, modern technologies is much less widespread than in the other new high-income European countries, where 14 percent use cloud computing services to license the use of basic software or computing services, and 8 percent purchase licenses for more advanced software solutions. Finally, only 3 percent use radio frequency identification devices (RFIDs), which are wireless microchips used to connect machines with each other (internet of things), compared with an average of 5 percent of all formal firms in other new high-income countries.

While technological advances have improved productivity, they challenge the labor market. Labor markets in Poland and most other countries are becoming more polarized, hurting less skilled workers. The decline in middle-skilled, middle-paying occupations (clerks, plant and machine operators) has been marked in Poland (their labor share declined by 0.67 percentage points annually over roughly the last two decades) and in most established HICs (Figure 4.13). These middle-skilled occupations are typically jobs that can be broken down into routine tasks. Jobs in business processing, including call centers and bookkeeping, but also manufacturing, such as clerks or machine operators, are examples. The tasks performed in these jobs, due to their large component of routine labor, can be relatively easily

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**Figure 4.12** Most firms in Poland have yet to use many digital technologies

Source: Eurostat.

Note: The figure shows the share of all nonfarming, nonfinancial enterprises with at least 10 employees that adopted different digital technologies in Poland and established HICs (Austria, Belgium, Finland, Germany, Ireland, Netherlands), new HICs (Czech Republic, Hungary, Slovak Republic), and trapped MICs (Romania, Turkey). Abbreviations: SCM: supply chain management software integrated with ICT systems of customers/suppliers; ERP: economic resource planning software; CRM: customer relationship management software; Cloud comp.: advanced cloud computing services, such as ERP, CRM, or computing power; and RFID: radio frequency identification technologies used to connect machines (the internet of things).
reconstructed by algorithms and are thus susceptible to automation. As a consequence, these middle-skilled jobs are disappearing in Poland and many other countries. They are often replaced by far fewer, high-skilled jobs or poorly paid low-skilled jobs performing non-routine manual labor, such as taxi drivers and cleaning personnel. The solution involves more education (Box 4.2).

Figure 4.13 Labor markets are becoming more polarized

Change in employment shares between circa 1995 and circa 2012


Note: The classification follows Lewandowski and Keister, 2016. High-skilled occupations include legislators, senior officials and managers, professionals, technicians, and associate professionals. Middle-skilled occupations comprise clerks, craft and related trades workers, and plant and machine operators and assemblers. Low-skilled occupations refer to service and sales workers and elementary occupations.

Box 4.2 Education — Vital for keeping up

To keep on the technology adoption track and make progress on the frontier technology innovation track, Poland is well advised to continue investing in its human assets. Investment in skills would facilitate the technological catch-up of its firms and help Poland mitigate the impact of labor market polarization (see Figure 4.13).

The new (digital) technologies complement and augment some skills (typically high-skilled professions such as managers, technicians, or researchers) while replacing others. Because not everybody has the appropriate skills, many fall behind, forced into low-paying manual skills occupations. The level of education and skills in each country thus determines whether technological advances boost productivity, and thus wages for most workers (with the appropriate skills), or translate into more inequality.

In Poland, the strong increase in tertiary education and high-skilled, high-paying jobs, and the relatively slower increase in low-skilled, low-paying jobs, suggest that investments in higher education over the past two decades has paid off. But the race between skills and technology continues.

Technology innovation

An innovation is the implementation of a new or significantly improved product (good or service), process, marketing method, or organizational method in business practices, workplace organization, or external relations. Innovation indicators are typically grouped into input indicators (research and development is an example) and output indicators (such as the output of research and development, such as the number of scientific publications, patent applications, and patents issued). Poland lags behind established HICs and some new HICs in innovation (Figure 4.14). And the European Innovation Index classifies Poland among “moderate innovators,” behind the Czech Republic, Hungary, the Slovak Republic, and Serbia. The country spends less than 1 percent of GDP on research and development among new HICs, on par with the Slovak Republic, but far below expenditures of the Czech Republic, Hungary, or Malaysia, and dwarfed by Korea’s 4 percent. The efficiency of research and development spending in Poland also leaves room for improvement.
The standard indicator of innovation output is the number of patent applications in proportion to the population. Here, Poland is outperformed by the Czech Republic, Hungary, and Korea, and by all established HICs (Figure 4.15). Finally, Polish exports score low on research and development intensity.

Figure 4.14 Poland lags behind on international innovation rankings

The Global Innovation Index—INSEAD and the Global Competitiveness Report, pillar Innovation graphs show Poland’s performance in innovation compared to other countries. Poland’s score is lower than those of other countries, indicating a gap in its innovation capabilities.

Figure 4.15 Poland lags behind on research and development expenditure and patent applications

The Gross domestic expenditure on research and development, percent of GDP and the Number of patent applications, per million population graphs illustrate Poland’s low expenditure on R&D and low number of patent applications. The source for these data is the World Development Indicators (WDI).

Only a small fraction of Polish enterprises are involved in research and development or pursue their own innovations (NBP 2016). A few companies have large, but not yet fully leveraged, innovative potential (World Bank 2016a). These enterprises are bunched in a few manufacturing sectors, are mainly foreign owned, and are export oriented. However, their investment in new technologies is usually in the form of the purchase of new machinery and equipment, suggesting technology adoption rather than innovation.

How can innovation be brought to its potential? Low innovation reflects low potential and barriers in the institutional and regulatory environment. The innovation potential of the economy can be boosted in the medium term by, for instance, cooperation of scientific institutions and businesses. In the long term, public interventions can help shape human and social capital by providing education and training to accumulate human capital and strengthening knowledge, competencies, skills, social trust, and eagerness to cooperate. Innovation policies can be active or passive. Active policies include financing through grants and subsidies. Passive policies are among the framework policies shaping the general business and economic environment and provide a system of incentives to innovative activities under areas such as tax policy, product market, and labor market regulations (Table 4.1).
For cooperation and trust-building, the government can create and support clusters to facilitate interactions between companies; technological parks to facilitate cooperation between research institutes and business; and business incubators to focus on innovative business start-ups. These steps require strengthening the public support institutions and making better use of public support, including around €10 billion available from EU funds.

Public financing of private innovation — an active policy — can be done at various stages of the innovation lifecycle. At an early stage, innovative companies use their own capital, which can be supported with public grants, subsidies or, for more mature companies, tax exemptions. At later stages external financing becomes more important, perhaps including improved access to bank financing (with loan guarantees, subsidies, and loans with reduced collateral requirements) and support from the venture capital sector (which not only provides a source of financing but also plays a vital role in selecting and developing business ideas). A strong stock exchange with high liquidity and market capitalization, as well as microloan institutions, also improve access to equity financing for start-ups.

International evidence suggests that as a country moves closer to the technological frontier, entrepreneurs will need to rely more on equity finance and stock markets than on traditional bank lending, because innovation investments are risky and investors will want to share in the profits and acquire more controlling rights (Aghion and Bolton 1992; Kaplan and Stromberg 2002). Access to high-risk finance remains a problem for Polish firms, particularly for small and medium-size exporting enterprises. Poland is still at an early stage of developing a financial sector that can serve new high-risk ventures. The “angel” and venture capital (VC) investment community is still developing. However, the government has undertaken a number of initiatives, such as the VC fund-of-funds program within the group of the Polish Development Fund (PFR).
Poland will also need to modernize its public innovation support system. The existing system does not yet provide sufficient incentives for companies to engage in research and development and innovation. The impact of public support instruments is undermined by complex procedures, risk aversion, and an inadequate understanding of technology. As a result, firms that benefit from research and development may be overly focused on simple technology adoption instead of high-risk innovation. Public support institutions need to have clear objectives, robust incentive systems, and strong performance evaluation frameworks to ensure that strategies are adapted if results are not aligned with objectives. Finally, the capacity of public innovation support institutions leaves scope for improvement. Table 4.2 summarizes some recommendations for improving the innovation ecosystem in Poland emerging from the existing literature (World Bank 2016).

### Table 4.2 Some recommendations on innovation policy

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<tr>
<th>Short term</th>
<th>Medium term</th>
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<tbody>
<tr>
<td>• Select clear priorities for public innovation policy, in line with the smart specialization strategy, and ensure robust implementation</td>
<td>• Move away from a supply-to a demand-driven innovation policy, based on a bottom-up process</td>
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<tr>
<td>• Simplify selection for public innovation support instruments and introduce professional selection panels</td>
<td>• Invest in innovation support institutions</td>
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<tr>
<td>• Further strengthen incentives for universities to collaborate with business</td>
<td>• Adjust public support instruments to the specific needs of high-growth enterprises</td>
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<tr>
<td>• Expand innovation and management training programs for small and medium-size enterprises</td>
<td>• Introduce rigorous impact evaluation of innovation support instruments</td>
</tr>
<tr>
<td>• Promote high-skilled immigration, especially among academics, young entrepreneurs, and VC experts</td>
<td>• Reform public business support institutions, including incubators, technology parks, and regional development institutions</td>
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<tr>
<td>• Open up to the world: introduce English in calls for proposals and invite international experts to program selection panels</td>
<td>• Use public procurement to drive demand-led innovation</td>
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<tr>
<td>• Expand research and development tax credits</td>
<td>• Further improve the business environment, especially business start-up, insolvency, and contract enforcement</td>
</tr>
<tr>
<td>• Enhance support for firm networking, trust-building, and collaboration</td>
<td>• Transform public administration into a leader in the use of technology</td>
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Source: Based on World Bank 2016a.

**Improving the quality of tertiary education and training**

During Poland’s rapid economic ascent, the large increase in the supply of workers with tertiary education played a significant role. It made the economy attractive for foreign and domestic investment. However, going forward, fewer graduates will be produced, as the demography changes (Box 4.3). The population will start ageing, the labor force will contract, and the economic growth model will need to transit from low wages to high skills and innovation. To meet this challenge, fostering more incoming student mobility, while improving the quality of higher education and including more workers in a system of life-long learning will be essential, while boosting apprenticeships in partnership with the private sector.
Box 4.3 The decline of students in higher education

Following the political changes in 1989/90, the number of students increased from 0.40 million in the academic year (AY) 1990/91 to a peak of 1.95 million in AY 2005/06 (GUS 2016:26; see Box Figure 4.3.1). With declining birth rates bringing expansion to a halt from AY 2005/06 onwards, student numbers declined by more than 25 percent to 1.41 million in AY 2015/16 (GUS 2016:26) — the tenth consecutive year with a decline in student numbers. Predictions see them falling to 1.31 million in AY 2020/21 and to 1.27 million in AY 2025/26 (MSHE 2012a:15).

Box Figure 4.3.1 Higher education enrolment in Poland, 1990–2025 (absolute numbers)

As Poland follows the trajectory of an economic transition away from agrarian production and basic manufacturing towards more knowledge-intensive occupations, the labor market puts a premium on different knowledge, skills and competences of workers. Before 1990, vocational and technical education, rather than general secondary education and higher education, were important. After 1990, general secondary education and higher education started dominating. The labor market demanded more and more high skilled workers and professionals, and less elementary workers (Czarnik and Kocór 2015).

Going forward, a more knowledge-based economy will put a premium on high quality tertiary education, in general, and two types of skill sets, in particular. First, skills in the fields of science, technology, engineering, and mathematics (STEM). Second, the “soft” skills needed for learning, networking, communication, teamwork, analysis, self-organization and entrepreneurship (Górniak 2015:7–8; Czarnik and Kocór 2015:17).

Poland’s higher education participation rate of individuals whose parents have a qualification below secondary education is low compared to many other European countries.30 Already being at a disadvantage at the primary and secondary education level, individuals from this group often have no other choice than the fee-paying study places, which many cannot afford. This needs to be rectified. Introducing universal tuition fees accompanied by adequate financial student support systems could help ensure greater equity. And more efforts need to be made to help students from disadvantaged households to prepare for, and adjust to, higher education through bridging courses and counseling. Fortunately, declining enrollment rates will result in declining student to teacher ratios, providing an opportunity for more intensive teaching.

Employment rates, which are relatively low, could be boosted by including more older workers into the labor market (Rutkowski 2011). Opening-up the higher education sector to older and returning students through both traditional and shorter study programs and courses could support this.

During 2009–12, accountability of the higher education sector was strengthened by according more autonomy to the academic managers (e.g. rectors, deans), improving quality assurance and strengthening the link between academic perfor-
mance and financing. The conditions to obtain research funding were made more competitive and the requirements for the promotion of academics were made more stringent.

However, tertiary education also needs to respond better to the demands of the labor market. And given the rapid pace of technological change, this responsiveness needs to be much more rapid and systematic than in the past. Involving the private sector more closely in institutional governance, curriculum development, teaching and learning and career guidance can help. And introducing boards of trustees with representatives of external stakeholder groups is also an option.

Polish higher education also lacks in internationalization in terms of students, faculty and co-authored publications. More internationalization creates a stronger academic and student body. One example: institutions should be encouraged to broaden the offers of programs in other languages, adjust curricula and student support and promote their offers beyond national boundaries. More internationalization will also improve the quality of tertiary education through a more intensive exchange of experience and good practice.

Overall, increasing the productivity and innovativeness of workers is hardly possible without constantly upgrading their skills. To do this, “life-long learning” (LLL) systems for individuals already in the labor market should be established. For individuals to succeed in a society characterized by constant innovation and change, they will have to constantly adapt their knowledge, skills, and competences, that is, they have to become lifelong learners. Higher education institutions should assume a central role within LLL systems. The flexibility of the provision of higher education and training needs to be increased, in particular, via e-learning possibilities and new forms of certification. Important options are programs that take place outside the usual (daytime) hours, or that pose only a minimum of constraints in terms of time and place of studying via distance education and e-learning. Bringing the cost and accessibility of such training down will be essential to support the life-long learning model.

Finally, apprenticeships programs should be boosted substantially. An apprenticeship is a structured accreditation program that provides the worker with the building blocks to master a specific occupational area and learn hands-on skills under the direct supervision of a skilled expert, together with academic instruction that adds the conceptual foundation. A “good practice” example of an effective partnership between the public and private sectors on apprenticeships comes from Germany (Box 4.4). German carmakers have also successfully exported this model to their plants in the US, e.g. in South Carolina. Also in the US, Northeastern University in Boston has one of the largest and oldest apprenticeships programs in the US. Students alternate periods of academic study with periods of paid professional employment related to their major.

Box 4.4 Dual mode higher education in Germany

Dual mode higher education in Germany establishes a very close link between theory-based and practice-based learning. Dual mode higher education programs were established by transferring the basic principle of the dual education system at the secondary education level — the combination of a paid apprenticeship with enrollment in a vocational school — to the higher education level. Participating students are employed by companies and attend higher education institutions (HEIs) at the same time. This combination of different learning environments allows students to acquire higher level generic as well as job-related skills and competences, connecting theoretical knowledge and practical skills.

Close partnerships between HEIs and companies usually ensue. HEIs and employers cooperate in the design of the dual mode programs. This can extend to the governance of the programs. Additionally, company representatives can be involved in teaching activities. As experience accumulates, the capacity of the HEIs to manage these partnerships is enhanced, which can have spillover effects on other types of collaboration, for example, in the field of research.
Conclusions

Over the last 25 years, Poland’s economy has grown strongly, at an average rate of 3.7 percent a year and so increasing its GDP by two and a half times. Like other new HICs, Poland’s growing faster than trapped MICs is explained by an additional driver of growth: TFP increases. Two-thirds of Poland’s GDP growth over 2000–14 was explained by perspiration (factor accumulation) and the remainder to inspiration (TFP growth).

There is still scope for further catching up, but productivity growth should be increasingly driven by innovation (upgrading of processes and products) so that competitiveness based on quality can be enhanced. Continuous investments in human capital will allow Poland to stay ahead in the race of skills and technology even as wage levels advance. Completing business environment reforms, increasing public and private investments in research and development, and facilitating a dynamic ecosystem for science, technology, and innovation will help provide firms the supportive system for innovation that established HICs already have. Thus Poland can overcome diminishing returns to labor once spare labor is all used and capital per worker reaches rich-country levels and avoid the gradual slowdown that affected some earlier fast-growth countries.
## Annex 4.1 Poland’s major economic reforms, 1989–2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Reform</th>
<th>Policy area</th>
<th>Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td><strong>European Community</strong> and Poland concluded a cooperation agreement on trade, commercial and economic matters; EC gradually removed all quantitative restrictions not in conformity with Article XIII of the General Agreement on Tariffs and trade (specific trade restrictions) until 1995</td>
<td>trade</td>
<td>tradable</td>
</tr>
<tr>
<td>1989</td>
<td><strong>Corporate income tax</strong> introduced</td>
<td>taxation</td>
<td>all</td>
</tr>
<tr>
<td>1989</td>
<td><strong>Introducing unemployment benefit</strong>, job search, start-up loans, re-training</td>
<td>labor</td>
<td>all</td>
</tr>
<tr>
<td>1990</td>
<td><strong>Economic Transformation Program</strong> including price liberalizations; abolishing all domestic and foreign trade monopolies and quantitative trade restrictions; introduction of import tariffs (averaging about 20 percent); immediate stabilization package; creation of market institutions; multiple year privatization program</td>
<td>trade, price control, privatization, institutions</td>
<td>all</td>
</tr>
<tr>
<td>1990</td>
<td><strong>Reduction in subsidies</strong> (from 10.5–7% of GDP); elimination of distortions in tax system private vs. state firms; revision of the excess wages tax (Popiwek) and the capital tax (dividenda)</td>
<td>taxation</td>
<td>all</td>
</tr>
<tr>
<td>1990</td>
<td><strong>Property of all types treated equally</strong>, socialist classifications eliminated</td>
<td>property rights</td>
<td>all</td>
</tr>
<tr>
<td>1990</td>
<td><strong>Antimonopoly Act established an independent Competition Authority</strong></td>
<td>competition</td>
<td>all</td>
</tr>
<tr>
<td>1991</td>
<td><strong>Foreign Investment Law</strong> addressed most major foreign direct investment restrictions introducing guarantees from expropriation, repatriation of profits, no minimum capital requirements, simplified regulation</td>
<td>FDI</td>
<td>all</td>
</tr>
<tr>
<td>1991</td>
<td><strong>EC Association Agreement</strong> signed including movement of workers and capital, timetable free trade zone, possible member</td>
<td>trade, FDI, competition</td>
<td>tradable</td>
</tr>
<tr>
<td>1992</td>
<td><strong>Personal income tax</strong> was introduced</td>
<td>taxation</td>
<td>all</td>
</tr>
<tr>
<td>1993</td>
<td><strong>Value added tax</strong> was introduced</td>
<td>taxation</td>
<td>all</td>
</tr>
<tr>
<td>1993</td>
<td><strong>National Investment Fund Law</strong></td>
<td>privatization</td>
<td>all</td>
</tr>
<tr>
<td>1993</td>
<td><strong>Investment tax relief</strong> for firms with high profits and exporters, free of arrears on corporate taxes and social contributions</td>
<td>industrial policy</td>
<td>all</td>
</tr>
<tr>
<td>1994</td>
<td><strong>Collective bargaining</strong> central with Tripartite Commission</td>
<td>labor</td>
<td>all</td>
</tr>
<tr>
<td>1994</td>
<td><strong>Special economic zone (SEZ)</strong> program granting investors total income tax relief for 10 years and 50 percent relief for following 10 years on case-by-case basis, no real estate tax, fast depreciation</td>
<td>SEZs</td>
<td>all</td>
</tr>
<tr>
<td>1995</td>
<td><strong>WTO member</strong></td>
<td>trade</td>
<td>tradable</td>
</tr>
<tr>
<td>1996</td>
<td><strong>OECD member</strong></td>
<td>foreign relations</td>
<td>all</td>
</tr>
<tr>
<td>1996</td>
<td><strong>Energy Law</strong> for competition in production and transmission, privatization, independent Energy Regulatory Authority</td>
<td>competition, privatization</td>
<td>energy</td>
</tr>
<tr>
<td>1996</td>
<td><strong>Government roadmap to EU accession</strong></td>
<td>trade</td>
<td>tradable</td>
</tr>
<tr>
<td>1997</td>
<td><strong>Liberalization of financial services</strong> through WTO agreement</td>
<td>competition</td>
<td>finance</td>
</tr>
<tr>
<td>1998</td>
<td>New <strong>bankruptcy law</strong></td>
<td>competition</td>
<td>all</td>
</tr>
<tr>
<td>1999</td>
<td>Imports industrial goods from EU duty free, <strong>tariffs cuts</strong> for Central European Free Trade Agreement countries</td>
<td>trade</td>
<td>tradable</td>
</tr>
<tr>
<td>Year</td>
<td>Reform</td>
<td>Policy area</td>
<td>Sectors</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>1999</td>
<td>Education reform with new structure of primary and secondary</td>
<td>education</td>
<td>education</td>
</tr>
<tr>
<td>1999</td>
<td>Public administration reform, new health care system, new pension system</td>
<td>health, pension</td>
<td>health</td>
</tr>
<tr>
<td>1999</td>
<td>Personal and corporate income tax cuts</td>
<td>taxation</td>
<td>all</td>
</tr>
<tr>
<td>1999</td>
<td>Business Activity Law new legal framework for firm entry, transparency permits and licenses, sectors with licenses reduced from 28 to 8</td>
<td>competition, regulation</td>
<td>all</td>
</tr>
<tr>
<td>2001</td>
<td>Creation of new regulatory agencies as part of preparation for EU accession such as Office of Competition and Consumer Protection, Securities and Exchange Commission, Energy Regulatory Authority, Office of Telecommunication Regulation</td>
<td>institutions, regulation</td>
<td>all</td>
</tr>
<tr>
<td>2002</td>
<td>Amended Labor Code increases hiring flexibility and reduces administrative burdens on firms</td>
<td>labor, competition</td>
<td>all</td>
</tr>
<tr>
<td>2004</td>
<td>Tax reform: reduction of corporate income tax and increase in value added tax and indirect taxes</td>
<td>taxation</td>
<td>all</td>
</tr>
<tr>
<td>2004</td>
<td>Poland joins the European Union on May 1</td>
<td>trade, FDI</td>
<td>all</td>
</tr>
<tr>
<td>2004</td>
<td>Law on freedom of economic activity reducing firms’ bureaucratic burden, electronic registration, reducing concessions, licenses, and inspections, putting EU firms legally on par with domestic firms</td>
<td>competition, regulation, FDI</td>
<td>all</td>
</tr>
<tr>
<td>2004</td>
<td>Public procurement law implemented as part of EU accession including electronization, eliminating domestic preference, enforcing obligatory public procurement notices</td>
<td>procurement, competition, FDI</td>
<td>all</td>
</tr>
<tr>
<td>2006</td>
<td>Regulatory Reform Program reduces administrative burden and facilitates implementation of EU directives</td>
<td>competition, regulation</td>
<td>all</td>
</tr>
<tr>
<td>2006</td>
<td>Introduction of “fast business courts”</td>
<td>regulation</td>
<td>all</td>
</tr>
<tr>
<td>2007</td>
<td>National Research and Development Centre established for research and development financing and commercialization</td>
<td>innovation</td>
<td>all</td>
</tr>
<tr>
<td>2008</td>
<td>Simplification of administrative procedures to improve absorption of EU structural funds (environmental regulations, public-private partnerships)</td>
<td>regulation</td>
<td>all</td>
</tr>
<tr>
<td>2008</td>
<td>Lowering minimum capital requirements for limited liability and joint stock companies, simplification of mergers and acquisitions</td>
<td>regulation</td>
<td>all</td>
</tr>
<tr>
<td>2008</td>
<td>Implementation of one-stop shops in municipalities</td>
<td>regulation, entry</td>
<td>all</td>
</tr>
<tr>
<td>2008</td>
<td>Tax deductions for technology purchases, technological credit</td>
<td>innovation</td>
<td>all</td>
</tr>
<tr>
<td>2009</td>
<td>Reduction in corporate income tax for start-ups and small and medium-size enterprises, subsidized credit</td>
<td>industrial policy</td>
<td>all</td>
</tr>
<tr>
<td>2010</td>
<td>Service trade facilitation foreign entry</td>
<td>trade, FDI</td>
<td>all</td>
</tr>
<tr>
<td>2011</td>
<td>Partnership for Knowledge program for higher education and linkages to business research and development</td>
<td>Education</td>
<td>education</td>
</tr>
<tr>
<td>2011</td>
<td>One-stop shop for firm entry, online registration, faster inspections</td>
<td>regulation, entry</td>
<td>all</td>
</tr>
<tr>
<td>2012</td>
<td>Research grants selected firms, 119 projects co-financed for Zl 563 mn</td>
<td>industrial policy</td>
<td>all</td>
</tr>
<tr>
<td>2013</td>
<td>Removal of legal barriers for admission for selected professional services, three stages: 1st stage deregulated 50 professions</td>
<td>competition, professional services</td>
<td>professional services</td>
</tr>
</tbody>
</table>

Source: World Bank staff based on Duval et al. (2016); MICREF microeconomic reforms database for Poland.
Annex 4.2 Decomposing Poland’s productivity growth

We decompose overall growth in Poland by employing the dynamic Olley-Pakes decomposition with entry and exit (DOPD) method proposed by Melitz and Polanec (2015). This method was proposed as an extension of the previous OP decomposition method (Olley and Pakes 1996) to take into account the contributions of entry and exit. It tracks individual firms over time to analyze the pattern of market share reallocations across firms and its consequences for aggregate productivity. Total factor productivity, $\Phi$, in two periods (1 and 2) can be defined as follows:

$$
\Phi_1 = S_1(\Phi_{S1} + S_x(\Phi_{X1} - \Phi_{S1})),
$$

$$
\Phi_2 = S_2(\Phi_{S2} + S_x(\Phi_{X2} - \Phi_{S2})),
$$

where $S$ is the market share of survivors ($S$), entrants ($E$), and exiters ($X$). It follows that aggregate productivity change can be decomposed according to the following relationship:

$$
\Delta \Phi = (\Phi_{S2} - \Phi_{S1}) + S_x(\Phi_{X2} - \Phi_{X1}) + S_{E2}(\Phi_{E2} - \Phi_{E1}).
$$

Aggregate TFP is, therefore, decomposed into components for the three groups of firms: survivors, entrants, and exiters. The survivors’ component can be further decomposed using the OP decomposition:

$$
\Delta \Phi = \Delta \Phi_S + \Delta \text{COV}_{E} + S_x(\Phi_{E2} - \Phi_{E1}) + S_{E1}(\Phi_{E1} - \Phi_{E1}).
$$

The first component is separated to distinguish the contribution of surviving firms into one induced by a shift in the distribution of firm productivity (the unweighted mean change in the productivity of surviving firms $\Phi_S$) and another one induced by market share reallocations (the covariance change between market share and productivity for surviving firms $\text{COV}_{E}$).

### Table A4.2.1 TFP decomposition, 1997–2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Overall change in TFP</th>
<th>Within-firm effect</th>
<th>Between-firms effect</th>
<th>Entrants</th>
<th>Exiters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>0.23</td>
<td>0.077</td>
<td>0.169</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1998</td>
<td>0.17</td>
<td>0.03</td>
<td>0.133</td>
<td>0.001</td>
<td>0</td>
</tr>
<tr>
<td>1999</td>
<td>0.21</td>
<td>0.042</td>
<td>0.163</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2003</td>
<td>0.4</td>
<td>0.049</td>
<td>0.365</td>
<td>0.001</td>
<td>0</td>
</tr>
<tr>
<td>2004</td>
<td>0.29</td>
<td>0.036</td>
<td>0.258</td>
<td>0.002</td>
<td>-0.002</td>
</tr>
<tr>
<td>2005</td>
<td>0</td>
<td>0</td>
<td>-0.007</td>
<td>0.001</td>
<td>-0.001</td>
</tr>
<tr>
<td>2006</td>
<td>0.09</td>
<td>0.069</td>
<td>0.035</td>
<td>0.001</td>
<td>-0.001</td>
</tr>
<tr>
<td>2007</td>
<td>0.07</td>
<td>0.081</td>
<td>-0.009</td>
<td>0.001</td>
<td>-0.001</td>
</tr>
<tr>
<td>2008</td>
<td>0.07</td>
<td>0.039</td>
<td>0.025</td>
<td>0.002</td>
<td>-0.001</td>
</tr>
<tr>
<td>2009</td>
<td>0.01</td>
<td>0.004</td>
<td>0.035</td>
<td>0.003</td>
<td>-0.002</td>
</tr>
<tr>
<td>2010</td>
<td>0.04</td>
<td>-0.018</td>
<td>0.048</td>
<td>0.001</td>
<td>-0.001</td>
</tr>
<tr>
<td>2011</td>
<td>0.05</td>
<td>0.029</td>
<td>0.027</td>
<td>0.002</td>
<td>-0.001</td>
</tr>
<tr>
<td>2012</td>
<td>-0.03</td>
<td>0.014</td>
<td>-0.032</td>
<td>0.002</td>
<td>-0.001</td>
</tr>
<tr>
<td>2013</td>
<td>0.09</td>
<td>0.056</td>
<td>0.048</td>
<td>0.002</td>
<td>-0.001</td>
</tr>
<tr>
<td>1997–2013</td>
<td>0.12</td>
<td>0.036</td>
<td>0.089</td>
<td>0.001</td>
<td>-0.001</td>
</tr>
</tbody>
</table>
Endnotes


2 The terms inspiration and perspiration, associated with growth through efficiency gains and through factor accumulation, were first coined by Paul Krugman in an article in Foreign Affairs in 1994, referring to the Asian Miracle. The author claimed that there had been no miracle in East Asia, with rapid growth having been simply the result of heavy investment and a big increase in employment — that is, through perspiration — rather than productivity gains.

3 The growth accounting framework underlying the data reported here is not without criticism, of which three lines stand out. First, TFP is measured as a residual, providing an imperfect measure of shifts in the production function, which can reflect many determinants (technical change, but also sustained political turmoil, external shocks, institutional changes, or measurement errors). Second, it assumes a sufficient degree of competition in factor markets so that factor earnings are proportional to factor productivities. Third, growth accounting is not intended to determine the fundamental causes of growth, but rather the proximate ones. Acknowledging its limitations, the framework provides a simple and internally consistent way to organize data.


5 Ireland and Hong Kong SAR, China, are excluded from the sample for this analysis as they are outliers with FDI inflows as a share of GDP above 15 percent.

6 The effect of such externalities on aggregate growth would be captured, by construction, in the residual aggregate efficiency (TFP) measure. For a more detailed discussion and the links between TFP and returns to factor accumulation see, for example, Caselli (2005).

7 Kerik (2003) argues that there was a radical growth of the Polish higher education system starting after 1989. There was a large expansion, for example, in the number of private institutions since the early 1990s. The enlargement of tertiary education options was accompanied by an integration of Polish institutions with their Western European counterparts.

8 OECD 2014.

9 Theories of structural change show that the reallocation of activity across sectors accompanying balanced growth can originate from income effects generated by non-homothetic preferences for different consumption goods (Pasinetti 1981; Kongsamut et al. 2001), changes in relative prices due to technological progress that differs across sectors (Baumol 1967; Ngi and Pissarides 2007), or changes in relative prices due to differences in capital intensities or elasticities of substitution in production across sectors (Herrendorf et al. 2013). In the following, we analyze the patterns of structural change among middle and high-income countries, taking their source as given.

10 We note that structural change does not affect aggregate labor productivity growth in a neoclassical closed economy framework, assuming for instance perfect competition in output and factor markets. In this framework, wages and labor flows between sectors fully adjust (for example, after a sector-specific technology shock) equalizing marginal labor productivities across sectors. In the presence of market failures, distortions, and rigidities wages and labor flows do not fully adjust, driving a wedge between marginal productivities across sectors. While the impact of these distortions is difficult to measure, it is likely that they are more severe in developing countries (Herrendorf and Valentinyi 2012), implying that aggregate productivity is affected by the sectoral composition of the economy (Duarte and Restuccia 2010; Herrendorf et al. 2013).

11 This has been interpreted to reflect an equilibrium balanced growth path in high-income countries whereby initial productivity differences across sectors have been marginalized over time as labor moved to the sectors with the highest marginal productivity, equalizing productivity levels. See, among others, McMillan and Rodrik (2011) and Herrendorf and Valentinyi (2019, 2011), and Herrendorf and Valentinyi (2013).

12 The latter finding seems surprising; however, the authors do not distinguish between reallocations to potentially low productivity service sub-sectors (such as informal, personal, or government services) and higher productivity, tradable services (such as finance or professional services).

13 Aggregate labor productivity can be decomposed into a within component (first term) measuring changes in sector level productivity and a structural change component (second term) measuring changes arising from a reallocation of labor between sectors as follows:

$$\Delta Y_t = \sum_{i \neq k} \Delta Y_{it} + \sum_{j \neq i} s_j \Delta s_{ij};$$

where $\Delta Y_t$ is the change in aggregate labor productivity between $t$ and $t-1$, $s_j$ is the employment share in sector $j$ at time $t$, and $y_{ij}$ is the productivity level in sector $i$ at time $t$. Data limitations require us to approximate the marginal rate of labor productivity with the average productivity levels (as, among others, in McMillan and Rodrik 2011). Under perfect competition in both input and output markets, however, the marginal rates would equalize across sectors over time. In fact, under a Cobb-Douglas production function specification, the marginal productivity of labor is the average productivity multiplied by the share of labor in GDP. Thus, large differences in labor shares across sectors, due to different capital intensities, drive a wedge between the marginal and average productivity. Apart from mining and public utilities, however, several authors argue that labor shares do not differ much across other sectors (Hsieh and Ocken 2014). Moreover, robustness tests for Chile, Mexico, and Peru — approximating marginal rates by calculating the income share of labor using wage data from the World Bank International Income Distribution (2022) database — show that the marginal and average productivity differences across sectors are very closely correlated (World Bank 2015).

14 The focus on manufacturing firms is driven by data availability, as is the choice of period.

15 The net effect of entrants and exiters is positive with entrants being more productive, on average, than exiters. Their contribution to overall growth is, however, very small, accounting for less than 1 percent of the productivity growth observed during 1997–2013.
16 For example, Haskel and Martin (2001) report that in 2000 the spread between the 90th and 10th percentile of productivity distribution in the United Kingdom was on average 150 percent. More strikingly, Hsieh and Klenow (2009) find a TFP spread of 5 to 1 between top and bottom 10 percent of firms in India.

17 See Bartelsman, Hallwanger, and Scarpetta (2013) for an analysis of the effects of policy distortions on aggregate productivity outcomes.

18 Comin and Hobijn 2010.

19 Comin and Mestieri 2013.

20 Both the speed with which new technologies have reached new countries and the lack of penetration of these new technologies across most firms within countries have been found to explain up to 80 percent of the “Great Income Divergence” between rich and poor countries since 1820 (Comin and Mestieri 2013).


22 Innovation goes beyond technological improvements affecting growth of companies and economies; it has an important social dimension and context. The broad meaning of innovation potential goes beyond mere technological aspects and the research and development expenditure of firms or governments. However, because research and development expenditure is less complex to measure than other innovation efforts, it is a useful proxy.

23 The most innovative countries show a high level of (private) research and development expenditure. However, the shortcoming of this measure is that the level of expenditure is only one of the elements of innovation. Another measure is the share of employees involved in research and development. In terms of output, research and development expenditure should translate into knowledge and allow patenting and implementing innovations. However, patent application is not always followed by real implementation (for example, a company may patent a technology to create an entry barrier for its competitors).


25 Research and development as a share of GDP in Poland is lower than that reported by trapped MICs such as Brazil and Turkey.


27 Albinowski et al. 2015.

28 However, innovation can also be underreported. World Bank (2016, 21) argues that the private sector’s research and development spending and innovation efforts in Poland may be underreported because “many companies, especially small ones, (1) find it difficult to properly classify research and development spending among other types of investment, (2) are worried about tax inspection questioning their research and development accounting, and (3) believe that accounting for research and development spending may be unprofitable from a tax point of view.”

29 World Bank 2016a.

30 OECD 2016b.
References

Aghion, P., Akcigit, U., Howitt, P. 2013. What Do We Learn From Schumpeterian Growth Theory?


Chapter 5: INCLUDING

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Introduction

Poland’s economic growth has been inclusive and prosperity has been shared

Poland has moved from being a society in which citizens were assumed to be equal before the law and to face equal opportunities, toward a society in which these assumptions are largely reality. Consequently, earnings grew for all income groups, including the poor. Income inequality was relatively low at the start of the transition and has stayed low.

Today, Poland is facing new and different challenges, driven by increased expectations and perceived unfairness. Overall stable levels of inequality and absolute improvements in conditions can hide rising relative inequality between some groups in society. Perceptions of fairness of income inequality and access to public services have been stable over the past decades. But dissatisfaction with perceived inequality and access to services could increase as the economy grows and citizens’ aspirations grow, and citizens’ attention turns from their own absolute improvements to relative improvements vis-à-vis others.

How did Poland provide equality of opportunity and achieve inclusive growth? How can Poland address the new challenges to shared prosperity going forward? These are the two key questions addressed by this chapter.

Lessons from Poland

Provide opportunity

Poland’s economic growth increased jobs and wages across the board, reduced poverty, and kept inequality low, resulting in an increase in prosperity that was largely shared. Providing opportunities to prosper, an important goal of public policy, implied providing ample business opportunities for firms and jobs for workers through competitive and well-regulated markets for labor, capital, property, products, and services. The goal also required increasing access to education, in particular to tertiary education, and improving the quality of education at all levels in all regions. Education-driven reductions in poverty in Poland are in line with experiences in other new HICs. In addition, access to improved health care without regional differences was provided to all, further increasing shared prosperity.

Increase business opportunities, but also wage earnings

In turn, increased labor productivity was rewarded by the markets with increased salaries across the income distribution, while more people (including older workers) joined the labor force, resulting in increased wage earnings. At the lower end, a national policy regularly and significantly increased the minimum wage to enable low wage earners to share in the productivity gains.

Insights for Poland

Improve labor incomes

To continue inclusive growth will require a growing, broad-based, high-quality labor force, implying continued investment in the education and skill levels. Employment expansion occurred mainly through an increase in temporary contracts, which can be detrimental to on-the-job training and skills acquisition, though they increase labor market flexibility and partly explain Poland’s strong performance. And rapid growth in the minimum wage, while sharing labor productivity gains among low-income groups, also led to a proliferation of temporary contracts, particularly in poorer
regions and outside big cities, usually concentrated among young, poorly educated, and low-skilled workers, especially women.

The excessive labor market segmentation that has followed the extensive use of temporary contracts needs to be reduced. Policy reforms should therefore target a better balance between job security and labor market flexibility. Labor market reforms, which have started to be implemented by the government that follow a multipronged strategy increasing the cost of using flexible contracts, reducing the cost and complexity associated with labor contracts (permanent and temporary), and strengthening workers’ protection during the transition will help reduce the gap between permanent and temporary employment.

Reducing administrative burdens and implicit costs associated with permanent labor contracts will especially be needed in order to reduce firms’ incentives to prefer temporary contracts. Segmentation of the labor market could be reduced by making all contracts subject to the same tax and social contributions regime, simplifying and better communicating labor regulations, streamlining legal dismissal procedures, limiting the use of temporary contracts, and strengthening social protection. An individualized job and social assistance program could help to include contract workers who may otherwise be left out.

Poland would also benefit from further developing its vocational education training and strengthening work-based learning. And because labor markets saw polarization, with middle-skilled occupations contracting, more needs to be done to assist workers with job transitions. Special emphasis will be needed on retraining workers in professions that have been or are likely to be automated.

While redistribution of economic growth’s benefits through in-kind transfers of education and health benefits has been progressive, the progressivity of the direct tax system has been consistently low compared with those in established HICs, and indirect taxation has been regressive. And so the overall redistributive and poverty-reducing impact of fiscal policy is low, particularly when pensions are subject to taxation as deferred income. Support for continued inclusive growth could draw on tax reform experiences of the established HICs and consider combining changes in direct taxes and transfers with a reform of indirect taxation, so as to cut the overall heavy burden of taxes on low-income households.

**Strengthen the social compact**

As in other growing economies, the aspirations and demands of a population becoming wealthier rise. Addressing perceived and real “unfair” income inequality and unequal access to, and quality of, public services is therefore critical to the sustainability of policies. In addition, relative differences between social groups in their material conditions are likely to become more important than improvements in absolute terms. For instance, income growth in lagging regions over the last decade has been largely similar to growth in richer regions, and in relative terms the income gap between regions remains the same. But the income gap in absolute terms has not closed, leading to the perception that some regions are being left behind. And, until recently, families with children fared worse than other groups. If not addressed, these perceptions can lead to public discontent and undue pressure to reverse policies that have successfully delivered growth and shared prosperity.

Access to quality education and health care needs to be expanded to better cover preschool children; young, unmarried workers without children; and senior citizens. The quality of preschool and basic education, and of health services, needs to be improved to better prepare future generations for an economy that will require ever-increasing productivity. At the same time, relative poverty among the elderly has gone up, and rapid aging of the population will place heavy demands on social security transfers and the provision of health care. Increasing the coverage and quality of these services, including in poorer regions, may require that Poland’s public expenditures in these areas increase to the levels seen in HICs.
Including labor

Over the past decade, incomes in Poland grew across the entire income distribution, and poverty fell sharply.\(^2\) Growth was inclusive. Between 2005 and 2014, Poland’s Gini coefficient fell slightly from 35.1 to 34.3 percent.\(^3\) Earnings growth was strong even in the midst of the international financial crisis. Most of the poverty decline occurred in the pre-crisis years before 2008, but real incomes at the bottom of the distribution continued to grow even after 2009 (Figure 5.1). Consequently, income inequality and relative poverty in Poland is low compared with the trapped MICs and lower than in established HICs such as Hong Kong, China, Israel, or Singapore (Figure 5.2).

Poland’s inclusive growth was based on labor income growth, which in turn was based on improvements in education, increased labor force participation (including by older workers), an overall improvement in productivity (which was fairly shared with labor due to competitive, open factor, and product markets), and administratively determined rises in minimum wages.

Increases in labor incomes, not social assistance, were the most important factor in lowering poverty in Poland over the past decade (Figure 5.3). This experience is consistent with the other new HICs and trapped MICs that have undergone large reductions in poverty. Social assistance transfers played a relatively minor role, and the reduction in the value of pensions relative to earnings increased poverty among the elderly. This is in contrast to trapped MICs like Argentina and Brazil, which significantly expanded their pension systems (albeit from very low bases) over the decade and so cut poverty rates. In new HICs such as Chile, Poland, the Slovak Republic, and Uruguay, labor income growth was the largest contributor to poverty reduction.

---

**Figure 5.1** Over the last decade, levels of absolute poverty fell steeply, and relative poverty remained stable


**Figure 5.2** Income inequality in Poland is low

Source: Standardized World Income Inequality Database (SWIID) version 5.0; Gini for Algeria (DZA) taken from 2005.

---

Per capita poverty headcount rate, Poland, percent of population, 2005–14

<table>
<thead>
<tr>
<th>Year</th>
<th>0%</th>
<th>10 U.S.$/day</th>
<th>5 U.S.$/day</th>
<th>60 percent median</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>45</td>
<td>30</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>2006</td>
<td>40</td>
<td>25</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>2007</td>
<td>35</td>
<td>20</td>
<td>10</td>
<td>8</td>
</tr>
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<td>2008</td>
<td>30</td>
<td>15</td>
<td>8</td>
<td>7</td>
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<tr>
<td>2009</td>
<td>25</td>
<td>10</td>
<td>5</td>
<td>5</td>
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<tr>
<td>2010</td>
<td>20</td>
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<tr>
<td>2011</td>
<td>15</td>
<td></td>
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<tr>
<td>2014</td>
<td>0</td>
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Income inequality (Gini coefficient), 2011

<table>
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<tr>
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</tr>
<tr>
<td>BRA</td>
<td>50</td>
</tr>
<tr>
<td>DZA</td>
<td>50</td>
</tr>
<tr>
<td>MEX</td>
<td>50</td>
</tr>
<tr>
<td>TUR</td>
<td>50</td>
</tr>
<tr>
<td>AUT</td>
<td>40</td>
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<tr>
<td>CZE</td>
<td>40</td>
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<tr>
<td>HUN</td>
<td>40</td>
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<tr>
<td>ISR</td>
<td>40</td>
</tr>
<tr>
<td>KOR</td>
<td>40</td>
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<tr>
<td>MYS</td>
<td>40</td>
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<tr>
<td>POL</td>
<td>40</td>
</tr>
<tr>
<td>SLP</td>
<td>40</td>
</tr>
<tr>
<td>SGP</td>
<td>40</td>
</tr>
<tr>
<td>SVK</td>
<td>40</td>
</tr>
<tr>
<td>TUR</td>
<td>40</td>
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<td>AUS</td>
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<td>BUL</td>
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<td>CAN</td>
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<td>DEU</td>
<td>30</td>
</tr>
<tr>
<td>FIN</td>
<td>30</td>
</tr>
<tr>
<td>FRA</td>
<td>30</td>
</tr>
<tr>
<td>HUN</td>
<td>30</td>
</tr>
<tr>
<td>ISR</td>
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<tr>
<td>ITA</td>
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<tr>
<td>MYS</td>
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<td>SGP</td>
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</tr>
<tr>
<td>SVK</td>
<td>30</td>
</tr>
<tr>
<td>SVN</td>
<td>30</td>
</tr>
<tr>
<td>TUR</td>
<td>30</td>
</tr>
</tbody>
</table>
Over 2005–14, the overall employment rate grew by 3.4 percentage points, underpinned by growing labor force participation of older workers due to 2008 changes in the rules concerning early retirement, and the delayed impact of the 1999 retirement reforms (Table 5.1) (Lewandowski and Baran 2016).

<table>
<thead>
<tr>
<th>Age</th>
<th>2005</th>
<th>2008</th>
<th>2011</th>
<th>2014</th>
</tr>
</thead>
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<tr>
<td>Below 26</td>
<td>27.7</td>
<td>34.9</td>
<td>29.8</td>
<td>27.8</td>
</tr>
<tr>
<td>26–44</td>
<td>76.5</td>
<td>80.4</td>
<td>76.6</td>
<td>77.2</td>
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<tr>
<td>45–54</td>
<td>67.2</td>
<td>71.8</td>
<td>70.3</td>
<td>72.5</td>
</tr>
<tr>
<td>55–64</td>
<td>30.0</td>
<td>32.3</td>
<td>33.0</td>
<td>37.9</td>
</tr>
<tr>
<td>Total</td>
<td>54.9</td>
<td>59.1</td>
<td>56.6</td>
<td>58.3</td>
</tr>
</tbody>
</table>

Going forward, Poland’s female participation in the labor market will need to increase, given population aging, both to sustain growth and to build the foundation for long-term improvements in the material conditions of the population. Compared with the established HICs, Poland has a low rate of female labor force participation and could follow a number of potential pathways to increase it (Figure 5.4) (IBS 2014). The key policy area is the institutional framework helping reconcile careers with family life. Extending flexible employment arrangements and improving access to formal care facilities (in particular childcare) will both be vital.

### Figure 5.4 Poland has a low female labor force participation
Source: World Development Indicators.
Labor incomes grew, but so did temporary contracts

Between 2005 and 2014, labor incomes went up in real terms for all groups, but the real minimum wage grew nearly twice as fast as the average wage. Average nominal gross earnings increased by 64 percent between January 2005 and January 2015, while the gross national minimum wage (NMW) grew by 106 percent. Given the 25 percent cumulative level of consumer price index inflation over this time, the real change in average wage was about 31 percent, while the real change in the minimum wage was about 65 percent (Figure 5.5). This narrowed the inequality of gross earnings as measured by the Gini coefficient from 0.42 in 2005 to 0.38 in 2014. Recent increases in MNW suggest that the trend of higher increase of MNW as compared to average wage continues.

Increases in the NMW relative to the median wage supported the overall lowness and stability of income inequality. About 13 percent of total employees (1.4 million employees) receive the NMW, but there are spillover effects on wages above that minimum. The value of the NMW relative to the value of the median wage increased from 40 to 50 percent between 2005 and 2014, putting Poland among countries with a relatively high minimum wage if compared to neighbors (Figure 5.6 and Box 5.1) and slightly above the OECD (Organisation for Economic Co-operation and Development) average.

However, increases in the national minimum wage were also accompanied by a decline in open-ended contracts, particularly in rural areas and poorer regions, and for young, poorly educated, and low-skilled workers, especially women. From the early 2000s, Poland witnessed an increasing use of temporary employment (Figure 5.7). Temporary jobs became an important pathway back to the labor market from unemployment. Labor market reforms allowed for the growth of fixed-term employment contracts, civil law contracts (commission contracts and contracts for results), self-employment, and employment through temporary work agencies.
By 2014, temporary workers (including those with civil law contracts) made up 27 percent of total employment, the highest share in European Union (EU) countries (Lewandowski and Baran 2016), though it has started to decrease somewhat recently. These forms of employment contributed to the flexibility of the labor market, which was especially important in the economic slowdown after 2008, but also gave rise to important inequalities among equivalent-productivity workers.

Higher minimum wages could have contributed to the growth of non-standard contracts, such as civil law contracts and self-employment, because they are not subject to minimum wage legislation. The World Bank estimates that an additional 25 percent increase in the minimum wage would be associated with a decline in formal employment of between 50,000 to 150,000 people. Large increases in the minimum wage could have negative effects on employment, particularly in poorer regions and outside big cities (see Box 5.1).

**Box 5.1 Poland’s national minimum wage**

The national minimum wage (NMW) is set at the national level and covers employees with labor code contracts, but not those on civil code contracts — contracts for results (*umowa o dzieło*) and commission contracts (*umowa zlecenia*) — who make up around 10 percent of employees. While NMW is implemented with reference to a monthly gross salary, part-time work is also covered in proportion to the full-time NMW. The NMW is not differentiated by region or industry, but for those with less than one year’s work experience it applies at the rate of 80 percent of the standard level.

The NMW has climbed sharply since 2007. After a period of little change, it doubled between 2007 and 2016, translating into a 60 percent increase in real terms, much faster than average wages. Poland has the second highest NMW among Central and Eastern European Countries in absolute terms (after Slovenia), and ranks in the middle of all EU countries that set an NMW. Relative to average wages it has one of the highest NMWs in the EU (Box Figure 5.1.1).

According to recent analysis (Kamińska and Lewandowski 2015), between 2007 and 2013 the growing NMW resulted in negative effects on employment, in particular among temporary, young, and female workers. Although there is no evidence of increases in the share of workers in informal employment or in civil law contracts, the groups most affected by declining job retention due to increases in the NMW are the young (18–29), the poorly educated, and low-skilled women. The effects have been stronger in poorer regions and outside big cities (Baranowska-Rataj and Magda 2015).
Within the EU, Polish wages are among the lowest, convergence is slow, and labor’s share in total income is falling

Polish wages continue to be at the lower end in the EU. The average hourly labor cost in Poland stood at 8.6 euros, placing it in the bottom six of all EU countries. EU average hourly labor costs in the whole economy (excluding agriculture and public administration) were 25.0 euros in 2015, with the highest hourly labor costs recorded in Denmark (41.3 euros), and the lowest in Bulgaria (4.1 euros). However, since 2000, the growth of labor productivity (defined as the output of goods and services per hour worked) in Poland outpaced its neighboring countries. Though labor productivity in Poland grew by about 51 percent between 2000 and 2016, compensation for workers grew at only 33 percent. In contrast to Germany, the growth of real wages in Poland stayed below the growth of labor productivity during most of the last 15 years (Figure 5.8). And while Polish wages are catching up with German wages, the gap remains considerable. One reason for the observed differences is that collective bargaining agreements at the sectoral level in Poland are very rare.7,8

Labor’s share in total income — as measured by its share in GDP — decreased, while capital’s share increased. The share of labor compensation in total income ranged from 41 percent in 2000 to 37 percent 2015, while the share of operating surplus increased from 47 percent to 51.5 — recording a historic high (Figure 5.9). The lower returns to labor (an important and primary source of income for the vast majority of the population) than to ownership (a more important source of income for the wealthy) show how the benefits of economic growth have been distributed. Finally, the occupational groups that earn more than an average gross wage (professionals, managers, technicians and associate professionals) saw their share in the labor market going down to 42.8 percent (Figure 5.10). Combined, these relative trends and differences could explain some of the negative perceptions of the economy and perceptions of a rise in interpersonal, horizontal inequality.
Going forward, the labor market will maintain its crucial role in sustaining inclusive growth. An appropriate combination of rising minimum wages, employment levels, and the flexibility and security of labor contracts will need to be found to promote employment and productivity for all labor categories and sustain the existing pattern of inclusive growth.

Supporting the labor market’s role requires, first, making civil contracts subject to the same social security contributions as labor contracts, which was done in 2006. It also requires limiting the use of flexible contracts to instances in which they are justified by the irregular or temporary nature of a job by strengthening the enforcement of existing regulations. Second, the costs of making labor contracts need to be lowered, primarily by simplifying labor regulation and increasing awareness of it.
and also by lowering the procedural cost of dismissals. Third, these measures need to be accompanied by strong social protection.

As the overall wage level in Poland increases and converges with that of established HICs, growing returns to high skills and specialization could increase inequality. This could be contained by a continued inflow of highly trained new cohorts of workers and increased labor supply from among the current working age cohorts.

Including through education, health care, and regional development

Broad-based, inclusive access to high-quality public services is necessary to equality of opportunity as part of a stable social contract promoting the formation of human capital. In the following three subsections, we look at Poland’s performance in education and health care, and then review regional disparities in income, capital transfers, education, and health care.9

Education

After the transition, high spending and successful reforms of the education system improved outcomes across all income groups and strengthened an already well-qualified labor force.10 But continuing investments of public resources in the higher productivity of the entire future workforce will be needed to safeguard equality of opportunity and preserve a level playing field. Consequently, more investment in preschool education and educational institutions that promote innovation are also needed. The rest of this subsection develops these themes.

In Poland, much of the labor force of the late 1990s and the first years of the 2000s received their education under the old communist system. This labor force was in good shape to seize the new opportunities created by the transition and subsequent transformation of the economy.

In 1980, the gross enrollment rate in Poland for preprimary education was about 55 percent (Table 5.2). This was lower than in established HICs and some new HICs like Chile or Hungary, but almost twice as high as the average for the trapped MICs. Gross enrollment in secondary education in 1980, over 80 percent, was close to the average for established HICs and above the average for new HICs. From 1980 to 2014, Polish enrollment levels improved considerably. However, expansion alone is not enough to secure high incomes, as shown by the strong growth of enrollment rates for trapped MICs.

<table>
<thead>
<tr>
<th>Table 5.2 Gross enrollment ratio, 1980 and 2014 (percent)</th>
</tr>
</thead>
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<table>
<thead>
<tr>
<th></th>
<th>Preprimary</th>
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<tbody>
<tr>
<td>Trapped MICs</td>
<td></td>
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<tr>
<td>ARG</td>
<td>39.7</td>
<td>75.6</td>
</tr>
<tr>
<td>DZA</td>
<td></td>
<td>30.2</td>
</tr>
<tr>
<td>IRN</td>
<td>21.0</td>
<td>37.8</td>
</tr>
<tr>
<td>MEX</td>
<td>18.3</td>
<td>103.2</td>
</tr>
<tr>
<td>ROM</td>
<td>64.9</td>
<td>77.4</td>
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<tr>
<td>TUR</td>
<td>0.2</td>
<td>28.2</td>
</tr>
<tr>
<td>Average</td>
<td>28.8</td>
<td>64.4</td>
</tr>
</tbody>
</table>
In the Polish case, however, substantial improvements in the quality of education were also achieved through a combination of higher spending and successful policy reforms. In particular, a 1999 reform extended general education from eight to nine years (six at primary school, three at gymnasium). It was followed by a national system of examinations and tests at several levels of children’s development. These steps were accompanied by substantial increases in teachers’ salaries and relatively high levels of overall public spending on education (Figure 5.11). The quality of basic education rose, as shown by progress among Polish children in the Programme for International Student Assessment (PISA) scores in language, mathematics, and science, where the country’s youth outperform many of their counterparts in other OECD countries (OECD 2014).

Educational improvement took place across the entire socioeconomic distribution. Between 2000 and 2012, average scores in mathematics, for example, improved for all quintiles of socioeconomic status by 42–49 points — the equivalent of about one extra year of schooling (Figure 5.12). However, socioeconomic background still matters for performance. Differences in mathematics performance between the top and bottom quintiles are equivalent to nearly three years of schooling, which is a wider gap than the OECD average and much wider than in other top-performing countries.

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<td>62.4  99.0</td>
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<td>82.9 102.4</td>
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<tr>
<td>BEL</td>
<td>101.5 117.1</td>
<td>89.7  165.6</td>
</tr>
<tr>
<td>DEU</td>
<td>106.4</td>
<td>101.1</td>
</tr>
<tr>
<td>FIN</td>
<td>81.3  98.3</td>
<td>143.5</td>
</tr>
<tr>
<td>HKG</td>
<td>76.4  52.4</td>
<td>88.8  119.1</td>
</tr>
<tr>
<td>IRL</td>
<td>97.3  52.4</td>
<td>88.8  119.1</td>
</tr>
<tr>
<td>ISR</td>
<td>72.6 111.7</td>
<td>81.9 102.2</td>
</tr>
<tr>
<td>Average</td>
<td>79.1  96.8</td>
<td>84.9 120.7</td>
</tr>
</tbody>
</table>

Figure 5.11 Public spending on education seems to pay off in the long run

Source: World Development Indicators.
Poland also expanded access to tertiary education, particularly between 1995 and 2005, and is now on a par with established HICs (Figure 5.13). This expanded access was reflected in a substantial increase in the proportion of university graduates among wage earners from 2005 to 2014 (Table 5.3).

But in Poland, the performance (measured by labor market indicators and competency tests), of students in vocational education continues to trail that of those in general education. It will thus be important to continue to improve the quality and...
relevance of provision of vocational education and training, particularly through strengthening incentives and capacity for adapting training content and learning approaches to skill demand. Teaching methods and curriculum will need to be upgraded in specialized fields as well as in vocational training.

The improvements in education contributed to inclusive growth. Poland’s reduction in poverty over 2005–14 stemmed from changes in the level of education — which contributed 84 percent of the change in poverty — although demographic changes also played an important role — contributing 22 percent, as did improvements in the returns to labor force characteristics, contributing 20 percent (Box 5.2).

Box 5.2 Poverty was reduced through higher levels of education

Following Bourguignon and Ferreira (2005) and Inchauste et al. (2014), we decompose changes in total disposable incomes to examine the contributions of different factors to poverty reduction. Poverty is measured by the U.S. $10 a day purchasing power parity line. We distinguish among the contributions to disposable income from changes in endowments and the returns to those endowments; occupational and sectoral choice of the workforce; geographic, age, and gender structure of the population; and non-labor contributions to poverty reduction, such as public and private transfers (Box Table 5.2.1).

Box Table 5.2.1 Cumulative contributions to poverty reduction, 2000s, checked

<table>
<thead>
<tr>
<th></th>
<th>New HICs</th>
<th></th>
<th>MICs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change (ppts)</td>
<td>Change (%)</td>
<td>Change (ppts)</td>
</tr>
<tr>
<td>Demographics</td>
<td>-3.58</td>
<td>19</td>
<td>-1.94</td>
</tr>
<tr>
<td>Education</td>
<td>-6.60</td>
<td>36</td>
<td>-7.37</td>
</tr>
<tr>
<td>Labor status</td>
<td>0.79</td>
<td>-4</td>
<td>0.87</td>
</tr>
<tr>
<td>Sector of employment</td>
<td>-0.48</td>
<td>3</td>
<td>0.24</td>
</tr>
<tr>
<td>Returns to characteristics</td>
<td>-5.28</td>
<td>29</td>
<td>-1.78</td>
</tr>
<tr>
<td>Non-labor income</td>
<td>-2.59</td>
<td>14</td>
<td>1.45</td>
</tr>
<tr>
<td>Residual and other</td>
<td>2.89</td>
<td>16</td>
<td>-0.25</td>
</tr>
<tr>
<td>Total</td>
<td>-18.52</td>
<td>100</td>
<td>-8.80</td>
</tr>
</tbody>
</table>

Source: Own estimates derived from household survey data for Chile (Encuesta de Caracterización Socioeconómica Nacional 2003–13) and Poland (PHBS, 2004–14). Comparable estimates for Peru (Encuesta Nacional de Hogares 2004–10) and Thailand (Socio-Economic Survey 2000–09) from Inchauste et al. (2014).

Note: ppts = percentage points. “Demographics” refers to the exogenous structure of the population’s age, gender, and regional makeup.

Changes in the education level (the endowments) were the single most significant contribution to poverty reduction (84 percent). The proportion of individuals in the population (including children) who completed tertiary education grew from about 9.7 to 16.1 percent, while the proportion with primary education or none (including children) went down from 40.5 to 33.8 percent. Importantly, the proportion of individuals with higher education grew strongly among working age individuals. For example, among those age 30–39 it nearly doubled from 17.9 to 34.5 percent and among those age 40–54 it went up from 10.5 to 16.8 percent.

The contribution of demographic changes to reduced poverty is also large (22.1 percent). It reflects a substantially higher proportion of working age adults (those age 30–64), which increased by about 4.5 percentage points. This change, combined with a reduced proportion of children aged 0–17 of 2.9 percentage points, who in Poland are the group at highest risk of poverty, are the main drivers behind the contribution of demographics to reduced poverty.

The role of education contrasts with the drivers in MICs such as Peru, where most of the gains were due to an impressive increase in the number of women joining the workforce as salaried or self-employed workers. Or in Thailand, where although large improvements in educational status were accompanied by increasing returns
to education, the most important contributor to poverty reduction was an expansion of the social security system, which started from a very low base. In new HICs such as Poland and Chile, however, most of the poverty reduction was related to increases in education and returns to labor force characteristics, which can be linked to increases in productivity.\footnote{12}

Educational improvements and skills upgrading should continue, to preempt polarization of earnings due to skill-biased technological change, a global trend. Such change, combined with global patterns of location of manufacturing has been blamed for widening earnings inequality in many developed countries (Abraham 2008; Moore and Ranjan 2005; Afonso et al. 2013). As overall wages in Poland increase and converge with those in established HICs, inequality could be even greater than in those countries. But inequality in Poland could be contained by a continued inflow of new cohorts of highly trained workers and increased labor supply from among the current working age population.

Policy should also focus on investment in early childhood education (Box 5.3). Such policies would bring benefits in the decades to come, precisely when, due to population aging, the productivity of Poland’s workforce will need to rise. The need for further investment in this area is highlighted by Poland’s lagging behind many established and new HICs in preschool enrollment, particularly for children age two years and under (Figure 5.14).

**Box 5.3 Early human capital investment and equality of opportunity**

Childhood conditions are important elements of equality of opportunity (Checchi et al. 2010). A growing number of studies have looked at skill formation itself and the possibility that investments in education and health (often early in childhood) raise the earning potential once individuals join the labor force (Heckman and Cunha 2007). Greater opportunity for disadvantaged groups has proven to increase cognitive as well as non-cognitive skills (Herrnstein and Murray 1994; Heckman 2006; and Borghans et al. 2008). Skill formation is a multi-period and multilevel process, and access to high-quality services matters from the earliest stage in life.

Interventions to equalize opportunities early in life are far more cost-effective and successful than later ones. Preschoolers with low cognitive development have less school achievement and in adulthood earn lower wages (Case and Paxson 2006). Early childhood education has substantial long-term impacts, ranging from adult earnings to retirement savings (Chetty et al. 2010). Reynolds et al. (2003) review the impact of early childhood programs for disadvantaged children. Their findings support a causal link between opportunities and productivity. Further, lost opportunities during childhood often cannot be undone. Child malnutrition, for example, can generate life-long learning difficulties, poor health, and lower productivity and earnings over a lifetime (Alderman et al. 2006; Hoddinott et al. 2008).

**Figure 5.14 Enrollment in preprimary education, 2014**

Preschool education for six-year-olds became mandatory in 2011. Then the mandatory age for beginning formal education was lowered from seven to six years, and preschool became mandatory for five-year-olds. However, just as this reform was completed in September 2015, the new government rolled the obligatory school age back to seven. Poland’s early childcare enrollment is therefore likely to continue underperforming both new and established HICs.
In the short run, making more places available in high quality formal childcare will facilitate higher labor market participation of women, including mothers and other older relatives who often take early retirement to take care of children.

Health care services

Improvements in the health care system greatly supported the trend to equality of opportunity for all income groups, with health outcomes, including life expectancy, continuing to improve from their relatively good base. Among country groups, the established and new HICs performed much better than the trapped MICs in the 1980s and 1990s on the:

- Number of physicians per 1,000 people in 1980 (a direct output linked to improved public expenditure on health — Figure 5.15).
- Infant mortality rate in 1980 (one of the key epidemiologic indicators reflecting the quality of health care — Figure 5.16). \(^{13}\)
- Prevalence of anemia among children under age five in 1980 (reflecting nutrition in childhood — Figure 5.17).
Poland’s health care system in the 1980s and 1990s performed well against those of other current new HICs and trapped MICs. Among new HICs, Poland already scored relatively high in 1980 on number of physicians, infant mortality, and the prevalence of anemia among children, but has continued to improve (see Figures 5.16 and 5.17). The country is also performing relatively well on deaths by communicable diseases (Figure 5.18). Poland’s health care system is relatively efficient: compared with several new HICs with comparable or worse health outcomes, such as the Czech Republic and Uruguay, Poland has lower public health care expenditure as a share of GDP (see Figure 5.18).

Challenges include the following. The share of low-income people reporting unmet needs for medical examination is relatively high. Long waiting times are the main issue, as more than 10 percent of survey respondents had an unmet need for a medical examination in 2013, above established HIC comparators and the EU average, and similar to lower-income countries in the EU, such as Bulgaria or Romania (Figures 5.19, 5.20, and 5.21). In addition, twice as many low-income earners reported unmet needs as did high-income earners, pointing to affordability of health care as a binding constraint for low-income groups. Improvements are slower for low-income groups. Finally, large inequalities also exist in unmet dental care needs, as they do in many other EU countries and several established HICs, because dental care is often covered only partially, or not at all, in basic health care and must be paid for out of pocket or covered by private health insurance.
In the coming decades, with an increasing proportion of older people, the public health care system is likely to be under significant pressure (World Bank 2014). Access to high quality health care will be particularly important for the youngest generations to facilitate their development, ability to take advantage of schooling opportunities, and overall well-being.

Regional inequalities

Polish regional per capita GDP and household disposable income differences are not wide by international standards. Regional disparities are smaller than in other new HICs (Chile, the Czech Republic, Hungary, and the Slovak Republic), as well as trapped MICs, and on a par with Austria or Germany.

During the last decade all regions in Poland recorded GDP growth exceeding 3 percent, with some of the lagging regions growing at nearly 4 percent (and faster than some more prosperous regions — Figure 5.22). Fifteen of Poland’s regions were among the 40 OECD regions with the highest per capita GDP growth rate during 2000–13 (OECD 2016). Overall, differences in regional GDP growth rates and household disposable income in Poland remain small in international perspective (Figures 5.23 and 5.24). And in many Polish regions disposable income rose even faster than GDP, sharply reducing poverty (especially in Lubelskie, Podkarpackie, and Swietokrzyskie) (Figure 5.25).
In Poland, as in many OECD countries, regional disparities in per capita disposable income are generally smaller than in per capita GDP, due to the redistributive role of public transfers (see Figures 5.23 and 5.24). Poland’s western regions are wealthier than the eastern regions, with the gap in average per capita GDP at about 30 percent. To compensate, the eastern, lagging regions received larger capital transfers stemming from EU membership (EU structural funds and agriculture direct payments). In these regions, the average annual payments related to the EU cohesion policy exceeded 2.5 percent of GDP in 2004–13 (and even 3 percent in Podkarpackie and Warminsko-Mazurskie), against 1.7 percent for Poland as a whole (Figure 5.26). Similarly, lagging regions recorded larger flows of direct support to farmers under the EU Common Agricultural Policy, which averaged more than 2 percent of GDP in 2004–14 in Lubelskie and Podlaskie, against a national average of 0.8 percent. Since EU enlargement, agricultural income has risen faster than wages and salaries in other sectors in Poland (EC 2014).
Poland’s regional differences in access to basic services, notably education, are small. Regional differences in enrollment rates and education outcomes are not correlated with income levels: two of the most lagging regions on income (Lubelskie and Świętokrzyskie) have the highest enrollment rates in urban and rural areas alike. Nor are the results of primary school competence tests correlated with regions’ income level, as these results are above the national average in the majority of lagging regions. In addition, primary and secondary schools in these regions benefit from lower ratios of students per teacher. Poland shows very low regional disparities in the share of workforce with at least secondary education as compared with OECD MICS and even some HICs (Figure 5.27). Education outcomes in rural areas are below urban ones, but differences are not high, though they have been widening for primary schools but not for lower secondary schools.

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**Figure 5.26** Average annual EU capital transfers to Poland’s regions, percent of GDP

**EU structural funds**

**Direct payments to farmers, Common Agricultural Policy**

Source: World Bank staff based on Wrocławska Agencja Rozwoju Regionalnego (WARR) 2015; Agency of Modernization and Restructuring of Agriculture; Central Statistical Office of Poland data.

*Note:* Lagging regions (per capita GDP below 90 percent of national average) are in red.

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**Figure 5.27** Regional variation in the workforce with at least secondary education, 2014


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**Figure 5.28** Average annual change in the share of the labor force with tertiary education in the top and bottom 20 percent of regions, 2000–14

Between 2000 and 2014 the share of highly skilled workers in Poland (those with tertiary education) increased particularly fast, both in the case of the top 20 percent and bottom 20 percent of regions (Figure 5.28), making Poland a top performer among OECD countries.

However, access to health services is quite low everywhere (Figure 5.29). Poland is one of the three OECD countries with the biggest regional differences in the number of hospital beds per 10,000 inhabitants (along with Japan and Germany), and also underperforms many established HICs on that measure.

In sum, while the regional income gap in Poland is still significant, GDP and income growth in lagging regions over the last decade have been largely at par with those of richer regions. Because comparable growth occurred across all regions, the income gap and relative status remained broadly unchanged. So in relative terms some regions are not catching up, particularly on employment opportunities, safety, and community. This has led to the common perception that those regions are being left behind.17

Moreover, Poland’s less prosperous regions have been more affected by emigration over the last decade. Some have seen population losses among people in their thirties exceeding 20 percent. To be sure, migration brought positive outcomes for individuals and their families, such as improved well-being. With many migrants quite well educated and young, these trends also benefited the main receiving EU economies. However, the large emigration of skilled labor, by reducing the size of the labor force, productivity, and competitiveness, may have slowed growth and income convergence in Poland. Moreover, emigration and slower income convergence could become mutually reinforcing (Atoyan et al. 2016), with less-developed regions most affected.

Figure 5.29 Regional access to physicians, 2013

Source: OECD 2016.
Note: PPP = purchasing power parity

In sum, while the regional income gap in Poland is still significant, GDP and income growth in lagging regions over the last decade have been largely at par with those of richer regions. Because comparable growth occurred across all regions, the income gap and relative status remained broadly unchanged. So in relative terms some regions are not catching up, particularly on employment opportunities, safety, and community. This has led to the common perception that those regions are being left behind.17

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Including through fiscal policy

Before taxes and transfers, Poland already has much lower initial inequality than, for example, other new high-income countries in Latin America. Direct taxes and transfers reduce the Gini coefficient by about 0.07 points, but indirect taxes increase it by 0.01 points. With in-kind transfers, the overall decline is 0.12 points, more than Uruguay but slightly less than Chile (Figure 5.30). 18

Between 2005 and 2014, nearly half of the 0.7 percentage point reduction in the Gini coefficient and 0.1 percentage point reduction in relative poverty was caused by changes in the tax and benefits policy. The rest was due to changes related to the labor market (Box 5.4 and Figure 5.31). 19 And until recently, family benefits and social assistance were low compared with established HICs and below the average for new HICs, which contributed to low redistribution for Poland and a negative net cash position for many low-income households.

Box 5.4 Taxes and benefits in Poland, 2005 to 2014: A mixed bag

The most important changes to the direct tax and benefits system (see Annex 5.1) were:

- In 2009, income tax was adjusted from a three-band (19, 30 and 40 percent) to a two-band structure (18 and 32 percent), which reduced progressivity. Income tax thresholds unchanged after 2007 generated regressive increases in taxes for low-income families.
- In 2007, a Child Tax Credit was introduced for every child younger than 18 (25 when still in education). Until 2014 it operated as a non-refundable tax credit and could only be claimed against taxes, benefiting mainly middle- and high-income families, as some 30 percent of low-income families were not in a position to claim the full credit. The policy underwent several minor changes, and it was substantially reformed in 2014, when it became possible to claim the tax credit against social security and health insurance contributions paid by employee and not only income tax. This made the tax advantages more generous to working low-income families.
- For a number of years family benefits and eligibility thresholds were frozen in nominal terms, which had a regressive effect. The number of eligible families declined, and real values of benefits for those who still qualified were reduced.
- In reaction to falling birth rates, the government introduced a universal one-time Child Birth Allowance, which became means-tested in 2013.
- In 2007, rates of disability insurance contributions were cut substantially, but in 2012 some of the reductions were scaled back in response to fiscal pressures during the financial crisis.
- Housing benefit rules have not changed significantly, except for a policy implemented in 2014 that entitled those eligible for the housing benefit to a small energy supplement.
- The standard rate of value added tax (VAT) was increased in 2011 from 22 to 23 percent, and preferential rates were changed.
- Excise taxes on tobacco steadily increased throughout the decade in line with EU policies. Excise taxes on alcohol were increased in 2009 and 2013. Biofuel excise preferences were eliminated in 2011.
- In 2010, an additional tax contribution paid by farmers with farmland greater than 50 hectares was introduced, but it affected only a small minority of farmers because of the high threshold.

Sources: Domitz et al. (2013); Myck and Najsztub (2016).
Transfers of in-kind benefits through the health care and education systems are progressive. But redistribution through direct taxes and other social transfers (such as family benefits and social assistance) is low. It is in a range similar to the trapped MICs such as Brazil and Mexico, and nearly five times as low as Germany or Belgium (Figure 5.32). The direct tax system is characterized by relatively low progressivity (Table 5.4).

**Figure 5.31** Less than half the reduction of disposable income inequality was due to direct taxes and benefits in 2005–14


**Figure 5.32** Redistributive effect: Direct taxes and transfers

Source: Brazil: Higgins and Pereira (2014); Mexico: Scott (2014); Uruguay: Bucheli et al. (2014); EU countries: EUROMOD G3.0+ (2013); Poland: Goraus and Inchauste (2016).

Note: The degree of redistribution is calculated using the total redistributive effect computed as the difference between the effect on inequality reduction without re-ranking and the effect of re-ranking resulting from the system (Atkinson 1980; Plotnick 1981).

**Table 5.4** Progressivity of taxes and spending

Source: Armenia: Younger et al. (Forthcoming); Brazil: Higgins and Pereira (2014); Colombia: Melendez and Martinez (2015); Georgia: Cancho and Bodarenko (Forthcoming); South Africa: Inchauste et al. (2015); Sri Lanka: Arunatilake et al. (Forthcoming); Chile: Ruiz-Tagle and Contreras (2014); Poland: Goraus and Inchauste (2016); Russia: Lopez-Calva et al. (Forthcoming).

Note: Based on the Kakwani index. Kakwani (1977) indices (Kx) are defined as the difference between the Gini coefficient of gross income and the concentration coefficient of a specific tax or benefit instrument. At Kx=0 a tax or benefit is neutral, while Kx>0 suggests that the analyzed instrument is progressive and Kx<0 that it is regressive. The redistributive effect is measured as the change in Gini with and without the fiscal intervention. The redistributive effect depends not only on the level of progressivity, but also on the size of the fiscal intervention.
The indirect tax system is regressive (see Table 5.4): both the VAT and excise taxes. For the poorest decile, indirect taxes in Poland represent about 34 percent of disposable income but for the richest only 7 percent. From the second decile on up, the weight of these taxes in 2014 was larger than the net cash benefit provided by direct transfers (Figure 5.33). This effect was especially large for households with children (Goraus and Inchauste 2016; Myck and Oczkowska 2015). Households starting in the second income decile were on average net cash contributors to the system in 2014. However, with the 2016 introduction of the Family 500+ program about 2.7 million households will see net gains, with households in the second decile becoming net receivers on average in cash terms (Goraus and Inchauste 2016). In-kind education and health services make up a larger share of the incomes of those at the bottom of the distribution, so when this spending is included, the bottom 50 percent are net beneficiaries.

Social assistance

Between 2005 and 2014, absolute child poverty in Poland fell, but it is still relatively high, due in part to the low levels of social assistance and social protection. Poverty at the U.S. $5-a-day level fell sharply, from 28 percent in 2006 to 9 percent in 2014. Yet Poland’s poverty rates were still high relative to many established HICs and some new HICs (Figure 5.34), partly due to low levels of financial support for families with children. Social assistance spending in Poland is low (Figure 5.35). For example, the total support through Family Benefits in Poland in 2012 was only 0.8 percent of GDP, while in the Czech Republic it was 1.8 percent, in Estonia, 1.7 percent, and in Slovenia, 1.2 percent (like Poland, all three are new HICs). Unemployment protection is also far from generous, with low benefit levels and payments usually limited to six months.
The material conditions of many families in Poland are likely to improve with the roll-out of a new family support program, Family 500+, in 2016 (Box 5.5). This program, at a cost of about 1.5 percent of GDP, will benefit some 2.7 million families, and should reduce child poverty, with equally important benefits for further reductions in income inequality. The new Family 500+ Program represents a decisive move to redistribute resources toward families with children. However, the fiscal resources required are relatively large as the program is not conditional on family income. And the needs of other vulnerable groups without children, for example the growing group of low-income pensioners, will also need to be addressed. Sustainable financing of the social protection policies will require an efficient and equitable way of distributing existing taxes and transfers, as well as the additional burden of taxes that could be required over the long run.

Figure 5.34 Absolute child poverty in Poland is still relatively high, due in part to the low levels of family benefits

Child poverty (ages under 18), U.S. $10-a-day purchasing power parity poverty line, percent

Figure 5.35 Social assistance spending varies widely across European welfare states

Social assistance spending, 2012, percent of GDP

Source: World Bank staff based on EU-SILC (statistics on income and living conditions) and Socio-Economic Database for Latin America and the Caribbean (CEDESAS and The World Bank).

Source: Eurostat.

Chapter 5: INCLUDING

Box 5.5 A new child benefit: The Family 500+ Program

In April 2016, the new government implemented its key electoral pledge — the Family 500+ Program — which is expected to cover 34 percent of the population. It consists of a monthly payment of €500 (U.S. $128) for every second and subsequent child in the family until the age of 18, and is not conditional on family income. The benefit is also extended to the first child in families with income per capita below €800 (U.S. $205), or below €1,200 (U.S. $307) if there is a disabled child in the family. This program increases the total value of government direct financial support to families with children by about 140 percent. The Family 500+ benefits are designed to be paid on top of all other existing social support received by the household and will not influence eligibility for these programs. Eligibility for the Family 500+ benefits among farming households are related to the amount of land owned by the family.

After full rollout, the program is expected to cut child poverty and inequality sharply by the end of 2016 (Box Figure 5.5.1).

The Family 500+ program may affect labor supply decisions among parents for two reasons. First, it represents a significant increase of family income regardless of employment and might disincentivize employment. Second, by conditioning benefits for the first child on family income, it generates a stepwise entitlement withdrawal and thus a significant income discontinuity, which may also disincentivize employment or number of hours employed. For estimates of the employment effect of the program see Myck (2016).

Box Figure 5.5.1 Poverty and inequality are expected to decline with the Family 500+ benefit


Note: The at risk of poverty rate refers to individuals below 60 percent of the median equivalized income. The extreme poverty rate is defined as the percentage of persons in households in which the level of expenditure was lower than the subsistence minimum calculated by the Institute of Labour and Social Affairs (IPiSS). It includes only the needs whose satisfaction cannot be postponed and consumption below this level leads to biological destruction.

However, at the other end of the age spectrum, pensioners will face lower pension incomes in the future. Poland historically had a generous system of public pensions, which, compared with many non-European MICs and new HICs, involved extensive redistribution from working generations to pensioners. Reforms in 1999 replaced the old defined-benefit system with a much less generous defined-contribution design. Consequently, as new cohorts enter pensionable age, the final value of pensions will increasingly be determined by their contribution history. Combined with growing life expectancy, an increasing proportion of pensioners will be facing very low public pension incomes, which do not seem to be offset by adequate additional private savings (World Bank 2014).

Population aging will place increasing pressure on public finances. Poland is witnessing a rapidly increasing old-age dependency ratio (Figure 5.36). Low statutory retirement ages seem to be a common challenge for many new HICs (Figure 5.37), especially those with a rapidly aging population, including Poland. Demographic changes will affect public finances and the pace of economic growth for many decades to come.

The fiscal impact of population aging will be compounded by the government’s plan to cut the pension age back to pre-reform levels. Beginning in 2012, pensions were reformed and the retirement age was incrementally increased for new cohorts to 67 (from 65 for men and 60 for women). Cutting the pension age back to pre-reform levels will put significant pressure on public finances and exacerbate the problem of
future pensioner poverty, in particular for women who, given more frequent interruptions in their labor market history, face a higher risk of low pension benefits.

Going forward, fiscal policy can achieve more effective redistribution through a more progressive taxation system and improved social assistance programs. The aging population needs more attention, as do persons without children, who require a reliable safety net. Quality education for low-income groups will have important long-run returns. In addition, an individualized targeted job and social assistance package, like Jobcentre Plus in the United Kingdom (Box 5.6), could help workers otherwise left out. Finally, unmet medical needs of the poorer strata of the population need to be better addressed.

**Figure 5.36** A very high old-age dependency ratio is expected in Poland

Source: U.S. Census Bureau, International Data Base.

**Figure 5.37** Retirement age for women remains low in Poland

Source: OECD.

Box 5.6 United Kingdom Jobcentre Plus

Jobcentre Plus is a quasi-autonomous nongovernmental organization used by the Department for Work and Pensions for its working-age support service in the United Kingdom. The agency provides individualized skills training and social assistance by assigning “work coaches” to help job seekers prepare for, find, and stay in work according to their circumstances.

The services include training, guidance, and work placement programs; work experience, volunteering, and job tryout schemes; a website that allows an easy search for jobs in the United Kingdom and abroad; assistance in starting a business; help with childcare and other care responsibilities; and assistance in moving back to work, including help sorting out taxes and benefit eligibility once back at work. Families with multiple problems (such as a history of unemployment, problems with drugs or alcohol, parenting or financial management skills, antisocial behavior or health conditions) may get additional assistance.

Source: https://www.gov.uk/browse/working/finding-job.
Analyzing social perceptions

Since 2000, Polish citizens have shown a notable increase in satisfaction with material living conditions, and with their income and financial situation (Figure 5.38). They have also viewed as fair the processes that drive individual success and determine individual opportunities. This may change, however.

On citizens’ satisfaction with their financial situation, Poland is doing relatively well in comparison with Hungary, the Slovak Republic, and Romania, and is on a par with Germany (Figure 5.39). In 2016, 32 percent of respondents in the Life in Transition Survey felt that their economic situation was better than four years earlier, up from 25 percent in 2010 (Figure 5.40).

Figure 5.38 Satisfaction with living conditions and income has grown

Figure 5.39 Satisfaction with own financial situation

Figure 5.40 Perception of change in the last four years
Compared with most MICs and new HICs, many citizens in Poland today believe that there is reasonable fairness in the processes that drive individual success and determine individual opportunities (Figure 5.41) and access to employment in the government sector (Figure 5.42).

Which is the most important factor to succeed in life in your country now? Proportion of answers

![Figure 5.41 What matters for individual success](source)


However, as the economy in Poland (and other new HICs) continues to improve, the importance of people’s perceptions of their relative — rather than absolute — position in the income distribution will grow. Relative inequality becomes increasingly important compared with absolute inequality as countries get wealthier (Cancho et al. 2015a). Graham and Pettinato (2006) suggest that as people move up the distribution, they tend to have more negative assessments of well-being, as their reference group is no longer their original cohort. Those in the middle, rather than the poor or rich, are most frustrated, even when they experience absolute gains. In an environment where everybody experiences improved welfare, relative shifts within the welfare distribution can downgrade individual perceptions of welfare (Hirschman 1973).

Conclusions

Economic growth in Poland has been inclusive and has led to sharp reductions in poverty and large increases in shared prosperity. Incomes have risen across all income groups, and income inequality has remained relatively stable.

Strong and steady economic growth was accompanied by employment growth and rising earnings for all income groups. The Polish labor force, which already benefited from relatively good education and health care, faced a more flexible labor market
with loosened employment protection and a rapidly improving business environment, which boosted employment and productivity. At the low end of the labor market, inequality was contained by high increases in the national minimum wage. However, the extensive use of temporary contracts led to labor market segmentation and inequalities in labor market outcomes. Labor policy should therefore focus on reducing segmentation and better balancing job security and labor market flexibility. And it should reduce constraints on female labor force participation — in particular related to childcare — so that all citizens can realize their economic potential.

Poland’s social compact can be further strengthened. With employment still below levels in more established HICs, continued inclusive growth will depend on further gains in the education and skill levels of the workforce. Low-income vulnerable households, such as those without children and the growing group of pensioners, should be supported by a targeted social safety net.

Sustainable financing of policies to underpin the social compact will require efficient and equitable distribution of taxes and transfers. In this context, there is room for more progressive direct and indirect taxation.

Finally, perceptions of unfairness could grow as aspirations increase. Safeguarding equal opportunity and the fair transformation of opportunities into outcomes under conditions of individual rights and freedoms, competitive markets, and trust in public institutions will require special attention.
Annex 5.1 Parameters of the tax benefit system

This annex describes the most important features of the Polish tax system as it applies to the most important forms of household incomes. It also discusses the most salient elements of the non-contributory benefit system, which includes family and housing benefits and social assistance. The simulations presented in the Annex have been based on the Polish household Budget Survey data from 2014 and have therefore been conducted using the 2014 tax and benefit system as the baseline. We present the description of the baseline system below.

Social security contributions

Social security contributions (SSC) on employment constitute the basis of the social security benefits system, including retirement and disability pensions and unemployment benefits. The contributions of most employees and self-employed are managed by the Social Insurance Institution (ZUS), while farmers belong to a separate insurance system (the Agricultural Social Insurance Fund, KRUS) in which they pay contributions based on their farming land area with additional contributions for those with non-farming business.

ZUS contributions are normally divided between the employer and the employee, and the rates are set with reference to “gross income” defined as the total labor costs less employer’s SSC. Retirement and disability pension contributions are paid up to an annual threshold set at 30 times the projected average monthly gross wage in the next year. For the self-employed, contributions are based on 60 percent of the projected average gross wage for the next year and are thus not tied to actual income. Table A5.1.1 presents the SSC rates and changes over 2005-14.

Major changes to SSC rates were implemented in 2007, when rates of disability insurance were substantially reduced, and in 2012 when some of those reductions were scaled back in response to fiscal pressures at the time of the financial crisis. The employee rate was lowered from 6.5 percent to 3.5 percent in July 2007 and further to 1.5 percent in January 2008, while the employer’s disability contribution was cut from 6.5 to 4.5 percent. The employer’s contribution was restored to 6.5 percent in 2012.

Until 2010, farmers paid flat rates of insurance regardless of their income or farm area. This was changed by the PO–PSL (Civic Reform–Polish People’s Party) coalition, which introduced an additional contribution paid by farmers with farmland greater than 50 hectares. For each additional 50 ha up to 300 ha farmers pay additional contributions. Farmers who are also involved in non-farming business were taxed at different rates (Table A5.1.1). Because of the farmland area threshold, the reform affected only a small minority of farmers.

### Table A5.1.1 Social Security Contributions for employment income in years 2005–14

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee SSC (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retirement insurance</td>
<td>9.76</td>
<td>9.76</td>
<td>9.76</td>
<td>9.76</td>
</tr>
<tr>
<td>Disability insurance</td>
<td>6.50</td>
<td>1.50</td>
<td>1.50</td>
<td>1.50</td>
</tr>
<tr>
<td>Illness insurance</td>
<td>2.45</td>
<td>2.45</td>
<td>2.45</td>
<td>2.45</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employer SSC (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retirement insurance</td>
<td>9.76</td>
<td>9.76</td>
<td>9.76</td>
<td>9.76</td>
</tr>
<tr>
<td>Disability insurance</td>
<td>6.50</td>
<td>4.50</td>
<td>4.50</td>
<td>6.50</td>
</tr>
<tr>
<td>Work accident insurance</td>
<td>1.93</td>
<td>1.80</td>
<td>1.67</td>
<td>1.93</td>
</tr>
<tr>
<td>Labor Fund</td>
<td>2.45</td>
<td>2.45</td>
<td>2.45</td>
<td>2.45</td>
</tr>
<tr>
<td>Employees’ Guaranteed Benefit Fund</td>
<td>0.15</td>
<td>0.10</td>
<td>0.10</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Note: Work accident insurance rate varies across branches.
Chapter 5: INCLUDING

### Table A5.1.2 Personal Income Tax and Health Insurance System Parameters, 2005–14

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue cost (Zl)</th>
<th>Universal Tax Credit (Zl)</th>
<th>Income threshold I (Zl)</th>
<th>Income threshold II (Zl)</th>
<th>Tax rate I (%)</th>
<th>Tax rate II (%)</th>
<th>Tax rate III (%)</th>
<th>Child Tax Credit (Zl/month)</th>
<th>Child Tax Credit threshold</th>
<th>Price of rye (Zl/qa)</th>
<th>Full health insurance (%)</th>
<th>Deductible health insurance (%)</th>
<th>Base for health insurance for self-employed (Zl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1,227</td>
<td>2,790</td>
<td>37,024</td>
<td>74,048</td>
<td>19</td>
<td>30</td>
<td>40</td>
<td>–</td>
<td>–</td>
<td>38</td>
<td>8.50</td>
<td>7.75</td>
<td>22,264</td>
</tr>
<tr>
<td>2008</td>
<td>1,335</td>
<td>3,091</td>
<td>44,490</td>
<td>85,528</td>
<td>19</td>
<td>30</td>
<td>40</td>
<td>97.81</td>
<td>92.67</td>
<td>58.29</td>
<td>9.00</td>
<td>7.75</td>
<td>27,671</td>
</tr>
<tr>
<td>2011</td>
<td>1,335</td>
<td>3,091</td>
<td>85,528</td>
<td>–</td>
<td>18</td>
<td>32</td>
<td>–</td>
<td>92.67</td>
<td>–</td>
<td>37.64</td>
<td>9.00</td>
<td>7.75</td>
<td>32,452</td>
</tr>
<tr>
<td>2014</td>
<td>1,335</td>
<td>3,091</td>
<td>85,528</td>
<td>–</td>
<td>18</td>
<td>32</td>
<td>–</td>
<td>92.67</td>
<td>–</td>
<td>75.86</td>
<td>9.00</td>
<td>7.75</td>
<td>34,898</td>
</tr>
</tbody>
</table>

**Personal income tax and health insurance**

Income after deducting the employee’s SSCs, so-called taxable income, forms the basis for personal income taxation (PIT). Employees can deduct a small amount in revenue cost and each taxpayer can deduct a Universal Tax Credit (UTC) calculated with reference to a tax-free amount of income\(^2\). Poland for a long time had a three-rate progressive system of income taxation with rates of 19, 30, and 40 percent. This system was reformed in 2006, with a two-rate system coming into force in January 2009 with rates of 18 and 32 percent (Table A5.1.2). The amounts of the revenue cost and the UTC have remained fixed at the same nominal level since 2008. Additionally, the threshold for the highest income bracket for income taxes has been unchanged since 2007. The freezing of these parameters has resulted in effective increases in taxation, with the highest proportional effects on low-income families (Myck et al. 2015).
Health Insurance is paid proportionally to taxable income and the rate has been kept at 9 percent since 2007. Most of the contribution (7.75 percentage points of the 9 percent) can be deducted from income tax. For the self-employed the full and deductible amount of health insurance is calculated using a base value equivalent to 75 percent of the average gross monthly wage.

The year 2007 saw an introduction of the child tax credit (CTC) for every child younger than 18 (or 25 when still in education). Until 2014 the CTC operated as a non-refundable tax credit and could only be claimed against taxes due. Because the CTC was non-refundable, approximately 30 percent of low-income families could not take the full advantage, and the policy was most generous for middle- and high-income families. After several minor changes, the policy was substantially reformed in 2014 when it became possible to claim the credit against social security and health insurance contributions, not only against income tax. This made the tax advantages more generous to working, low-income families.

Farmers are subject to agricultural tax, which is related to the farmland area, and do not pay PIT on income. A recent reform introduced health insurance contributions for farmers, calculated as Zl 1 for each hectare of farmland. Small farmers (with farms up to 6 ha) have their health insurance contributions paid by the government.

### Family benefits

The principal benefit in the system of family benefits is the family allowance (FA), the value of which since 2006 is conditional on the age of children and supplemented with additional payments related to specific family circumstances (Table A5.1.3). These benefits are means-tested and until 2015 were subject to a point withdrawal scheme under which income above a specified threshold would limit eligibility to the principal transfers. For a number of years both the benefits and the eligibility threshold were frozen in nominal terms, which led to a falling number of eligible families and to lower real values of benefits for those who still qualified. Largely as a result of this policy, the number of children receiving the FA dropped from 5.2 million in 2005 to 2.2 million in 2014. In reaction to falling birthrates, the government introduced a universal one-off benefit called the child birth allowance at the value of Zl 1,000 for every new-born child. This benefit became means-tested in 2013.

<table>
<thead>
<tr>
<th>Table A5.1.3 Family allowance system parameters for 2005–14 (Zl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note: FA amount 1 — amount for the 1st and 2nd child in 2005 and for each child less than 5 years in other years; FA amount 2 — amount for the 3rd child in 2005 and for each child between 5 and 17 in other years; FA amount 3 — amount for the 4th child in 2005 and for each child between 18 and 23 in other years. All values are in Zl per month, except for child birth allowance and support for child birth, which are paid once per child birth and school start supplement, which is paid once a year.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2008</th>
<th>2011</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA income threshold (Zl per capita)</td>
<td>504</td>
<td>504</td>
<td>504</td>
<td>544.8</td>
</tr>
<tr>
<td>– Families with disabled children</td>
<td>583</td>
<td>583</td>
<td>583</td>
<td>629.8</td>
</tr>
<tr>
<td>Income from 1 ha for FA criterion</td>
<td>174.5</td>
<td>167.1</td>
<td>169.2</td>
<td>214.7</td>
</tr>
<tr>
<td>FA amount 1</td>
<td>43</td>
<td>48</td>
<td>68</td>
<td>77</td>
</tr>
<tr>
<td>FA amount 2</td>
<td>53</td>
<td>64</td>
<td>91</td>
<td>106</td>
</tr>
<tr>
<td>FA amount 3</td>
<td>66</td>
<td>68</td>
<td>98</td>
<td>115</td>
</tr>
<tr>
<td>FA supplements:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental leave allowance</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Support for large families</td>
<td>20</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Support for child birth</td>
<td>500</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>School start supplement</td>
<td>90</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Support for lone parents (SLP):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Support per child</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
</tr>
</tbody>
</table>
A number of benefits support families who take care of disabled family members. These include the nursing supplement (NS), which is an additional payment on top of either the disability pension for those unable to lead an autonomous existence or the retirement pension for those age 75 and older. The nursing benefit (NB) is granted to disabled children age 16 and under, severely disabled persons above that age, mildly disabled persons if their disability occurred before the age of 21, and persons age 75 and older if they do not qualify for the NS. The nursing allowance (NA), which became universal in 2010, is a special benefit for parents who quit work to take care of disabled children. The values of nursing benefits are given in Table A5.1.3. Finally, there is a special caregiver allowance (introduced in 2013) that is income tested and is for relatives who quit work to take care of a disabled relative. The value of nursing supplement, nursing benefit, nursing allowance, and special caregiver allowance are given in Table A5.1.3.

Families are also supported after child birth in the form of paid leave from work. Its length was increased in 2013, and currently parents of new-borns in Poland are entitled to one of the longest leaves in Europe. As presented in Table A5.1.4, the overall leave that must be used continuously after child birth consists of 20 weeks of basic maternity leave, 6 weeks of additional maternity leave, and 26 of parental leave (introduced in 2013). Out of those 52 weeks, the first 14 weeks must be used by mother, while subsequent weeks might be used by mother or father. Basic and additional maternity leave are fully paid (100 percent of income base for social security contributions’ payments), while during parental leave it is 60 percent of income base. Alternatively parent on leave may receive 80 percent of income base during entire period (if decides up-front to use all available 52 weeks). There are also separate 2 weeks of paternity leave that can be used only by a father during first year of his child’s life. Those weeks are fully paid, and can be used simultaneously with the leave taken by a mother. Only workers that are covered by illness insurance have a right to maternity, parental or paternity leave. However, from 2016, parents that are not entitled for such support (e.g. students, unemployed; persons working on civil law contracts of result) receive parental benefit of 1000Zl per month for one year after childbirth. For social justice purposes, those that are entitled to maternity, parental or paternity leave due to their working status will receive top-up to 1000Zl if their calculated benefit is below that level.
### Table A5.1.4 Maternity leave in weeks for 2005–14, together with additional leave periods

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Maternity leave</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Additional maternity leave</td>
<td>2</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental leave</td>
<td></td>
<td></td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Paternity leave</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Based on Myck et al. (2015).

### Table A5.1.5 Housing benefit and social assistance system parameters for 2005–14

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing benefit:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum pension</td>
<td>562.6</td>
<td>629.8</td>
<td>724.5</td>
<td>842.2</td>
</tr>
<tr>
<td>175% minimum pension</td>
<td>962.0</td>
<td>1,077.0</td>
<td>1,238.9</td>
<td>1,440.2</td>
</tr>
<tr>
<td>125% minimum pension</td>
<td>703.2</td>
<td>787.3</td>
<td>905.6</td>
<td>1,052.8</td>
</tr>
</tbody>
</table>

Social assistance (SA):

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SA income threshold (single person)</td>
<td>461</td>
<td>477</td>
<td>477</td>
<td>542</td>
</tr>
<tr>
<td>SA income threshold (per capita in family)</td>
<td>316</td>
<td>351</td>
<td>351</td>
<td>456</td>
</tr>
<tr>
<td>SA income from 1 ha</td>
<td>194</td>
<td>207</td>
<td>207</td>
<td>250</td>
</tr>
<tr>
<td>PSA maximum</td>
<td>418</td>
<td>444</td>
<td>444</td>
<td>529</td>
</tr>
</tbody>
</table>

### Housing benefit and social assistance

Eligibility to housing support is conditional both on the size of the house and on the number of members of the household. Additionally, it is limited to those with incomes per person below 125 percent of the minimum pension (175 percent for single adult households). The benefit is calculated as the difference between housing expenditures and a specified percentage (depending on household size) of household income. Over 2006–14, the eligibility criteria and housing benefit rules did not change significantly, except for a policy implemented in 2014 that entitled those eligible for the housing benefit to a small energy supplement.

Social assistance in Poland targets the most disadvantaged low-income households. It comprises principally the permanent social assistance (PSA) and temporary social assistance (TSA). PSA is granted to adults who are permanently unable to work with income per capita below the SA income threshold (see Table A5.1.5). The PSA is calculated as the difference between the income threshold and income per capita. The maximum value of assistance has increased from Zł 418 in 2005 to Zł 444 in October 2006 and has been set at Zł 529 (U.S. $135) since October 2012. During this period the income threshold increased from Zł 316 (U.S. $81) per capita to Zł 456 (U.S. $116). Temporary social assistance is granted in situations of long-term sickness, disability, or unemployment. It is subject to the same income criteria as the PSA, but only 50 percent of the difference is guaranteed to the recipient, with the other half left to the discretion of local authorities. Eligibility for social assistance is additionally subject to an asset test conducted by social workers.

### Indirect taxes

VATs are a major component of indirect taxes, contributing about 36 percent of total tax collected in 2014. VAT is levied at a standard rate of 23 percent (up from 22 percent in 2011) on most goods and services. Reduced rates of 5 or 8 percent are imposed on supplies, such as certain foods, medicines, hotel and catering services, certain transport services, and municipal services. A rate of 0 applies to the intra-community supply of goods, exports of goods, some international transportation, and related services. Finally, some financial, medical, and cultural services are exempt. Excise taxes are also relatively important, contributing 3.4 percent of
GDP in 2014. They are levied on goods that are deemed to be harmful for health reasons. Goods subject to excise duty include energy products, alcoholic beverages, and manufactured tobacco products, based on the legislation of the European Union.

**Public spending on health and education**

Education and health spending amounted to 9.9 percent of GDP in 2014. Public schooling from kindergarten through vocational and high school are co-financed by central and local government budgets. Local administrations receive an educational subsidy from the central budget according to the number of pupils. In addition, local governments independently decide the local level of expenditures, and most spend more than the educational subsidy received from the central budget. Tertiary education is subsidized by the central government, with public universities receiving a teaching subsidy according to the number of enrolled students that accounts for about 70 percent of total revenue. Poland’s health care is based on a compulsory general health insurance system. Subsidized health services are provided to Polish residents who are covered by the general health insurance.
Endnotes

1 Equality of opportunity characterizes a situation in which the distribution of an outcome (such as income or standard of living) is independent of circumstances (Romer 1998). Equal opportunities level the starting positions, with everybody facing the same potential to achieve the outcomes of their choosing. Equality of opportunity is a fundamental pillar of the social contract between citizens and their government. Economic institutions — the rules of the game of markets and public policy — then work together to create inclusive growth. However, if inequality of opportunity is high and the rules of the game (which translate opportunities into outcomes) are unfair, inclusive growth will be uncertain.

2 The share of the population living below U.S. $5 a day in purchasing power parity terms declined from 14.3 to 7 percent between 2005 and 2008, and further to 6 percent by 2014 (Figure 5.1). The share of the population living below U.S. $10 a day declined from 51 to 36 percent between 2005 and 2008, and further to 30 percent by 2014.

3 Polish Household Budget Survey data. Throughout this chapter we use recalibrated grossing-up weights that adjust the original weights published by the Polish Central Statistical Office (GUS) for the age structure and income sources. For details of the methodology see Myck and Najsztub (2015), and for more details and comparison with results using original weights see Myck and Najsztub (2016).

4 The increase of average wage, in real terms, was in line with the increase of real GDP.

5 Myck and Najsztub (2016), based on Polish Household Budget Survey data.


7 Company-level collective agreements require the existence of trade unions. Most companies, though, are small and medium-size enterprises employing fewer than 20 people, and are therefore not obliged to introduce remuneration regulations as this obligation applies to employers who have at least 20 employees.

8 In practice, few EU member states have a fully centralized or fully decentralized wage setting system. In most member states, wage bargaining between unions and employers takes place at several levels (national, industry or sector, and company level).

9 The indicators used in this section have been drawn from the World Development Indicators beginning with either 1980, 1990 or — in the absence of data for a specific country in one of these years — from either one or two adjacent years (earlier or later).

10 The relationship between human capital and level of earnings is well-established in the literature (Barro and Lee 2013, Becker and Tomes 1986).

11 PISA results allow one to assess equity in education systems and interactions between student performance and socioeconomic status, because the assessment collects information on both performance and student background information using the OECD’s Index of Economic, Social and Cultural Status (ESCS Index). As expected, the higher the ESCS, the better the performance.

12 Chile and Poland benefited significantly from a demographic dividend as a large share of its young population entered the workforce.

13 Note that infant mortality rates were still a big issue in other HICs such as the United States in the 1980s and 1990s (Social Science and Medicine, Meyer and Sarin 2005).

14 The number of physicians includes general practitioners and specialists actively practicing medicine during the year in both public and private institutions. Density of physicians is defined as the number of active physicians per every 1,000 people.

15 Based on direct payment data (including EU budget support and state budget top-ups) available from the Agency of Modernization and Restructuring of Agriculture: http://www.arimr.gov.pl.

16 The share of direct payments in agricultural income ranges from a few percent to several dozen percent, with either 1980, 1990 or — in the absence of data for a specific country in one of these years — from either one or two adjacent years (earlier or later).

17 This perception and the significance of the relative status can be linked to the Easterlin paradox, where society as a whole is not becoming happier as it becomes richer, because at any given moment richer individuals are happier than poorer ones.

18 Figure 5.30 shows the overall effect on inequality from market to final income using the CEO approach (Lustig forthcoming) for countries for which the analysis is available. This approach combines the effects of direct taxes and transfers with the distribution of indirect taxation and distribution of expenditure of public health care and education (Goraus and Inchauste 2016).

19 The decomposition in Figure 5.31 follows the method proposed by Bargain and Callan (2010). The method relies on distributional neutrality of wage-related indexation of the tax and benefit parameters and is suitable therefore only to analysis of inequality and relative poverty measures.

20 This assessment holds whether pensions are treated as deferred income (with corresponding contributions as savings) or as social transfers (with the corresponding contributions as taxes).

21 In addition, self-employed that are running their own business can pay contributions based on 30 percent of national minimum wage in the first two years since starting the business.

22 In 2016, following the recommendation of the Constitutional Tribunal, the government implemented a number of changes to the operation of the Universal Tax Credit. The value of the UTC has been increased for individuals with lowest incomes (between 3091 PLN and 11000 PLN per year) and it is gradually withdrawn for those with annual incomes exceeding 85528 PLN per year to be completely withdrawn for those with annual incomes of 127 000 PLN.

23 The values of most means tested benefits have since been increased as of October 2015.
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Ruiz-Tagle, J. and D. Contreras 2014. CEQ Masterworkbook: Chile, October 25, Tulane University. (Revised April, 2015).


