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Poland 2030

A chance to join the
economic big league



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economic big league

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Foreword

The Polish economy has been growing non-stop for more than a quarter of a century now. Since joining the European Union in 2004, Poland's GDP, measured in purchasing power parity, has increased by an average of four percent a year – one of the best performances in the European Union.

McKinsey & Company, in cooperation with Forbes, has written the report you have before you with a dual purpose in mind. Not only do we analyze the source of Poland's spectacular growth, we point out the even greater potential for further growth that Poland enjoys in the years ahead. Our research shows that the country has the chance to grow as much as five percent a year in the coming decade. On the following pages we present our detailed analysis and list the actions that need to be taken in order to exploit this opportunity.

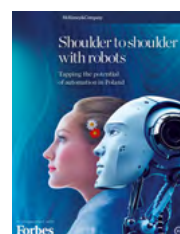
Poland 2030: A chance to join the economic big league reflects McKinsey & Company's deep commitment to the development of the Polish economy and its success in the international arena. It aims to present a fact-based perspective on how Poland's development over the next decade can be accelerated with the help of investment in innovation and other measures. The study develops the arguments presented

in our earlier report *Poland 2025: Europe's new growth engine* and the joint publications with Forbes magazine *5 opportunities for Poland*, *Digital Poland*, *The AI revolution* and *Shoulder to shoulder with robots*.

We would like to thank Paweł Zielewski, Editor-in-Chief of Forbes, for his inspiration and contribution to this study. We are also grateful to the McKinsey Global Institute, in particular Jan Mischke (Partner in Zurich) for his knowledge, insights, inspiration and tips.

The work on this report was led by Marcin Purta, Managing Partner of McKinsey in Poland, Tomasz Marciniak (Partner) and Oskar Sokoliński (Associate Partner), together with the consultants Agnieszka Czabańska-Zielińska, Krzysztof Zdobylak, Sławomir Wójcik, communications experts Joanna Iszkowska and Milena Malinowska, and Małgorzata Leśniewska from our Graphics team.

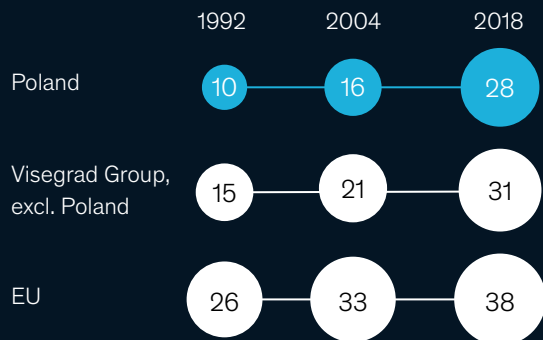
We are also grateful to numerous other individuals for their contributions, especially Daniel Boniecki (Senior Partner), Wiktor Namysł, Dawid Rychlik and Tilman Tacke (Partners), Borko Handjiski and Margaux Constantin (Associate Partners) and members of the McKinsey Research and Analytics team.



Key findings

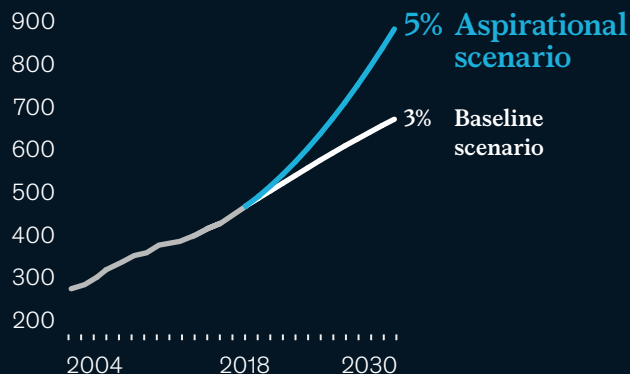
Prosperity has been growing uninterrupted in Poland for the last 28 years

GDP per capita in USD '000 (at PPP)



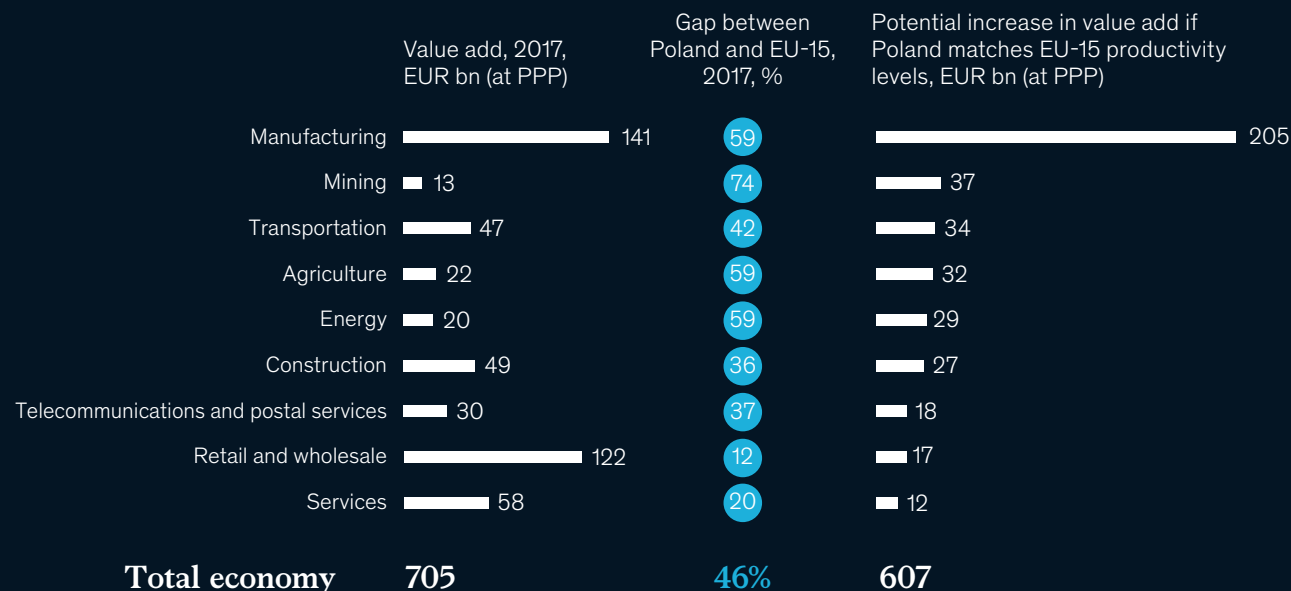
Poland has the potential to double its GDP by 2030

GDP, EUR bn



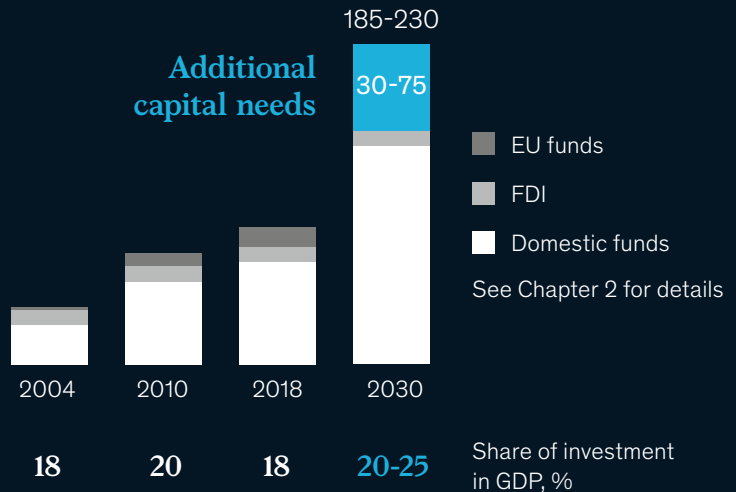
To achieve the aspirational scenario, Poland could focus on 5 key areas

1 Close the productivity gap between Poland and Western Europe (EU-15)



2 Boost investment

For investments to reach a level of 20-25% of GDP in 2030, Poland may need an extra EUR 30-75 bn



3 Increase innovation

	Spending on R&D, % GDP	Score in World Innovation Index	Level of cooperation between businesses and academia
EU average	2.1	50	52
Visegrad Group, excl. Poland	1.4	46	42
Poland	1.0	42	37

4 Ensure an adequate supply of skilled workers

By 2030 the working-age population will fall by...

Therefore participation in the workforce would need to grow by...

... in order to maintain the same size workforce (no. of workers)



5 Support business, enhance public services and protect the environment

Average time needed to resolve civil and commercial cases in courts of the first instance

Poland's ranking in the EU in terms of reliability of the power grid

Share of renewables in the production of electricity in Poland

232 days

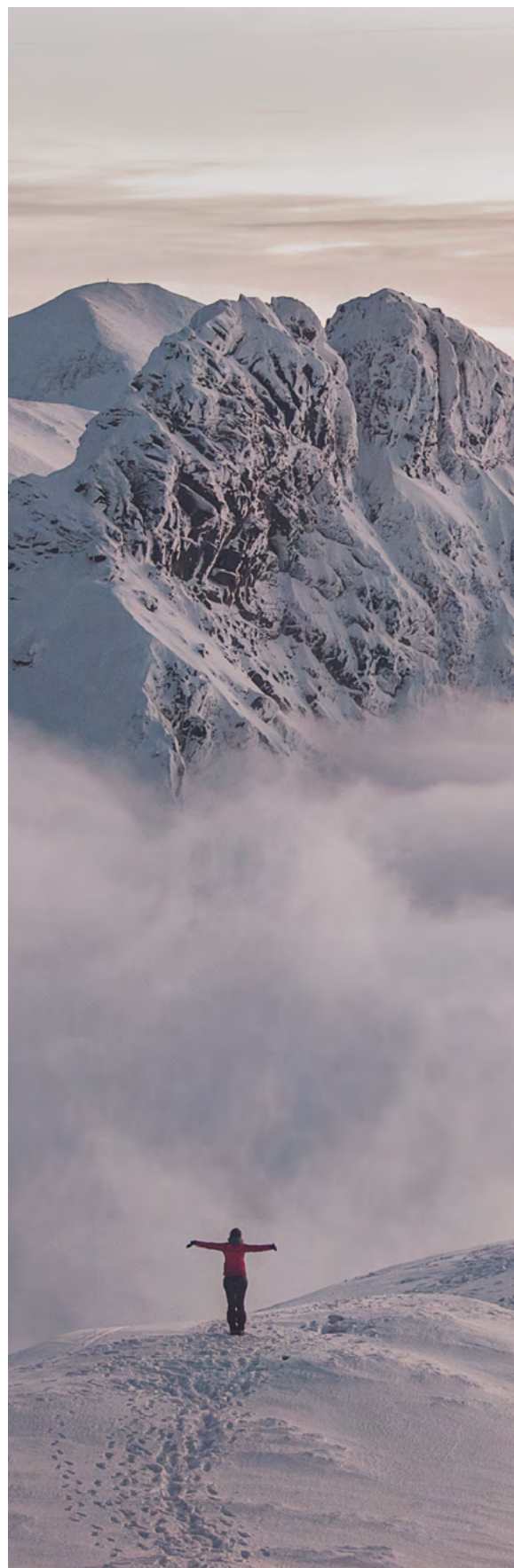
27th

12%

Source: IMF, McKinsey Global Growth Model, Eurostat, GUS, Doing Business, Civil and Environmental Engineering Reports, Global Innovation Index, NBP

The development of the Polish economy

The development of the Polish economy over the past few decades is a remarkable achievement. Most noteworthy of all, perhaps, is the fact that the country's economy has grown over the last 28 years at an average rate of four percent a year, while limiting disparities in salaries. To ensure future growth, Poland needs a cautious fiscal policy so it is even better prepared for any slowdown in global economies.

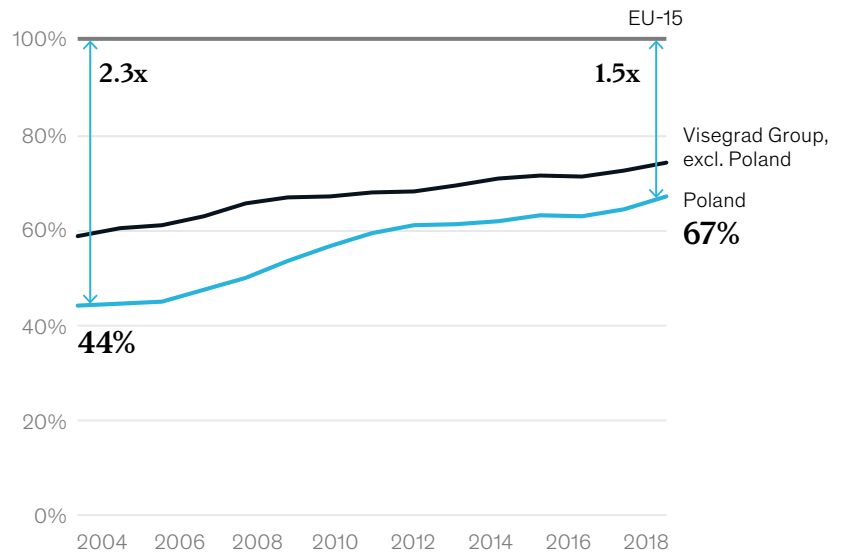




View from Wołowiec, Tatra Mountains

Poland's GDP is growing quickly and stably, closing the gap to Western Europe (EU-15) faster than the rest of the Visegrad Group^a

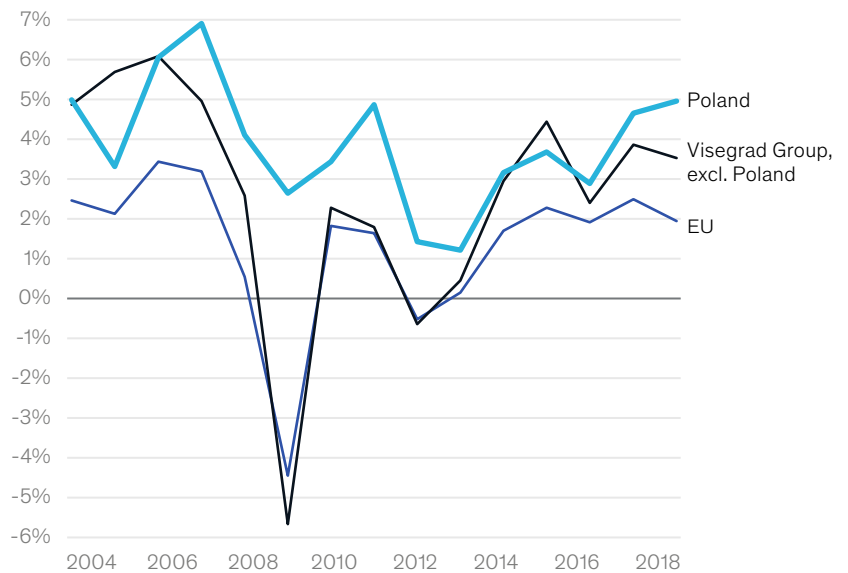
GDP per capita (at PPP) vs. EU-15, %



^a Visegrad Group, excl. Poland (Czech Republic, Slovakia, Hungary)
Source: OECD

Poland's economy has grown each year since joining the EU, which is unusual even among developing countries

Real GDP growth, %



Source: IMF, World Economic Outlook

The speed with which Poland has grown in terms of GDP per capita is illustrated by the fact that, by 1996, Poland was no longer classified by the World Bank as a lower middle-income country. In 2009, just 13 years later, it joined the World Bank's club of high-income countries.⁶

In September 2018 the global rating agency FTSE Russell reclassified Poland as a developed country rather than an emerging market. This makes Poland one of the 25 most developed economies in the world.⁷ Moreover, Warsaw is now considered a true European capital, with GDP per capita of EUR 58,000

in purchasing power parity, similar to that of Brussels or Stockholm.⁸

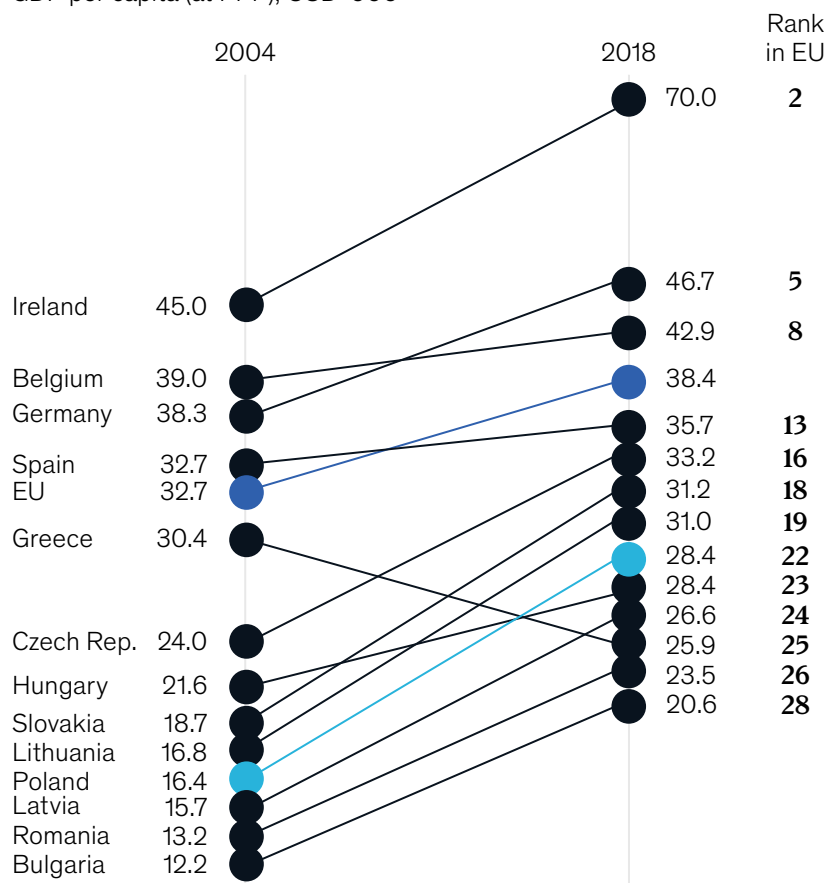
Fast, stable economic growth has brought Poland success not only on a European scale, but in a global context, too. However, while celebrating Poland's achievements, it is worth remembering that the country is still only 22nd among the 28 EU member states in terms of GDP per capita in purchasing power parity (Poland: USD 28,000 vs. EU average: USD 38,000).⁹ In other words, Poland has significant potential for further growth. To fully understand the situation of the Polish economy, we need to look at some of the specific factors influencing its development.

13 years

was all it took for Poland to be classified as a high-income country by the World Bank

Poland is ahead of Greece and Hungary in terms of GDP per capita, but in just 22nd place in the EU

GDP per capita (at PPP), USD '000



Source: IMF

This matter can be viewed from two perspectives. The first is a supply-side perspective, focusing on increases in productivity and the labor market (the number of employees and number of hours worked). From this perspective, improvements in productivity have been the main driver of Poland's GDP growth over the last 15 years. Growing productivity – in other words the value of work performed per person in employment – contributed more to GDP growth than the expansion of the labor market. This may seem surprising, as Poland's unemployment rate fell from 19 to 4 percent over the same period. However, growth in the number of employees, at one

percent a year, was much slower than the average increase in productivity, at four percent a year in purchasing power parity.¹⁰ We return to this issue in detail in Chapter 2.

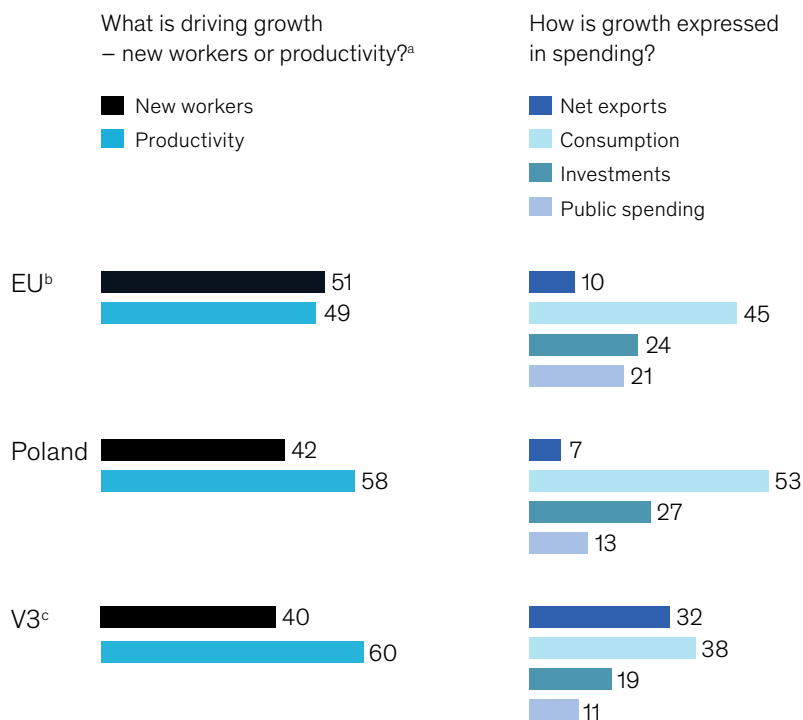
The second perspective focuses on the demand side. Here, consumption is seen as the main driver of growth. The share of consumption in Poland's GDP growth is 53 percent, higher than for other countries in the Visegrad Group (38 percent). The share of exports in GDP growth is much lower, at seven percent (vs. 32 percent).¹¹ Strong internal demand helps make the Polish economy resilient in the face of external shocks. This was particularly clear during the financial

crisis of 2009, when Poland was the only country in Europe to maintain economic growth.¹²

In sum, the development of the Polish economy over the past few decades has been impressive. Over the last 28 years, it has almost tripled in size in terms of real GDP.¹³ In fact, the economy is now so mature that Poland no longer needs to chase the European champions: It can start charting its own development path. Implementing this strategy could enable Poland to become a leader on a global scale, exploiting the full potential of digitization and avoiding any potential threats that may appear as a result of a global economic slowdown.

Poland's past economic growth is based on improvements in productivity and growth of consumption

Sources of GDP growth, 2004-18, %



^a Separates expansion of the workforce from productivity

^b Weighted average

^c Weighted average for Visegrad Group, excl. Poland. 2018 data for consumption in the Czech Republic estimated on basis of average growth rate of preceding three years

Source: Eurostat, OECD, McKinsey Global Institute analysis

Social indicators

Poland has achieved significant success in terms of its economic development as measured by GDP growth. However, it is generally agreed that GDP is neither the ideal nor the only measure of prosperity.¹⁴ Increasingly, analysts also look at other factors that make up sustainable development, such as the degree of social inequality, the state of the environment and the quality of a country's healthcare.

One of the most popular measures of general wellbeing is the Human Development Index (HDI). In addition to per capita gross national income, HDI takes into account elements related to education and health.¹⁵ In the most recent survey (2018), Poland is ranked 33rd worldwide. Looking just at European countries, this puts it below Greece and Cyprus but ahead of Lithuania. Poland's position in the ranking has not changed significantly in the last four years.

The distribution of income in Poland is becoming more and more equal.

As recently as 2004, Poland was still a socially highly stratified country. The progress achieved here is shown by the Gini index, for example, which fell from 35.6 percent in 2005¹⁶ to 29.2 percent in 2017 (higher values indicate greater disparity). The Gini index for Poland is 1.5 percentage points lower than the average for the EU,¹⁷ meaning that the country's income stratification is slightly less marked than in the European Union as a whole.

The gap between the wealthiest 20 percent of households and the least wealthy 20 percent also narrowed. The income of the wealthiest is now 4.7 times that of the poorest, whereas in 2006 – the first year that it was measured – it was more than six times higher. Significantly, income levels increased for both groups during the period, by more than eight percent a year on average for the least affluent and five percent a year for the most affluent.¹⁸

1.5 percentage points

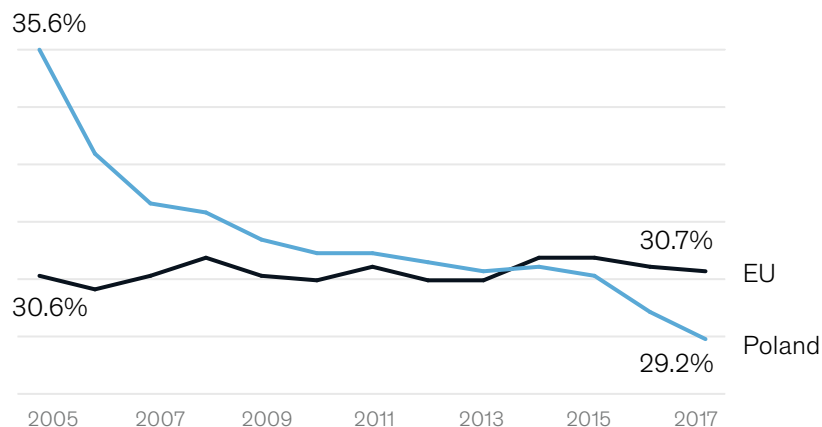
The Gini index of income disparity for Poland is 1.5 points lower than for the EU as a whole

Poland's position in the Human Development Index has risen mainly as a result of improvements in the standard of living



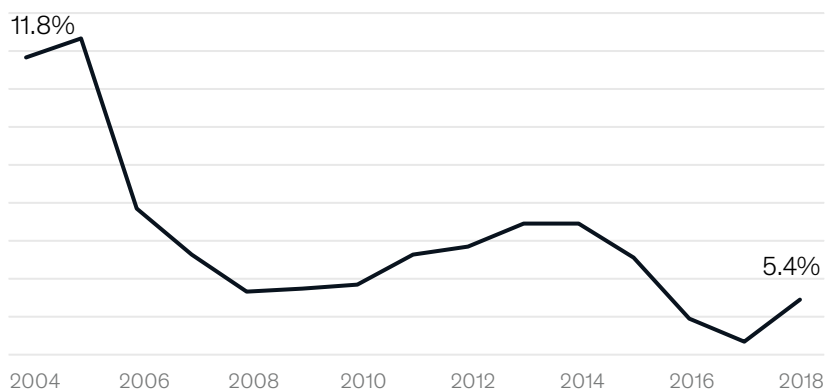
Source: Human Development Index

The gap in incomes between the richest and the poorest in Poland is closing, as shown by the declining Gini index



Source: Eurostat

Currently more than 5% of Poles live in extreme poverty, compared to almost 12% in 2004



Source: GUS

Poverty indicators have likewise improved since 2004. Currently, five percent of Poles live in extreme poverty, compared to 12 percent 15 years ago.¹⁹ Unfortunately, the downward trend that began in 2014 halted in 2018. As with many other social indicators, people living in small towns and villages and people on welfare feel the impact the most.

The same may be true for pensioners in the future, as tomorrow's pensions are likely to be much lower than the salaries enjoyed by these individuals today.²⁰ According to the OECD, Poles who entered the labor market aged 20 in 2016 will receive just 39 percent of their pre-retirement salary in the case of men and 34 percent in the case of women when they retire. In terms of the replacement rate – the size of your pension in relation to your final salary – Poland comes second-to-last in the European Union, where the average replacement rate is 71 percent.²¹

Another result of demographic change is an increasing "dependency ratio". This is set to rise in Poland as the number of employees shrinks and the number of retirees expands. In the future, there will be fewer than two people working for each child or pensioner in Poland, placing an additional burden on those in employment.

Fiscal policy

Despite the economic boom, Poland has a budget deficit and growing national debt. This may put increased cost pressure on the national budget.

Since 2004 the national debt has been growing at an average rate of seven percent (nominal) a year. In 2018 it passed the PLN 1 trillion mark. Currently Poland enjoys low interest rates and stable ratings, and the cost of servicing its growing debt is relatively low. Interest rates on Polish ten-year bonds are below 2.5 percent, a rate only seen once before in the last ten years, in late 2014-early 2015. However, even if interest rates increase no higher than their average level for 2004-2018, the cost of servicing the national debt will grow by 50 percent.

The country is growing so fast that national debt as a percentage of GDP fell five percentage points over the last three years, to just 49 percent of GDP in 2018. This compares to a prudential threshold of 60 percent under the Polish Constitution and the Maastricht

criteria. Nevertheless, if the pace of economic development were to slow down, national debt as a proportion of Polish GDP would quickly rise.

Despite the positive economic situation, Poland has a budget deficit. True, this deficit has been shrinking over the last few years, from -7.3 percent in 2010 (its highest level in the last 15 years) to -0.4 percent in 2018.²² But no fewer than 13 EU countries actually recorded a budget surplus in 2018.

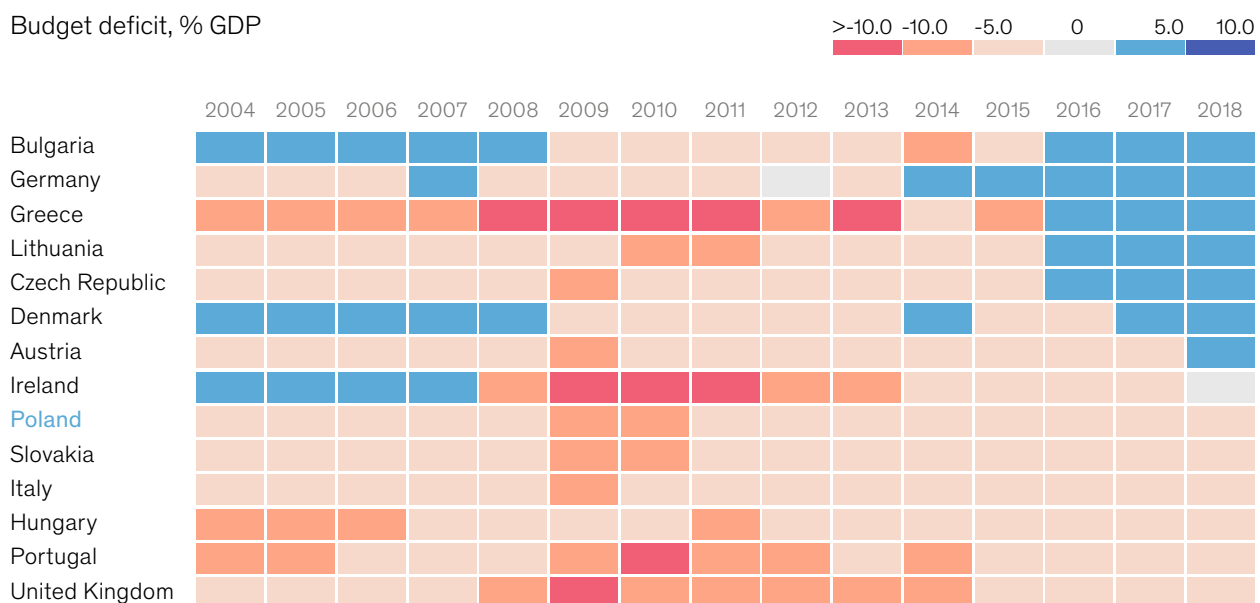
In 2018 state revenues from taxes and social security contributions grew due to the highly positive economic situation, salary increases and improvements in tax collection.²³ However, it may be difficult to cut state spending in some areas in the future – the subsidies paid to the Polish Social Insurance Fund (FUS) as a result of lowering of the retirement age in 2017, for instance. Poland may therefore have limited scope for action in the area of fiscal policy in the event of a downturn.²⁴

PLN 1 trillion

Poland's current national debt

Poland's debt continues to grow, while many EU countries have budget surpluses

Budget deficit, % GDP



Source: Eurostat

Lasting economic growth can come on the back of both investment growth and consumption growth

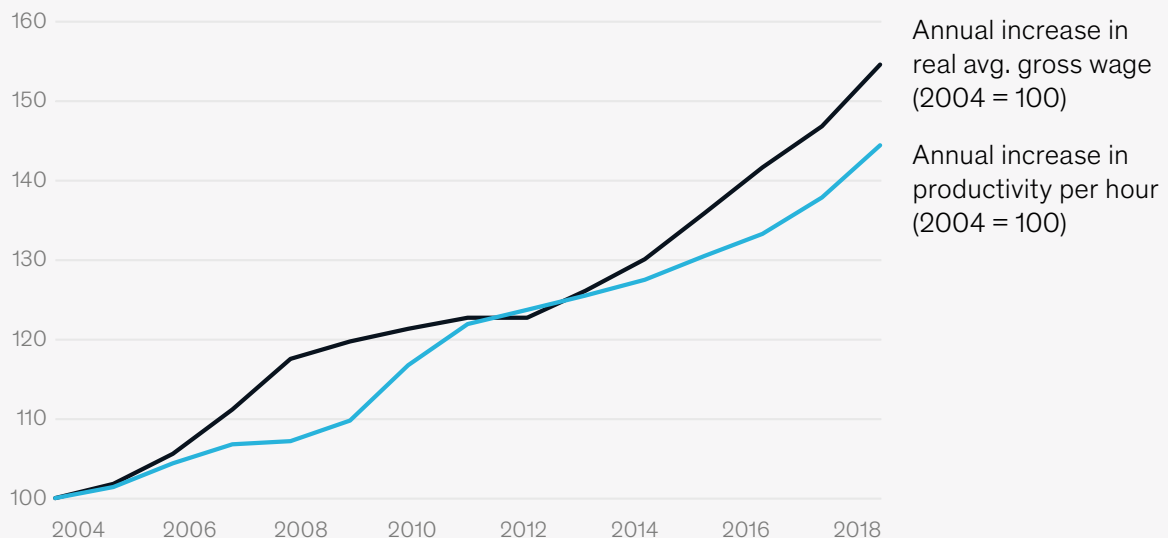
Growth in overall GDP is the result of changes in its component parts: household consumption, investments, government expenditure and net exports (the difference between exports and imports). To determine whether overall GDP growth is stable, we should therefore look at the reasons why its various individual components are changing.²⁵

As far as household consumption is concerned, sustainable growth is possible, particularly if driven by wage increases. In recent years, growth in Polish consumption resulted from the excellent situation on the labor market, strong consumer optimism and increases in household borrowing.²⁶ Over the last decade and a half, average monthly gross salaries grew by an average of five percent a year, comparable to a four-percent increase in productivity²⁷ – a sign of stable growth. However, the fact that

consumption represents a large share of GDP is more negative in countries with a low level of technological development than in technologically developed countries.

Investments can also support economic growth. This is particularly true where they are “productive” investments, that is, investments that have an impact on GDP not just in their own right but also thanks to their multiplier effect and the balance between state investments (for example, in infrastructure, enabling business to grow) and private investments (for example, in increasing productivity). Total investment in the Polish economy is low, at just 18.2 percent of GDP. Furthermore, businesses are responsible for 55 percent of investments, compared to 64 percent²⁸ in other countries in the Visegrad Group. We discuss this issue in more detail in Chapter 2.

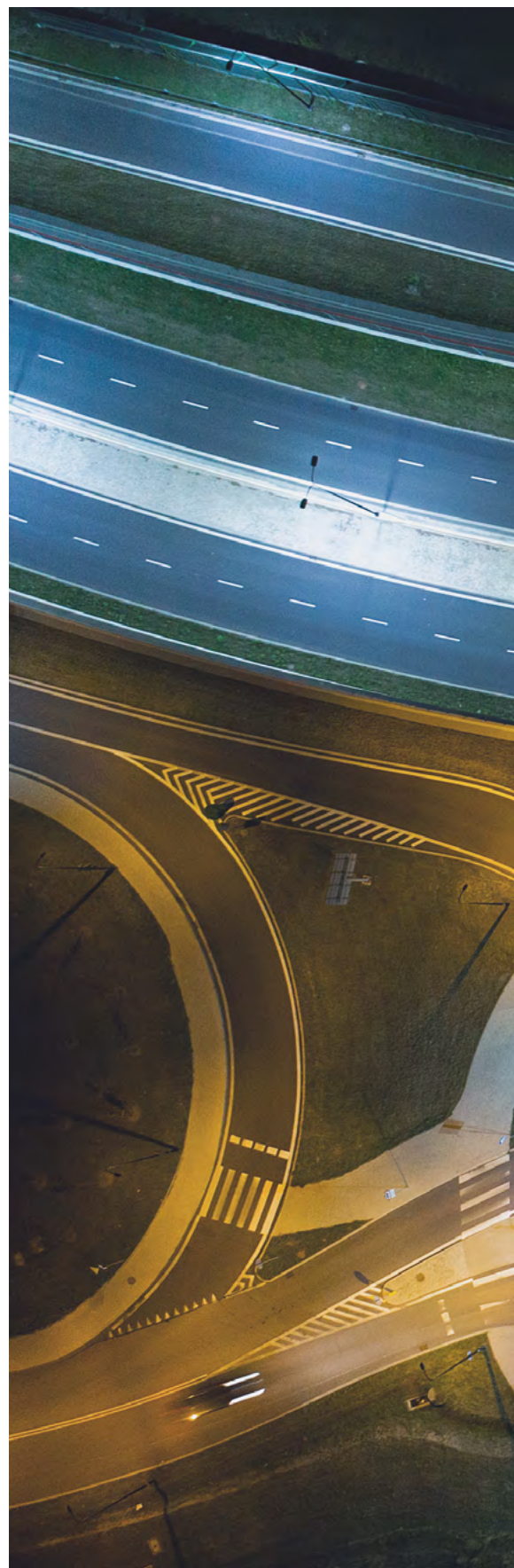
Since 2013 Polish salaries have been growing faster than productivity



Source: GUS, Eurostat

Drivers of economic growth

Poland has achieved significant economic growth in recent years on the basis of its relatively affordable skilled workforce, among other things. But as salaries rise and unemployment falls, that competitive edge is weakening. If Poland hopes to continue growing or even speed up the pace of development, it could now aim to improve its levels of productivity, which still trail those of Western Europe (EU-15), increase the level of investment and prepare its labor market for new challenges.





Gliwice

Productivity

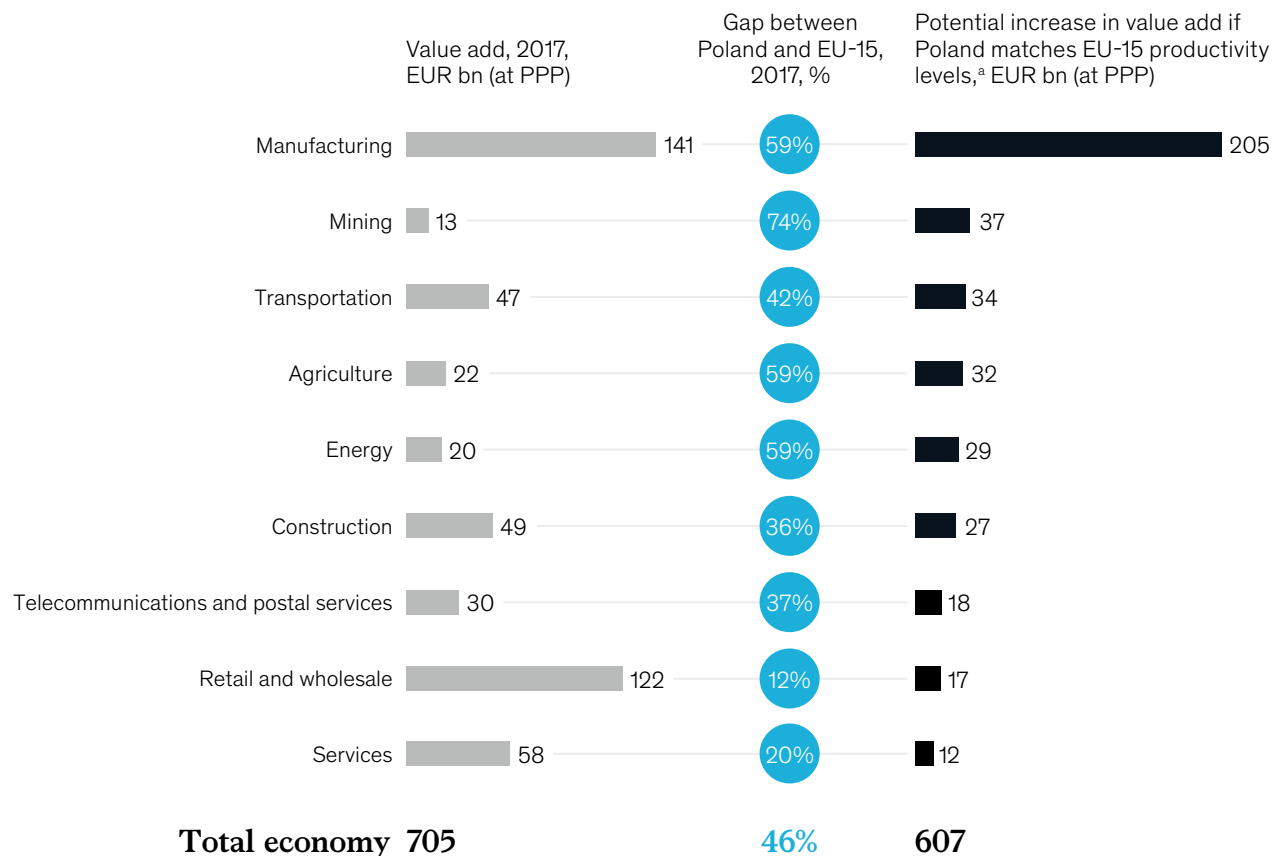
Productivity measures how well the factors of production for goods and services are being used. At a national level, it depends on the efficiency with which available resources are used, including raw materials, labor, equipment, intellectual property and capital.

Poland has made significant progress on productivity. In the 15 years since it joined the European Union, the added value of the Polish economy in purchasing power parity has grown five percent a year on average, compared to just two percent in the EU-15.²⁹ Productivity measured as added value per working hour grew

four percent year-on-year, from 13 EUR/hour in 2004 to 21 EUR/hour in 2018.³⁰

But despite this progress, productivity is still not on a par with Western Europe (EU-15), where it averages 40 EUR/hour. The sectors with the most catching up to do are mining, agriculture, manufacturing and energy, where the difference in productivity between Poland and the EU-15 is more than 59 percent. The best-performing sector, comparatively, is wholesale and retail trade, where the difference is 12 percent and productivity is only EUR 5 lower than in the EU-15 (Poland: 26 EUR/hour vs. EU-15: 31 EUR/hour).³¹

If Poland raised its productivity to the level of Western Europe (EU-15), its economy could be twice as large



^a Additional value add in the sector based on the number of hours worked in Poland and productivity levels equal to that of the EU-15
Source: McKinsey analysis based on Eurostat data

4%

The compound annual growth rate in Polish productivity

Poland's potential for further growth is significant. According to analysis by McKinsey & Company, if the country were able to match the EU-15 in terms of productivity, the economy could be twice the size, making it as big as the Italian economy today. Poland currently creates EUR 705 billion in added value in purchasing power parity; if it were as productive as the EU-15, this would add a further EUR 607 billion to that figure, taking it to in excess of EUR 1.3 trillion.

In fact, a substantial increase in productivity may be necessary in order for Poland to maintain its economic growth, especially given the situation on the labor market and the unfavorable demographic trends. In an extreme scenario in which productivity stayed at its current level, 7.2 million people would have to enter the labor market in order for Poland to achieve three percent growth a year through 2030 – and that is ignoring the expected fall in the working-age population of almost 2.1 million people.³² In other words, in this bleak scenario every single Pole aged 15-64 would have to be

economically active in order to satisfy the country's need for workers.

The McKinsey Global Institute distinguishes between two main sources of economic growth: growth in the number of workers, and growth in output per worker (productivity). Growth in productivity is driven by three main factors: investment in fixed capital, education and experience, and total factor productivity (TFP).³³ Breaking down Poland's growth in the years 2004-18 for these three factors, we find that besides the rising number of people in employment, the increase in TFP also played a major role, responsible for one quarter of total growth. This may indicate that companies are using their resources more effectively – in Poland we are mainly talking here about foreign corporations investing in intangible capital.³⁴

However, in the McKinsey Global Institute's growth model, it is the quality of human capital that will become much more important going forward. More than 40 percent of the entire economic growth between 2018 and 2030 may stem from this source. An increasing number of employees

7.2 million

people would have to enter the labor market in order for Poland to achieve three percent growth a year in 2030 without productivity growth

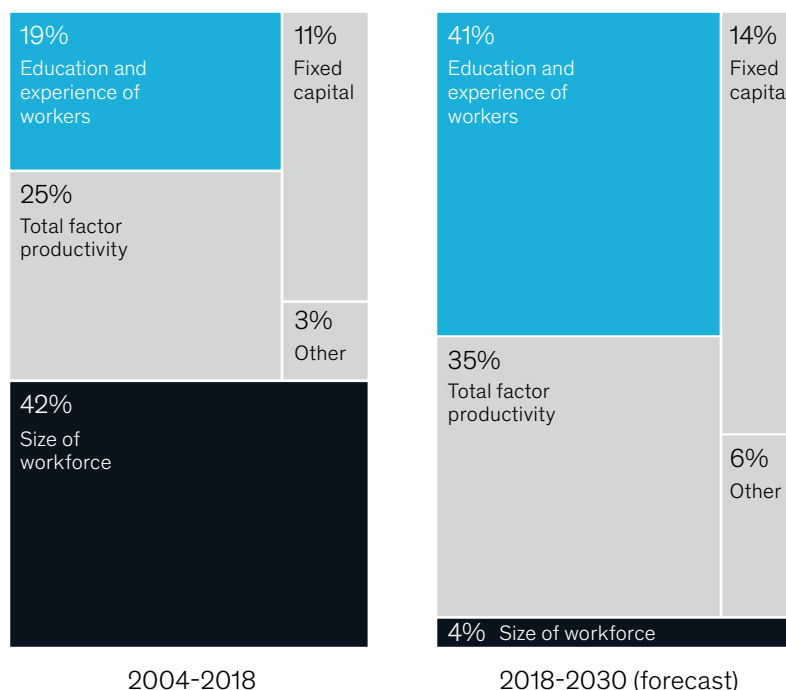
with higher levels of education, better qualifications and more experience will translate into increased productivity.³⁵

In Chapter 5 we look at some further steps that Poland could consider taking to speed up growth in productivity. It is worth noting here, however, that according to experts from the McKinsey Global Institute, productivity growth is linked to the competitiveness of the economy and represents a key contributor to prosperity. First, productivity growth and employment growth are often positively correlated; this is clear when we look at Poland, where productivity and employment have been growing side-by-side

for the last five years. Second, on a macroeconomic level, in many sectors productivity growth stems from an increase in the value of manufactured goods and an increase in corporate revenues. Third, on a microeconomic level, increased productivity within a company translates into higher profits (due to the higher value of the manufactured goods and lower costs of production), which is then passed on to customers (in the form of lower prices), employees (as higher salaries) and the company's owners (as bigger profits). This leads to increased demand, more investments and greater employment potential – generating economic growth.

Poland's economy will increasingly be driven by the education and experience of its workforce

Drivers of GDP growth



Source: McKinsey Global Growth Model

Investment

The comparatively low level of private and public investment in Poland is a limiting factor in the country's economic growth rate. Investments account for just 18 percent of GDP, compared to 20 percent on average in the European Union. In particular, private investments are few and far between, seven percentage points below the EU average.³⁶ The investments that do take place are not focused on modern technologies, digitization or research and development, but rather on construction and purchases of equipment.³⁷

In terms of investment, Poland comes 24th in the European Union. In 2008 the country achieved its highest level of investment as a

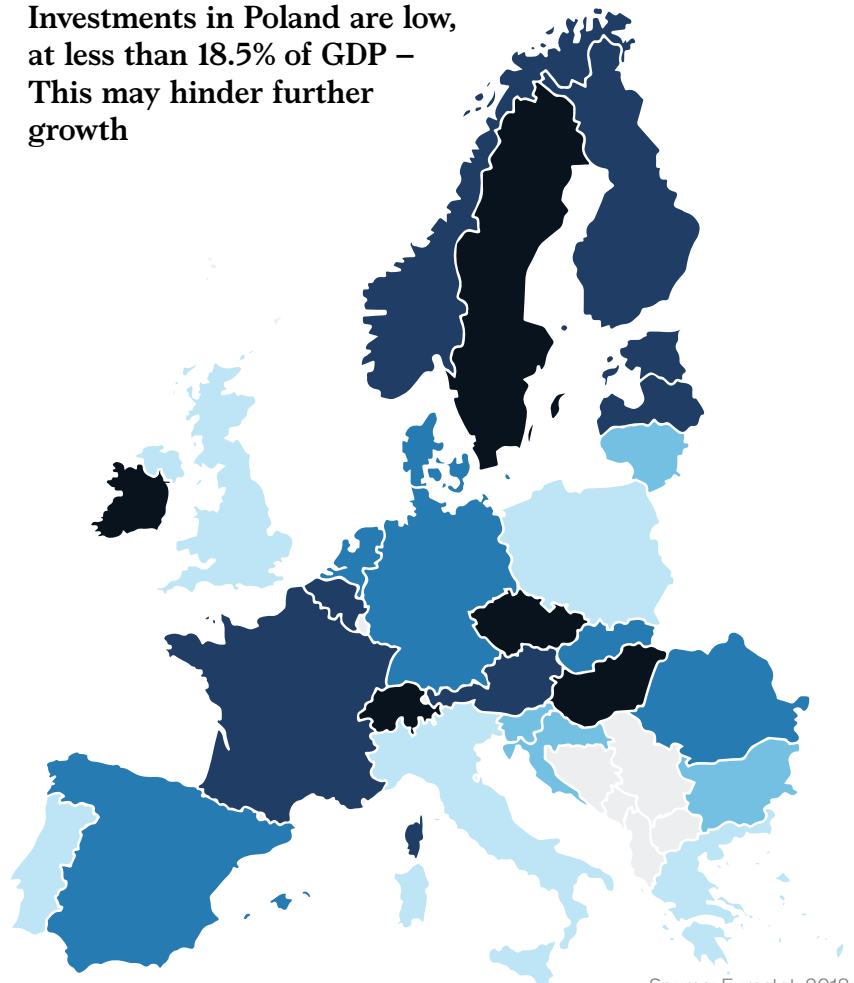
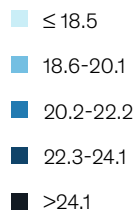
share of GDP – 23 percent – since the transformation began. However, this dropped off in the years that followed. By comparison, the three other countries in the Visegrad Group have been increasing investment since 2016 and are now at around 22-26 percent of GDP.³⁸

One positive signal for Poland is the 15 percent rise in investments recorded in the first quarter of 2019. This represents an extra EUR 2 billion compared to the same period in 2018.³⁹ If this growth rate continues, Poland may hit a level of around 20 percent of GDP by the end of 2019.

According to the OECD, the share of business investment in GDP is seven percentage points lower in Poland than in the European Union

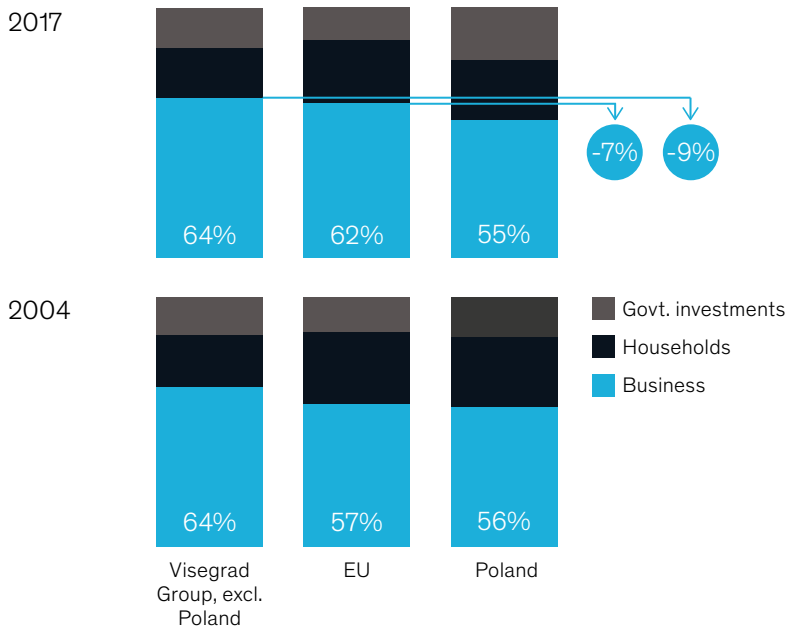
Investments in Poland are low, at less than 18.5% of GDP – This may hinder further growth

Share of investments in GDP, %



Source: Eurostat, 2018

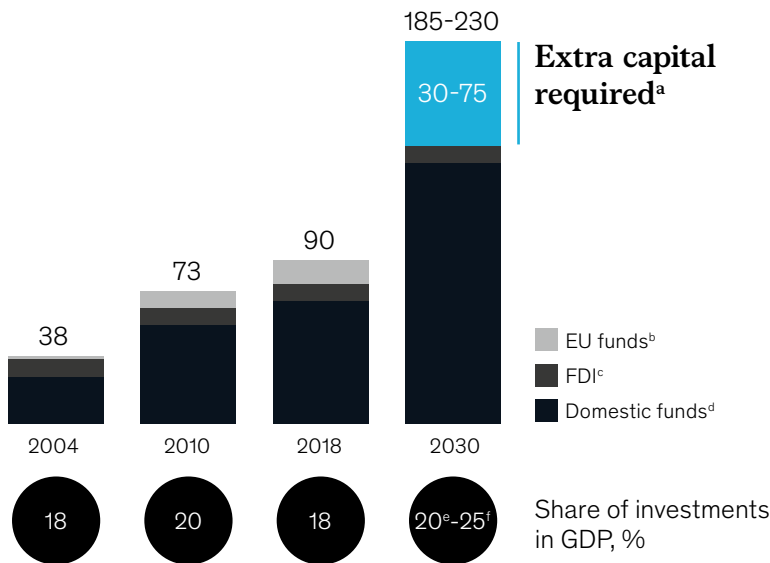
The share of investments by business in Poland is 7 p.p. lower than in the EU, and 9 p.p. lower than in the other Visegrad countries



Source: OECD

For investments to reach 20-25% of GDP in 2030, Poland may need an extra EUR 30-75 bn

Investments, EUR bn



a Calculations based on the assumed share of investments in GDP; a simplified approach, assuming among other things that foreign direct investment (FDI) is directed toward investments and does not replace domestic investments

b Assumes that 80% of EU funds are directed toward investments

c In 2030, assuming the average level of FDI seen in 2004-18

d Assuming CAGR seen in 2004-18

e Average share of investments in the EU in 2018

f In accordance with the Strategy for Responsible Development

Source: NBP, Eurostat, McKinsey analysis

as a whole, and nine points lower than in the other Visegrad countries. Of the three types of investments (investments by businesses, households and government), investments by business are the most crucial as they are the most efficient – that is to say, they generate the highest return on investment. In Poland, however, they make up just 55 percent of all investments, a level that has remained practically unchanged since 2004. This compares to an EU average that rose from 57 to 62 percent over the same period.⁴⁰ A report by the European Commission points to several reasons for this lower level of investments by business in Poland, including the large numbers of people working in the micro-business sector, which typically has a relatively low level of investment per employee,

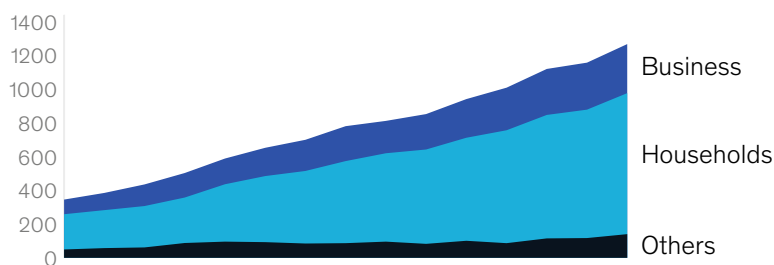
and increased uncertainty as a result of changes to the regulatory framework.⁴¹

According to estimates by McKinsey & Company, Poland could face a shortfall in the money available for investments of as much as EUR 75 billion in 2030. In Poland, this money comes from three main sources: foreign direct investment (FDI), European Union funds, and domestic funds (the remainder). FDI varies greatly – by as much as EUR 7 billion year to year in the period 2004-18⁴² – so it should not be considered a stable source of financing. Moreover, incoming FDI does not necessarily translate directly into growth in the local economy, as the money may easily be turned into savings, consumed or transferred to another country.

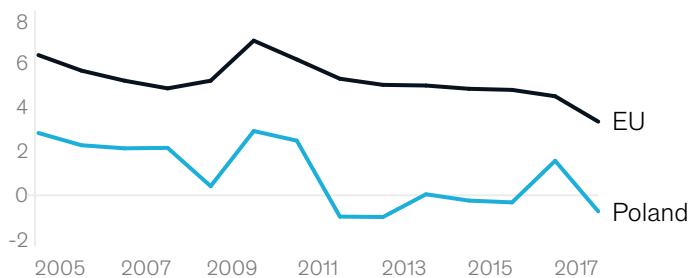
Moreover, EU funds may be reduced from 2021 and could disappear entirely by 2030. Various political factors and barely predictable events such as Brexit have an impact on their level. This makes local funding all the more vital. The sum of deposits by Polish households and businesses has been steadily rising since 2004, but the savings rate for households is now negative,⁴³ resulting in a narrow stream of money flowing into investments. For investments to make up 20 percent of GDP – the EU average – by 2030, Poland would have to increase its level of investment by EUR 30 billion. And to reach 25 percent – the figure in the Strategy for Responsible Development of the Ministry of Economic Development⁴⁴ – it would have to increase investments by EUR 75 billion. These figures assume that FDI will stick at its

Deposits have been growing steadily since 2004, but the household savings rate has fallen below 0%

Deposits, EUR bn

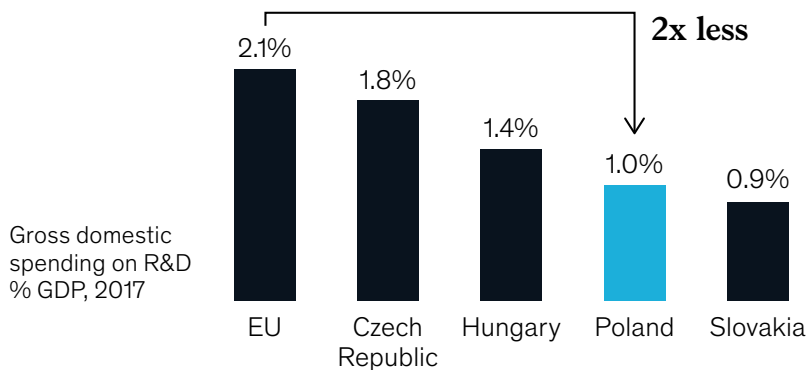


Savings, % of households' disposable income

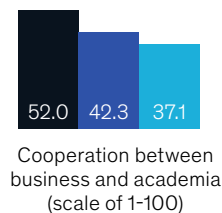
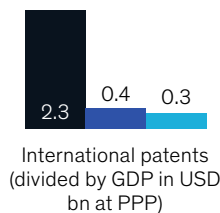
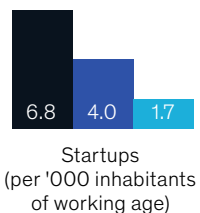
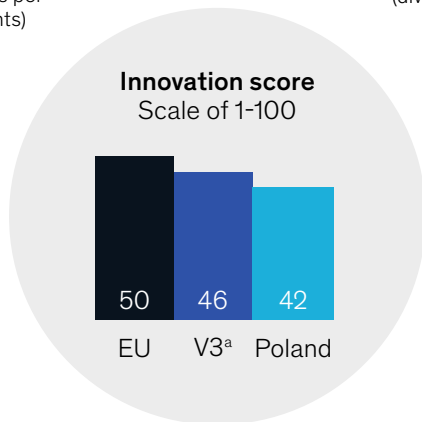
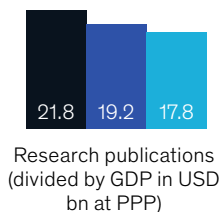
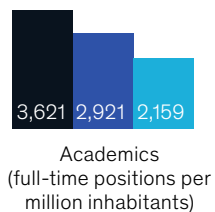


Source: NBP, OECD

The level of investment in R&D in Poland is half the EU average



Low spending on R&D in Poland results in a low level of innovation in the economy



^a Visegrad Group, excl. Poland
Source: Global Innovation Index

average level for the last 15 years, EU funds will dry up and domestic funds will grow at the same rate as in the last 15 years.

Apart from the level of investment, it is also important what the money is invested in. Polish investments are not focused on innovation and R&D (research and development). These areas attract just one percent of GDP in Poland, compared to 2.1 percent in the European Union and 2.8 percent in the United States.

This low spending on R&D leads to a low level of innovation in the economy as a whole. In the Global Innovation Index,⁴⁵ Poland scores just 42 out of a possible 100 points, compared to a score of 46 points for the other Visegrad countries and 63 points for EU forerunners such as the Netherlands and Sweden. That puts Poland right down at 24th place within the European Union. Poles establish fewer startups and own fewer international patents. Moreover, cooperation between business and academia is limited in Poland, the country coming 86th out of 120 for joint research by companies and universities in the Global Innovation Index.⁴⁶ On a scale of one to 100, Poland scored just 37 for such partnerships. The European Commission points to limited resources, complicated procedures and weak project management skills on the part of academics as the main reasons for this state of affairs.⁴⁷

The factors outlined above result in a situation where Polish companies have a low level of capitalization and can count very few leading global players among their number. The Polish market is in fact about the same size as that of Sweden or Switzerland, but just seven of the largest public companies in the world come from here, compared to 26 from Sweden and 41 from Switzerland.⁴⁸

Labor market

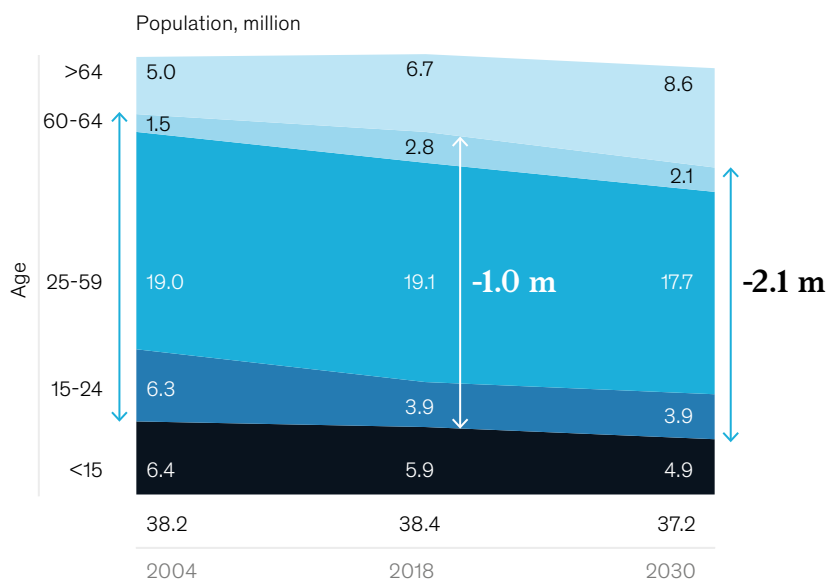
The Polish labor market needs new growth levers. In the past, the main source of additional employees in Poland was the falling unemployment rate, but this source is now drying up. These changes, combined with negative demographic trends and the low level of participation in the workforce, could pose a serious threat to Poland's ability to maintain its rapid growth rate.

Since 2004 the size of the labor force (people in employment plus people currently unemployed but actively seeking employment) has not changed substantially. However, the employment rate has risen from 57 to 72 percent, almost reaching the EU average of 73 percent. In the same period, the unemployment rate has dropped from 19 percent to just four percent, making it one of the lowest in the EU.⁴⁹ Of course, this has a positive impact on society. But

it also means that the country has to look elsewhere to boost the size of its workforce. Poland also faces the challenge of demographic change: A declining rate of natural increase means that in the years 2004-18, the number of people of working age (15-64 years old) fell by one million and is expected to shrink by a further 2.1 million by 2030.⁵⁰

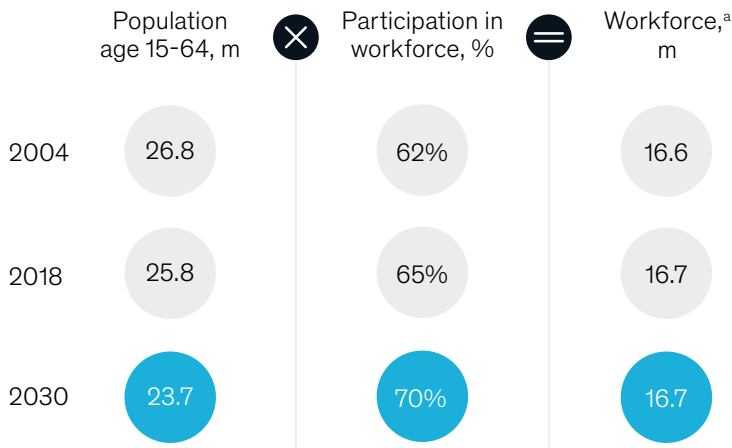
The combination of these two factors leads to an imbalance between demand (workers looking for employers) and supply (employers looking for workers). This means problems for employers trying to find a workforce. Companies in the construction and manufacturing industries are already complaining that the shortage of workers is one of the factors limiting the level of production.⁵¹ The scale of the problem is indicated by the fact that at the end of 2018 there were 140,000

Over the last 14 years, the working-age population (age 15-64) has fallen by 1 million – By 2030 it will fall by a further 2.1 million



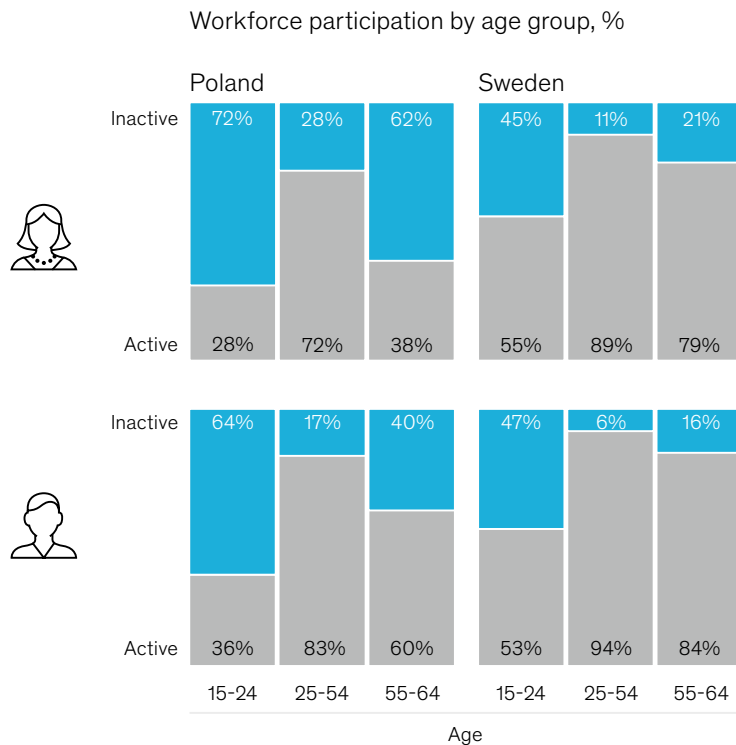
Source: GUS

To maintain the size of the workforce, Poland needs to either increase the participation rate to 70% or leverage migration



^a Economically active individuals aged 15-64
Source: GUS, McKinsey analysis

Participation in the workforce is much lower in Poland than in Sweden



Source: Eurostat, GUS

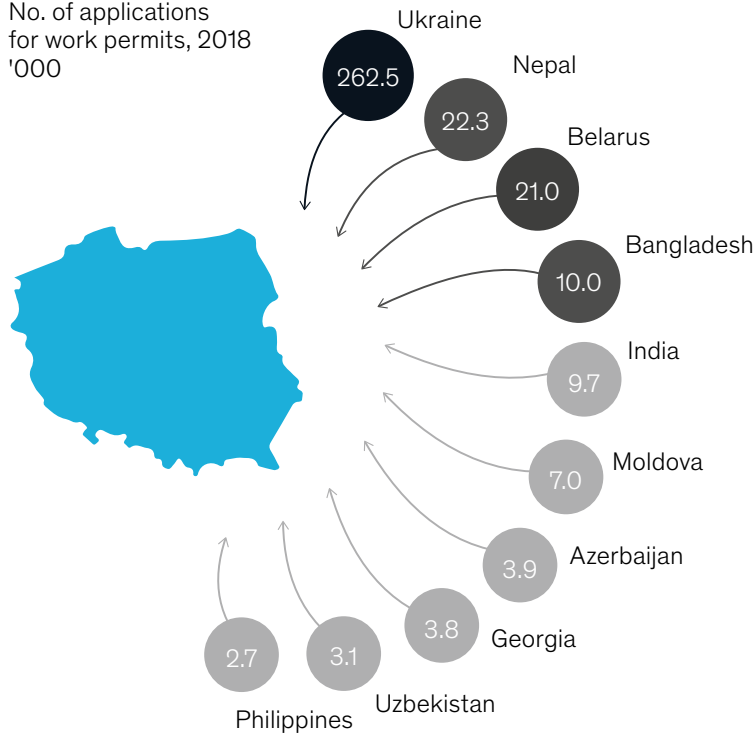
vacancies in Poland – and these were for the most part jobs that did not require specialist qualifications.⁵²

The solution could lie in increasing the number of people on the labor market by activating economically inactive persons, or in ensuring positive net migration (more people of working age coming to the country than people leaving it). The economic activity rate in Poland is 65 percent,⁵³ compared to 74 percent on average in the European Union. Sweden leads the way here, with up to 83 percent of people of working age actually working.⁵⁴ The biggest differences between Poland and Sweden are found for young people, seniors and women, where the labor market participation rate is much lower in Poland. In Chapter 5 we discuss potential strategies for getting these groups to join the workforce. Our analysis shows that if Poland managed to activate these three groups to the same extent as in Sweden, it could potentially add four million people to the labor market.

To ensure positive net migration, Poland has two potential sources of labor. The first is Poles returning home. Those leaving the United Kingdom due to uncertainty over Brexit could represent a significant group here; the number of Polish immigrants in the United Kingdom fell by 11 percent from 2017-18.⁵⁵ A second source could potentially be foreigners coming to work in Poland. In 2017 it was estimated that Poland was home to more than one million foreign workers,⁵⁶ the vast majority of them Ukrainians. The number of applications for Polish work permits by citizens of non-EU countries hit 367,000 in 2018. Interestingly, as many as 100,000 of these came from citizens of countries other than Ukraine, including Nepal, India and

People willingly come to Poland to work – not just from Ukraine, but from Asia, too

No. of applications for work permits, 2018 '000



Source: Ministry of Family, Labor and Social Policy

the Philippines. This represents a more than six-fold increase in such applicants over the last three years.⁵⁷

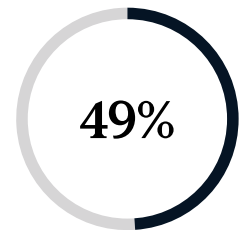
A key part of a well thought-out, effective migration policy is not just encouraging selected people to come and work in Poland, but also getting them to stay. This is especially important as it becomes easier for them to migrate from Poland to Western Europe. How big this threat is in reality is very difficult to estimate at the present time, but it is thought that as many as one third of Ukrainians currently working in Poland are considering moving to Germany once the procedures for employing non-EU citizens are simplified.⁵⁸

Automation

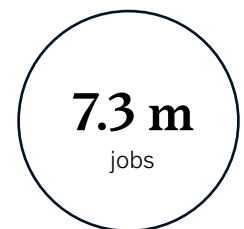
Automation is rapidly changing the global labor market. However, it is not a solution to the challenges related to employment and the shortage of skilled workers. Analysis by McKinsey⁵⁹ shows that as much as 49 percent of working time in Poland (equivalent to 7.3 million full-time equivalents or FTEs) is spent on activities that could be automated by 2030 using technology that already exists today. But the percentage of activities that will in reality be automated will arguably be lower due to technological, economic, legislative and social barriers.

While some of the activities currently performed by humans will be taken over by machines, the process of

automation could potentially create many new jobs, too. There are a number of reasons for this. First, new technology boosts productivity, which allows companies to lower their prices, raise wages and increase profits. This in turn stimulates demand, creating additional jobs. Second, the automation technologies themselves give rise to new jobs, such as the data analysts needed to devise automation algorithms. Third, new jobs emerge as the different global trends interact, such as the ageing population and technological advances. It must not be forgotten, however, that these trends also represent challenges, requiring investment in giving employees the necessary skills.



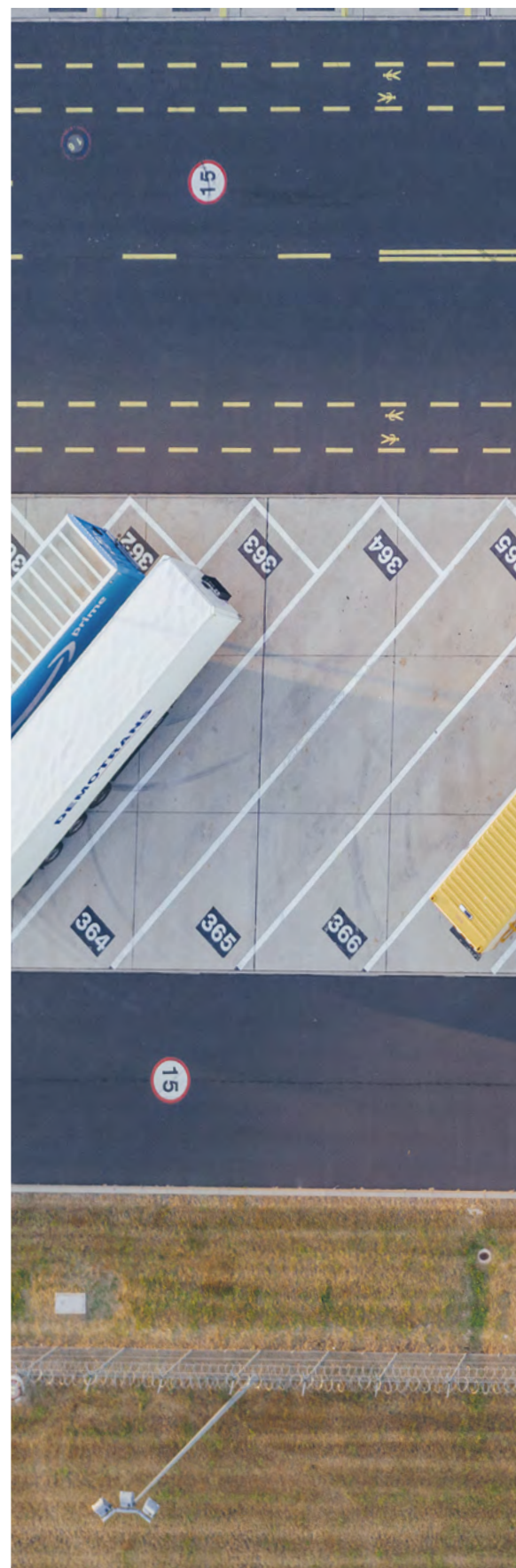
of working time in Poland is spent on activities that could be automated by 2030, which is equivalent to

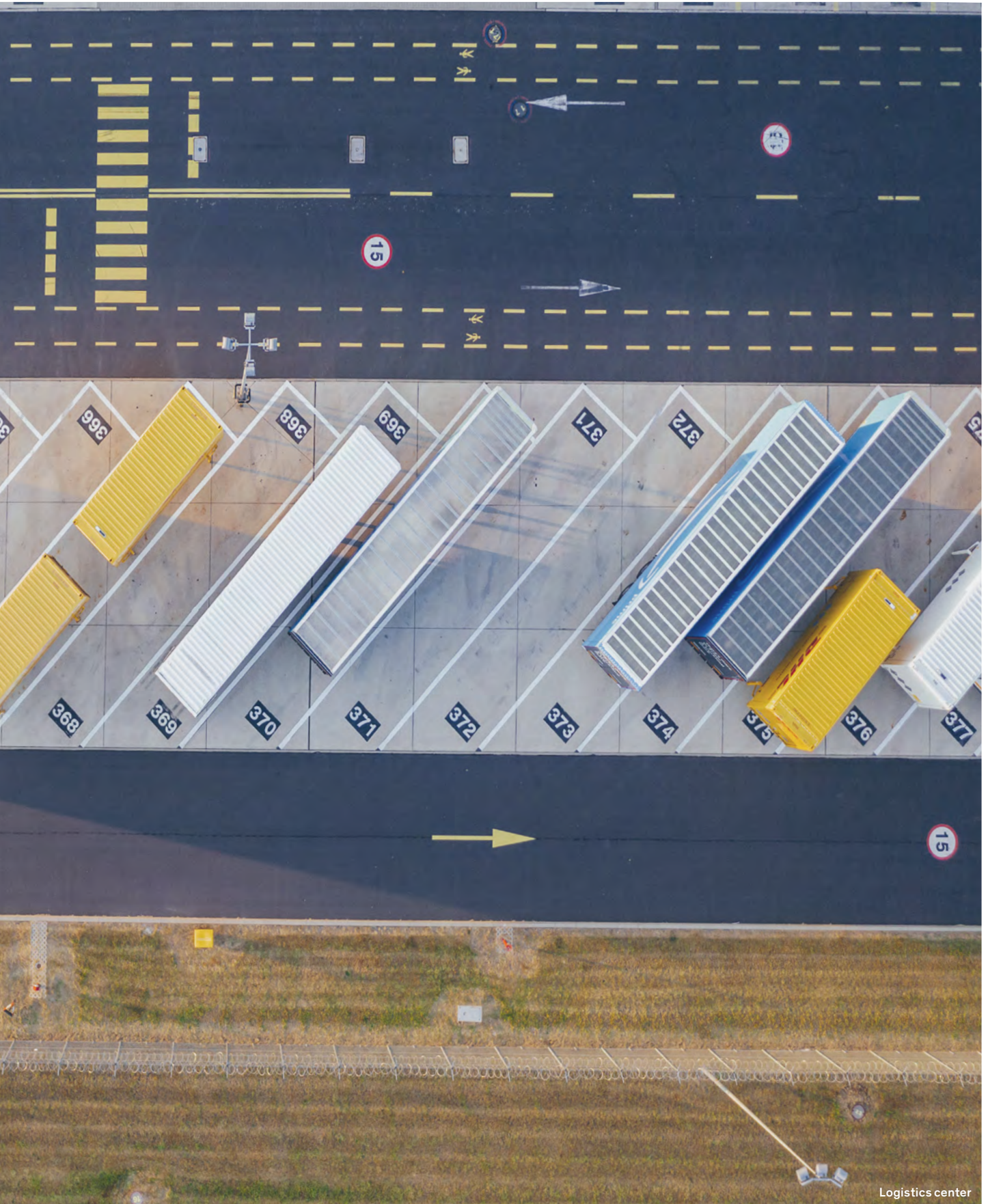


Source: McKinsey & Company study
Shoulder to shoulder with robots

Factors supporting economic growth

In the previous chapter we looked at Poland's chance of doubling the size of its economy by 2030 by maintaining a rapid rate of growth while increasing productivity. But this depends on many factors supporting economic growth – factors such as the ease of doing business, an effective system of taxation, a stable banking sector enabling investment financing, and up-to-date transportation, energy and telecommunication infrastructure. Some of these factors have shown a marked improvement in recent decades. Others still have a way to go.





Logistics center

Business environment

The best environments for business feature high-quality, effective regulation in all key areas affecting entrepreneurs, from founding a startup and taking out loans to trading internationally and dealing with insolvency.⁶⁰ Many procedures in Poland need improvement and streamlining in order for the business environment to be considered truly favorable for entrepreneurs.

Poland comes 33rd in the World Bank's Doing Business 2019 ranking of 190 countries, which focuses on the ease of starting and running a business. It is worth mentioning, however, that no country in the ranking – even New Zealand, which heads the list – scores top marks in every area. The key to success is

coming top in somewhere between three and five areas, and in the top ten in the next two or three areas. Achieve such results and you encourage both foreign investors and your own citizens to do business.⁶¹

Poland's position low down the ranking is mainly due to its low score in the area of "ease of starting a business", where it ranks 121st. The average time needed to set up a limited company in Poland is 37 days. Compare this to Denmark, which tops the ranking, where the same process takes just three and a half days. Poland has made some improvements here, such as the possibility of setting up a company online,⁶² but in many cases the number of steps and time needed to complete them is still

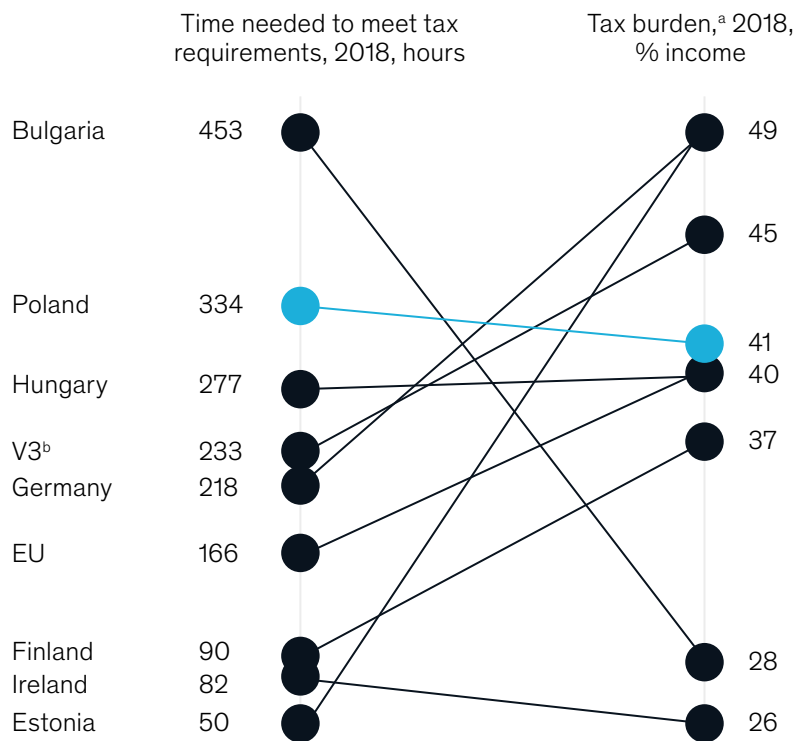
37 days

The average amount of time needed to set up a limited company in Poland

334 hours

The average time spent by Polish firms dealing with tax-related procedures each year

The complexity of the Polish tax system is a greater challenge for companies than the size of the tax burden



a Including corporate income tax, social security payments and taxes on financial transactions
 b Avg. for Visegrad Group, excl. Poland
 Source: World Bank: Doing Business 2019

excessive. For example, registering a company in Poland's National Court Register (KRS) can take up to four weeks.⁶³

The Polish tax system also poses challenges to those doing business. The World Bank calculates the total tax burden for business (including corporate income tax, social security payments and property taxes) at around 40 percent, which is average for the European Union. However, Polish companies spend as much as 334 hours a year on average dealing with tax-related procedures, a figure exceeded only by Bulgaria among the EU countries. The average for OECD countries (160 hours) is less than half that of Poland, and in Estonia – number one in the European Union

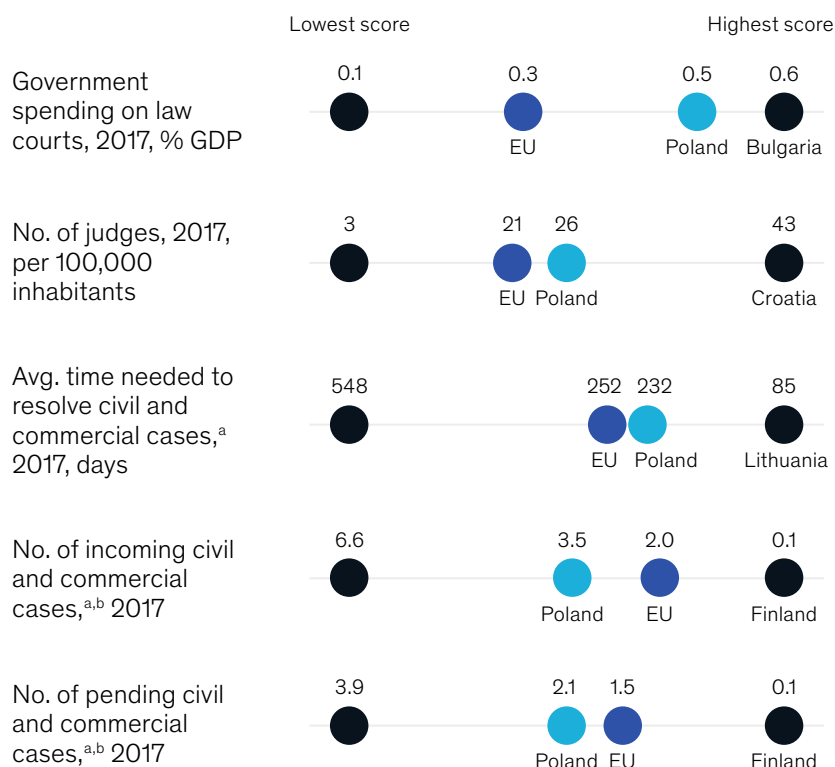
– dealing with taxes is more than six times faster (50 hours).

The Polish judicial system, despite significant spending on it, is only moderately efficient and is burdened with a large number of cases. According to the World Bank, an efficient judicial system is an important factor in facilitating business as it creates a sense of security, lowering barriers to trade and investment and speeding up dispute resolution. The fact that Poland spends 0.5 percent of GDP on its courts (the second highest level in the European Union) and has 26 judges per 100,000 inhabitants (compared to an EU average of 21)⁶⁴ would make it easier to run a business, if only it translated into a

high level of efficiency. In fact, the time needed to resolve civil and commercial cases in the first instance averages around 232 days, close to the EU average of 252 days. The leading country in Europe in this respect is Lithuania, where cases of this type take just 85 days. One of the factors pushing up the time taken to resolve disputes in Poland is the sheer number of civil and commercial cases: 3.5 per 100 inhabitants a year, compared to just two a year in the European Union on average.⁶⁵

Possible actions to improve the efficiency of Polish courts include simplifying procedures and using digital technology as widely as possible, both within the courts and in communication with the different parties.

Polish courts, despite the relatively large amount of public money spent on them, only achieve average levels of efficiency



a First instance
 b Per 100 inhabitants
 Source: Justice Scoreboard 2019

Banking sector

4%

Compound annual growth rate of assets in the banking sector over the last 15 years

The Polish banking sector is in a good position to support economic growth. The banks operating in Poland have passed European stress tests confirming their ability to resist shocks such as Brexit or a sudden stock-market crash. Moreover, they are steadily increasing their assets and the market is diversified.

Key data on the Polish banking sector shows that it is relatively well prepared for market fluctuations. According to a 2018 study, the tier 1 capital ratio (tier 1 capital is used to absorb losses when the bank is solvent) was 16 percent,⁶⁶ while the minimum required by the Basel III Accord is 10.5 percent. Banks also perform well in terms of liquid assets, with a liquidity coverage ratio (LCR) of 149 percent,⁶⁷ compared to the minimum requirement of 100

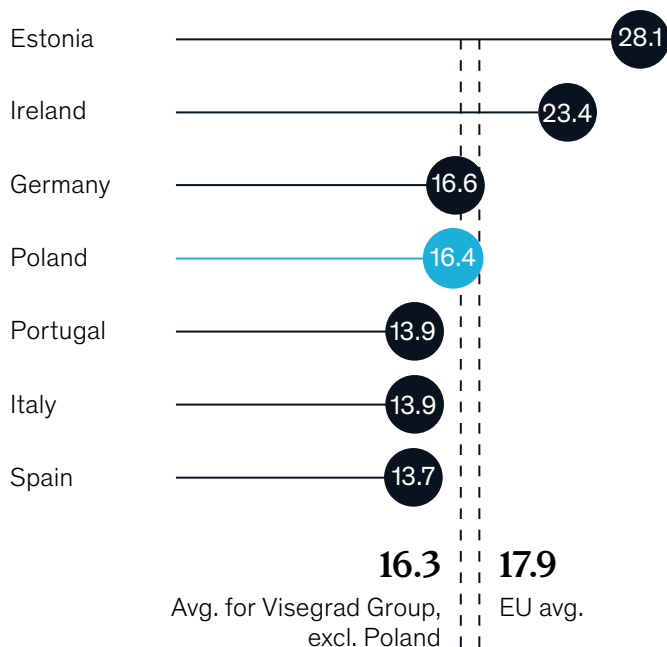
percent. One area does require attention, however: Non-performing loans (NPLs) in Poland are at 12.5 percent, twice the EU average.⁶⁸ NPLs are a normal part of banking activity, of course, but if they are too high they have a negative impact on profitability.

The Polish banking sector is growing and has the potential to continue to do so. Over the last decade and a half, it has averaged four percent growth of assets year-on-year. This rate is consistent with Poland's GDP growth but still relatively high, especially compared to most other EU countries, where the banking sector is growing by less than two percent a year, and in some cases actually shrinking.⁶⁹

The Polish banking sector has potential for further growth. For example, the loans market in Poland is

Polish banks have large capital resources

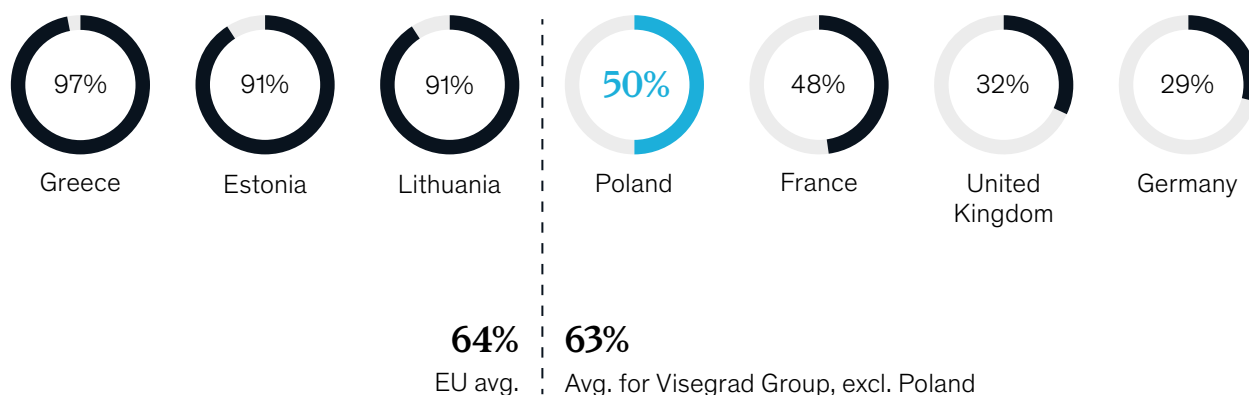
Core capital ratio, 2018,^a %



^a Regulatory Tier 1 capital to risk-weighted assets
Source: IMF

The Polish banking sector is fragmented – The 5 biggest banks own just 50% of assets

Share of assets owned by the five largest banks, 2018



Source: European Banking Association, European Central Bank

At just 7%, Polish banks generate low return on equity

smaller than the EU average, as shown by the low level of household debt: 35 percent of GDP in 2017, compared to 61 percent in the European Union.⁷⁰

The market is also rather fragmented. Thus, in 2018 the five largest banks in Poland accounted for a 50 percent market share, 14 percentage points below the EU average.⁷¹ Such fragmentation intensifies competition, but also makes it difficult to achieve economies of scale. This translates into a low return on equity (ROE) for banks – just seven percent in Poland, almost half the average profitability seen in other Visegrad countries.⁷² At the same time, a certain duality characterizes the market, with large, strong players on the one hand (the five biggest banks in terms of assets

have an ROE of ten percent) and smaller, weaker players on the other. This pushes down the ROE of the market as a whole.

The overall situation in the banking sector is positive, but maintaining stability and growth will require work. There is the risk of an economic downturn, and regulatory changes could lead to higher tax burdens or capital requirements, limiting banks' ability to expand their offer to consumers and pushing up costs. This is all the more critical as the banking sector has opened up to competition from fintech companies and other institutions outside the traditional banking sector as a result of the European Commission's Payment Services Directive PSD2.

Transportation infrastructure

1,000 km

Highways built in the 15 years since Poland joined the EU

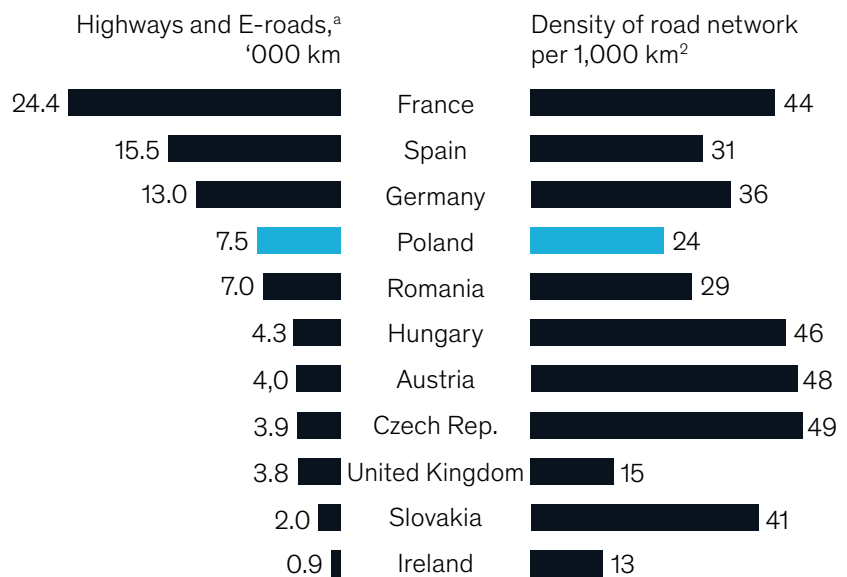
Poland's transportation infrastructure is improving, especially since accession to the European Union and the inflow of funds allocated for this purpose. However, the country still has a long way to go in this key area supporting economic development.

Poland's road network is of poor quality and still not developed enough. This is an area requiring close attention. In the 15 years since joining the European Union, Poland has built more than 1,000 kilometers of highways – the pace of construction speeding up significantly prior to the European soccer championship Euro 2012, but slowing down again after it was over. To achieve the road infrastructure density of Germany, Poland would need additional 4,000 kilometers of international E-roads.⁷³ Existing roads also require significant investment to improve their condition; business leaders rank Poland 64th in the world

in terms of road quality.⁷⁴ Additional investments are also needed in road safety, which despite substantial improvements in recent years is still low.⁷⁵

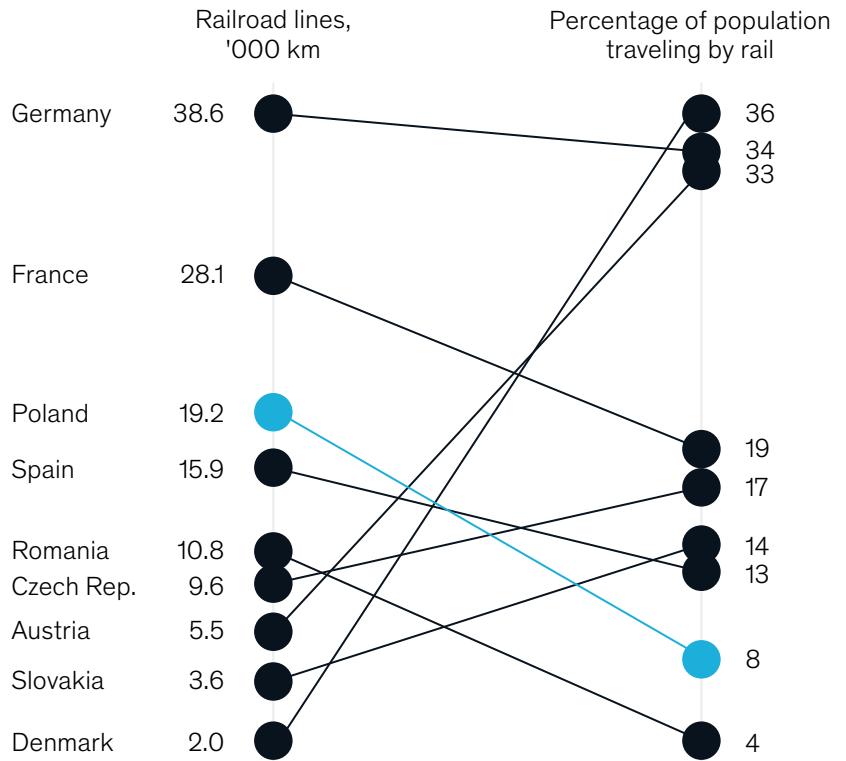
One important trend that will shape road infrastructure over the coming decades, especially in cities, is the increasing use of electric cars, PTDs (personal transportation devices, such as electric scooters), autonomous vehicles and drones. This will change the way people move and transport goods.⁷⁶ Poland is already planning measures to facilitate the development of new forms of mobility; it is thought that there will be 680,000 electric cars and 72,000 public charging points in the country by 2030.⁷⁷ To prepare itself properly for the coming mobility revolution, Poland should adapt not only its infrastructure but also its legal regulations governing the use of these new means of transportation.

Poland has fewer roads than other EU countries, especially given the size of the country



^a Network of international roads defined under the European Agreement in Geneva in 1975
Source: Eurostat 2017

Poland has an extensive rail network, but few Poles make use of it



Source: Eurostat 2017

12%

Compound annual growth rate in the number of passengers served by Polish airports 2004-18

Poland has a well-developed rail network with 19,000 kilometers of lines, the third biggest in the European Union and the twelfth in the world.⁷⁸ Some 22 percent of freight goes by rail, compared to 17 percent in the European Union on average.⁷⁹ However, according to a report by the European Commission,⁸⁰ the Polish rail network needs to be modernized as it suffers from bottlenecks and is in poor technical condition. The rate of new investment contracts being signed has sped up significantly in recent years, but there is a risk of these plans not being implemented on schedule. The European Commission points to

the limited capacity of contractors and the complicated administrative and financial procedures as possible reasons for delays.

Air transportation is increasingly popular in Poland: Polish airports served more than 45 million passengers in 2018, five times more than the nine million served in 2004⁸¹ and an increase of over 12 percent year-on-year. In the same period the number of air operations⁸² almost doubled, from 180,000 to 342,000, while freight transportation by air grew from 94 million metric ton-kilometers in 2004 to 190 million in 2016.⁸³

Telecommunications infrastructure

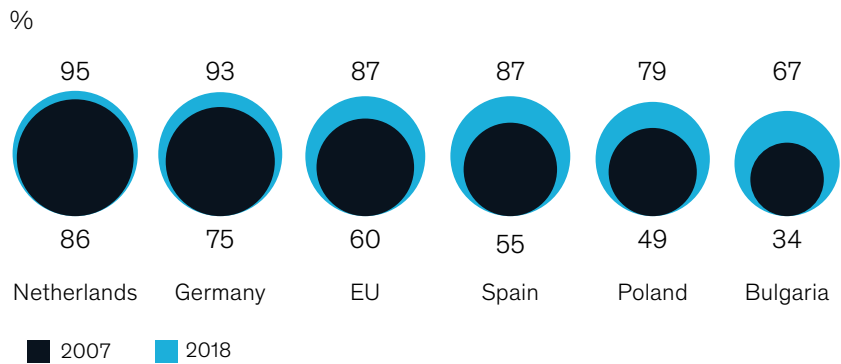
High-speed Internet is currently available almost everywhere in Poland. However, the fast-paced development of the digital economy means that ongoing investment is needed in the latest technology so that digital services can develop further.

Some 99.9 percent of households in Poland are covered by broadband Internet,⁸⁴ with 79 percent of Poles accessing it in the last year.⁸⁵ But the country is below the EU average when it comes to high-capacity connections (enabling downloads at more than 30 Mbps). Just 53 percent

of households have access to such connections, compared to an EU average of 79 percent.⁸⁶

Interestingly, Poland differs from the rest of the European Union in how it accesses the Internet. When it comes to fixed broadband access, Poland ranks 26th in the European Union, at 61 percent coverage (vs. an EU average of 75 percent). But for mobile access it ranks second in Europe, with an average of 144 subscriptions per 100 people, just behind Finland's 146 per 100 people (vs. an EU average of 90).⁸⁷

The percentage of people in Poland aged 16-74 who had used the Internet in the last year was approaching the EU level in 2018



Source: Eurostat

99.9% of households are covered by broadband Internet

Energy infrastructure

High energy prices and network failures can slow down the development of industry. Wholesale electricity prices in Poland are higher than in Germany, Czech Republic and the Nordics.⁸⁸ This difference may be due to the large share of coal-fired power plants, where rising fuel costs, labor costs and the cost of carbon dioxide emissions play a major role.⁸⁹ The power grid in Poland is also highly unreliable: Only

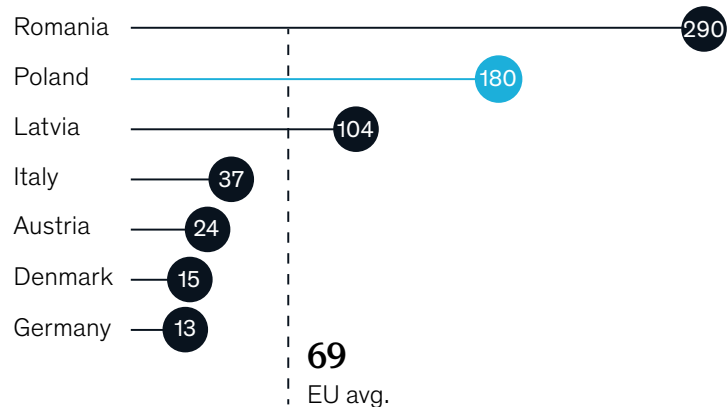
one country in the European Union – Romania – experiences more minutes of unplanned interruptions in power supply per person (known as the System Average Interruption Duration Index, or SAIDI) than Poland. Indeed, Poland's SAIDI is high even allowing for the type of infrastructure in Poland, which consists of more than 75 percent overhead power lines compared to an EU average of 40 percent.⁹⁰

2.5 times

Unplanned interruptions in power supply last 2.5 times longer than the EU average

Poland comes second in the EU in terms of unplanned power cuts

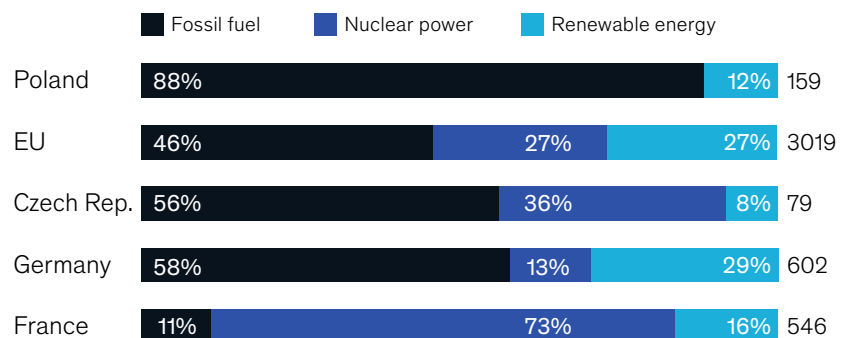
Unplanned interruptions in power supply (SAIDI), minutes per capita



Source: CEER

Most of the electricity in Poland comes from fossil fuel (mainly coal), resulting in costly CO₂ emissions

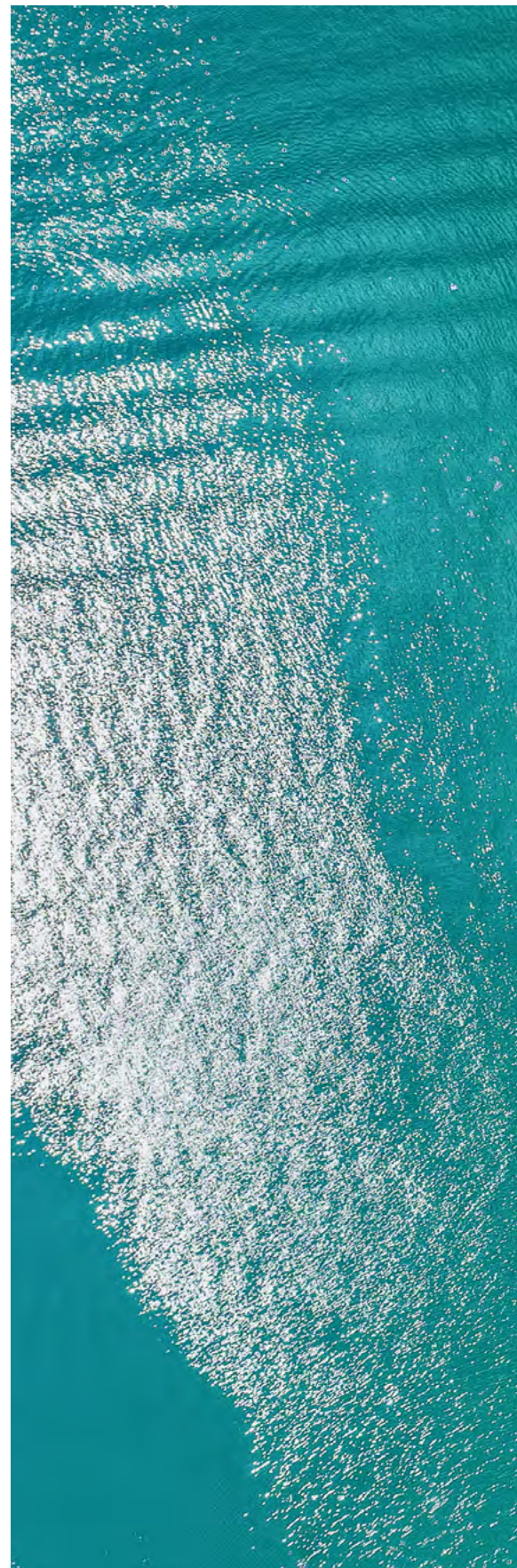
TWh, 2017



Source: Eurostat

Quality of life in Poland

As prosperity increases in Poland, so do the expectations of Poles. What is more, in order to maintain a rapid pace of economic growth, it is necessary to keep in mind the factors that drive people's satisfaction with their lives – factors such as the quality of education, healthcare and the state of the environment.





Lake Solina

Education

Polish education in elementary schools and “liceums” (high schools) is relatively good. But especially further up the system, it needs to be better adapted to the rapidly changing environment. One key aspect here is adapting education and professional training to fast-paced changes in the labor market, such as automation.

Polish students at “gimnazjums” (preparatory high schools) achieved strong results in the international 2015 PISA tests, scoring 504 points in mathematics compared to an EU average of 487 and an average for the other Visegrad countries of 481, for instance.⁹¹ Poland also did well in natural sciences, scoring 501 points compared to 488 (EU) and 477 (other Visegrad).⁹² The relatively small number of students per teacher in

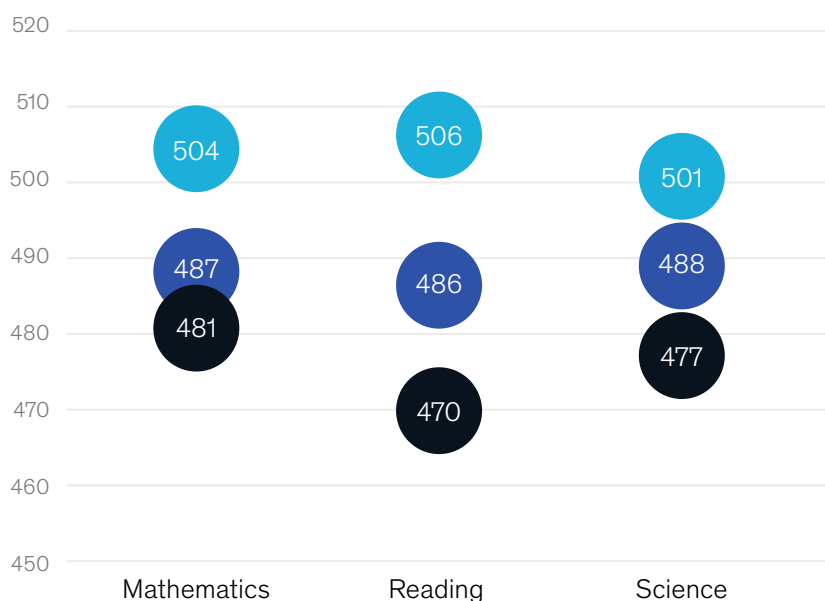
Poland – nine, compared to an OECD average of 13 – is without doubt one of the positive factors influencing students’ performances. However, a recent European Commission report⁹³ recommends placing a greater emphasis in Polish schools on developing “transversal” skills, such as critical thinking and problem-solving. Digital skills are also key; here, Poland currently has only 0.4 computers per student compared to 0.7 in the OECD on average.⁹⁴

Polish universities produce a large number of graduates. The number of Poles with higher education doubled between 2004 and 2018, from more than three million to 6.5 million. Some 27.2 percent of Poles now hold a university degree or equivalent, close to the EU average of 28.7 percent.⁹⁵

Polish students achieve above-average results

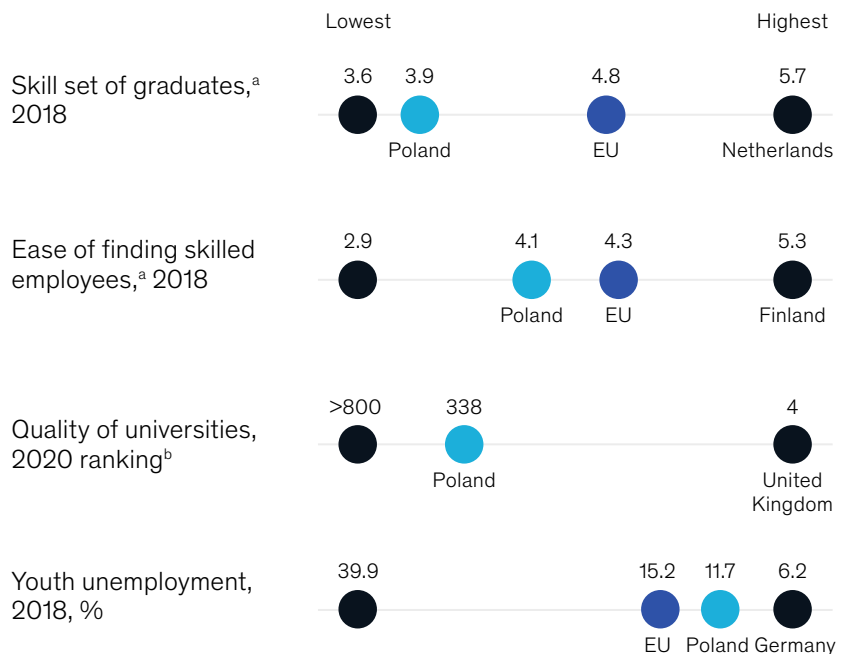
● Poland ● EU ● Visegrad Group, excl. Poland

2015 PISA results



Source: OECD, PISA study

Higher education in Poland is not effective enough in giving students the skills needed by business



a Scale of 1 (lowest) to 7 (highest)

b Position of said country's top university in the QS World University Ranking 2020

Source: Eurostat, World Economic Forum – Global Competitiveness Index, QS World University Ranking 2020

The number of people in Poland with university degrees or equivalent has doubled over the last 15 years and is now almost equal to the EU average

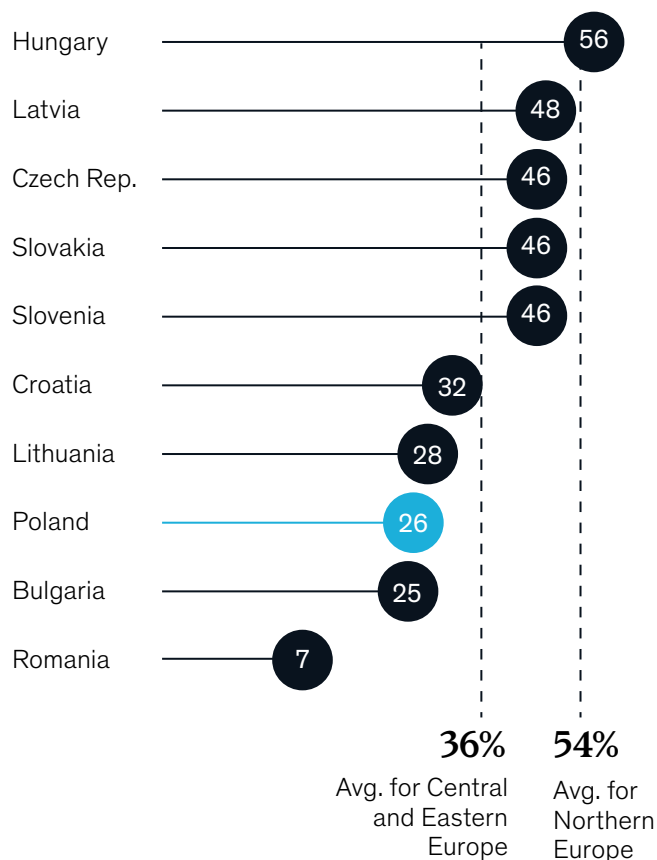
Improvements are still needed in the quality of higher education and how well it meets the needs of the labor market, however. Polish universities fare poorly in the QS World University Ranking. The Jagiellonian University, for example, which is the best-performing Polish university in the 2020 ranking, comes 338th worldwide. Polish universities and other institutions of higher education lag behind their counterparts not only in the United States and the United Kingdom but also in Malaysia (ranked

70th) and Mexico (ranked 103rd). The other Visegrad countries perform similarly poorly, with the best Czech university ranked 291st and the best in Hungary coming 501st.⁹⁶

When it comes to the qualifications needed for work, Polish graduates also lag behind the European average. In the Global Competitiveness Index, where the highest score possible for the match between students' skills and their future jobs is seven, Poland scores

The adult participation rate in education or training in Poland is far below the Northern Europe average

Percentage of people aged 25-64 taking training courses in the previous 12 months, 2016



Source: Eurostat; Digital Economy and Society Index, 2017, McKinsey & Company study *The rise of Digital Challengers*

12%

of firms in Poland offer their staff training in digital and technological skills

just 3.9, compared to an EU average of 4.8.⁹⁷ This suggests that young Poles learn the skills that they need on the job, and employers play a key role in training staff based on the competences acquired at university.

As automation progresses in most areas of the economy, so demand grows for employees with advanced technological and digital skills, and superior cognitive, emotional and social skills become more important. Both the education sector and companies need to help people adapt to these requirements. Public and private retraining strategies will be crucial, including the promotion of lifelong learning and formal training for employees.

Poles are largely disinclined to take training courses or continue their education once they reach adulthood. According to the McKinsey report *The rise of Digital Challengers*, the advanced digital skills of Poles aged between 35 and 65 are 53-79 percent lower than in the digitally advanced Northern European countries. Things are not much better when it comes to basic digital skills, either: Only 27 percent of Poles say they are able to create a presentation on a computer, for example.⁹⁸

Only 26 percent of people aged 25-64 in Poland take training courses, far below the average rate for Central and Eastern Europe as a whole (36 percent) and Northern Europe (54 percent). This is partly due to a lack of initiatives on the part of employers, with just 12 percent of companies in Poland currently offering training in digital or technological skills.⁹⁹ Clearly, there is a need for an ecosystem that supports lifelong learning, motivates adults to change and improve their qualifications, and makes practical training courses available.

Healthcare

Healthcare contributes to both prosperity and people's satisfaction with their lives, and should therefore be a key priority. Polish healthcare needs improvement both in terms of the effective use of public spending and in its promotion of healthy habits and behaviors. Close examination of the healthcare system reveals the various elements that it is made up of, such as resources (for example, the number of physicians per inhabitant), internal processes (such as the effectiveness of spending) and the results of actions (for example, the impact on life expectancy).

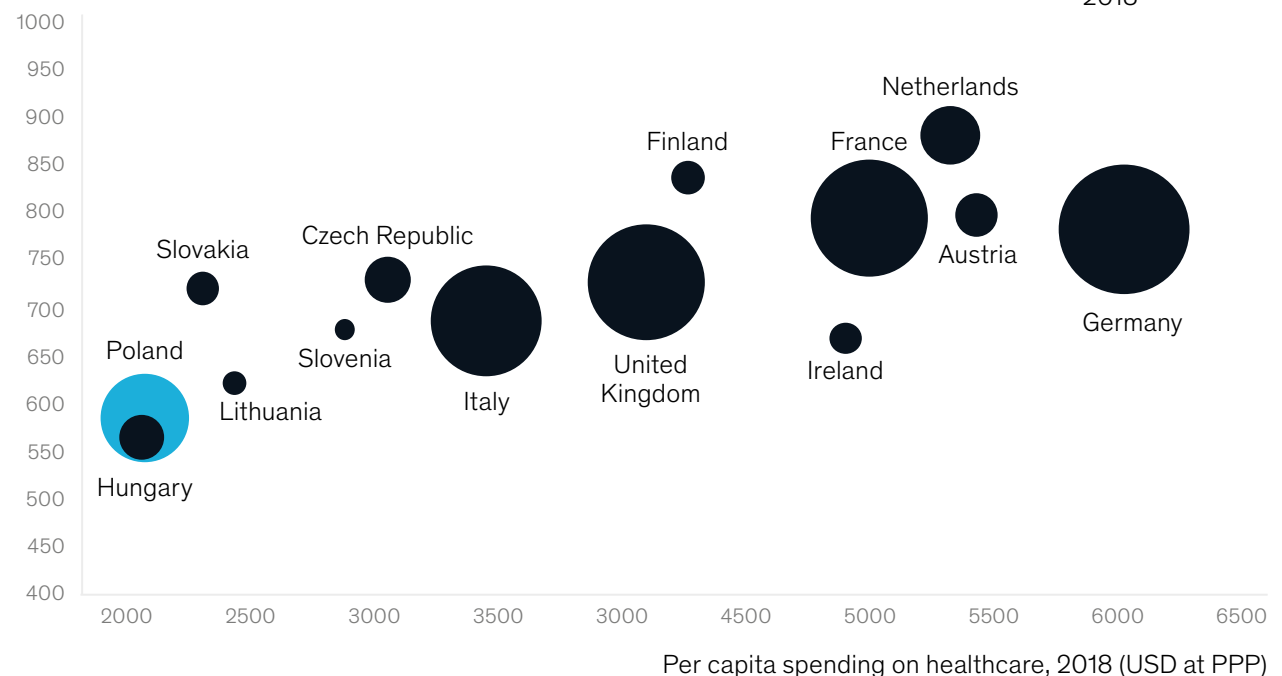
The general state of the Polish healthcare system, as reflected in the 2018 Euro Health Consumer Index, is rather poor. Of the 35 European countries included in the ranking, Poland comes equal 32nd with Hungary, scoring 585 points out of a possible 1,000, beating only Romania and Albania. Among the positive

aspects of the healthcare system, the authors of the report draw attention to cardiology care and the high quality of medical training. On information and patient rights, on the other hand, Poland scores one of the lowest marks in the ranking.

Poles have a number of harmful addictions. Around 22 percent of the population smoke, compared to an EU average of 18 percent and just nine percent in Sweden, the lowest level in this category. Some 45 percent of Poles have drunk a significant amount of alcohol in the last year, compared to an EU average of 40 percent and just 12 percent in Cyprus. In addition, Poles are less likely to engage in physical activity than the average EU citizen: 59 percent of Poles do not exercise at all, compared to 48 percent in the EU and 19 percent in Denmark. On a more positive note, Poles love fruit and vegetables, with 67 percent eating

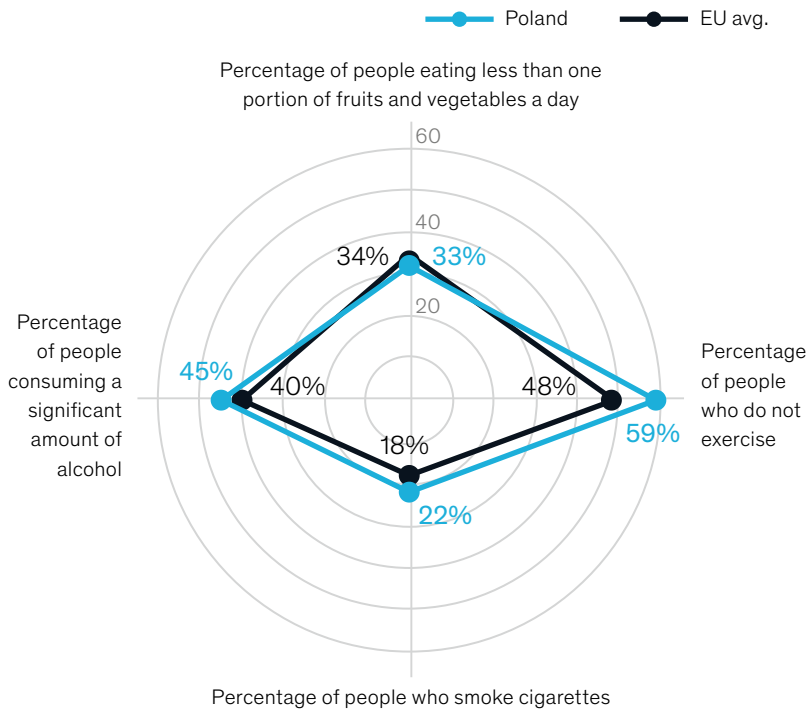
According to the Euro Health Consumer Index (EHCI), the quality of the healthcare system in Poland is one of the lowest in Europe

Quality of healthcare system, 2018 (EHCI score)



Source: EHCI 2018

Poles are more likely to have unhealthy habits than the average European

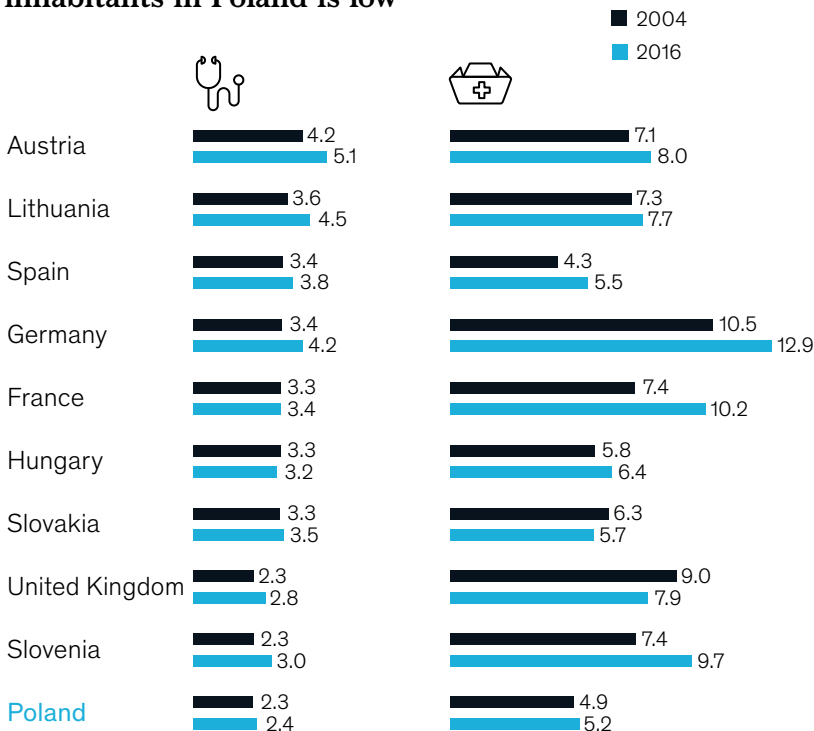


Source: Eurostat, 2014

them at least daily – roughly on a par with the European average¹⁰⁰ but less than the 84 percent of people in Belgium who do so. Behavioral factors play an important role in disease; indeed, the Institute for Health Metrics and Evaluation (IHME) estimates that factors such as tobacco and alcohol consumption, poor nutrition and lack of physical activity are responsible for more than one third of the disease burden in Poland.¹⁰¹

Spending on healthcare in Poland falls significantly below the EU average. Thus, government spending plus spending on additional insurance, including by households, makes up just 6.7 percent of GDP, compared to an EU average of 9.6 percent. In per capita terms, spending on healthcare is even less, at just half the EU average. Apart from the lack of money, qualified medical staff are also in short supply: Poland has 2.4 physicians per thousand inhabitants, compared to an EU

The number of physicians and nurses per 1,000 inhabitants in Poland is low



Source: OECD

6.7% of GDP

is spent on the healthcare in Poland

average of 3.6, putting Poland right at the bottom of the EU league table. This ratio of physicians to inhabitants remained almost constant from 2000 to 2016, while it rose in most EU countries. Poland also underperforms in terms of its number of nurses, with just five nurses per thousand inhabitants, compared to eight per thousand in the European Union as a whole.¹⁰²

Improving the effectiveness of healthcare and coordination between different parts of the system remains a major challenge in Poland. According to the European Commission, the Polish healthcare system suffers from low effectiveness of spending, high dependence on inpatient care, shortages of human resources and long waiting times.¹⁰³ The lack of coordination between different parts of the system is exemplified by the treatment of hepatitis C, where the waiting time for hospital treatment is

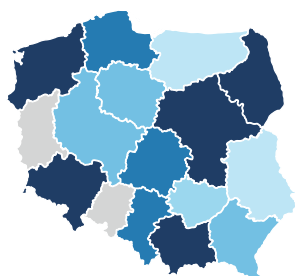
22 days in the Mazovian voivodeship, compared to 576 days in the West Pomeranian voivodeship.¹⁰⁴ In its findings, the European Commission draws attention to the fact that the long-term care system, which is currently underdeveloped in Poland, is also crucial in an ageing society. Improvements in this area could potentially also increase participation in the labor market, especially by women, who today are often responsible for caring for elderly relatives. Systemic solutions would allow women in this position to return to the labor market.

The impact of the Polish healthcare system presents a varied picture. Average life expectancy at birth is 78 years in Poland, significantly lower than the EU average of 81.¹⁰⁵ But the effectiveness of the treatment of common diseases in Poland varies depending on the disease.¹⁰⁶ Thus, the mortality rate for cancer is 304

per 100,000 inhabitants, higher than the EU average of 261, possibly due to negative factors such as poor access to diagnostics and modern treatment methods, and the high price of drugs. By contrast, the mortality rate for patients requiring urgent intervention, for example people suffering strokes, is lower than the EU average, at 85 per 100,000 inhabitants a year compared to 101 per 100,000 in the European Union. This suggests that emergency medical care is at a high level in Poland. Similarly, mortality for the group of diseases jointly referred to as chronic obstructive pulmonary disease (COPD) is one of the lowest in the European Union, at 23 per 100,000 inhabitants compared to an EU average of 36 per 100,000. Clearly, treatment for this chronic disease, which the World Health Organization predicts will be the third most common cause of death worldwide by 2030,¹⁰⁷ is relatively effective in Poland.

Effectively allocating resources is important – Access to healthcare varies by voivodeship and type of care

Outpatient hepatological clinic



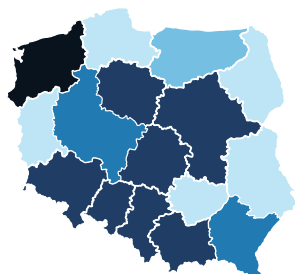
Treatment of hepatitis C virus



Avg. waiting times



Neurological rehabilitation



Trauma and orthopedic surgery



Source: NIK, Realizacja zadań Narodowego Funduszu Zdrowia w 2017 r.

The environment

The state of the environment – the climate, air quality and waste management, in particular – is increasingly a focus of attention for Polish society. The number of Poles who believe that environmental protection can have a positive impact on the country's economic development rose from 76 percent in 2014 to 84 percent in 2018. Around 64 percent of those surveyed said that this was due to the impact of the environment on quality of life and health, while 18 percent also drew attention to the increasingly evident financial impact, such as the potential savings for households from using energy-efficient appliances as electricity prices go up.¹⁰⁸

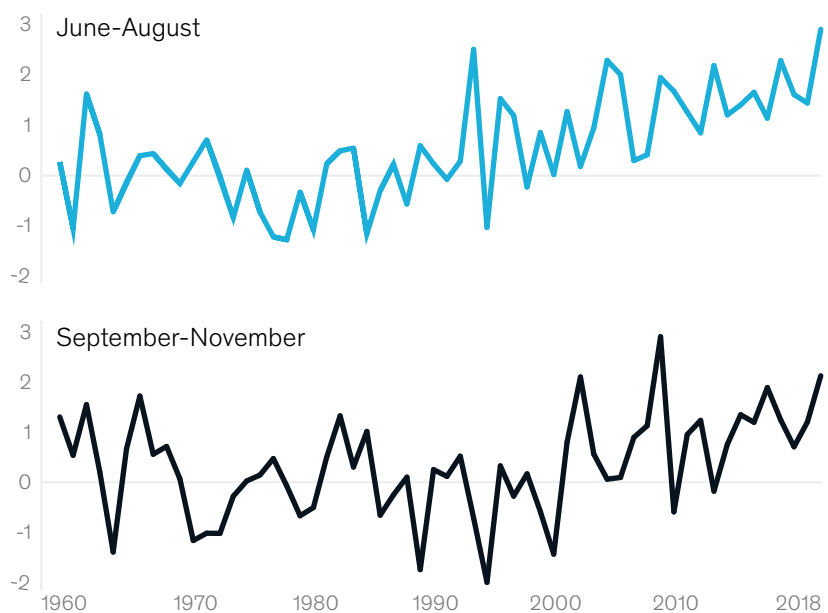
The changes related to global warming are also felt in Poland. Average temperatures have risen over the last two decades not just in Poland but across the European Union. The average temperature in summer

months is one or even two degrees higher than the average temperature in the reference period (1951-80).¹⁰⁹ Increases in average temperatures have a negative effect on vegetation, crops, irrigation, energy consumption by machinery and equipment, and health (potentially causing strokes, fainting fits, and so on). They also translate into additional costs for cooling apartments, offices, factories and power plants. The situation in Poland is further complicated by the fact that the country has very low water resources: On average, there are 1,600 cubic meters of water per inhabitant, putting Poland 133rd out of 182 countries worldwide.¹¹⁰

Poland is the third-worst country in the European Union in terms of PM10 air pollution,¹¹¹ which contributes to the increase in the incidence of respiratory diseases, among other things. The average level of air pollution in Poland is nearly double that of the European

Average temperatures are rising in Poland, especially in summer

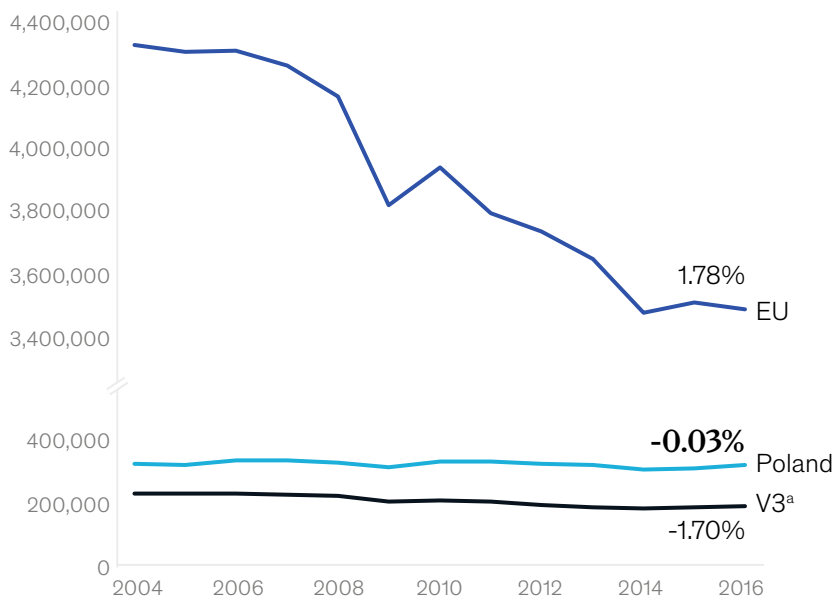
Avg. monthly variation in surface temperature 1961-2018 compared to reference period (1951-80), °C



Source: FAOSTAT

The pace of decarbonization in Poland is slower than in other EU countries

CO₂ emissions, '000 tons



^a Average for Visegrad Group, excl. Poland
Source: Eurostat

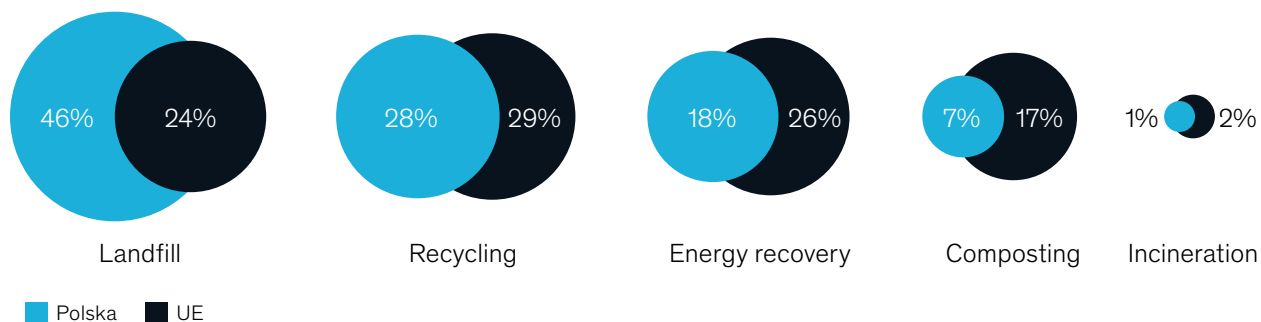
Union as a whole. Air pollution causes seven percent of deaths in Poland¹¹² – 29,000 of them in 2016, including 14,000 premature deaths.¹¹³ This is almost twice as high as the number of deaths from road accidents (9,000) and greater than the number of deaths caused by breast and prostate cancer put together (13,000).¹¹⁴

Poland is responsible for nine percent of greenhouse gas emissions in the European Union, although it makes up only seven percent of the total EU population. Decarbonization is progressing very slowly, with CO₂ emissions falling by just 0.03 percent between 2004 and 2016 compared to 1.78 percent in the European Union as a whole and 1.7 percent in the other Visegrad countries.¹¹⁵ At the same time, the cost of gas emissions is rising: The price of releasing one metric ton of CO₂ into the atmosphere under the European Emissions Trading System (ETS) has risen from EUR 6 to EUR 24 over the last three years.¹¹⁶

Unfortunately, waste sorting and recycling is also ineffective in Poland. Around 46 percent of municipal waste goes to landfill, compared to an EU average of 24 percent.¹¹⁷ The European Union has set itself ambitious targets for waste management, such as sending only ten percent of municipal waste to landfill by 2035. This is an area where Poland has its work cut out for it.

Poland sends more waste to landfill than the EU on average

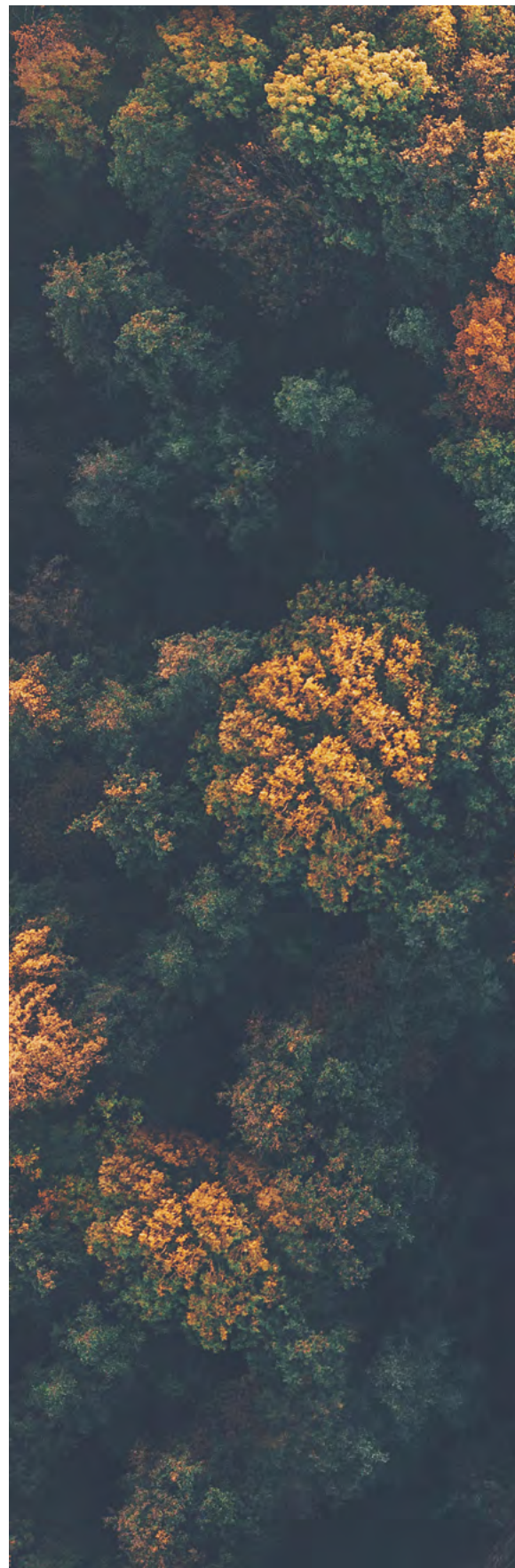
Municipal waste, percentage of total waste, 2016

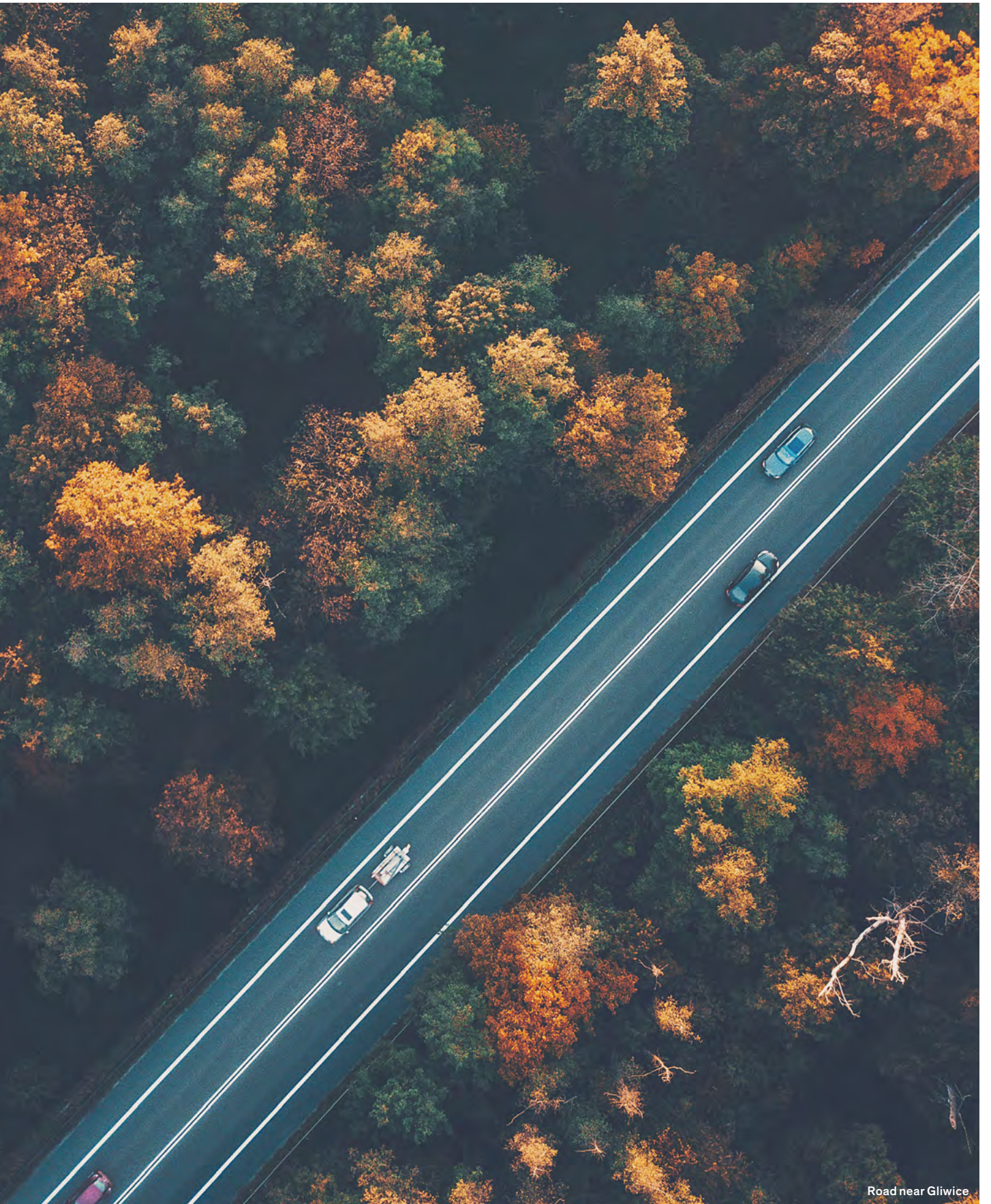


Note: No data on treatment for 2% of waste in EU
Source: Eurostat

Scenarios for further growth

Poland's economic growth over the past three decades is a true success story. But keeping up the dynamic pace of growth will require constant effort and a prudent economic policy. Poland's continued success will depend on whether it manages to increase productivity, improve the labor market and ensure a good environment for business and society, alongside other factors.





Road near Gliwice

The future of Poland

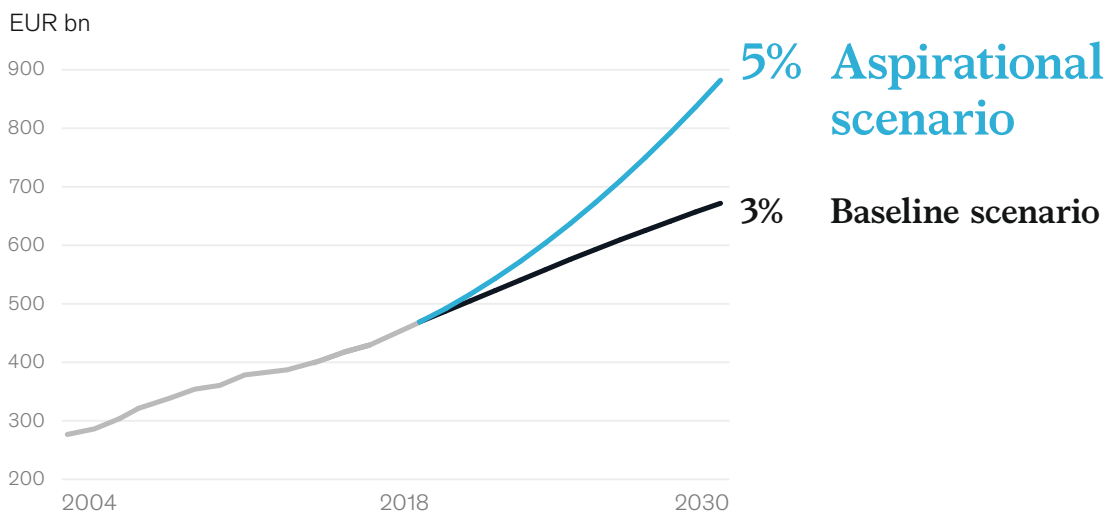
Poland's economic success in recent decades sets a global precedent. But it is by no means certain that Poland can maintain its rapid pace of growth going forward. Whether it does so or not depends on a number of factors, such as the level of investment, innovation, human capital and the country's resilience to external factors.

Poland should beware of resting on its laurels – for two reasons at least. First, it would be well advised to prepare now for a less positive economic situation in the future. And second, the fact that Poland is rapidly becoming a developed economy will make it all the more difficult for it to keep up its heady growth pace. Up until now, the growth engines have been traditional sectors of the economy, consumption, falling unemployment with relatively low labor costs, and incoming funds from the European Union. But many of these engines are now gradually powering down.

If Poland wishes to continue along its path of rapid economic growth and increasing prosperity while avoiding the “middle income trap”, it should consider redefining its development strategies and seeking out new sources of growth. Ideally, it should stop fixating on the idea of catching up with leading European economies and start carving out its own development path. This will enable it to compete effectively with the world's most dynamic economies.

Analysis by McKinsey & Company shows that over the coming decade Poland has the chance to secure long-term rapid economic growth of as much as five percent a year, doubling the size of the Polish economy. Below, we outline our advice for achieving this ambitious goal. That includes the need to raise productivity, to adapt the labor market to new challenges (above all, demographic change and the need for a highly qualified workforce) and to create a positive environment for business and society as a whole.

Real GDP in Poland



Source: McKinsey Global Institute Growth Model

Paths of economic development

Analysis by McKinsey suggests two potential paths of economic development. In the first scenario – the baseline scenario – Poland develops at around three percent a year, the natural continuation of a long-term slowdown in growth based primarily on demographic and productivity forecasts. In this scenario, real GDP grows by EUR 200 billion by 2030 and per capita GDP to EUR 18,500 (compared to EUR 12,400 today)¹¹⁸ – higher than Portugal's current per capita GDP.

However, a number of risk factors could affect Poland's economic development, preventing it from realizing even this baseline scenario. The risks include a significant drop in the number of people of working age, EU funding being phased out faster than expected, a slump in foreign investment and a slowing down of productivity growth due to failure to improve the education system or poor cooperation between business and universities.

However, McKinsey analysis also shows that Poland could set itself more ambitious goals, successfully competing on the global market. In a second, aspirational scenario,

Poland grows at five percent a year in the period to 2030. This assumes that the difference between Poland and Western Europe in terms of participation in the labor market and productivity is halved (in other words, participation in the labor market reaches 70 percent and productivity rises by more than 20 percent) and the share of investments in GDP reaches 22.5 per cent, which is halfway between the level of the European Union and the Visegrad Group, excluding Poland. If this happens, the Polish economy could potentially double in size, growing from EUR 477 billion in 2018 to EUR 890 billion in 2030 at constant prices.¹¹⁹ That would mean per capita GDP of EUR 24,300, on a par with Spain today.

It could be argued that five percent GDP growth is actually not all that ambitious. After all, Poland has grown on average four percent a year over the last 15 years and in 2018 it grew by more than five percent. But we must not forget that the economy is becoming larger and more developed, and such economies usually grow more slowly due to their size. For example, Germany experienced annual per capita GDP growth of 1.4 percent in 2004-18, while France grew by less than one percent.¹²⁰

The economy is so mature now that Poland can stop playing catch-up with the European champions and start charting its own growth path

Opportunities for Poland

What steps can Poland take to achieve this ambitious goal of doubling the size of its economy by 2030 and maintaining its position as one of the fastest-growing countries in the European Union? What should entrepreneurs and policymakers focus on in order to achieve success?

We identify five key areas for action on the basis of analysis by McKinsey

and experience from other markets around the world, taking into account Poland's position within Europe. These five areas are consistent with the findings of the 2015 joint report by McKinsey and Forbes 5 opportunities for Poland. In each area, despite the passage of four years, much remains to be done.

1 Close the productivity and competitiveness gap between Poland and Western Europe

2 Boost investment and secure capital

3 Increase innovation

4 Ensure an adequate supply of skilled workers

5 Support business, enhance public services and improve the natural environment

1 Close the productivity and competitiveness gap between Poland and Western Europe



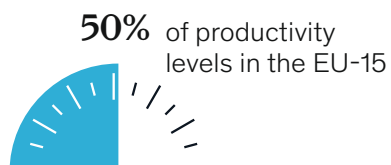
The productivity of the Polish economy is on average 50 percent lower than in Western Europe (EU-15).¹²¹

A significant increase in productivity may be necessary to maintain Poland's economic growth, especially given the challenges in the labor market and the unfavorable demographic trends. The country should aim to focus on improving the position of Polish companies in the value chain, encouraging them to shift to more complex processes that generate greater added value, such as manufacturing advanced components rather than just installing them in vehicles.

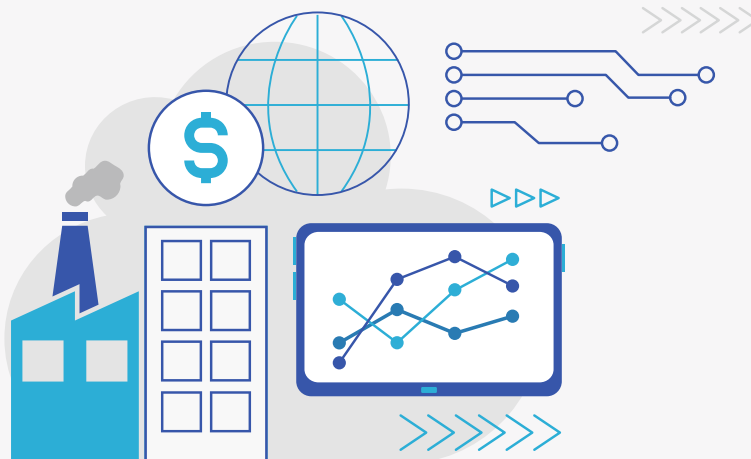
Exports, which already make up half of Polish GDP,¹²² also need to continue expanding. Here, Poland would be well advised to focus on goods where it has already built up a competitive advantage, such as cosmetics, exports of which have increased almost fivefold in the last 15 years, and yachts, where Polish companies were responsible for more than 70 percent of total exports in the European Union.¹²³ Productivity will also benefit from increased automation. For example, machine learning and the Internet of Things with predictive maintenance applied to industrial manufacturing can increase productivity by as much as 20 percent.¹²⁴

On a macroeconomic level, Poland's aim should be to invest mainly in high-productivity sectors. This includes helping workers find jobs in more productive sectors of the economy with the aid of training, information campaigns and financial incentives.

Productivity of the Polish economy



2 Boost investment and secure capital



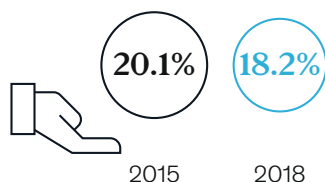
The share of investment in Polish GDP fell from 20.1 percent in 2015 to 18.2 percent in 2018.¹²⁵

This puts Poland in 24th place among EU countries. The relatively low level of private and public investment limits the country's growth. According to estimates by McKinsey, Poland could face a shortfall of as much as EUR 75 billion for investments in 2030.

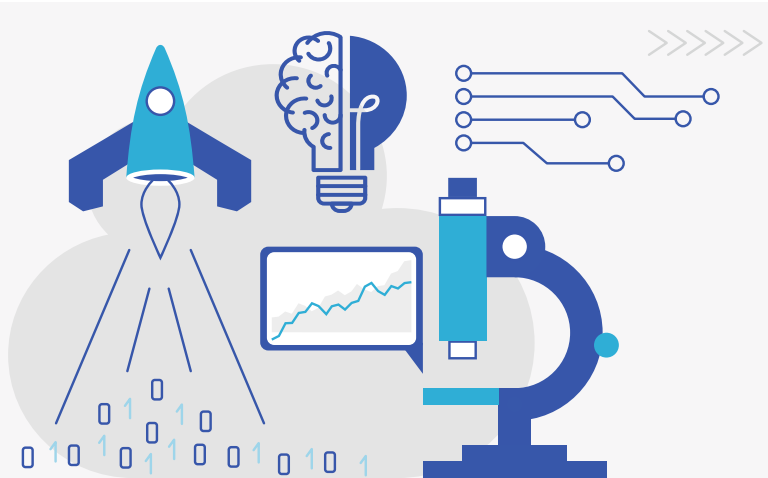
Tax incentives would encourage businesses and private households to make investments and so help boost domestic deposits. It is also possible to get households more interested in investing by carrying out information campaigns about capital markets and offering investment options with different levels of risk.

To encourage more foreign direct investment, the focus should be on areas such as communicating the favorable investment conditions in Poland to potential investors. Opening up large infrastructure investments to foreign capital and encouraging "co-investment" (public-private partnerships, for example) would increase the level of interest from foreign investors, as would streamlining bureaucratic processes, in particular improving coordination between different government bodies. Poland can also attract capital by partnering with global financial institutions, alongside efforts by local authorities and economic diplomacy.

Share of investments in GDP



3 Increase innovation



Spending on research and development (R&D) as a share of GDP has not increased significantly since Poland joined the European Union: It was 0.6 percent in 2004 and it has still not exceeded one percent in the years since 2015, compared to an EU average that is twice as high.

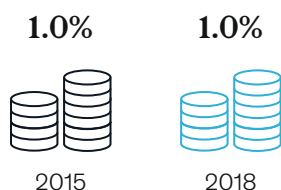
Low spending on R&D leads to a low level of innovation in the Polish economy. Poland comes 24th among the EU countries in the Global Innovation Index.

To stimulate innovation it would be advisable to provide more support for innovative startups, for example through business incubators. Poland can promote itself as a location for the R&D centers of large corporations by ensuring access to capital and trained staff, or by providing financial incentives, such as covering some of the research costs.

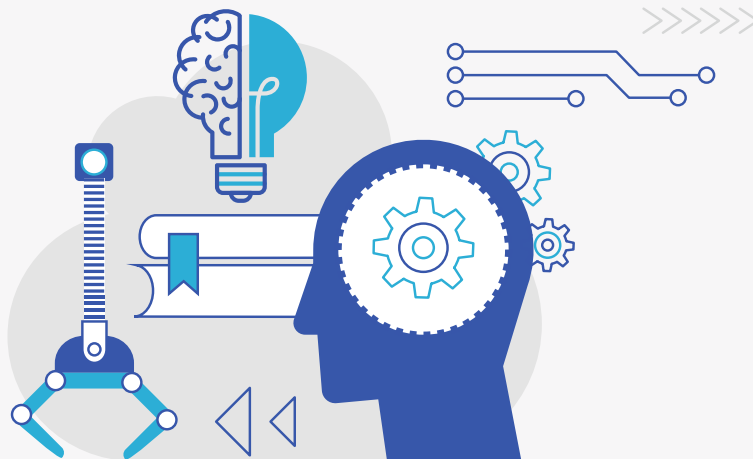
To help existing companies leverage the digital revolution – using Big Data, for example – Poland can standardize the data that it collects and allow external bodies such as academics and private companies to access it in a controlled manner, ensuring data privacy. One example of this already happening is the “Open data – access, standard, education” project, which provides access to databases such as those of the National Health Fund (NFZ) and the Central Statistical Office (GUS).¹²⁶ Just as important as supporting digital innovations in companies is increasing their use by public institutions in areas such as healthcare, education and public services. This would mean speeding up the development of online services, Web-based administrative platforms and e-signatures, for example.

For innovation to increase, cooperation between the academic and business worlds must be efficient. Academics in particular need to improve their skills in working with the private sector.

Spending on R&D



4 Ensure an adequate supply of skilled workers



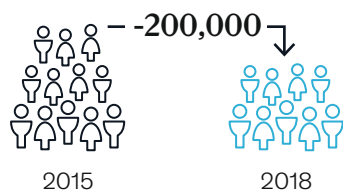
The number of men and women participating in the labor force fell by more than 200,000 between 2015 and 2018.¹²⁷

Investing in human capital will boost productivity in various sectors and enable a freer flow of human capital into more productive industries. Adapting education and professional training to the challenges of a changing labor market is a priority here. This involves making changes to curricula, increasing the emphasis on skills such as programming and entrepreneurship, and broadening cooperation with the business world. Supporting foreign language learning is particularly important, as it enables people to access global knowledge resources. Another vital aspect is promoting lifelong learning and motivating adults to change and improve their qualifications. Here, it is important to offer people systemic training, support during the re-skilling phase and help finding a new job.

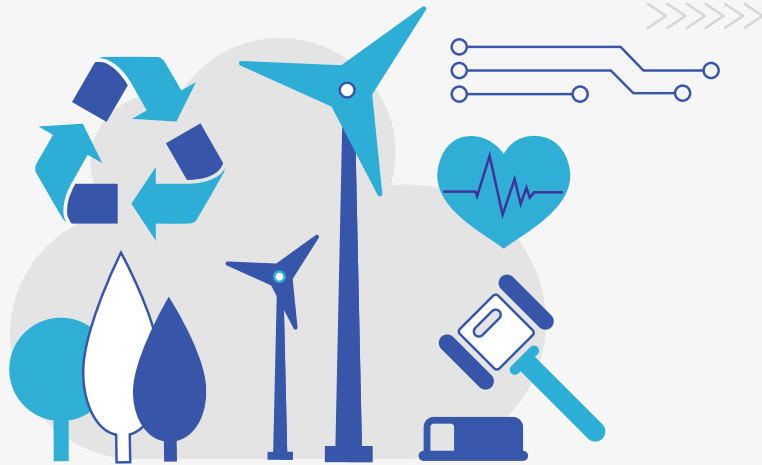
Another key area is counteracting negative demographic trends in the labor market. One solution here would be to increase female participation in the labor market. This can be done by making jobs more flexible and lessening the burden of caring for family members, which is mainly shouldered by women, by improving access to crèches, kindergartens and care facilities for the elderly.

Seniors are another important group in society that can be encouraged to join or remain in the workforce, for example by offering tax incentives and training in new technologies. Labor shortages can also be filled by workers from abroad and returning Poles. Possible strategies include supporting immigration by selected specialists and offering scholarships for Poles to study abroad in exchange for a commitment to return and work in Poland afterwards.

Size of the labor force



5 Support business, enhance public services and improve the natural environment



The quality of public services and ease of doing business in Poland have not changed significantly in recent years. In the Doing Business ranking, Poland traditionally comes somewhere between 30th and 40th out of a total of 190 countries, and this was no different in the 2019 ranking.¹²⁸

Maintaining a fast pace of development depends on many factors, such as the ease of doing business, the efficiency of the tax system and the existence of modern transportation, energy and telecommunications infrastructure. These are areas where Poland still has some way to go. To support business growth, efforts should be made to streamline administrative and legal processes, including simplifying the tax system, creating legislative stability and ensuring unclear regulations are interpreted in taxpayers' favor. It will also be important to invest in innovative energy solutions, reducing energy consumption and promoting renewables.

Improving quality of life likewise contributes to economic development. Projects directly related to environmental protection, such as supporting the circular economy and designing an environmental strategy that can be included in government programs, should be a key priority. Other crucial areas are ensuring sufficient spending on healthcare, using the designated money effectively, improving coordination of healthcare, and disease prevention, including promotion of healthy lifestyles.

Doing Business ranking





The success of the Polish economy in recent decades is a cause for optimism. But meeting the challenges still facing the country will not be a walk in the park. Achieving further dynamic growth requires improvements to productivity, additional resources for investments (both private and public), greater innovation, better human capital and the creation of an effective business environment – all while ensuring protection of the natural environment and improvements in the quality of life.

Many of the issues that we have outlined above are already matters of public debate. They have been highlighted in studies by government agencies and international bodies. They are also consistent with the areas that McKinsey identified in the

2015 Forbes report 5 opportunities for Poland and numerous other analyses of the impact of digitization, automation and artificial intelligence on the Polish economy.

Yet, despite this public attention, progress has been slow. Charting possible development paths is only the beginning of the process; maintaining a rapid growth pace requires constant work. Getting these suggestions beyond the planning stage will only be possible with the help of coordinated action, systematic tracking and ongoing corrections where necessary.

It would be helpful here to have a single institution, staffed with competent individuals with clearly defined tasks, that could influence

the allocation of resources while functioning on a stable, uninterrupted basis. Analyzing and interpreting the results of programs, monitoring key growth parameters and collecting regular feedback from the private sector should form an integral part of the implementation process. Detailed plans could then be updated on this basis and adjusted in line with the progress of the work and any changes in external circumstances.

After years of rapid development, the Polish economy still has potential for further growth – as much as five percent a year. By 2030 Poland could double its GDP, match the prosperity of Western Europe and, from a global perspective, join the economic big league.

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Supports clients mainly in the banking and insurance sectors in Poland and other European countries. Focuses on creating new strategies, building partnerships between banks and insurers, and mergers and acquisitions. Interested in the economics of developing countries, behavioral economics and neuropsychology.

Graduated in Economics and Psychology from the University of Edinburgh. Worked from 2011 to 2016 for Citi Handlowy in the retail clients department.



Krzysztof Zdobyłak

Consultant

For the last five years has advised innovative Polish and European companies, chiefly in the pharmaceutical, insurance and energy sectors. Experienced in strategic, transactional and regulatory consulting. Professional interests include the economics of development and the economic analysis of law.

Graduate of the Faculty of Economic Sciences of the University of Warsaw and the Law School of Kozminski University. Also studied at the Université de Paris 1: Panthéon-Sorbonne.



Sławomir Wójcik

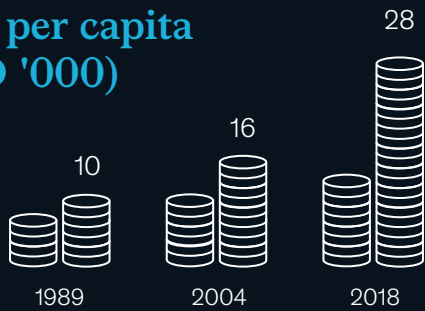
Consultant

Mainly focuses on the chemical, pharmaceutical and financial industries at McKinsey.

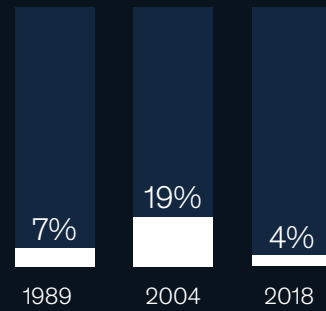
Graduate of the College of Inter-faculty Individual Studies in Mathematics and Natural Sciences at the University of Warsaw, where he studied Chemistry and Biotechnology. In 2012-18 carried out research and taught at Yale with a Fulbright scholarship, completing a doctorate in Chemistry. Co-author of nine peer-reviewed research publications.

How are Poles doing?

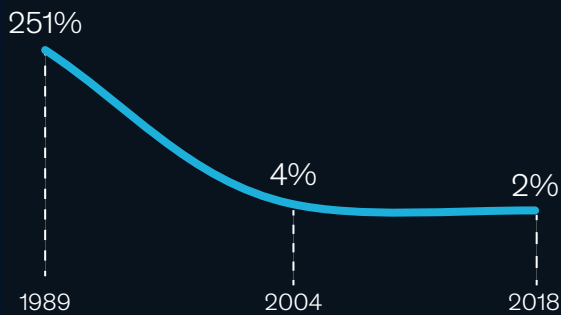
GDP per capita (USD '000)



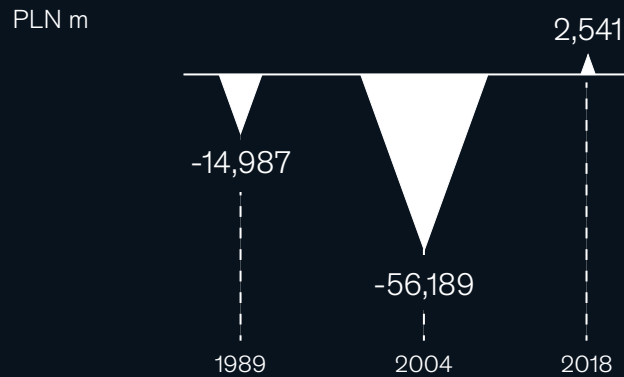
Unemployment



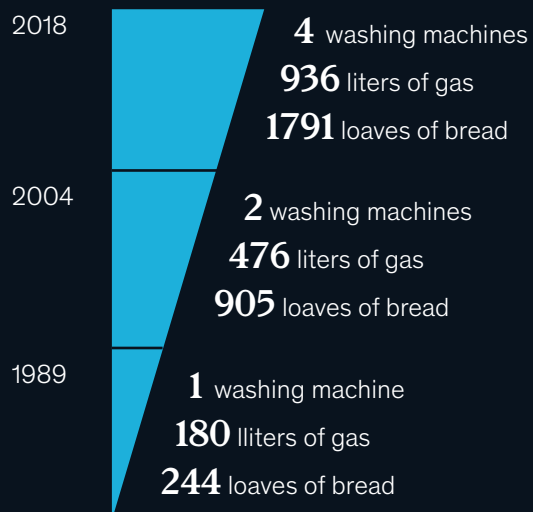
Inflation



Trade balance



How much can they buy with a month's salary

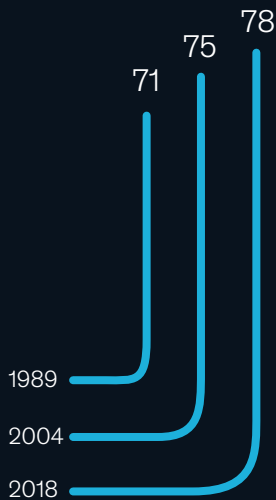


What are their lives like?

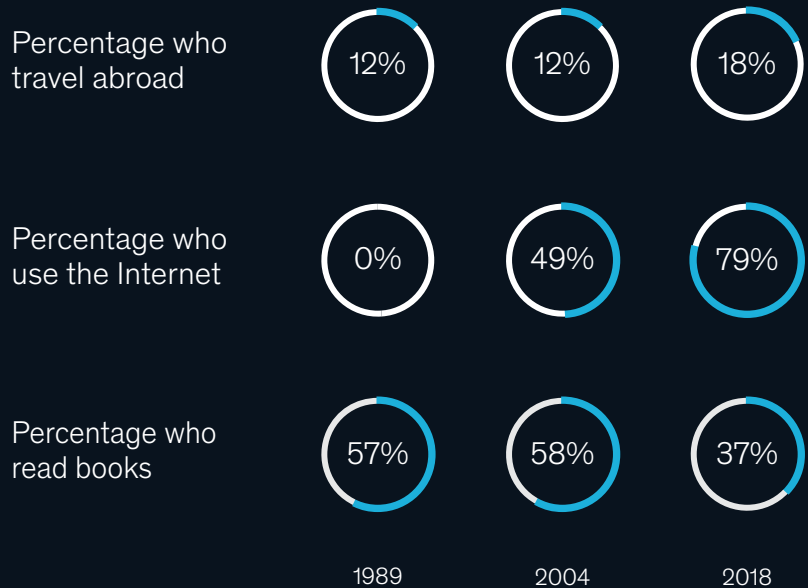
Percentage of Poles with higher education



Avg. life expectancy in years

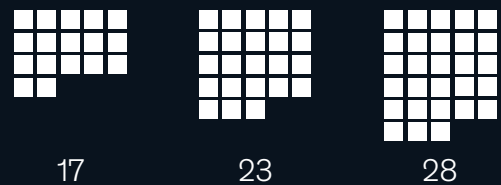


How they spend their free time



Avg. apartment size

m² per person



Source: GUS, Eurostat, National Library of Poland, Forbes: "Jak się żyło w Polsce Anno Domini 1989?", Gazeta Wyborcza: "Co mogliśmy kupić za średnią pensję w 1989 r. a co w 2004 r."

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