



EUROPE AND
CENTRAL ASIA

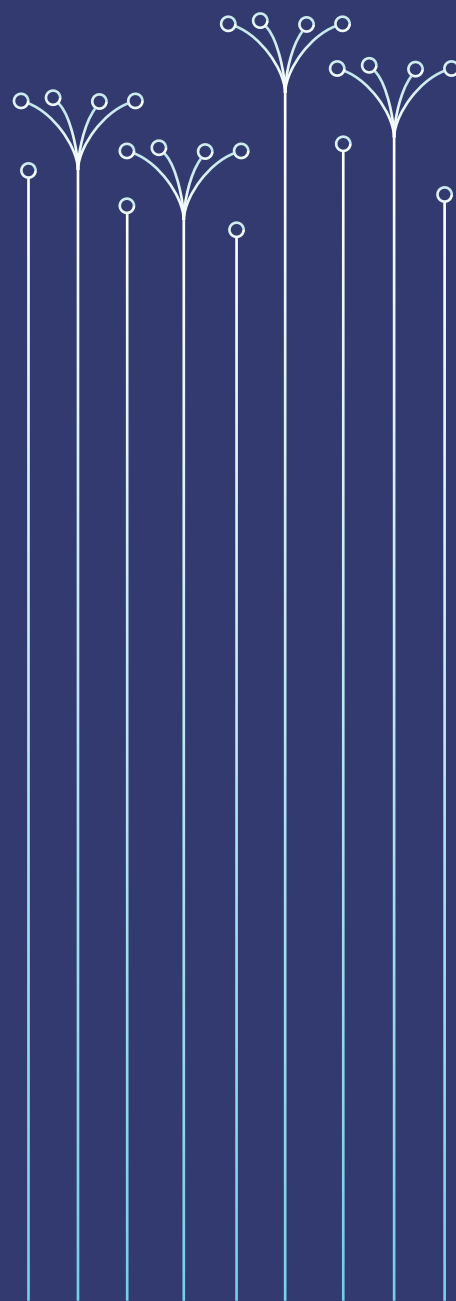
POLAND

WORLD BANK GROUP

SYSTEMATIC COUNTRY DIAGNOSTIC UPDATE

REACHING THE LAST MILE OF CONVERGENCE

June 2024



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Overview

Located at the eastern edge of the European Union (EU), bordering Ukraine and Belarus, Poland is a noteworthy example of Europe's successful convergence machine. Nearly three decades of uninterrupted economic growth have benefitted all citizens, translating into rapid progress for average, bottom 40 and poor households, and helping the country achieve high-income status in 2009. Poland has continued its income convergence with the EU since 2017, including through the COVID-19 crisis: its income per capita reached 80 percent of the EU-27 average in 2022 (in purchasing power standards, PPS), up markedly from 48 percent in 2000, and 70 percent in 2017.

This Systematic Country Diagnostic (SCD) Update examines the challenges and risks to Poland's inclusive and sustainable growth model, reassessing progress since the last SCD in 2017. It highlights opportunities – formulated as high-level outcomes (HLOs) – that can help the country to reset its growth model to complete its income convergence with EU averages, and improve the population's wellbeing further, while ensuring environmental, fiscal, and social sustainability. The SCD Update takes into account the structural headwinds and evolutions facing Poland, including significant demographic shifts, rapid technological change, and the growing urgency to advance the pace of its low carbon transition and strengthen energy security. It also highlights the fundamental role of strong institutions in managing these multiple transitions.

Despite progress in many areas, economic transformation, income and social convergence remain incomplete.

Since 2017, Poland has faced unprecedented global and regional shocks. The COVID-19 pandemic that began in 2020 caused Poland to experience its first economic contraction since 1991. Russia's invasion of Ukraine in February 2022 triggered the European energy crisis, and contributed to a large inflation shock and synchronized monetary policy tightening around the world that significantly increased borrowing costs globally. Poland's long border with Ukraine has placed it at the center of shifting trade and logistics patterns, and the country has welcomed almost a million displaced Ukrainians under temporary protection as of late 2023.

Economic and social convergence with the EU has been supported by regional integration, human capital accumulation, and productivity growth. Overall, the economy has proven resilient, sustaining a robust average annual growth of 4.3 percent over 2017-2022, 1 percentage point above the average annual growth recorded during 2011-2016. While this accelerated pace of growth has translated into similar household income gains, it has fed into rising inequality since 2017; those at the bottom 40 percent of the income distribution have seen lower growth than the top 60 percent, particularly after the start of the COVID-19 pandemic. Poland's human capital accumulation has been central to sustained long-term growth and a key factor in attracting foreign direct investment. At the same time, the country's successful integration into global value chains (GVCs) for knowledge-intensive, highly sophisticated goods such as automobiles, transportation equipment, and electronics, underpinned economic diversification and the creation of quality jobs, with over a third of jobs now linked to exports. Productivity growth accelerated until 2019, driven by firm-level efficiency improvements such as innovation, improved managerial capabilities, and the adoption of more efficient technologies. Lower efficiency in allocating resources from less productive firms to more productive firms, however, has weighed on growth.

Strong fundamentals and macroeconomic policies anchored in EU membership have supported growth, but the policy space has narrowed considerably. Poland's resilience to shocks has been bolstered by a diversified economy that is well integrated into regional supply chains, and a

sound macroeconomic framework anchored in the EU economic governance framework. The latter facilitated a countercyclical fiscal policy and an accommodative monetary policy in response to the crises. The fiscal space has, however, narrowed considerably in the wake of the multiple shocks, with large structural deficits at a time of tighter global financing conditions. Spending pressures stemming from the additional budget allocated to health and defense are elevating gross public financing needs. Rebuilding macroeconomic policy buffers will safeguard Poland's ability to respond to future crises. As the EU revises its Economic Governance Framework, Poland's economic governance institutions will need to be reinforced, with fiscal and structural policies, in the short term, balancing economic competitiveness and social inclusion objectives, whilst conforming with fiscal consolidation.

Private sector dynamism has driven productivity growth and advanced Poland's position in key global value chains. Productivity growth has been supported by business dynamism across multiple sectors, including new green industries. For example, Poland employs the third largest number of people in auto manufacturing in the EU (after Germany and France), is one of Europe's leaders in power storage manufacturing, and ranks second in the world (after China) for battery cell manufacturing capacity. Battery sector exports have increased rapidly, reaching 2.4 percent of exports.

Unleashing the full potential of the private sector will require advancing the business environment, strengthening investment, and deepening capital markets and financial intermediation. Poland's growth potential could be raised further through higher investment and innovation (EC, 2023d). There is a private sector investment "deficit", with Poland's private investment as a share of GDP near the bottom 25th percentile in the EU-27. Moreover, more than half of investments have gone into buildings and infrastructure, while investment in intangible assets, such as research and development (R&D) and intellectual property, accounted for less than 10 percent, hindering Poland's ability to move further up the value chain and into the industries of the future (EIB, 2022).

The competitiveness of key economic sectors requires a low-carbon pathway, as Poland remains one of Europe's most carbon-intensive economies. Poland's heavy dependence on coal for the residential and commercial heating sectors, in industry, and in power production, places it as one of the most energy-inefficient and carbon-intensive countries in Europe. Since 1990, the share of renewable energy (mainly biomass and wind) has grown fivefold, and its growth is expected to continue. Yet Polish greenhouse-gas emissions fell by only 1 percent in 2021 from 2005 levels, compared to an EU average reduction of 24 percent. Poor ambient air quality, particularly in winter months, is driven by a significant reliance on residential heating using outdated coal and wood-fueled technologies, leading to significant health and economic impacts.

The pace of poverty reduction has been slowed down by external shocks, convergence across social dimensions is incomplete, and disparities persist across several areas. While income per capita has converged rapidly towards average EU levels since 2000, convergence has not progressed at the same pace across all social dimensions. Since 2016, the sharp reductions in poverty rates seen since the mid-2000s have given way to more moderate progress and inequality has increased. Top-income sensitive analysis suggests significant and rising inequality. A prominent trend in the EU is the concentration of pockets of relatively high wealth creation in almost every capital city region, with Warsaw being no exception. Meanwhile, lagging rural areas that are more dependent on agriculture are converging at a slower pace. While labor force participation has climbed to above the EU average, a significant achievement, shorter working lives linked to the lowest legal retirement age for women in the EU could feed into a rise in elderly poverty. Life expectancy remains one of the lowest in the EU, a reflection of a high burden of non-communicable diseases and the need for better preventative care measures. Finally, an important aspect of regional development in Poland is ensuring a just transition for coal-mining areas, to ensure that no place or person is left behind as coal is phased out.

A deterioration in the quality of core governance institutions in recent years has weighed on growth, inclusion, and sustainability. Strong governance and public institutions at the national and local level were critical for the country's remarkable transition from middle- to high-income status. However, Poland's performance on multiple governance indicators has slipped relative to EU and OECD countries in recent years and concerns over the rule of law have stalled disbursements of the EU Recovery and Resilience Funds. Private sector perceptions of the effectiveness of investment protection have deteriorated to one of the lowest in the EU, dampening business confidence and further contributing to an already large private sector investment deficit. The fast-tracking of legislation and bypassing of consultation processes has weakened the ability of citizens to meaningfully participate in policy formulation, weighed on the quality of legislation, impacted the business environment and reduced societal buy-in for reforms. Weak coordination of climate and environmental issues and substantial regulatory uncertainty have had a detrimental impact on the pace of the green transformation.

Going forward, the country will need to tackle structural challenges to complete its green economic transformation and accelerate convergence

As Poland embarks upon the last mile of its convergence path, it will need to shift away from its carbon-intensive growth model, readying firms and the labor force for imminent green and technological transitions while advancing equality of opportunity and equity. Several external and domestic challenges will need to be overcome to sustain high productivity growth while simultaneously bending the arc towards a low-emissions growth model. These challenges can also be embraced as new opportunities:

- **Climate change requires Poland to advance its low-carbon transition while ensuring energy security and investing more in adaptation.** The low-carbon transition is expected to impact Poland's competitiveness and economic geography. Ambitious targets under the European Green Deal (EGD), including the Fit-for-55 package, will accelerate the clean energy transition, and will trigger structural changes in energy markets. However, the estimated investment needs are large and require significant private sector capital mobilization. The urgency of the clean energy transition has been compounded by the recent energy security concerns in the region. While Poland is less exposed than other countries to climate risks, climate vulnerability is increasing, and the country needs to redouble its efforts to adapt to expected shifts in climate patterns.
- **The recent slowdown in productivity is weighing on growth.** An important headwind is the slowdown in global productivity linked to slower growth in the working age population globally, stabilization of educational attainment, slower reallocation of labor, stalling of GVC expansion, and intensifying climatic shocks. Furthermore, since the COVID-19 pandemic, the reconfiguration of GVCs, higher trade barriers in response to international trade tensions, and the need to reduce GVC vulnerabilities raise risks while also providing new opportunities for Poland's growth model.
- **Rapid technological change, including from the green transition, is altering production methods and the demand for skills.** The creation and adoption of productivity-enhancing technologies has the potential for raising firm productivity, and to rapid shifts in labor demand in occupations affected by technological shifts. While this can feed into labor market polarization, and labor force resilience may be tested, it can also increase the demand for labor. Over the longer term, generative artificial intelligence (AI) is set to change the future of jobs, raising concerns about its impact on labor markets and inequality.

- **Rapid demographic transition and population aging represent important headwinds, weighing on the country's long-term growth prospects and fiscal sustainability.** While Poland remains one of the youngest countries in Europe, it is also one of the fastest aging populations in the EU and OECD. The combination of a shrinking workforce and rising dependency rates could compromise growth prospects, while sharp increases in the share of the elderly population will trigger major public spending on health care, long-term care, and pensions. Demographic shifts vary across regions, cities and rural areas. This places an uneven strain on public service provision and will require a review of the territorial concentrations of services and infrastructure.
- **Evolving European context.** Poland's Presidency of the EU in 2025 comes at a moment when the bloc faces some of its hardest challenges for several decades, with war at its external borders and the possibility of enlargement at a more rapid and expansive pace than previously considered. As the EU upgrades its institutions and convergence policies to ready itself for these transitions, Poland will be both directly impacted by these changes, while having a significant ability to influence them.

Resetting the growth model will require accelerating innovation and technology adoption, sharing prosperity, and achieving the green transition

1. Boosting productivity through innovation, faster technology adoption, and capital deepening

A more dynamic private sector, with more productive firms, requires firms to expand their innovation capacity and invest more in R&D. Renewed R&D investment efforts and basic within-firm technological upgrading could allow Poland to boost productivity growth significantly. The country also lags behind the OECD average for diffusion of ICT tools and activities, including big data, e-sales, cloud computing, e-purchases, and social media. Poland could also improve productivity and resilience by digitalizing faster, while more green innovation is needed to meet Poland's green transition and sustainability objectives. Some of the key areas for technological innovation include alternative fuels, electric vehicles, renewable energy sources, operational efficiency, and digitalization. However, these technologies face significant barriers in terms of costs, availability, scalability, and regulation, as well as social acceptability in some cases.

Poland can reap efficiency gains and bolster private sector growth by making its regulatory environment in specific areas as competition-friendly as some of the best performing economies in the EU. While Poland's overall business regulatory environment is on par with other OECD economies, it is not as conducive to competition as the best-performing OECD and EU countries and lags behind in the regulatory set-up of some network sectors (OECD, 2022). In some industries a lack of transparency over the issuance of permits, and uncertainty surrounding policies and the regulatory framework, are affecting investment decisions (for instance, in the renewables sector). The country also scores less favorably than peers for its regulatory framework and the barriers to entry and expansion in several professional services and some network sectors, particularly energy and transport. Strengthening the governance of state-owned enterprises (SOEs) could help ensure a level playing field for privately owned firms. There are opportunities to improve the regulatory framework in many sectors, aligning it with good international practices to increase market contestability. Furthermore, in energy and transportation – where there is broad state ownership – the set-up of sectoral regulators could be better aligned with OECD good practice.

A deeper and more efficient capital market in Poland, with longer maturities and higher liquidity, would support investments in high-growth sectors. These include digital and high-tech sectors, where most capital is intangible, and high-risk potential initiatives such as R&D. Long-term finance

is critical for the longer-term investments required for the green transition and for building climate resilience. However, an underdeveloped institutional investor base hinders the development of long-term finance. The deepening of the non-government bond market also depends on the capacity to mobilize foreign investors, in addition to expanding domestic investment and pension funds. While Poland has one of the largest non-government capital markets of Central and Eastern European (CEE) countries, it is undersized for its development needs, and much smaller as a share of GDP than that of Western European countries. Moreover, EU institutional investors underinvest in domestic equity products. While bank loans are still the preferred, and sometimes the only, funding option for Polish companies as market premiums are relatively high, equity-based financing might be better suited to finance high-growth potential sectors such as digital and high-tech where most capital is intangible and harder to collateralize. Increasing access to finance for micro, small, and medium enterprises (MSMEs) could remove an important constraint to private sector growth.

Financial intermediation will need to step up to enable the green transition, given the large investment needs. Achieving net zero emission in the power sector by 2050 would require investments of around US\$130 billion in undiscounted terms (World Bank, 2022b). While public and blended finance are vital for the shift to a greener and more resilient economy, ultimately private capital is needed to help all companies realign their business models to net zero targets and fund the initiatives and innovations of the private sector. To mobilize private capital toward environmentally friendly activities and technologies there is a need for enhanced disclosure and reporting initiatives, improved risk management practices, and increased demand for green assets. Although green bond and loan markets are still relatively small, these instruments can play a transformative role by raising awareness, boosting accountability, and increasing transparency (World Bank, 2022b).

Sound and effective macroeconomic and fiscal management and institutions are critical for a private sector enabling environment. Poland should strengthen its macro-fiscal institutions to continue to align with the EU economic governance framework. Its medium-term budgetary framework (MTBF) could be strengthened to ensure sound public finances as spending pressures intensify. Off-budget public expenditure has risen, posing a challenge for accountability and transparency; however, reforms outlined in the National Recovery and Resilience Plan (NRRP) endorsed by the European Commission, are expected to reverse this trend in the coming years. Off-budget Special Purpose Vehicles (SPVs) have accumulated a large amount of debt. This stood at nearly 21 percent of the general government debt at the end of end 2023, compared to just under 5 percent at the end of 2019. There is also an urgent need to reorganize and strengthen the financing system and administrative capacity of local government units (LGUs) so they can deliver public services and invest in the green transition. Reinforcing state institutions will support public financial management and economic governance, as well as trust in the justice system, which has declined amid rising concerns over the independence of the judiciary.

2. Pursuing the green transition for a livable planet and a competitive economy

A faster pace of the energy transition is needed given that Poland remains the second most emission-intensive economy in the EU. Over the remainder of this decade there is likely to be a concerted focus on the green transition and energy security, given Poland's commitments under the EU policy set out in the EGD. Importantly the EU will most likely miss its 2050 net zero target without significant progress on Poland's own green transition. Yet, Poland's progress has been uneven across the various EGD policy dimensions, including decarbonization, air pollution, and water and waste management. Despite a significant decline in carbon intensity since the early 2000s, Poland's heavy dependence on coal makes it one of the most energy-inefficient and carbon-intensive countries in Europe.

Changes in the EU legal framework (“Fit-for-55” package) are likely to increase the prices of emissions allowances and could reduce the competitiveness of parts of the industrial base.

In April 2023 the EU Council adopted the expansion of the EU Emissions Trading System (ETS), the Carbon Border Adjustment Mechanism, and the Social Climate Fund to support vulnerable households and enterprises. It also included transport users in the expansion of the ETS. Increased demand for sustainability reporting, as well as shifting corporate responsibility requirements and consumer preferences, could impact firms’ competitiveness over the medium term.

Decarbonizing the economy, improving the management of key environmental assets, and increasing adaptation to climate change, especially by farmers, are critical for resilient growth and inclusion.

Given Poland’s high carbon intensity, decarbonizing the economy will require leadership, vision and commitment at both national and subnational levels. Policies and programs will be needed to mitigate impacts on the labor market, to avoid significant place-based impacts on former mining communities and those in the coal value-chain, and to ensure vulnerable groups are not left further behind. The ailing and under-invested power grid will need substantial investment to enable mass renewable deployment by the public and private sector – even more urgent given regional energy security concerns. Sustainable transport; adoption of energy efficient technologies by firms, households, and the building sector; as well as changes in production practices; are all needed to maintain a sustainable economy. Incentives, financing and regulations require an overhaul to make them fit-for-purpose for Poland’s environmental ambitions, as sector and regional strategies are out of sync with national commitments and transition trajectories. This is best illustrated by the relaxing of coal quality standards and anti-smog resolutions despite national ambitions to advance heat source transitions in the pursuit of cleaner air.

Poland needs to make green investments a key pillar of economic transformation, with private capital playing a critical role.

A scale-up of green investments will not only mitigate climate change, bringing the country closer to meeting the objectives of the EU climate policy, it will also foster economic growth and job creation. In that context, an important enabling role in the green transition will have to be played by the financial sector. Public and blended finance have a vital part to play in the shift to a greener and more resilient economy, but ultimately private capital is needed to help all companies realign their business models for net zero and fund the initiatives and innovations of the private sector.

3. **Sharing prosperity by reducing spatial and social disparities**

Poland’s strong education system has built a skilled workforce that has helped to secure FDI and enhance social mobility. Despite its past stellar performance, a decline in the quality of basic education visible since 2016 places an urgency on reforms to advance learning outcomes, social mobility, and long-term growth.

Learning outcomes, as measured by the Programme for International Student Assessment (PISA), significantly deteriorated between 2018 and 2022. This reflects learning losses during the COVID-19 pandemic due to the switch to distance learning and school closures lasting nearly 26 weeks, one of Europe’s longest. It also reflects reforms to the education system since 2016, which are likely to have had a negative impact on both the acquisition of foundational skills and the equity of the system, with boys and vulnerable groups particularly impacted. The post-reform education system in Poland has one of the lowest number of hours of instruction during full-time compulsory education in the EU-27. Opportunities to advance the acquisition of foundational skills, critical for the workers of tomorrow to adapt to evolving labor markets, include extending the duration and coverage of the core curriculum to further deepen foundational skills, and monitoring mechanisms to identify and allow for responsive engagement to support children at risk of falling behind.

Building the digital skills and technologies required to spearhead the transitions will be crucial.

Poland’s workforce and enterprises are less digitally advanced than their peers. Focused efforts will

be required to foster digital skills, both in the advanced skill domain and among vulnerable groups. Strengthening links between the research sector and industry will keep research institutions at the forefront of industry-based academic innovation and facilitate the commercialization of research.

Improving the quality of healthcare service delivery is key to extend healthy lives and meet the needs of Poland's rapidly aging population. Life expectancy in Poland remains among the lowest in the EU, and higher proportions of the population experience chronic conditions than their European peers. There is substantial scope to advance preventative care, which is critical to improve life expectancy. This will require additional financing, such as via fiscal measures such as tobacco and sugar beverage taxes; as well as incentivizing cost-efficient and effective preventative measures, such as vaccines and behavioral interventions. Rising levels of debt and suboptimal treatment processes suggest a need for urgent reform of both hospital efficiency as well as quality. While Poland carried out hospital reforms in 2017 to improve the organization of hospital service delivery, increase access and improve coordination of in- and out-patient care, among others, limited progress in these areas has been noted to date. Health workforce shortages, which vary significantly across regions, may further deteriorate given aging within the health workforce while the needs on the system increase with general population aging. The strain on long-term care services in the health and social system is already visible. Differences in subnational capacity in service provision feed into high regional and sub-regional disparities in access to outpatient and inpatient care, including residential care services. As the Polish healthcare system responds to these emerging challenges, ensuring consistent and equal service delivery across regions is critical.

Labor markets will be shaped in coming years by demographic pressures and the dual challenge of the technological and green transitions. Poland will need to further increase labor market participation and resilience, equipping the workforce to adapt to changing skills demand. Poland's vibrant labor market has been a powerful force in raising household incomes, with rising labor force participation and strong wage growth feeding into long-term reductions in poverty. This channel was weaker between 2016 and 2021 compared to between 2005 and 2016, despite rising labor force participation rates and wages. The combination of technological change and the greening of the economy is expected to transform the task content of existing jobs, and to impact the demand for skills and the location of that demand (World Bank, 2023a, further discussed in Section 2 and 4).¹ Rapidly changing labor markets pose a further risk to inclusion due to labor market scarring among some groups who struggle to remain economically active or are not meeting their potential. Labor market resilience can be supported through encouraging continuous learning and upgrading skills. This will include strengthening, incentivizing, and adapting the provision of advanced technical skills in the VET system, among private and public providers of short-term professional training and through encouraging lifelong learning by firms and employers. Partnerships could also be promoted with mine conglomerates to provide training and re-employment services for workers affected by the coal transition. Finally, labor force participation among women, older groups and disadvantaged populations can be further unlocked by levelling out fiscal disincentives for secondary earners and advancing the incentives for shared parental leave and responsibilities. While there has been a steady increase in employment rates among people aged 50 and above, employment sharply declines at the legal retirement age. There is a need to equalize and raise the retirement age to extend working lives. Active labor market policies and effective job intermediation services implemented by Labor Offices could play an important role in promoting access to employment, especially among the most disadvantaged.

Addressing gaps in housing, especially in the affordable rental segment, can remove barriers to geographic mobility, thereby opening up dynamic urban areas and labor markets. The insufficient volume of social and affordable housing inhibits citizens' geographical mobility. Poorer, younger, and less educated groups are especially affected by this situation. Indeed, differences in

housing costs between the biggest and smaller cities have been found to be larger than the wage gains from shifting between these labor markets for primary and secondary educated individuals, fully reducing the mobility opportunities for these groups. The low share of rental housing and limited investment in social housing has contributed to tight housing markets, especially in dynamic urban areas, and poses a barrier to both growth and inclusion. Despite efforts to deepen the municipal and social rental housing stock, supply in this segment is low relative to demand. Investment to improve the quality and energy efficiency of units require intensification, and the recently expanded “Termo” program is a step in a right direction.

There is substantial scope to improve the equity and resilience of the social protection system while increasing the efficiency of public spending on social benefits. While Poland’s social protection system provides a range of benefits to individuals and families, the majority of resources flow through non-means tested cash benefits. This has contributed to a system with limited redistributive power and gaps in social assistance² coverage for the working poor have opened over time as the share of households supported by social transfers has declined systematically, partly as a result of higher nominal incomes and unchanged thresholds. As a result, minimum-income programs targeted at low-income households only reached approximately half of those living in legal poverty in 2021.³ The large number of social protection programs and the expansion in the range of family programs have increased fragmentation, contributing to gaps and overlaps in the delivery of social protection services. Social welfare workers play a pivotal role in referring people to relevant services and programs, but capacity gaps could impede coordination – and are likely to be further strained as population aging increases the need for integrated health and social services.

The social and financial sustainability of the pension system will be tested with rising life expectancy. The pension system is expected to contribute to public spending pressures over the medium term as the incomplete reform of the pension system linked to the rollback of retirement ages increases the deficit of the Social Insurance Fund. The social insurance system in Poland is imbalanced, with expenditures exceeding contribution revenues, and medium-term projections anticipate an increasing deficit driven by rising old-age expenditure. The adequacy of benefits is also projected to decline in the absence of changes to the legal retirement age and with rising life expectancy. This decline is expected to particularly impact women, who already see a significant gender gap in pensions, and may contribute to a rise in elderly poverty. Only a quarter of those covered by social insurance have additional pensions savings that can be mobilized, and trust in private-savings institutions remains low. The system is seen as complex, suppressing further savings potential. Building trust in pensions institutions and the instruments for longer-term savings could support further accumulation of pensions savings, particularly among younger groups.

Looking Forward

The report concludes with recommendations in the form of high-level outcomes (HLOs), and actions to achieve them, summarized below and discussed in detail in Chapter 5.

High-level outcomes and priorities

High-level outcomes	Priorities
HLO I. Create high productivity jobs through a dynamic and innovative private sector	1. Strengthen the rule of law and quality of the regulatory framework through increased predictability, consistency, and transparency of the legislative process, and guaranteeing the independence and impartiality of courts.
	2. Maintain macroeconomic stability by ensuring fiscal sustainability through an enhanced fiscal framework and institutions , in line with the revised EU economic governance framework
	3. Increase long-term financing options by deepening domestic capital markets and ensuring adequate access to finance (including for MSMEs)
	4. Enhance market competition and innovation , including through limiting the presence of SOEs in competitive sectors, strengthening the innovation eco-structure, and creating an enabling regulatory environment to facilitate the green and digital transitions
HLO II. Raise human capital levels to seize the benefits of the technological and green transitions	5. Improve education to meet the changing need for skills , focusing on foundational skills in schools, addressing impediments to attract and recruit teachers, advancing the labor market responsiveness of VET and facilitating lifelong learning to strengthen re- and up-skilling
	6. Increase labor force participation and resilience , focusing on increasing female labor force participation, extending working lives, making labor market institutions and policies more responsive to changing labor and skills demand, and advancing geographic mobility through enhancing the affordable housing segment.
	7. Improve health outcomes and long-term care structures through advancing preventative care, strengthening hospital efficiency and quality, further measures to attract, retain and efficiently allocate human resources, and preparing long-term care structures for the aging population.
HLO III. Provide high-quality public services to reduce disparities and strengthen the social contract	8. Advance the effectiveness of local and national government administration , including through reforming inter-governmental fiscal transfers, strengthening public investment management and improving the mechanisms for multi-level governance.
	9. Improve the efficiency and effectiveness of social protection by closing coverage and adequacy gaps in minimum-income programs, reducing program fragmentation, reinforcing adaptive social protection structures, supporting the energy poor, and strengthening local administrative capacity to advance service delivery.
	10. Strengthen the fiscal and social sustainability of the pension system by raising the retirement age and closing the gender gap, and advancing savings through encouraging younger cohorts to save more and increasing trust in longer-term savings instruments.
HLO IV. Achieve the green transition while maintaining economic competitiveness	11. Advance decarbonization while ensuring energy security through conducive conditions and a regulatory environment for increasing investment in renewable energy sources, incentives for energy efficiency, and promoting the circular economy.
	12. Enhance management of key environmental assets (water, forests, air quality) and build climate resilience into key sectors through a review of the policies in agriculture, forestry and water management, including implementing the anti-smog regulations and solid fuel quality standards, and investing in resilient agriculture.

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Acronyms and Abbreviations

AI	Artificial Intelligence	FDP	Forcibly Displaced Persons
AROP	At Risk of Poverty	FSPs	Financial Service Providers
BGK	Bank Gospodarstwa Krajowego	FUA	Functional Urban Area
BOS	Business of State	GDP	Gross Domestic Product
CAP	Common Agricultural Policy	GHG	Greenhouse Gas
CAPP	Clean Air Priority Program	GNI	Gross National Income
CE	Circular economy	GUS	Główny Urząd Statystyczny
CEEB	Central Emissions Registry	GVC	Global Value Chains
CIT	Corporate income Tax	HBS	Household Budget Survey
CCDR	Country Climate and Development Report	HLO	High-Level Outcome
CMU	Country Management Unit	HR	Human Resources
CVET	Continuing Vocational Education and Training	HRM	Human Resources Management
DRM	Disaster Risk Management	ICT	Information and Communications Technology
EAPI	Energy Architecture Performance Index	IFC	International Finance Corporation
EC	European Commission	IFI	Independent Fiscal Institution
ECA	Europe and Central Asia	IFMIS	Integrated Financial Management Information System
ECEC	Early Childhood Education and Care	IMF	International Monetary Fund
EGD	European Green Deal	ISP	Institutional Strategic Plans
EIB	European Investment Bank	IT	Information Technology
EKRS	Electronic Court Register	LGU	Local Government Unit
ESG	Environmental, Social and Governance	LPI	Logistics Performance Index
ESIF	European Structural and Investment Funds	LTC	Long Term Care
EU	European Union	LULUCF	Land Use, Land-Use Change and Forestry
EV	Electric Vehicle	MFF	Multiannual Financial Framework
FDI	Foreign Direct Investments	MIGA	Multilateral Investment Guarantee Agency

MSMEs	Micro, Small and Medium-sized Enterprises
NBFIs	Nonbank Financial Institutions
NEET	Not in Education, Employment and Training
NGEU	Next Generation EU
NRRP	National Recovery and Resilience Plan
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organization for Economic Cooperation and Development
OFE	Open Pension Funds (<i>Otwarte Fundusze Emerytalne</i>)
PFR	Polish Development Fund
PHC	Primary Healthcare
PIM	Public Investment Management
PISA	Programme for International Student Assessment
PIT	Personal Income Tax
PLN	Polish Zloty
PMR	Product Market Regulation
POS	Point of Sale
PPP	Purchasing Power Parity
PPPs	Public-Private Partnership
PPS	Purchasing Power Standards
R&D	Research and Development
RER	Regular Economic Report
RVC	Regional Value Chains
R&I	Research and Innovation

ROP	Regional Operational Programs
RVP	Regional Value Chains
SCD	Systematic Country Diagnostic
SILC	Statistics on Income and Living Conditions
SMEs	Small and Medium-sized Enterprises
SOE	State-Owned Enterprises
TFP	Total Factor Productivity
TVET	Technical and Vocational Education and Training
VAT	Value-added Tax
VET	Vocational Education and Training
WDI	World Development Indicators
WHO	World Health Organization

Country Abbreviations

BGR	Bulgaria
CZE	Czechia
EST	Estonia
HRV	Croatia
HUN	Hungary
POL	Poland
ROU	Romania
SVK	Slovak Republic

1. Progress since 2017 and emerging trends

This Systematic Country Diagnostic (SCD) Update examines challenges and risks to Poland's inclusive and sustainable growth model, assessing progress since the last SCD in 2017. The first SCD (SCD-1) highlighted that Poland was at a development crossroads: rapid, inclusive and sustained development required a revised strategy that responds to emerging challenges (see Annex 2). After achieving a successful development path with robust growth, noteworthy poverty reduction and shared prosperity; the SCD-1 suggested that a revised development model built on a strategic, effective and accountable state would be required to continue on its pathway while meeting the existing and emerging challenges. The challenges identified included rapid aging, weak institutions and governance structures, lagging regional convergence, external vulnerabilities, the impact of technological change on labor markets, rising pressures on the use of natural resources and adaptation challenges. SCD-1 identified three main pathways - boosting productivity, enhancing inclusion and ensuring sustainability - and nine priority policy areas within these pathways for continued income convergence and shared prosperity. Progress within these priority areas has been mixed, with some but incomplete progress seen in multiple priority areas, limited progress or reversals in some, and new challenges in others (see Annex-3 for the assessment). This SCD Update puts forward an updated diagnostic of the challenges and opportunities facing Poland as it embraces the next segment of its inclusive and sustainable growth trajectory, updating the identified priority areas.

Poland is in many respects a development success story, having made tremendous progress toward attaining European Union (EU) income levels thanks to sustained growth over several decades. However, since SCD-1, the economy has been challenged by unprecedented global and regional shocks: in 2020-2021 the COVID-19 pandemic caused Poland to experience its first economic contraction since 1991, and subsequently Russia's invasion of Ukraine in February 2022 trickled down into an energy crisis, high inflation and synchronized monetary policy tightening around the world that significantly increased borrowing costs globally. Poland and other countries in the region have seen a large influx of displaced Ukrainians because of the war. The economy has proven resilient to these shocks but policy buffers have been diminished. At the same time institutions and the rule of law have deteriorated markedly over the past decade.

The country can reset its growth model and further reduce its carbon-intensity to further advance income convergence. As Poland pivots towards a more sustainable and innovation driven growth trajectory, it will need to address lingering structural challenges that have the potential to act as a drag on growth and limit inclusiveness, including an aging population and lower labor force participation by some groups, notably women; pervasive regional disparities that weaken the social contract; and a business environment that is less conducive to private investment and a dynamic private sector.

In this context, the first chapter sets the stage by discussing recent developments that have shaped Poland's inclusive growth trajectory in recent years, as well as emerging challenges and opportunities. The next three chapters focus on key pillars of growth and shared prosperity: (i) sustaining economic transformation, competitiveness and income convergence through a dynamic and innovative private sector; (ii) reducing spatial and social disparities; and (iii) accelerating the green transition. In the final chapter, the SCD Update highlights opportunities - formulated as high-level outcomes (HLOs) - and specific policy actions to ensure Poland's shared and sustainable prosperity.⁴

1.1. Economic growth has been resilient, but full income convergence requires overcoming structural challenges in the context of weaker fundamentals

1. **Since the last SCD in 2017 (summarized in Annex 3), Poland – like the rest of the world – has faced unprecedented global and regional external shocks.** The COVID-19 pandemic caused the country's first recession since 1991 (-2 percent in 2020). While it was one of the shallowest recessions in the region, and the economy bounced back strongly, it was followed by Russia's invasion of Ukraine in 2022 – another large shock which undermined growth. The shock was propagated through multiple transmission channels, including a large influx of displaced Ukrainians; the energy crisis, resulting in record-high inflation; weak external demand; and loss of confidence due to uncertainty and tight financial markets. The sharp acceleration in inflation in the wake of the energy and food price crisis eroded real incomes, affecting poor segments of the population disproportionately.

2. **Despite the adverse external environment, the economy has grown at potential, thanks to strong fundamentals and the fiscal space created up until 2019, anchored in the EU economic governance framework.** Overall, the economy has proven resilient, sustaining a robust average growth of 4.1 percent over 2016-2022. Growth during this period accelerated 1 percentage point compared with 2011-2016 and was consistently above the estimated potential growth (3.5 percent). Private consumption contributed to more than half of growth, followed by investment and public consumption (Figure 1-1). Poland's resilience to shocks has been bolstered by a well-diversified economy, well integrated into regional supply chains, and a sound macroeconomic framework anchored in the EU economic governance framework, which facilitated a countercyclical fiscal policy and an accommodative monetary policy in response to the crises. Total factor productivity (TFP) and capital deepening were the main contributors to long-term growth. TFP contributed more than one-quarter of growth over the 2000-2019 period, grounded in efficiency gains. Capital deepening, mostly non-information and communication technology (ICT), contributed more than 40 percent of growth over

Figure 1-1: Poland has seen healthy growth over 2016-2022. **Growth contributions of demand components**

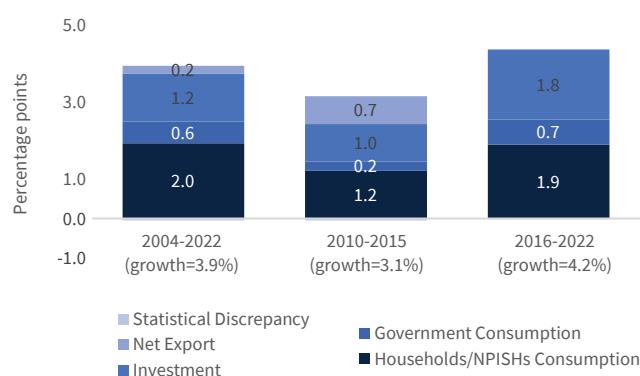
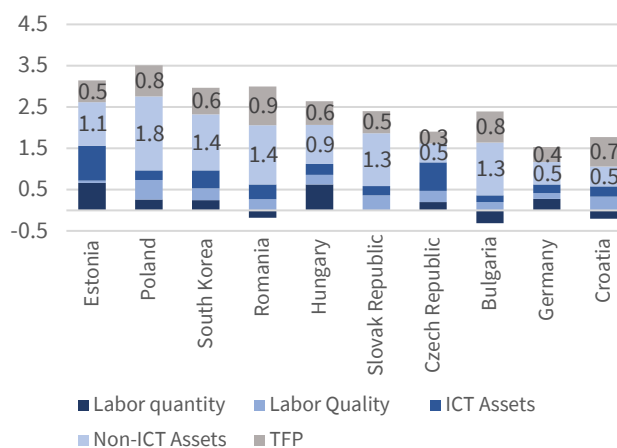


Figure 1-2: Growth exceeded peers' over 2010-2021. **Growth contributions of TFP, Non-ICT, ICT capital, labor and skills, 2010-2021**



Note: Growth decomposition adjusted for labor and capital quality.

Source: World Bank staff based on Conference Board data 2010-2022.

the period (Figure 1-2) as Poland successfully absorbed EU structural funds and attracted foreign direct investment (FDI), including for integration into regional value chains (RVCs).

3. **Poland's fiscal space has narrowed, and it is important to rebuild macroeconomic policy buffers to strengthen the country's ability to respond to future crises.** Poland's fiscal space has narrowed considerably in the wake of the multiple shocks, with larger structural deficits at a time of tight global financing conditions. Support to households and firms to mitigate the economic and social impacts has resulted in general government budget deficits averaging more than 3.5 percent of GDP since 2020, and debt levels are expected to remain above pre-COVID levels, hovering at 50 percent of GDP over the medium term (EC, 2023a).⁵ At the same time, the tax system reform, aimed at increasing progressivity, resulted in foregone personal income tax (PIT) revenues estimated at 1 percentage point of GDP on average in 2022-2023. Larger structural deficits, with spending pressures stemming from the additional budget allocated to health and defense, are elevating gross public financing needs. Continued (albeit declining) aid to displaced persons from Ukraine, high inflation and higher interest debt payments are also contributing to higher spending.⁶ As the EU is revising its Economic Governance Framework, an important policy anchor, Poland's economic governance institutions will need to be reinforced, with fiscal and structural policies in the short-term balancing economic competitiveness and social inclusion objectives, whilst supporting fiscal consolidation.
4. **Inflation has increased sharply in the wake of the energy and food prices shocks, eroding real incomes.** Inflation surged to double digits in 2022, averaging 14.4 percent, up from 5.1 percent in 2021 and the 1.8 percent annual average recorded in the decade prior to COVID-19. It has remained above the targeted range of $2.5\% \pm 1$ percent. While the disinflation process is underway,⁷ inflation is projected to remain higher for longer, and above target until 2025, as core inflation declines gradually while food and energy prices stabilize following lower international prices. The rising cost of living is expected to cause hardship among vulnerable groups and poverty is projected to increase, despite substantial reactive support measures that have significantly moderated the price impact of energy price increases (Badiani-Magnusson and Wronski, 2024).
5. **Private investment remains below the EU average and is being held back by weaknesses in the business environment.** Productivity growth has been strong, due to capital accumulation and efficiency gains, but Poland's growth potential is being held back by low levels of investment and innovation (EC, 2023a). There is a private sector investment "deficit", with Poland near the bottom 25th percentile in the EU-27 for investment as a share of GDP. In 2022, investment in

Figure 1-3: Poland still has a way to go to reach the EU-15 average income. **Real GDP per capita (share of EU-15 average)**

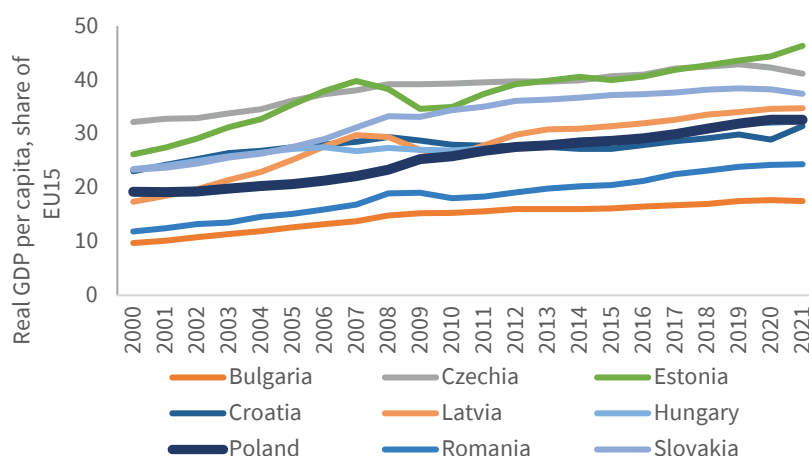
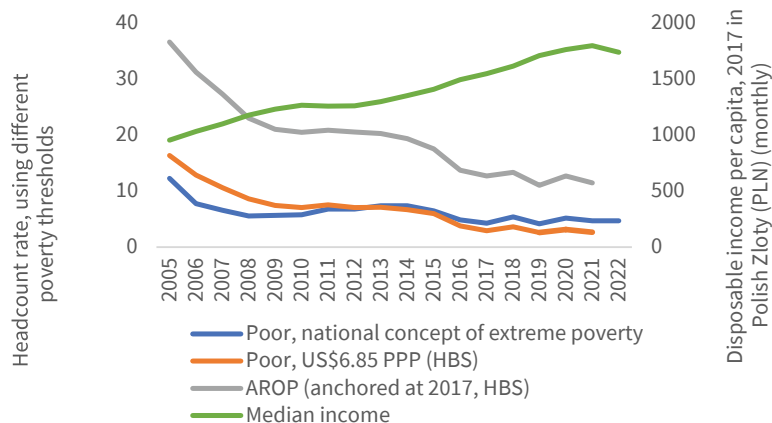


Figure 1-4: Long-term progress in reducing poverty slowed between 2017 and 2022.

Poverty rates and median income growth



buildings and infrastructure represented more than 50 percent, while investment in intangible assets (e.g., R&D investment and intellectual property) accounted for less than 10 percent, hindering the economy’s ability to move up the value chain (EIB, 2022). Businesses’ adoption of technology lags behind the EU average, and small- and medium-sized enterprises (SMEs) show meagre levels of innovation (EC, 2023a).

6. **Poland’s income convergence process with the EU average is not complete.** While sustained and robust growth since the completion of the 2017 SCD resulted in an increase in GDP per capita at purchasing power standards (PPS) to 80 percent of the EU-27 average, income convergence is not complete: Poland’s real GDP per capita is only about one-third of the EU-15 average (Figure 1-3). Moreover, there is less progress in regional convergence, with persistent regional disparities across various social and economic dimensions. While nearly three decades of uninterrupted economic growth have translated into rapid progress for median and poorer households and among those at the bottom 40 percent of the income distribution, the pace at which poverty declined slowed between 2017 and 2022 and inequality has risen (Section 1.3). The share of the population at risk of poverty (AROP), anchored to the 2017 poverty line, declined from 36 percent of the population in 2005 to 13 percent in 2017, and hovered at this level between 2017 and 2021 (Figure 1-4).⁸

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1.2. Improving inclusion requires greater emphasis on labor market integration, a progressive fiscal system and containing spatial disparities

7. Poland has achieved impressive long-term poverty reduction and median income growth. The pace of poverty reduction has however declined in the face of external shocks, and income disparities have risen.

8. **Progress on poverty reduction has slowed in the wake of COVID-19 and the prolonged period of elevated inflation.** Poland entered the COVID-19 pandemic in a position of relative strength, as 30 years of economic growth had translated into rapid long-term progress in monetary and non-monetary indicators of well-being for median, bottom 40 and poorer households (Figure A2-3). Poland has achieved impressive and noteworthy poverty reduction using international poverty lines since 2005 (Figure 1-4). Poverty captured using the at risk of poverty concept, a relative concept where the poverty threshold is based on 60% of median incomes in each country, falls below EU average in 2021, although poverty measured using absolute concepts show slightly

higher than average rates in 2021. The share of those living in extreme poverty, based on the national subsistence minimum concept, declined from 12 percent in 2004 to 4.9 percent in 2016, and has oscillated between 4.2 and 5.4 percent since then.⁹ Splitting the 2005 to 2022 period into shorter segments shows that progress slowed during the first half of the 2010s, consistent with the broader economic slowdown in the wake of the global financial and euro-zone crises, and is being challenged once again by the COVID-19 pandemic and the impact of inflationary pressures on purchasing power.¹⁰ Elevated inflation since 2021 fed into declines in real wages in 2022 and the first two quarters of 2023, but its impact on poorer households has been moderated by significant measures to soften the impact of the energy and food price shocks. Working poor households are furthermore likely to be impacted by substantial fiscal drag, given nominal taxable income growth and unchanged personal income tax (PIT) thresholds, and by the intermittent indexation of minimum income programs that has tightened both eligibility and adequacy (see Chapter 3).

9. **Inequality, measured by the Gini coefficient, has increased since reaching a low in 2017.** The Gini coefficient of inequality, based on disposable income using the Household Budget Survey, has increased since 2017, although it remains considerably below the levels seen at the time of Poland's accession to the EU (Statistics Poland, 2023).¹¹ This reversal reflects a deterioration in the contribution of labor incomes to reducing inequality since 2017 (Badiani-Magnusson, 2024).¹² Top income-corrected estimates suggest that while growth has benefitted Poles across the income distribution, it has not been evenly shared.¹³ In contrast to household survey data, long-term analysis of top incomes (which are poorly captured in survey data) points to persistent and growing divides.¹⁴ These studies suggest a strong rise in the share of incomes going to the richest 10 percent of individuals, and rising inequality after 2000.¹⁵ These top income-corrected estimates suggest that equality in Poland has declined to levels that place it among the more unequal countries in Europe.¹⁶
10. **Pensions and transfers have helped to reduce poverty while the role of labor incomes in reducing poverty has weakened compared to earlier periods of poverty reduction.** A sharp reduction in poverty in 2016, linked to the expansion of family benefits, has given way to more muted progress since 2017, despite rising real minimum wages and a vibrant labor market.¹⁷ A similar trend can be seen when considering incomes of the bottom 20 percent of the income distribution. A decomposition of income growth since 2005 (Figure 1-5)¹⁸ shows that pensions and social assistance have seen their role in explaining poverty reduction increase between 2015 and 2021, compared to their role between 2005 and 2015. This is a result of the expansion of demographically targeted transfers that reached poorer households not previously covered by social assistance programs, and the introduction of additional 13th and 14th month pensions.¹⁹ The additional social benefits have reduced coverage and adequacy gaps in the social assistance and family benefits system, but the untargeted approach has meant a substantial fiscal cost and has weakened the overall efficiency of the system.²⁰ While labor incomes continued to play an important role in strengthening well-being, since 2015 labor market dynamism has played a more important role in income growth among median and richer households than among poorer households.²¹ The Polish Deal in 2022 increased the progressivity of the fiscal system (Badiani-Magnusson and Goraus, 2022) although some of this impact has been eroded with the high inflation since 2022, in particular for those receiving pensions (Król et al. 2022).
11. **Poland's poorest populations are increasingly characterized by social vulnerabilities and low labor market participation, and are spatially concentrated in rural areas and some regions.** The expansion of universal family benefits has fed into pronounced changes in the profile of poor households: high poverty rates among families with more than three children in 2015 contributed

to the rural-urban poverty divide, but it has since narrowed as these households were more likely to be located in rural areas.²² Among those most at risk of extreme poverty are those living on social benefits (Figure 1-6). The risk of poverty has, however, been rising more broadly among elderly individuals, with the number of people aged 65 plus at risk of poverty tripling between 2005 and 2020 (Figure A2-10). While as a group elderly individuals are not disproportionately poor, elevated poverty rates can be seen among early retirees and those who are the recipient of survival and disability pensions.

Figure 1-5: Transfers played a stronger role in reducing poverty post-2015 than in the earlier period
Contribution to change in anchored at risk of poverty

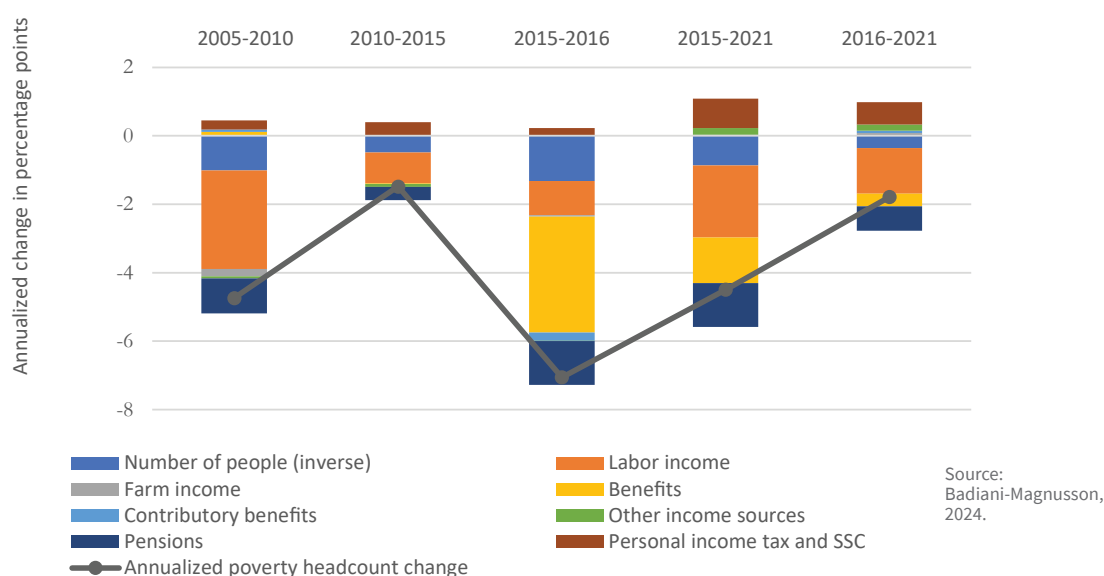
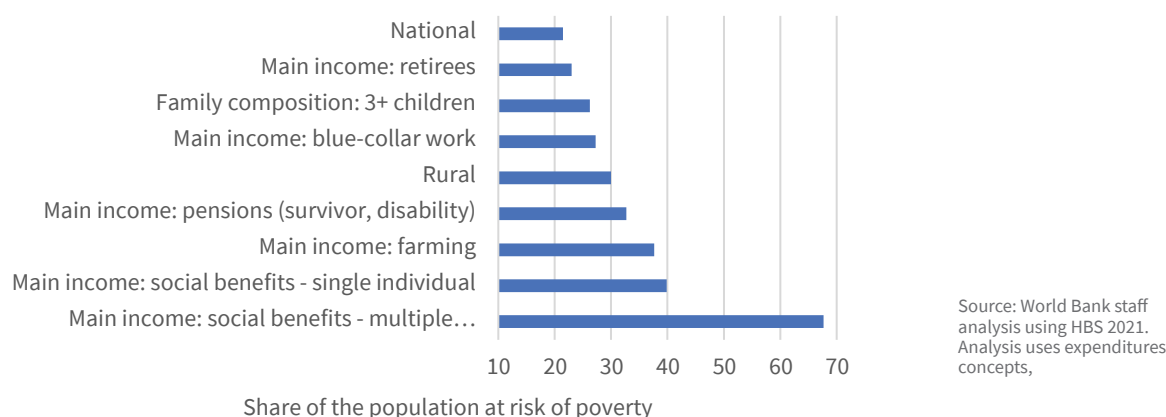


Figure 1-6: People receiving social benefits have a far higher risk of poverty

Share of population in households at risk of poverty, by income and socioeconomics



12. **Further reductions in income poverty hinge upon improving labor market engagement among poorer households**, while continuing to provide a safety net for economically and socially vulnerable households. Labor force participation by working age males in poorer households has been inching up since 2016, in line with broader patterns of rising labor force participation in Poland (see Chapter 3). However, female labor force participation has been less responsive and labor market participation among working age individuals in lower income households continues

to be lower than average, acting as a dampener on income growth and posing a future risk to elevated elderly poverty (Badiani-Magnusson, 2024). A substantial tax reform in 2022, the Polish Deal, advanced labor market incentives through a reduction of the tax wedge for second earners.²³ The tax system however disincentivizes second earners in a household (typically women) due to joint household taxation (Figure A2-8).²⁴ While the effective participation tax rate for a second earner decreases as gross earnings increase, this continues to pose a disincentive for individuals in less well remunerated professions.

Regional income convergence is lagging – its acceleration will hinge on a just transition

13. **Poland has made important advances in converging its GDP per capita (at PPS) with the EU-27 average; however, regional income levels vary** (Figure A2-1). While Poland has sustained strong economic growth since the 1990s, economic development has been unevenly distributed across the regions. Variation in economic performance across Poland's western and eastern subregions has fed into regional polarization (Pietrzak and Balcerzak, 2017). A prominent trend in the EU is the concentration of pockets of relatively high wealth creation in almost every capital city region, including Warsaw. Meanwhile, lagging rural areas that depend on agriculture are faced with challenges that include aging populations, more limited access to markets and credit, lack of infrastructure, and outdated farming techniques. Persistent regional inequality highlights the need for policy interventions aimed at reducing disparities in regional outcomes.
14. **An important aspect of regional development in Poland is ensuring a just transition for coal-mining areas, so that no place or person is left behind as coal is phased out.** Many local communities were built around the coal sector, which has supported both local infrastructure and socio-economic activities in those locations. Of Poland's six coal-producing regions,²⁵ five are considered transition regions, as Lubelskie has not included coal phase out in its mid-term planning. All coal-producing regions face risks of environmental and social deterioration. The various mining regions have different development visions, levels of administrative capacity, and perceptions of risks and opportunities related to the phase out of coal. Subregions not covered initially by the Just Transition Funds and those that have delayed the start of Territorial Just Transition Plan preparations are generally less prepared. Active and coordinated management of these transitions will be critical to avoid environmental liabilities that could make these places unlivable or uninvestable. Strong support to diversify the economy, sustain local infrastructure, support labor mobility, and create new job opportunities is necessary to prevent these areas from depopulating (see Box 3.1 in Section 3.2).
15. **There is still a risk of inclusion deteriorating in the medium term.** First, there is a risk of rising elderly poverty due to incomplete reforms to the pension system that moved the system from a defined benefit to a defined contribution system while not raising retirement ages or encouraging further savings to feed into the higher contributions needed as life expectancy rises (see Chapter 3). Second, the adequacy and coverage of minimum income programs has declined over time, reducing the capacity of the social protection system to protect vulnerable households in times of need²⁶. Third, rapidly changing regional and national labor markets may result in labor market scarring among some groups who struggle to remain economically active or are not meeting their potential. This risk is higher for individuals who would struggle to reskill or upskill, including those with lower foundational skills, and could feed into longer-term income losses, rising regional disparities and rising poverty.

1.3. Emerging trends are expected to shape Poland's development trajectory

16. **Poland faces a series of emerging trends that will shape the next stage of its development.**

It will need to bend the arc of its emissions trajectory, while deepening capital markets and boosting productivity through structural and fiscal reforms that bolster efficiency in product, labor, and financial markets. Stronger productivity growth will require advances along five key determinants of economic productivity: innovation, education, market efficiency, infrastructure, and institutions (World Bank, 2022a). These are impacted by emerging global and national trends that raise both challenges and opportunities for Poland's inclusive growth pathway in the medium term. They are discussed in turn below.

Global trade fragmentation and rising protectionism could challenge productivity

17. **Sustained productivity growth remains critical for achieving full EU income convergence, but could be challenged by the rise of protectionism.**

The slowdown in globalization that has been observed since the COVID-19 pandemic, with the reconfiguration of global value chains (GVCs), higher trade barriers in response to international trade tensions, and the need to reduce GVC vulnerabilities, creates both opportunities and risks for Poland's growth model. Some industries – such as car parts, transportation and furniture – are well positioned to benefit from this reconfiguration.²⁷ However, risks relate to higher costs of intermediate inputs and disruptions in the supply of key inputs. Trade fragmentation may also hinder technology transfer, while the resurgence of industrial policies in advanced economies could also affect competitiveness.

18. **Increased specialization in trading tasks opens opportunities to further integrate into GVCs and to support high-quality job creation.**

In the pre-COVID period, jobs sustained by exports increased faster than those sustained by domestic demand, rising to more than 34 percent of jobs (including in supplying sectors), up from only 19 percent in 1995 (Winkler et al., 2023). Structural transformation away from manufacturing and toward services is also reflected in the stronger growth of jobs in business services, which increased by over 5 percent per year on average over 1995-2018, compared with half that trend in manufacturing. Higher exports have benefitted workers through higher real incomes. In Poland, a 10 percent increase in exports has been associated with a 1.8 percent increase in employment, and a 5.2 percent increase in real income.²⁸ Such task specialization patterns have historically acted to reduce wage inequality within Poland as the positive direct effect on wage inequality outweighs the indirect effect linked to higher routine task intensity of jobs (Lewandowski et al. 2023). Overall, manufacturing sectors show the highest job and income growth associated with expanding exports.²⁹

19. **Trade in digitally delivered services is rising faster than trade in other services and goods, suggesting that services offshoring might be the new globalization frontier.**

Digitally delivered services, a large proportion of which are business-to-business (B2B), are the fastest growing exports at the global level. They expanded at an 8.1 percent annual pace over 2005-2022, outpacing the growth of goods and other service exports, and proving more resilient to economic downturns (WTO, 2023). Trade in these intermediate services, which represent more than 58 percent of global service trade, attests to the internationalization of their production. While artificial intelligence (AI) may disrupt trends in intermediate service delivery, the impact on

Poland will depend on the complementary of AI with existing jobs in this sector (Johnson and Acemoglu, 2023).

Rapid technological change is shifting the demand for skills and has the potential to shift production functions

20. **Demand for digital capabilities is growing rapidly and has accelerated in many sectors since the COVID-19 pandemic.** Technological change, globalization and structural transformation have helped to increase labor productivity and shift the nature of jobs toward services and knowledge-intensive jobs in Poland (Figure A2-2).³⁰ Poland ranks 14th out of 60 countries on the Kearney Global Services Location Index – it is seeing an improvement in its rankings in recent years thanks to its financial attractiveness and start-up activity, with large multinational corporations such as Google, Intel, and Microsoft planning investments in the digital economy and cloud services. Growing demand for digital services offers opportunities for Poland's labor force, but only if human and physical capital challenges are addressed. For example, Poland lags behind the EU-27 in the use of robotics and automation, and also ranks below the average for the EU-27 Member States on the human capital dimension of the Digital Economy and Society Index (DESI). This reflects a combination of the low share of basic digital skills in the population and the low share of ICT specialists in the workforce; concerns related to labor force shortages may weigh upon investment decisions. Focused efforts will be required to foster digital skills – both advanced skills as well as those needed to reduce digital exclusion among vulnerable groups.
21. **AI is set to change the future of jobs rapidly, raising concerns about its impact on labor markets and inequality.** Recent advances in AI raise the prospect that even non-routine cognitive tasks such as analyzing data and interpreting different arguments and propositions might soon be performed more efficiently by AI (Dalvit et al., 2023). The critical question for the new era of AI is whether this technology will primarily compound the existing trend of automation without the offsetting force of good job creation—particularly for non-college-educated workers—or whether it will instead enable the introduction of new tasks for workers with diverse skill sets and a wide range of educational backgrounds (Acemoglu and Johnson, 2023). With a rapidly aging population, these trends offer both opportunities and challenges for Poland's labor force.

Rapid demographic transition and population aging are creating headwinds

22. **Poland's population is shrinking and aging, weighing on growth prospects and long-term fiscal sustainability.** While Poland remains one of the youngest countries in Europe, it is one of the fastest aging populations in the EU and OECD. This reflects a low fertility rate over the past 30 years combined with out-migration of younger cohorts. The working age population peaked in the early 2010s and will continue to shrink over the medium term.³¹ The share of the elderly population is expected to be among the top end of the distribution of EU-27 countries by 2050.³² While these demographic patterns have been partly offset by higher immigration flows,³³ tight labor market conditions have prevailed in recent years.³⁴ The combination of the shrinking workforce and rising dependency rates could compromise growth prospects, while sharp increases in the share of the elderly population will trigger major public spending on health care, long-term care, and pensions. Implicit liabilities linked to pensions are expected to pose fiscal-sustainability challenges, while low replacement rates and early labor market exit, particularly among women, pose a risk to higher poverty rates among elderly populations.

23. **Demographic shifts vary across regions, cities and rural areas.** This places an uneven strain on public service provision and will require a review of the territorial concentrations of services and infrastructure. Population aging has been accompanied by a process of deurbanization linked to urban sprawl, with a decline in populations living in urban areas alongside growth in suburban and rural areas close to cities.³⁵ Older populations are concentrated in urban areas, with a larger share in cities than in commuting zones (Statistics Poland, 2022d; OECD, 2023a). Shifting age structures that vary by region and across the urban-rural spectrum will require a differentiated responses in the provision and financing of public services. The influx of refugees³⁶ from Ukraine has further accentuated these trends, with refugee flows typically concentrating in urban agglomerations.
24. **There is a double challenge of ensuring that Poland's strong human capital stock is used effectively in labor markets and that the benefits are shared across all workers.** The tight Polish labor market, already characterized by high reported labor shortages (ECFIN Business survey³⁷) despite the rising labor force rate, will be further impacted by demographic trends, requiring continued increases in participation of the working-age population and a further extension of productive working lives to reflect rising life expectancy to counter these headwinds.³⁸ The greening of the economy, combined with technological change, is expected to further transform the task context of existing jobs, impact the demand for skills and shift the location of that demand (World Bank, 2023a).³⁹ Lower educated workers are more likely to be vulnerable to these transitions, either because they lack the necessary skills or because weaker foundational skills might mean they have greater difficulty reskilling. Addressing these challenges to support both growth and inclusion will require policies that foster labor market participation, adult education and training; VET systems that are responsive to employer needs; and stronger labor market institutions able to equip existing workers and youth transitioning from school to work to better adapt to changing skills demand.

Climate change requires Poland to advance its low-carbon transition while ensuring energy security, and invest more in adaptation

25. **The low-carbon transition is expected to impact Poland's competitiveness and economic geography. There is significant potential for decarbonization in Poland: while both the carbon and energy intensity of GDP have declined, Poland remains the second most emission-intensive economy in the EU,** after Bulgaria, and the second largest emitter after Germany, with fossil fuels generating 87 percent of total energy supply. EU Member States have committed to collectively reduce net greenhouse gas (GHG) emissions by 55 percent by 2030 compared to 1990 levels and to achieve climate neutrality by 2050. Ambitious targets under the EGD, including the Fit-for-55 package, will accelerate the clean energy transition, and will trigger structural changes in energy markets.⁴⁰ The EGD seeks to reduce GHG emissions and to decouple the economy from natural resource consumption, while reducing place- and people-based impacts. These changes are raising the price of carbon and could, in conjunction with energy security considerations, trigger a faster decarbonization pace. Renewable energy sources (RES, including hydro and biomass) accounted for only 18 percent of power generation in 2021, while the binding target for renewable sources in the EU energy mix was increased to 40 percent by 2030. Poland has committed to a 23 percent share of RES by 2030, and 51 percent by 2040.⁴¹ These challenges for Poland are discussed in detail in Chapter 4.
26. **The urgency of the clean energy transition has been compounded by energy security concerns.** The unprecedented energy supply and price shocks seen since 2022 have had

multifaceted impacts on Polish households,⁴² firms, and public finances. As Poland intensifies its efforts to broaden its energy supplies, geopolitical risks are constraining the role of gas as a transitional fuel. Production curtailment, fuel switching, improved energy efficiency, and behavioral changes have helped to reduce demand for gas, while import diversification, a reduction in fuel quality standards and behavioral changes reduced the quality and quantity of coal used for heating purposes in 2022/2023. The REPowerEU plan supports efforts to: diversify energy supplies; secure affordable supplies by increasing gas storage with new regulations and joint gas purchasing mechanisms; incentivize energy saving; and invest in renewables. Poland will also need to encourage further private sector investment to complement enhanced EU funds and public investment.

27. **Poland is less exposed than other countries to climate risks, but climate vulnerability is increasing, and the country is not doing enough to adapt to expected shifts in climate patterns.** The increase in average temperatures in Poland over the last decade has significantly outpaced the increase in world average temperature, rising by over 2°C. The number of extreme precipitation events is also increasing the risks of flooding. Drought risks are also intensifying, threatening to worsen the already low productivity in Poland's predominantly rainfed agriculture sector. Furthermore, changing weather patterns could affect forest regeneration and increase risks to forests, endangering the country's large wood industry and furniture exports, and affecting the country's carbon sink potential. The lack of adequate investment in adaptation means that the livelihoods of subsistence farmers and people employed in the industries exposed to climate risks will be affected. Heat stress will see higher productivity losses in heavy manual work, such as in the agriculture and construction sectors, and could raise heat-stress related mortality and morbidity. Climate change could also damage infrastructure through an increased frequency and magnitude of extreme events, as well as accelerating deterioration by heat and precipitation. This could see overall growth and access to services and markets reduced.

Deterioration in core governance areas has weakened citizens' trust and may undermine Poland's capacity to manage emerging challenges

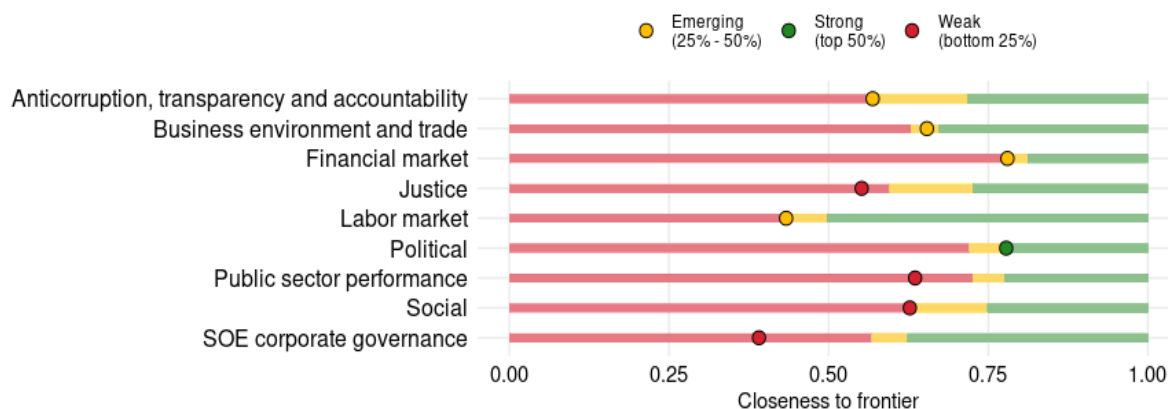
28. **Strong institutions are needed to manage the key transitions underway.** Poland needs strong political ownership, institutional coordination, and administrative capacity to design and undertake enabling reforms to meet the challenges in coming years. Effective governance structures that display a commitment to consistent and predictable policies, coordinated efforts between the state and social actors, and cooperation and leadership will be pivotal to attract private investment and finish the process of income convergence.
29. **Poland's performance on multiple governance indicators has however slipped relative to EU and OECD countries in recent years, with the potential to impact growth, inclusion and sustainability.** The country's remarkable transition from middle to high-income status was driven by strong governance and public institutions at the national and local level, driving improvements across governance indicators, especially over 2006-2014. At the national level, however, measures of governance quality have been declining since the mid-2010s, including the Bertelsmann Transformation index, the V-Dem index and the World Governance Indicators (WGI).⁴³ The WGI deteriorated across six evaluated categories, with the biggest challenges visible in citizen participation, government effectiveness, the rule of law and corruption control.⁴⁴ At the subnational level, the European Quality of Government index records a decline between 2017 and 2021 (Charron et al., 2019 and 2022). Performance is also uneven across governance areas

and institutions. An institutional benchmarking performed to compare Poland's institutional performance with structural and aspirational peers (Figure 1-7) shows that is lagging most in the domains of justice, public sector performance, social and SOE corporate governance.⁴⁵ A substantial and growing gap in performance has emerged relative to aspirational countries, although Poland's performance is relatively positive compared to structural peers.⁴⁶ Only political institutions remain advanced as an institutional family compared to aspirational peers,⁴⁷ while other institutional families exhibit a weak or emerging performance.

30. **Strengthening trust⁴⁸ in government at the national level will be pivotal for societal dialogue, cohesion, and the effective implementation of policies.** Trust in government is related to stronger economic outcomes and government performance (World Bank, 2017b) and supports resilience to shocks through increasing the ability of the government to engage in reactive policies with societal support (World Bank, 2019b). Trust in national institutions across EU-27 countries has declined in recent years following the pandemic. This trend has been amplified by social networks, including fake news and disinformation (Eurofound, 2023), but also by widening rural-

Figure 1-7: **Poland lags compared to aspirational countries with regards to institutional quality**

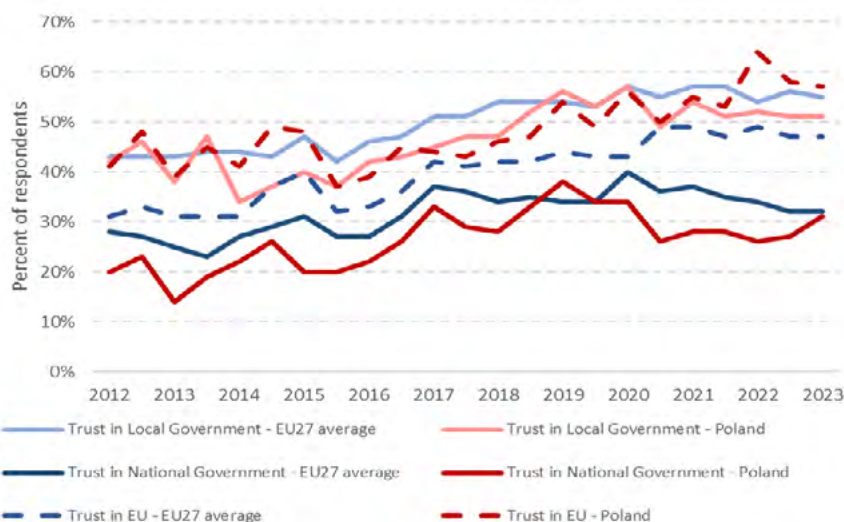
Source: WB CLIAR assessment



Source: Authors' elaboration using CLIAR's Interactive Online Dashboard.

Note: The bar reflects the simple average of the score for all subindicators included in a given institutional cluster. For each cluster, the x-axis shows the closeness to frontier (length of the bar), which captures the gap between a country's performance and the best performer among countries for which data are available (global frontier). The large circles show Poland's performance. The traffic lights coloring indicates areas where the largest institutional gaps exist in Poland relative to comparator countries, as follows: red = weak institutional capital (bottom 25 percent); yellow = emerging institutional capital (25 percent–50 percent); green = strong institutional capital (top 50 percent). See World Bank (2021) for a detailed discussion on the methodology as well as a detail description and sources of indicators in each institutional cluster.

Figure 1-8: **Trust in EU institutions, local and national government in Poland is lower than other EU27 countries (2012-2023)**



Source: Standard Eurobarometer.

urban inequalities. In Poland, trust in national institutions is lower than in other EU-27 countries and interpersonal trust is also lower than the EU-27 average (Figure 1-8).⁴⁹ The lower level of trust in national government contrasts with indicators for Poland for confidence in the EU, which stands above the EU-27 average and has increased over time. If not strengthened, low levels of trust could result in a breakdown of cooperation and compliance, which could undermine the consensus and coordination needed to support strategic government interventions to adopt cleaner energy sources and respond to demographic declines, among others.

31. **Fast-tracking of legislation and bypassing of consultation processes has weakened the ability of citizens to meaningfully participate in policy formulation, weighed on the quality of legislation, impacted the business environment and reduced societal buy-in for reforms.**

Poland has fallen from being among the top performers in the EU for societal consultation during policy preparation in 2014 to the bottom three in 2022,⁵⁰ despite a rich landscape of civil society organizations (European Parliament, 2020). Updates in regulatory consultation processes that aimed to strengthen the use of regulatory impact assessments and public consultations for government policy proposals have not fully translated into value-added, due to formalistic application, frequent changes and fast-tracking legislation.⁵¹ Incomplete consultation and social dialogue reduces transparency and social inclusion in decision making progresses, and has the potential to weigh on the quality of legislation, impact the business environment and reduce buy-in for reforms. Robust and informed policy debate has also been impacted by deteriorations in academic freedom due to political control and interference (Maassen et al., 2023).

32. **While Poland's media landscape remains pluralistic and characterized by freedom of expression, rising risks to the independence of the media from political influence may pose a challenge to accountability and policy debate.**

In 2023, although Poland moved up the World Press Freedom Index to rank 57th, an improvement over its 2022 position, it is still the 4th lowest of all EU Member States. Reporters Without Borders considers Poland's situation to be "problematic", in particular for the political context, an indicator which captures support and respect for media autonomy in the face of political pressure.⁵²

2. Innovation and private sector investment for sustained economic competitiveness and income growth

2.1. Boosting productivity requires innovation and faster technology adoption

33. Productivity increases have mostly been driven by firms becoming more efficient; this channel also holds significant potential for faster technology adoption and upgrading.

After stagnating between 2012 and 2015, productivity growth accelerated until 2018 in both manufacturing and services, driven by firm-level efficiency improvements such as innovation, improved managerial capabilities and adopting more efficient technologies (Figure 2-1 and Figure 2-2). Basic within-firm technological upgrading could allow Poland to boost productivity growth significantly going forward. Poland lags behind the OECD average in the diffusion of ICT tools and activities, including big data, e-sales, cloud computing, e-purchases, and social media (Figure 2-3).⁵³ If the bottom 25 percent of firms could adopt the level of technology of the median firm, labor productivity would increase by an additional 1 percentage point (World Bank, 2021a). Technological upgrade solutions are readily available and are not excessively costly. For example, the bottom 25 percent of firms could adopt online banking as the primary method of payment and use computer support to execute all administration, procurement, and planning processes (not necessarily with specialized software). Advancing firm-level technology adoption would require improving enterprises' awareness of the technological potential, enhancing firms' capabilities, providing non-returnable technological cash grants, and removing regulatory barriers to firms' growth (World Bank, 2022b).

31

Figure 2-1: Manufacturing productivity growth has largely been driven by within-firm improvements...

Manufacturing productivity growth decomposition

Panel a

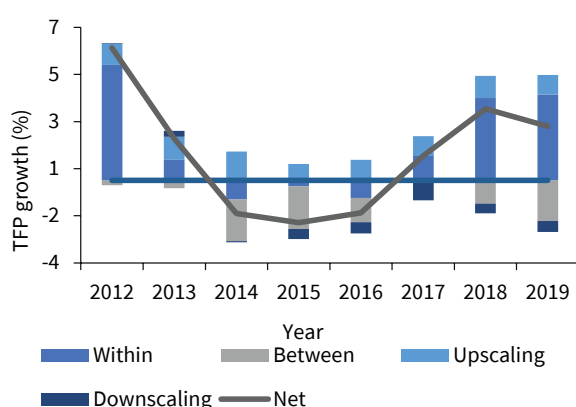
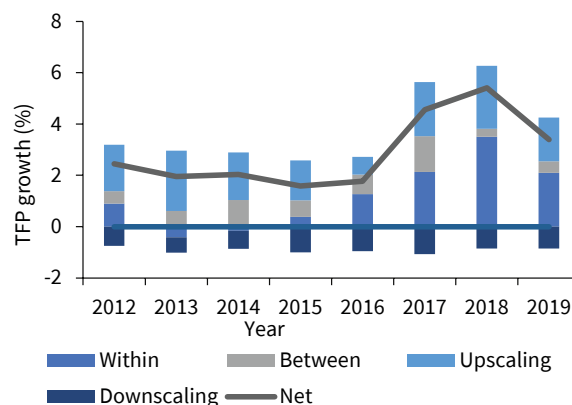


Figure 2-2: ...the same is true for the services sector.

Service sector productivity growth decomposition

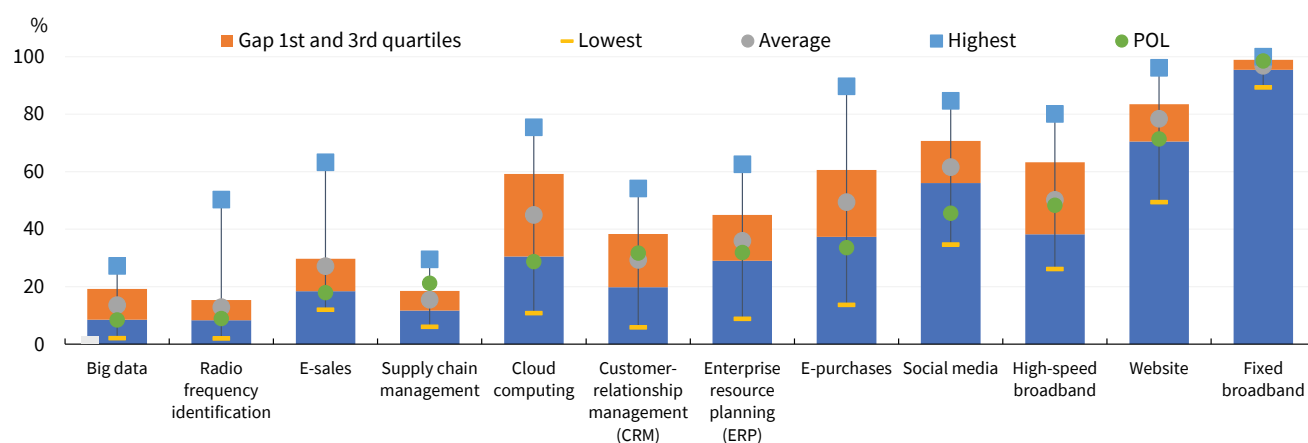
Panel b



Source: World Bank (2021a) Paths of Productivity Growth in Poland: A Firm-Level Perspective.

Notes: Melitz-Polanec decomposition of 3-year productivity growth rates, smoothed to represent an annual change

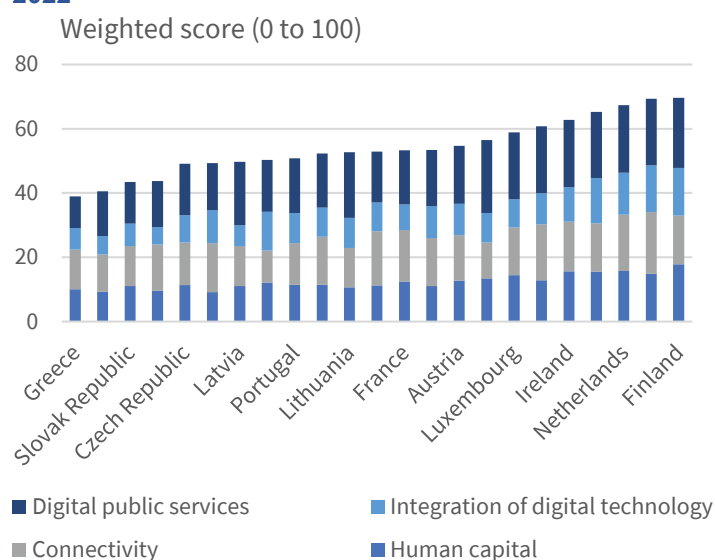
Figure 2-3: Polish business use of ICT is below the OECD average. **Diffusion of ICT tools and activities in OECD enterprises, and in Poland**



Source: OECD ICT Access and Usage by Businesses Database, <http://oe.cd/bus>.
Note: data for 2021 or latest percentage of enterprises with ten or more persons employed

34. **Firms need to increase their innovative capacity and invest in R&D.** Poland should renew its R&D investment efforts. R&D investment had quadrupled in the decade prior to the COVID-19 pandemic from a very low base – reaching the 2 percent of GDP target in 2019 and closing the gap with the EU country average. Higher R&D spending is linked to digitalization and technological innovation (Yuan et al., 2021), and digitalization can foster technology adoption by smaller firms and lagging regions (Hallward-Driemeier et al. 2021).
35. **Poland could also improve productivity and resilience by digitalizing faster.** There is a positive impact on multi-factor productivity at firm level in Poland from digital adoption (Figure 2-5). Yet, the country is lagging behind in digitalization as discussed in Chapter 1, ranking 24th out of the 27 Member States on the digital economy and society index (DESI) in 2022 (Figure 2-4). Currently only 40 percent of Polish enterprises have at least the basic level of digital intensity, and only 13 percent of enterprises use e-invoices, compared with 32 percent in the EU. The uptake of digital technologies such as cloud, big data and artificial intelligence (AI) ranges between 3 percent and 19 percent, well below the EU target of 75 percent by 2030. Addressing the shortage of ICT specialists could

Figure 2-4: Poland is one of the lowest users of digital technology. **Digital Economy and Society Index (DESI), 2022**

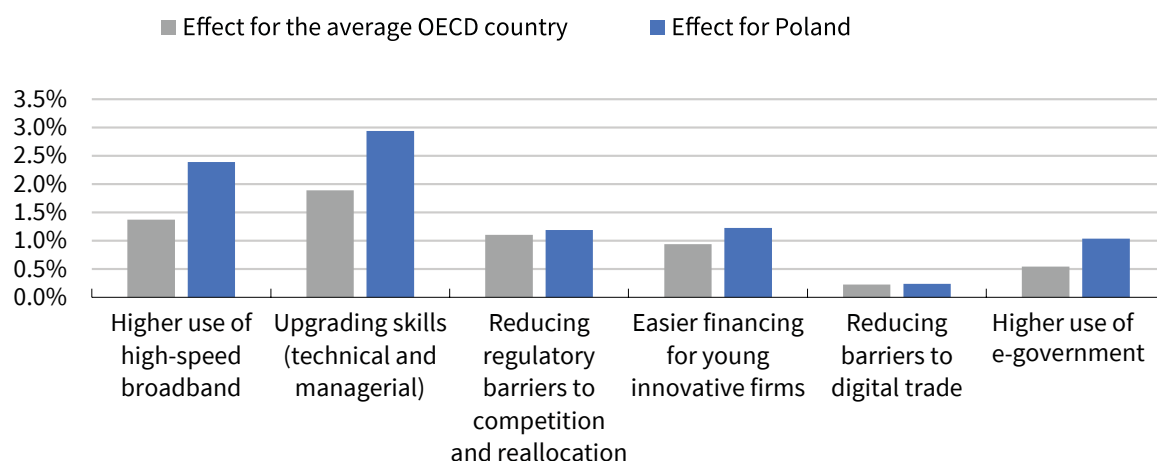


remove one of the barriers to businesses adopting digital technologies, especially among SMEs. Increasing awareness among entrepreneurs, addressing behavioral biases, and boosting managerial capabilities would remove some of the other key barriers (World Bank, 2022a).

36. **Digital services could become a driving sector for higher-productivity job creation.** Global demand for digital services across sectors is growing fast, not only in telecom and high-tech industries, but also in diverse sectors such as agriculture, energy, health, and manufacturing (AT Kearny 2021). The connected services which are critical to competitiveness and supply chains – financial services, ICT, transport and logistics, and business and professional services – are also spearheading digital innovation, and have seen substantial job growth. They are key to competitiveness as they provide efficient payment solutions, digital and physical connectivity, and cutting-edge business expertise.

Figure 2-5: Digital adoption in Poland could boost productivity.

Effect on firm productivity of digital adoption



2.2. The low-carbon transition will further shape and incentivize technological change and productivity

37. **The low-carbon transition could drive technological change and innovation and reshapes skills and behaviors: these could trigger challenges in the labor market but also boost productivity.**

Achieving the green transition will require: (i) the skills necessary for R&D; (ii) innovation and product redesign to adapt consumption; and (iii) a labor market able to respond to technological change through upskilling and reskilling (Sanchez-Reaza et al., 2023). From the

Box 2.1 Industrial policies and competitiveness in the green transition

The resurgence of industrial policies in advanced economies with the ambition of accelerating the production of and innovation in green technologies could also affect competitiveness. Industrial policies to support new green technologies, rooted in first mover advantage considerations, could affect the level playing field and contribute to reshaping GVCs, with countries that have more fiscal space being at an advantage. The EU's industrial policies (A Green Deal Industrial Plan for the Net-Zero Age) aim to provide a favorable environment to scale up manufacturing capacity for net-zero technologies and products and ensure access to relevant critical materials. However, ensuring a level playing field in the internal market is critical (European Commission, 2023c).

perspective of firms, the higher cost of polluting brought about by the EU Emissions Trading System (ETS) and policies to limit waste (Box 2.1) will affect their production processes, product design and technology choices. These effects are estimated to be larger in Poland than the EU average, as is the long-run recovery in the capital-labor ratio (Figure 2-6). Where firms decide to alter their capital-labor ratio through technology adoption, this process of capital deepening will entail productivity gains at both the firm and economy level (Figure 2-7); (Sanchez-Reaza et al. 2023). But the EGD could lead some firms to exit the market if they are unable to innovate or adopt the required technology. Simulations show that firms that can adapt to the green economy have the capacity to invest, which will partially – but not entirely – offset the destruction of some capital in brown-economy firms and thus reduce the capital-labor ratio.

38. **Technological change could also lead to further geographical concentration.** Firms that can transition to the green economy are most likely to be in leading regions where they can benefit from a pooled labor market of skilled workers, backward and forward linkages across firms and the knowledge spillovers that yield productivity gains external to the firm (Sanchez-Reaza et al., 2023).
39. **More green innovation is needed to meet Poland's green transition and sustainability objectives.** Some of the key areas for technological innovation include alternative fuels; electric vehicles and renewable energy sources; operational efficiency and digitalization. However, these

Figure 2-6: The EGD could boost Poland's capital-labor ratio

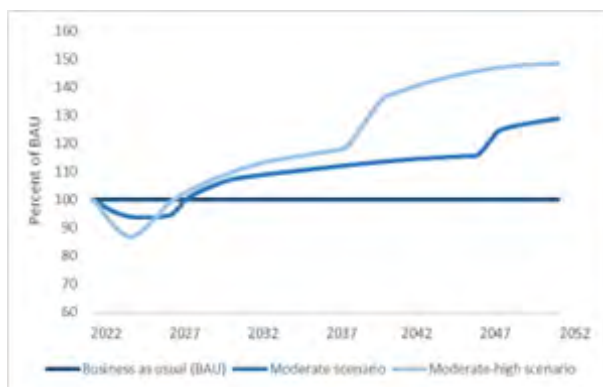
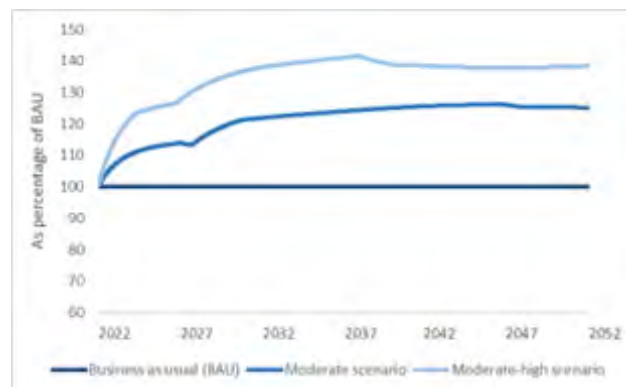


Figure 2 7: The EGD should drive productivity gains in Poland



Source: Sanchez-Reaza, Javier, Diego Ambasz, and Predrag Djukic. 2023. "Making the European Green Deal Work for People: The Role of Human Development in the Green Transition." Washington, DC: World Bank Group.

Note: Vensim simulations using the Human Transitions General Equilibrium Model. The moderate scenario refers to a nature tax of 3%, a recycling capacity of 24%, a maximum degradation capacity of 5%, an ideal consumption shares of green production forms of 70% and an education-cost ratio of 1.4. The moderate-high scenario refers to a nature tax of 6%, a recycling capacity of 48%, a maximum degradation capacity of 6%, an ideal consumption share of green production forms of 90% and an education-cost ratio of 1.3.

technologies face significant barriers in terms of costs, availability, scalability, regulation as well as in some cases social acceptability. Consistent policies and financial incentives are needed to accelerate innovation and technology diffusion. Despite significant increases in public R&D budgets, Poland still spends relatively little to support R&D in key areas of the energy transition such as environment-related research and renewable energy. Moreover, Poland lacks a strong start-up ecosystem to support the creation of green innovations for industry. Similarly, Poland's patenting in green technologies also remains underdeveloped—except for a few niche areas with

potential for specialization such as wastewater processing and geothermal power. Training for new researchers, and their engagement in green innovation, could also be improved, as could the number of STEM graduates with post-graduate degrees. Progress is also needed to enhance the private sector's R&D and innovation capacity, particularly SMEs' capacity to engage in the green transition (Sanchez-Reaza et al., 2023).

2.3. Innovation calls for a competitive ecosystem

40. **Competition-friendly product market regulations (PMR) can allow less productive firms to increase their productivity.** Competition provides stronger incentives for incumbents to close the technological gap (Bloom, 2016; Perla, 2015; Steinwender, 2015), boosts managerial capabilities that complement technology adoption (Bloom and Van Reenen, 2010; Bloom et al., 2012), lowers barriers to entry as young firms tend to have a comparative advantage in commercializing leading technologies (Henderson, 1994; Baumol, 2002), and increases the rate of return to technological upgrading in downstream manufacturing sectors through input-output linkages (Bourlès et al., 2013). In the case of Poland, PMR reforms to increase competition in final goods sectors, for example through service sector liberalization and a decrease in the market power of firms, could improve allocative efficiency and boost GDP by close to 0.7 percent over a five-year horizon and 1.5 percent over the long run (Pfeiffer et al., 2023). Reduced entry barriers in the intermediate goods sectors promotes innovation and spurs knowledge investment, enhancing TFP, with long run gains of 0.5 percent of GDP in the case of Poland (Pfeiffer et al., 2023).

35

Leveling the playing field through market contestability

41. **Distortions to competition in Poland are worse than in the best-performing OECD countries.**⁵⁴ A weakening of Poland's overall competition environment follows similar trends observed in other OECD countries. Consolidation in many markets – energy, real estate, insurance, trade, and finance – has intensified, which could inhibit competition and cause resource misallocation. According to the Office of Competition and Consumer Protection, the number of concentration approvals has gradually increased every year: from 194 in 2016 to 295 in 2021. For example, PKN Orlen, the 155th largest company worldwide, with revenues exceeding 10 percent of Poland's GDP (in 2022), has diversified its business activities and transformed from an oil refining business to a multi-energy group with branches in energy generation and energy and gas distribution. It has also expanded into press publishing and distribution outlets, raising controversies over increased state influence e.g., on the press freedom in the country.
42. **Removing barriers to the efficient allocation of production factors and regulatory restrictions on competition is critical for boosting productivity and growth.** In some industries a lack of transparency over the issuance of permits and increased uncertainty surrounding policies are affecting investment decisions (for instance, in the renewables sector). The country also scores less favorably than peers for its regulatory framework and the barriers to entry and expansion in the services and some network sectors, particularly energy and transport. Despite the presence of a one-stop shop (electronic court register, EKRS), the administrative burden and costs for start-ups remain higher in Poland than in other OECD countries. The administrative requirements to open a business are cumbersome, especially for a limited liability company (LLC) and personally owned enterprise (POE). A new legal form, the simple joint stock company, was recently created. It has a simplified on-line registration procedure and substantially lower minimum capital requirement (Terrero-Davila et al., 2023).

43. **Strengthening the governance of SOEs could help to ensure a level playing field for privately owned firms.** Despite previous divestiture, businesses linked to the Polish state (Business of State, BoS) have a large footprint in the economy, and some are key players. BoS account for a fifth of Poland's GDP (Figure 2-8). They are also present in competitive sectors, where they pose a potentially higher risk of distorting markets (Figure 2-9). Of the BoS that operate in competitive sectors, about 20 percent operate in real estate industries, including the rental, operating, and management of real estate. Productivity gains could be achieved by limiting BoS presence in competitive sectors, as less efficient Polish SOEs are a drag on aggregate productivity. Empirical studies suggest that reforms that either remove the inefficient SOEs from the market or improve their efficiency levels, particularly in competitive sectors, can generate sizable productivity dividends. For instance, Cusolito et al. (2022) assessed the effect of state participation in markets on factor (mis)allocation using firm-level Orbis data over the period 2010-2016 for 25 European countries, including Poland. Their counterfactual analyses quantifying the potential aggregate productivity gains from addressing distortions relating to state ownership in financial markets suggest that a targeted reform that shut down less productive SOEs, with their resources reallocated to the more productive SOEs and private firms, could generate productivity gains of about 0.3 percent for Poland. Given that some SOEs are more productive, on average, than their private peers, an unrealistic reform that removes all SOEs from the economy will generate (modest) losses in Poland's aggregate productivity. Similarly, IMF staff estimates suggest that converting all nonfinancial SOEs to private firms could boost the levels of TFP and real GDP by close to 9 percent and ensure faster TFP growth in the future (IMF, 2019b).
44. **There are opportunities to improve the regulatory framework in many sectors to make them more conducive to competition.** In energy and transportation there is broad state ownership; the regulatory framework could be better aligned with good practice internationally, while the set-up of sectoral regulators could be better aligned with OECD good practice. Furthermore, there are opportunities to lower barriers to competition in retail trade. Many professions also face high barriers to entry (lawyers, notaries, architects, civil engineers) and lawyers and notaries face tight restrictions on their conduct (no advertising of their services, and law firms do not benefit from limited liability), which might distort competition.

Deepening capital markets and SME finance can raise private investment

45. **Deepening corporate capital markets with longer maturities and greater liquidity would support riskier investments, such as in R&D.** Long-term finance is critical for the longer-term investments required for the green transition, building climate resilience, and creating jobs. Poland has one of the largest non-government capital markets of all the CEE countries, and yet it is undersized for its development needs. While its growth has been promising, corporate and covered bonds – although increasing – represent only close to 10 percent of GDP, which shows the incipient stage of non-government bond market development. Investment rates in the corporate sector are quite low when compared to other EU-27 countries, as are non-financial corporate investments in R&D. The overreliance on the traditional banking sector, the lack of sufficient support to institutional investors, and regulatory hurdles have all undermined the development of domestic sources of long-term finance.
46. **Bank loans are still the preferred, and sometimes the only, funding option for companies.** Corporate bond issuance tends to be more accessible to larger companies as they are normally better prepared to fulfill regulatory obligations (e.g., listing, level of disclosure); and usually have greater capacity to reach higher rating levels, issue larger volumes and attract greater investor

demand. However, bank loans are still their preferred option for a variety of reasons, including their greater simplicity (easier and faster), and the lack of a deep and diversified investor base for bonds with longer maturities. In 2021, the market funding ratio (share of corporate bonds and listed shares to total financing to the non-financial sector) stood at 48 percent. Banks and other financial institutions are the main corporate issuers.

47. **1. An underdeveloped institutional investor base hinders the development of long-term finance.**

Sovereign-bank linkages are material for the Polish financial system. Banks and non-resident investors are the main holders of the outstanding government bonds, which also might risk crowding-out financial intermediation for the private sector. At the end of December 2023, the share of foreign investors accounted for 13.6 percent, and the share of domestic banks (except for the National Bank of Poland) declined to 50.6 percent of the Treasury securities and Treasury-guaranteed securities market.

The institutional (non-banking) investor base is composed mostly of insurance companies and investment funds, which hold about 35.8 percent. Open pension funds are prohibited from investing in government bonds. However, with the establishment of Employee Capital Plans (PPK) in July 2019, which aim to increase the scale of long-term household savings to be paid after the end of professional activity, the share of Treasury securities held by pension funds increased to 1.5 per cent (from 0.3 percent at the end of June 2019). Institutional investors still have considerable potential to grow (e.g., investment funds and insurance). This could include existing and upcoming pension funds if authorities permit their participation (IMF, 2019c). Open pension funds are subject to limited diversification.

Figure 2-8: Poland's BoS revenues represent 20% of GDP. **Share of domestic SOE revenues in GDP**

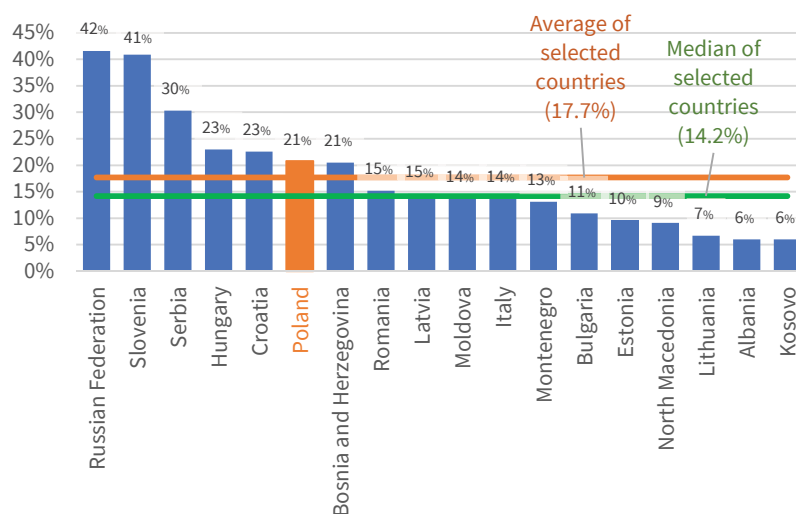
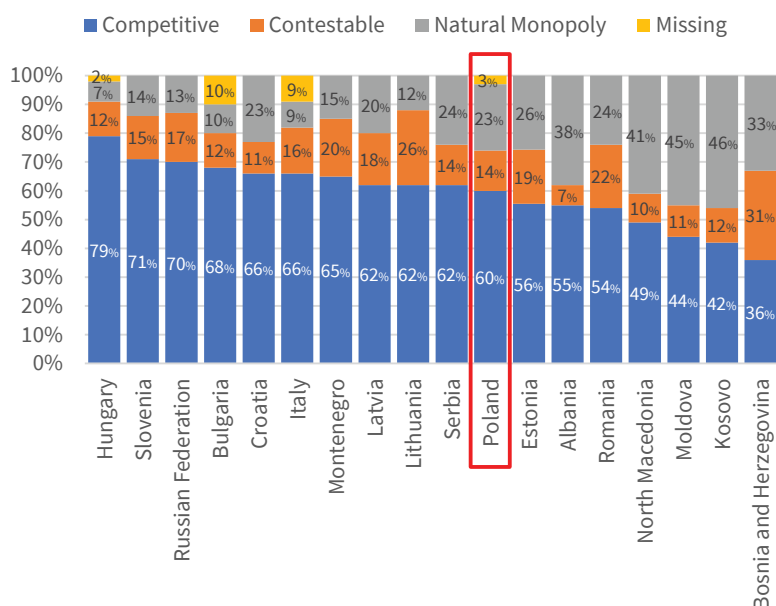


Figure 2-9: The largest share of Poland's BoS are in competitive sectors.

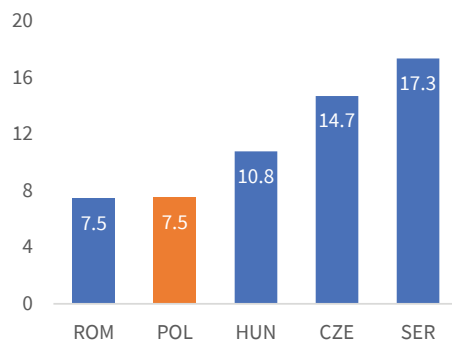


Source: World Bank Businesses of the State database. Information as of December 2019.

48. **The growth of non-government bond markets depends on the capacity to mobilize foreign investors, in addition to expanding domestic investment and pension funds.** This is not a new situation, as foreign investors at the end of 2023 held around 13.6 percent and 39.6 percent of two largest asset classes in the Polish capital market (domestic government bonds and equity respectively). However, it is compounding the need to improve the overall framework for the healthy development of the non-government bond market.
49. **1.The financial sector also needs to mobilize capital for the green transition; yet green finance is at an early stage of development.** Green finance comprises mostly short-dated bank lending for renewable energy, but long-term finance is needed to address investment needs. Banks have also been the main issuers of green Eurobonds, but Poland is lagging behind peer emerging markets for green issuance. Since 2009, Poland has issued about US\$14 billion worth of green loans (US\$4 billion) and bonds (US\$10 billion). However, the share of Polish issuances expressed in terms of GDP are still lower than in Hungary, Czechia and Croatia. Over 40 percent of Polish issuances were by the sovereign. There is an increasing demand to finance sustainable investments, driven in part by the EGD and the need to fund the transition to a low-carbon, green economy. Barriers to the growth of green capital market instruments are primarily knowledge and institutional capability, limited demand for green instruments by domestic institutional investors, and the need to accelerate efforts towards a holistic regulatory and policy framework (such as standardized disclosure standards). The environment, social and governance (ESG) strategy adopted by the Warsaw Stock Exchange (WSE) in December 2021 sets out the ambition and objectives for sustainable development over 2022-2025. In 2023, with support from the EBRD, the Ministry of Finance developed a sustainable capital markets strategy which now needs to be implemented. Neither the public sector nor banks will be able to provide the investment needed for the green transition alone; private capital will need to be mobilized.
50. **Increasing MSMEs' limited access to finance could remove an important constraint to private sector growth.** Gaps persist in access to finance for micro, small, and medium enterprises (MSMEs). Although MSMEs account for 52.9 percent of GDP and employ 67.1 percent of the labor force, their share in loans from commercial banks is disproportionately lower. Polish firms rely mostly on their own funds. MSMEs predominantly use trade loans, leasing, rentals, and credit card or working capital loans. SMEs prefer external financing that provides greater flexibility of

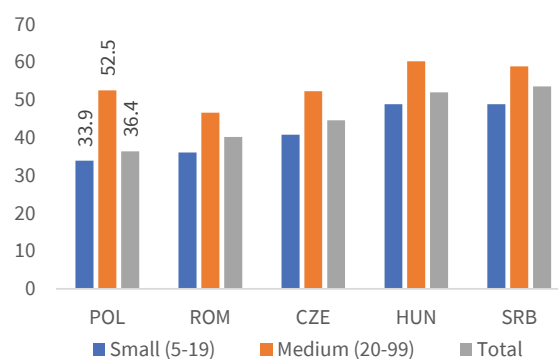
Figure 2-10: Polish SMEs have among the lowest share of bank loans regionally.

Outstanding SME loans from commercial banks



Source: IMF Financial Access Survey, 2020.

Figure 2-11: Small businesses in Poland have the least access to credit in the region. % share of SMEs with a bank loan/line of credit



Source: World Bank Enterprise Surveys.

operation, swifter finetuning of the production capacity to economic conditions (e.g., leasing), or lower financing costs (e.g., trade loans). SME loans from commercial banks amounted to 7.5 percent of GDP in 2020 – the lowest share among regional peers (Figure 2-10). Only 33 percent of small enterprises and 52.5 percent of medium enterprises had a loan/line of credit (Figure 2-11). Nearly half of firms rely on banks to finance investment (above most regional peers), while most Polish firms use bank financing for working capital rather than for investments (Figure 2-11). The MSME financing gap is estimated at 22.7 percent of GDP, with about 18 percent of micro enterprises and 15 percent of small and medium enterprises either fully or partly credit constrained.⁵⁵

51. **The low levels of MSME finance are caused by misinformation, information asymmetry and restrictive credit policies.** On the demand side, MSMEs have a lower demand for finance, and it is more challenging for banks to serve them. Banks perceive SMEs as riskier borrowers due to information asymmetry and since they are more exposed to restrictive credit policy. In some sectors there are inherently higher risks, and the large presence of SMEs in certain sectors also contributes to higher risks (OECD, 2022). MSME loans are generally collateralized at nearly 100 percent, the highest among regional peers, but very few loans have movable collateral.
52. **There are significant disparities in access to finance across regions in Poland.** Overall, access to financial services is concentrated in the Mazowieckie voivodship, with gaps in financial inclusion in rural areas and smaller towns across the country, as well as among lower income and less educated population segments. The Mazowieckie voivodeship accounts for about one third of total loans to individuals and firms. Lending is highly concentrated in the Mazowieckie region, followed by the Wielkopolskie and Śląskie voivodships.
53. **There is ample potential to scale up investment in Poland by increasing the use of public-private-partnerships (PPPs).** PPPs in Poland are of a relatively low value and mostly implemented by sub-national governments (IMF, 2022). Between 2009 and 2022, a total of 642 PPP procedures were initiated in 15 sectors. Three leading sectors accounted for nearly 50 percent of all proceedings: sport and tourism, transport infrastructure and energy efficiency. At the same time, the number of PPP contracts (in progress and completed) amounted to 174. In 2022, 10 PPP contracts were concluded, with a total value of EUR 58 million, which was EUR 21 million more than in 2021. The highest value contract was for investment in constructing and operating the sewage treatment plant in Czernica. At EUR 47.8 million, this constituted 82 percent of the total value of PPP contracts concluded in 2022 (for more details on the PPP market in Poland, see Box 2.2).

2.4. Ensuring human capital can keep up with technology adoption is key

54. **Human capital levels are high, but keeping up with rapid technological innovation and change requires upskilling and reskilling.** Poland ranks high for human capital, above countries with higher GDP per capita. Its scores in reading, mathematics, and science are above the OECD average and its enrollment rates in tertiary education are also high, suggesting it is building skills that will complement technology. The percentage of 25-64-year-olds with tertiary education is around 34 percent in Poland, compared with 38 percent in the EU on average (see OECD, 2023b, Table A1.1). Despite these impressive strides in tertiary education, the share of workers with relatively low skills remains high in Poland by EU standards. While young Polish adults, those younger than 20, perform above the OECD average both in the Programme for International Student Assessment (PISA) and the Programme for the International Assessment of Adult Competencies (PIAAC), older cohorts have fewer skills. According to the 2012 PIAAC,⁵⁷ the average skills of Polish adults are

Box 2.2 The PPP market in Poland⁵⁶

The PPP model is used in a large diversity of sectors. Since 2009, based on the Public-Private Partnership Act, most contracts have involved energy efficiency projects (16 percent), sports and recreation projects (13 percent), water and sewage (13 percent), and transport infrastructure (also around 13 percent). Other projects include car park construction and maintenance, broadband networks, energy, and hospital equipment. The largest share in terms of contract value goes to the waste management sector, mainly due to three projects with a total capital expenditure value of EUR 513 million (in Poznań, Gdańsk and Olsztyn).

Apart from these, the Polish PPP market is still dominated by relatively low-value projects. The average contract value over 2009-2022 was less than EUR 11.53 million, and 73 PPP contracts were worth less than EUR 1 million. These were mostly projects implemented under a concession agreement for providing operator services – which are socially important.

Most Polish PPPs are developed by sub-national governments. They have so far concluded (directly or through entities related to them) 158 agreements (91 percent of all PPPs). Most contracts that entered the implementation phase were signed by urban communes, rural communes and urban-rural communes. Only one PPP contract is currently being implemented in Poland at the national (government) level: to construct the seat of the District Court in Nowy Sącz, worth EUR 11.3 million.

The effectiveness of PPP procedures, measured by the ratio of signed contracts to initiated procedures, has improved significantly since 2017. Currently, the ratio stands at 39 percent (up from approximately 23 percent in 2017). This increase in effectiveness is related, among others, to the change in the legal regulations governing PPPs and the creation of the Central PPP Unit in the Ministry of Development Funds and Regional Policy. The Central PPP Unit is responsible for conducting training, promoting knowledge about PPPs, and developing guidelines for the preparation and implementation of PPP projects. It also offers consultancy support for projects, and, on request, evaluates analysis prepared by public finance sector units. The unit also manages a database on potential PPP projects, which allows the market to prepare for planned projects and monitor the current situation.

below typical OECD levels, with particularly low levels of problem-solving skills. One in five adults has strong proficiency across a broad range of skills (individuals scoring at least level three in literacy and numeracy and at least level two in problem solving), which is lower than the average of one in four adults across the OECD (PIAAC countries) (OECD, 2019b).

55. **The Polish labor market offers limited opportunities for skills updating and upgrading, including for older adults with lower skill levels.** More flexibility in higher education institutions, including dual degrees, could increase the supply of relevant skills, especially in areas with large labor shortages such as ICT. A more modular approach could help with adult learning (OECD, 2023b). Section 3.2 discusses ways to improve adult education in Poland in detail.
56. **High-quality human capital is critical for long-term growth, especially in the context of an aging population and need for new skills driven by technological change.** One of Poland's long-term growth challenges stems from the expected decline in labor supply due to demographic shifts, particularly depopulation and aging. Mitigating these impacts will require an acceleration in innovation (Arnhold et al., 2021). Poland's labor market is already very tight, with record low

unemployment rates and emerging skills shortages.⁵⁸ Empirical estimates suggest that Poland could boost its long-term GDP per capita growth by 0.2 percentage points if it does more to improve the quality and quantity of pre-tertiary education, and raises tertiary attainment to the highest level observed in the CEE region (World Bank, 2022a). For example, if Poland achieved Latvia's level of tertiary attainment (at 56 percent, the top-performing country in Central and Eastern Europe) and assuming a high productivity return to tertiary education of 15 percent (Montenegro and Patrinos, 2014), this would boost the human capital level by 3 percent (World Bank, 2022a).

57. **Skills mismatches are expected to worsen given expected shifts in labor demand.** There is little evidence of job polarization in Poland,⁵⁹ with employment in the middle of the skill-wage distribution rising, even when excluding agricultural employment (Arendt, 2018). Offshoring to Poland partly explains the lack of polarization. The offshoring mainly involves small business centers focused on low complexity services, but also those providing mid to high-complexity services. Many of the tasks performed in these centers are of a routine cognitive nature (clerical jobs). However, the occupational structure is expected to shift, which could exacerbate the skills mismatch as the supply of skills is relatively inelastic in the short term (Gajdos et al., 2020).
58. **The advances in automation, robotization and AI could change the labor-capital ratios, potentially reducing demand for labor and weighing on wages** (Acemoglu and Restrepo, 2019 and 2020). Technological advances are changing the task content of jobs, dramatically increasing the need for non-routine cognitive tasks and the demand for skills. The task content of jobs in the EU-27 has changed drastically over the past 20 years, with routine manual tasks and non-routine physical tasks declining, while social and non-routine cognitive analytical tasks have increased the most. Workers with tertiary degrees in the EU-27 have skills that allow them to perform tasks that complement technology (World Bank, 2023a). The gap between the routine-task intensity of jobs in Poland and the top high-income countries has narrowed over time due to a faster shift to non-routine intensive activities in Poland, though starting from a lower base. Employment in highly skilled occupations requiring non-routine cognitive skills and interpersonal skills (managers, specialists, professionals, technicians) has increased rapidly in Poland, even when compared with other new high-income countries in Europe.

2.5. Sound macroeconomic policies and institutions are critical for fostering innovation and private investments

The stability of the macroeconomic policy framework should underpin economic competitiveness

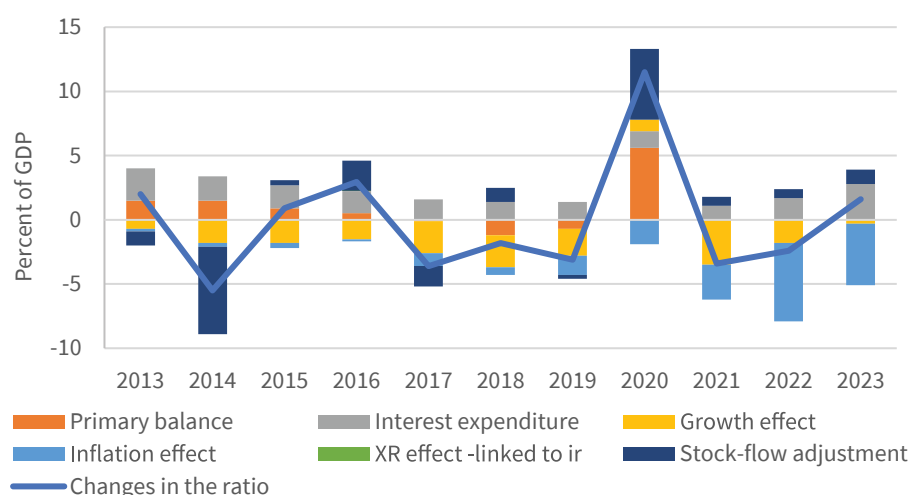
59. **Poland has a good track record of prudent macroeconomic and fiscal policies, anchored in inflation targeting and a flexible exchange rate, but multiple and overlapping shocks have increased fiscal vulnerabilities.** For much of the decade prior to the COVID-19 crisis, Poland had built fiscal buffers which allowed it to respond swiftly and with a large fiscal package to the subsequent crisis. More recently, however, policy co-ordination has been complicated by large and overlapping external shocks. The public spending required to mitigate the impact of the COVID-19 pandemic, the impact of the energy shock linked to the geopolitical situation, and the cost of supporting forcibly displaced Ukrainians have all added to fiscal pressures and increased the fiscal deficit. The 2022 fiscal package cost an estimated 2.4 percent of GDP. Furthermore, the government provided nearly 0.5 percent of GDP to support forcibly displaced persons

(FDPs). At the same time, higher borrowing costs increased debt servicing by 0.5 percent of GDP. The increased geopolitical risks are also increasing defense spending. The budget deficits are expected to remain above 4 percent of GDP in 2023-2024 as support measures are gradually withdrawn, but health and defense spending are expected to continue to rise.

60. **Demographic changes in Poland over the medium to long term represent another source of spending pressure.** The rollback in the retirement age in 2016 is expected to reduce the adequacy of future pension benefits, increasing the incidence of minimum pension and potentially the associated fiscal costs. While gross public pension expenditure is projected to be broadly stable over the medium term, there are risks of increased spending pressure linked to sharp declines in replacement rates on account of the notional defined contribution (NDC) system and its interactions with the expected rise in longevity. Offering minimum pension guarantees and other social benefits to pensioners whose pension benefits are below the minimum level could result in higher-than estimated old-age expenditures (World Bank, 2021b). Spending on health is expected to increase over the medium term too, in part due to aging but also due to efforts to promote resilience in the health care system. Long-term care costs are projected to rise by around 0.3 percentage points of GDP by 2030 (EC, 2021).
61. **The State Treasury debt composition is not a source of significant risk.** With an average maturity of outstanding State Treasury domestic debt estimated at 5.25 years at end-2023, and the share of short-term government debt at around 1.2 percent of the total debt, the rollover and refinancing risks are low. The share of debt denominated in foreign currency declined to 22.6 percent of public debt by the end of 2023, from 35.3 percent in 2014. Exchange rate risks are low. The share of debt held by non-residents remains relatively elevated, at 30.7 percent of total debt (end-2023). It remains a source of vulnerability, although it has declined from 58.5 percent of general government debt in 2014. The country's public debt management strategy assumes that over the medium term the share of foreign currency debt in total State Treasury debt will remain at less than 25 percent. Poland faces moderate fiscal sustainability risks over the medium and long term. Despite a primary deficit of more than 3 percent of GDP in 2022, the debt-to-GDP ratio declined to 49.2 percent of GDP the same year (Figure 2 12) thanks to a large snowball effect of more than 6 percent of GDP linked to high inflation and robust growth.

Figure 2-12: The debt-to-GDP ratio has declined. Contributions to changes in debt-to-GDP ratio (% of GDP)

Source: Debt Sustainability Monitor, EC.

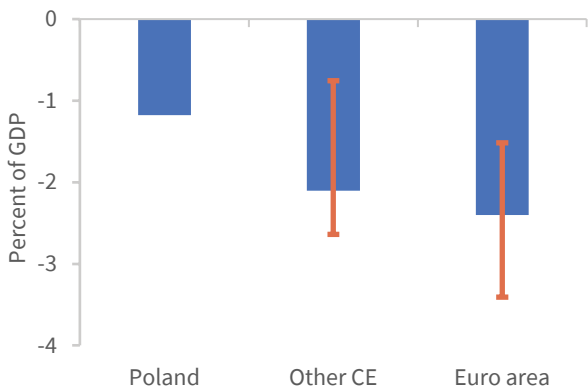


Budgetary and fiscal institutions need shifting in line with the EU economic governance framework

62. **Poland should strengthen its macro-fiscal institutions to continue to align with the EU economic governance framework.** Compared to other EU countries, Poland’s medium-term budgetary framework (MTBF) stands out unfavorably and could undermine the sustainability of its public finances (Figure 2-14). Poland shows particularly large gaps in relation to its medium-term fiscal plans and annual budget connectedness, the adequacy of corrective actions in case of deviation from plans, the quantification reform impacts over the entire planning span, and involvement of independent financial institutions (IFIs). The reforms specified in the NRRP aim to improve Poland’s MTBF.

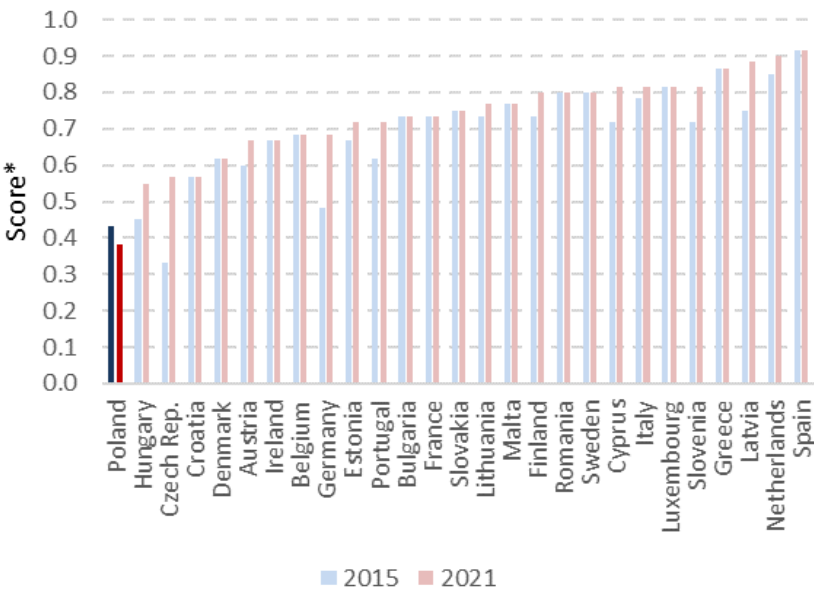
63. **Policy levers could be used more efficiently to achieve alignment with EU objectives.** Rooted in the EU framework, the fiscal solutions architecture (multi-year financial plan, stabilizing expenditure rule, debt rule, etc.) emphasizes medium-term fiscal planning and fiscal equilibrium. Structural shifts such as aging, which will have a significant impact on public finances in the longer term, are not adequately captured by the medium-term framework. Stronger institutionalization of spending reviews and the use of performance-based budgeting would help inform a better design of expenditure policy (World Bank, 2021b). The government has undertaken a series of reforms to create a modern tax assessment, monitoring and evaluation system, as well as compliance risk management. However, there is still considerable scope to reduce tax gaps further, particularly income taxes.

Figure 2-13: Fiscal sustainability gaps in 2021 remain manageable



Sources: GEP (2017); World Bank.
 Note: CE = Central Europe. Aggregates calculated using GDP weights at average 2010-19 prices and market exchange rates. Error bars denote interquartile range.

Figure 2-14:
 Poland’s medium-term budgetary framework compares poorly. **Medium Term Budgetary Framework Index (2015 vs. 2021)**



Note: The MTBF index value is the mean of five dimensions
 Source: EC, Fiscal governance database.

64. **Off-budget public expenditure has risen, posing a challenge for accountability and transparency.** This is expected to change in upcoming years as part of the reforms committed to in the NRRP. The indebtedness of off-budget Special Purpose Vehicles (SPVs) stood at nearly 21 percent of the general government debt at the end of 2023, compared to just under 5 percent at the end of 2019,⁶⁰ reflecting a growing discrepancy between the central government and general government fiscal accounts. The practice of shifting a part of the deficit outside of the state budget by transferring more responsibilities without adequate funding to SPVs that can use debt financing, such as the Polish Development Fund (PFR) or Bank Gospodarstwa Krajowego (BGK), became more widespread between 2017 and 2023. This practice has often been justified by extraordinary situations such as the COVID-19 pandemic and Russia's invasion of Ukraine. However, such practices weaken the effectiveness of fiscal rules and of societal expenditure oversight. The 2024 state budget will take over the financing of the tasks carried out by the COVID-19 Counteracting Fund (Government of Poland, 2023a).
65. **There is scope to modernize Poland's public finance system still further, in order to increase the effectiveness and efficiency of public finance management** (CPIA, 2022; Wiczewski 2020). Poland started the process of reforming its budget system in 2016, and is expected to gradually address several of the system's shortcomings. However, due to its complex, resource-intensive nature and the recent crises, progress is slow. The Polish public procurement system generally performs well on most indicators monitored by the EC. There has been a marked increase in the number of contracting authorities that are including social and environmental aspects in their contracts. Lack of competition remains one of the major issues, however: in 2021, Poland had the highest share in the EU of contracts awarded with a single bidder.⁶¹ The Public Procurement Law and the State Purchasing Policy provide a strong legal and policy framework to maximize the potential of public procurement to achieve good outcomes for citizens and the state. Tangible savings in public procurement spending can be achieved without the need for legal changes. Examples include developing professional competencies in this area,⁶² establishing an effective green procurement strategy (World Bank, 2021b) and improving SMEs' participation in public procurement. Efficient, climate-sensitive public investment management is an important missing element. Current infrastructure governance in Poland is complex, involving an extensive web of public entities with different and potentially overlapping roles, which causes fragmentation affecting all stages of the public investment cycle in terms of institutional design and effectiveness (IMF, 2022). Since Poland does not have a fully-fledged independent fiscal institution (IFI) and not all activities related to the monitoring of fiscal stance are covered, establishing such an entity could bolster fiscal transparency and heighten the focus on long-term sustainability⁵⁸ (World Bank, 2021a).
66. **There is an urgent need to reorganize and strengthen the financing system and administrative capacity of local government units (LGUs).** Several unresolved issues have been present for a long time, such as their limited fiscal autonomy and issues related to fiscal equalization. These issues have been compounded by recent changes that have made the system of local government finances less reliable, less efficient, and ineffective (World Bank, 2023c). With an increasing number of investment projects, greater fragmentation, limited control, and inadequate tools for aggregating the procurement of goods and services, there is also a risk of greater inefficiency in

public procurement and investments. As such, a comprehensive reform of the LGUs' financing system is needed and should aim at enhancing their fiscal autonomy, and shifting to equalization using fiscal capacity adjusted to spending needs, along with regular assessments of the costing of services to be delivered at the subnational level (World Bank, 2023a). Applying the priorities of the State Purchasing Strategy at regional and local level, especially on professionalization, will also ensure that critical elements of public procurement professionalization are not missed. Finally, the growing complexity of challenges facing LGUs, combined with budget shifts, have increased the use of supra-municipal collaboration, which is likely to play an increasing role in green investments requiring significant inter-municipality collaboration.⁶⁴ Further reviews of LGU boundaries will also be warranted to ensure administrations achieve effective economies of scale.

Reinforcing state institutions will support PFM and economic governance

67. **Poland's performance in the justice domain remains below that of aspirational OECD peers.**

Poland scores in the bottom 25 percent of aspirational comparator countries for settling disputes, judicial accountability, integrity of the legal system, challenging regulations and in businesses' perception of the court system as a major constraint. The justice system performs relatively well on indicators of efficiency, accessibility and digitalization, although the time needed to resolve litigious civil and commercial cases has increased significantly since 2012 (EC, 2023a). Poland has the fourth highest volume per 100 inhabitants of incoming civil, economic, administrative and other cases (EC, 2023a). While the time taken to resolve these cases, on average, is near the EU average, resolution of litigious civil and commercial disputes take longer than the EU average and has seen a significant increase since 2012. Performance varies across domains: for cases related to infringements of intellectual property rights, the length of judicial review is among the shortest in the EU, while consumer protection decisions take among the most time in the EU. In the accessibility domain, Poland has the highest promotion of alternative dispute resolution methods in the EU and performs well in supporting access to justice for those at risk of discrimination and the elderly. Digitalization is advanced in courts, although more significant gaps remain in the prosecution service, for example in the use of electronic case management and allocation systems.

68. **Trust in the justice system has declined as concerns have risen over the independence of the judiciary.**

In 2023 nearly 70 percent of individuals and companies considered courts and judges to lack independence, due to a perception of interference or pressure from government and politicians. Private sector perceptions of the effectiveness of investment protection are among the lowest in Europe, dampening business confidence. Companies note the difficulties in enforcing rights in court due to concerns about the quality, efficiency, and independence of the justice sector. Indicators that capture the removal of judges for political reasons and judicial constraints on the executive signal there has been a decrease in judicial independence in Poland since 2015.⁶⁵ Several European institutions have raised concerns regarding the impacts of reforms to the Polish justice system since 2015 on the rule of law, independence of the Polish judiciary, and primacy of EU law over the Polish Constitution (EC, 2023b).⁶⁶

69. **When compared to OECD countries, the overall assessment of public sector performance is subpar.** In most domains, Poland falls within the category of weak performance. Against this general backdrop, asset utilization, environmental policy, and governance capacity stand out favorably, situating Poland among average performers. In regulatory governance, Poland is classified among the top performers. The pandemic has accelerated the expansion of the possibilities of electronic document circulation between offices and clients, but compared to other countries, the digitalization of public services still lags. Poland ranks in the top third in the EU27 for open data, in the mid-third for pre-filled forms, and the bottom third for digital public services for both consumers and business.⁶⁷
70. **A lack of long-term reform vision for the civil service hinders the enhancement of the strategic-state capability.** Although Poland ranks in the top half in EU-27 comparisons for professionalism and impartiality, it fell within the lower half for closedness due to its hybrid recruitment practices.⁶⁸ While the principle of a neutral and professional civil service governs political-administration relations, higher-ranking roles within the civil service are significantly politicized (EC, 2018; 2021b), a trend that has intensified since the amendment of the Civil Service Act in 2016 that removed the obligation to recruit to senior positions on the basis of political neutrality, creating space for a more politically involved civil service (EC, 2018).
71. **Public administration retention and recruitment has become more challenging, in part due to public sector pay configuration.** Turnover in the civil service is considered to be relatively high at 8.1 percent in 2022 (Government of Poland, 2023b; EC, 2021b), and was highest in ministries and the Chancellery of the Prime Minister (11.4%).⁶⁹ The percentage of recruitment processes that are completed with a filled position has dropped steadily over time. As a consequence, the percentage of public administration employees within five years of retirement age is twice as high as in the private sector and less than half are younger than 30 (7.1 percent compared to 17.5 percent respectively). Strict wage growth control – as part of public finance consolidation following the global financial crisis – has resulted in the public administration’s loss of wage premium compared to the private sector (World Bank, 2021b). At the same time this overall trend masks substantial heterogeneity: older public administration employees, especially in positions that do not need high-level skills, still benefit from a wage premium, while the salaries of young workers are much lower than their private sector peers. Furthermore, returns to education in the public administration are lower than in the private sector (World Bank, 2021b). As a result, the remuneration system makes it difficult for the public administration to compete for young talents. The absence of clear criteria for job grading, pay setting, and promotion may also undermine staff morale and performance.

3. Advancing inclusive growth through reducing spatial and social disparities

This chapter discusses Poland's potential to support inclusion through strengthening population resilience to evolving labor markets, advancing the foundations of social and economic mobility while reducing persistent spatial disparities in opportunity.

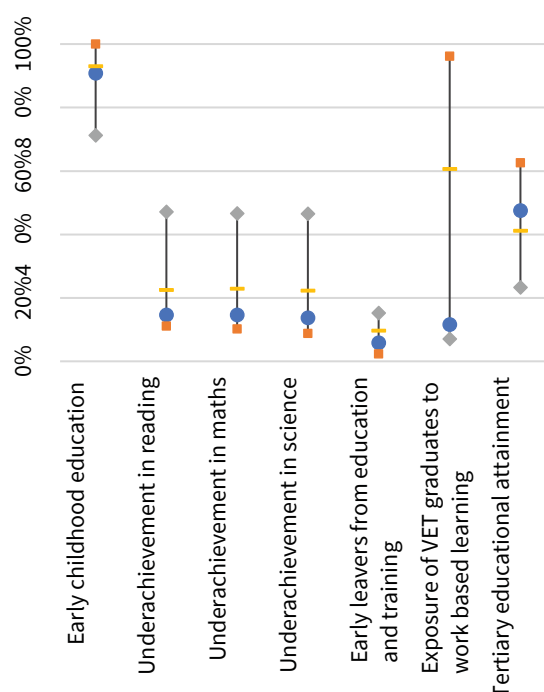
3.1. Strengthening human capital can advance equity and build population resilience in a rapidly changing world

The quality of basic education has regressed, and gaps have widened

72. **Poland's basic education system has supported students in achieving learning outcomes above the EU-27 and OECD average.** Poland performs above average for both learning and access measures, and the inclusivity of access has strengthened over time (Figure 3-1).⁷⁰ Learning outcomes, as measured by the Programme for International Student Assessment (PISA), significantly deteriorated between 2018 and 2022, alongside those of other countries across the EU-27 as a result of COVID-19 closures, after having improved between 2015 and 2018. While students continued to score above the EU-27 and OECD average for all three subjects assessed, the 2022 results are among the lowest ever measured by PISA for Poland, similar to the results in reading and mathematics in 2003 and science in 2006 (OECD, 2019b, 2023b; EC, 2022b).⁷¹ The reduction in performance reflects learning losses due to the switch to distance learning and school closures lasting nearly 26 weeks, one of Europe's longest, during the COVID-19 pandemic, alongside reforms to the education system since 2016. Gender gaps in learning outcomes, though closing, continue to be significant. The gender gap in reading is 33 score points, similar to other OECD countries, while there is no gap in mathematics or science (OECD, 2019b). Gender gaps feed into differences in education pathways, with boys more likely to enter into vocational secondary school and girls more likely to go through the general secondary track and continue to tertiary education.

73. **Despite its past stellar performance, Poland's basic education system has regressed since 2016, notably with regards to equity.** Reforms since 2016 risk

Figure 3-1: Poland performs above the EU-27 average for reading, math and science



Source: EC DG-EAC (2022) *Education and Training Monitor 2022*.

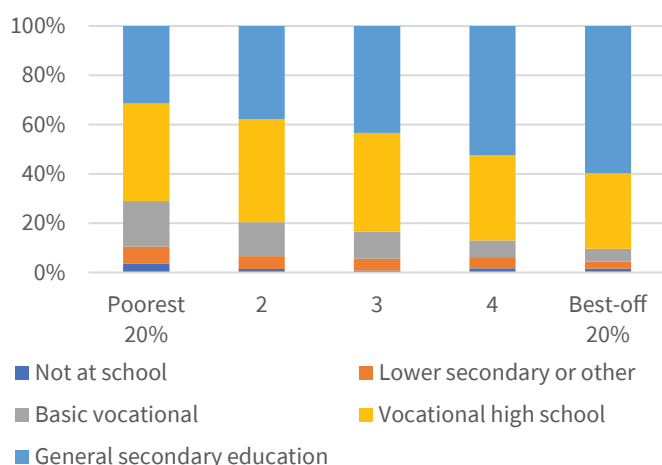
reducing the equity of the education system and damage learning outcomes, while pandemic-related learning losses may require more reactive support. Structural changes implemented in 2016 have reduced the period of general academic education for all students, bringing forward by a year the point in the education system at which children move from the general to the vocational track. This reduces the length of time available for children to accumulate foundational skills in the general core curriculum.⁷² An insufficient focus on key competencies combined with a curriculum overload have been identified as some of the education system's key weaknesses (NIK, 2022). While the full impact of the reforms has not yet been comprehensively observed, early assessments show deterioration in learning outcomes.⁷³ The COVID-19 pandemic has exacerbated existing challenges,⁷⁴ and has contributed to learning losses equivalent to more than one year of study (Gajderowicz et al., 2022). It has also added to broader mental health costs (Stunża et al., 2020). Learning losses are anticipated to be higher for children from disadvantaged backgrounds. These learning losses, combined with shorter general compulsory education, are expected to slow human capital accumulation and impact labor productivity. If not reversed, they could shave off at least 0.68 percentage points from Poland's GDP growth (World Bank, 2022b).

74. **The post-reform education system in Poland has one of the fewest hours of instruction during full-time compulsory education in the EU-27.**⁷⁵ This is partly a reflection of the reduction of the number of years of general education from ten years to eight in the 2016 reforms. By advancing by one year the point at which the education system tracks students, the reform may have an impact on equity as well as on student outcomes. Vocational tracks are more likely to be taken by children from relatively disadvantaged backgrounds and from those in rural areas (Figure 3-2). Students from relatively disadvantaged backgrounds benefitted the most from postponing the choice between the general and vocational track (Jakubowski et al. 2016).

75. **Teacher shortages in certain subjects and in major cities pose a significant challenge to the education system.**

Poland's pupil-teacher ratios do not stand out in comparison to EU-27 peers: in 2020, pupil-teacher ratios for primary school were below the EU-27 average but near the average for upper-secondary school.⁷⁶ These averages however mask pressure points in the education system, with higher pupil-teacher ratios in cities,⁷⁷ and teacher shortages in STEM and foreign languages, among others.⁷⁸ Teacher salaries

Figure 3-2: Children from poorer households are more likely to take the vocational education track. **Enrollment of 16- to 18-year-olds, by type of education and income quintile, 2019**



Source: World Bank staff analysis using HBS 2019.

were among the lowest in the EU-27 in 2022 (EC/EACEA/Eurydice, 2022), which has contributed to limited recruitment in historically tight labor markets, as well as to low job satisfaction,⁷⁹ particularly among new teachers. Increases in teacher salaries instituted in 2024 are expected to alleviate the situation. Furthermore, the teaching workforce is aging as recruitment challenges have reduced the inflow of teachers; the share of teachers over the age of 50 has increased over time.⁸⁰ Shortages will become increasingly pressing in the next decade as retirement draws near for the nearly 40 percent of teachers aged 50 and above. Although individuals can elect to teach beyond retirement age, relatively few teachers choose to do so.^{81,82}

76. Uneven pressures on the school system as a result of demographic transitions and growing urban agglomerations will require an assessment and recalibration of the school network.

Schools in cities and in metropolitan areas more broadly have seen rising pupil-to-teacher ratios as a result of long-term population movements that have, over time, shifted the geographic footprint of demand. Furthermore, many of these cities were more likely to welcome Ukrainian students post-2022,⁸³ and to face difficulties hiring teachers, who may be priced out of housing markets (Lewandowski et al., 2020). Over time, municipalities (*gminas*) have been adjusting the sizes of schools by streamlining school networks and closing smaller schools (World Bank, 2023b).

77. There are significant variations in the share of spending on education at the local level. Local governments have a major role in managing and financing primary education. Although overall education spending is similar to EU average levels, a larger proportion of spending is allocated to tertiary levels. Primary and secondary education expenditures, as a percentage of GDP, are lower than seen in most EU countries. Although the resources devoted to running schools and pre-schools as a share of GDP has remained constant over time, the share of resources allocated by *gminas* has risen, and significant variation is visible across localities in final spending.⁸⁴ Because the education subsidies from the central government have not kept pace with inflation, local governments have adjusted their investments in educational infrastructure and extracurricular activities, which has affected children from disadvantaged backgrounds (NIK, 2022). The reform of the local governments' financing system – discussed in mid-2024 within the Joint Commission of the Government and the Territorial Self-Government – should lead to ensuring adequate funds for education and better distribution of them at the level of individual municipalities.

78. Raising and equalizing education outcomes across lagging and leading schools and localities will mean improving monitoring and evaluation. Timely monitoring and evaluation of school and teacher performance is critical to identify lagging performers and intervene rapidly. The first external assessment of performance has been moved from grade 6 to grade 8, at the end of the compulsory general education tract. This late timing of the test does not allow for early reactive interventions. Assessments could also be more comprehensive.⁸⁵ There are large gaps visible between urban and rural *gminas* which need to be further assessed at the facility level to increase support to lagging schools. While inspections are conducted to evaluate school performance, the absence of explicit criteria and detailed scope are likely to limit the extent to which these can be fully utilized to assure quality systematically and comprehensively.

79. **Further integrating Ukrainian children into the Polish school system could reduce learning losses from distance learning.** The Polish education system rapidly mobilized to integrate Ukrainian children into the education system, including providing the necessary psychological support and employing Ukrainian teachers in schools.⁸⁶ As of July 2023, half of Ukrainian children were enrolled in Polish schools and pre-schools; the share was lower for those of secondary school age.⁸⁷ A considerable share of school-aged children from Ukraine remain outside the Polish school system and are following distance learning. Since prolonged periods of distance learning have been found to impact learning outcomes as well as mental, emotional and physical health, further systemic solutions are needed to ensure Ukrainian students are able to continue learning and building foundational skills.

Improving the quality of healthcare service delivery is crucial for Poland's aging population

80. **High-quality health care remains a challenge to shared prosperity in Poland.** Life expectancy is among the lowest in the EU,⁸⁸ and higher proportions of the population experience chronic conditions than their European peers.⁸⁹ A high burden of non-communicable diseases (NCDs), behavioral, social and environmental factors play an important role in Polish healthcare outcomes, emphasizing the need for better preventative measures.⁹⁰ For example, despite a reduction in smoking prevalence in the 1990s and early 2000s, one fifth of the population still smokes in Poland.⁹¹
81. **There is scope for further preventative care to improve health outcomes.** Poland spends a relatively low share of its total healthcare expenditure on preventative care (1.9 percent in 2020, compared to 3.4 percent in the EU) (EC, 2023d).⁹² Preventative measures such as stopping smoking, healthy diets, physical activity as well as vaccinations and health screenings are crucial to advance life expectancy and healthy life years. Moreover, preventative measures improve health outcomes at a lower cost than some of the treatments for these diseases. Despite overall cancer incidence rates that are lower than EU averages for both men and women, lower levels of cancer screening result in the late detection of cancers and mortality rates that are above the EU average.⁹³ The uptake of effective and cost-efficient preventative measures, such as influenza vaccinations for the elderly, remains at low levels, with only 9 percent of people older than 65 taking advantage of free vaccines, compared to 41 percent on average in the EU-27.⁹⁴ A reevaluation of the organization and role of prevention in the healthcare sector is needed to scale up good practices and to create new support systems (for example, for mental health, nutrition, vaccinations).
82. **Rising levels of debt and suboptimal treatment processes suggest a need for urgent reform of both hospital efficiency as well as quality improvement.** The debt of Polish public hospitals increased by 27 percent in real terms from 2010 to 2020, and has been a source of concern for more than two decades now, connected with ineffective management and ownership structures (Dubas-Jakóbczyk and Koziół, 2020). While Poland carried out hospital reforms in 2017 to improve the organization of hospital service delivery, increase access and improve coordination of in- and out-patient care, among others, limited progress in these areas has been noted to date. Reform

of primary health care, embedding prevention and chronic care within it, is seen as one of the key elements needed in the health reform process (Kozieł et al., 2023). Poorer health outcomes (compared to EU averages) could also be the result of inefficient and low-quality care, and a lack of coordination within the system, although these have not been measured systematically.⁹⁵

83. **Human resources are insufficient, inefficiently allocated, and poorly coordinated.** Poland has one of the lowest ratios of physicians per 100,000 people within the EU.⁹⁶ Significant variation is visible across regions, from a high of 43.3 doctors per 100,000 people in Mazowieckie to 23.3 in Lubuskie (Statistics Poland, 2022a). Furthermore, the age composition of the health workforce poses a challenge to future supply, particularly of nurses and midwives, with 54 percent of nurses and 51 percent of midwives aged over 50 (Ministry of Health, 2021). Using these limited personnel to their maximum potential is therefore crucial, and advancing their effective retirement age could support further resilience of the system. A number of measures have been taken to incentivize participation in health care: financial incentives were introduced to attract doctors to rural areas (Gałązka-Sobotka et al., 2021) and the basic salaries of health care workers have been progressively increased to reach government-set minimum standards by 2021 (OECD, 2021). However, workforce shortages persist despite these incentives.

84. **The Polish health and social care system needs to rapidly adapt to prepare for the aging of its population.** The number of people aged over 80 will double by 2050, putting a significant burden on the health and social system, as well as on families. Long-term care (LTC) services covering elderly and disabled individuals are included in more than a dozen central government programs, and many more LGU programs have been put in place. However, there are significant disparities in access to LTC services across regions, and between health and social systems. Almost half a million people in Poland use publicly funded LTC services, and at least six times as many resort to informal LTC services delivered in various shapes and forms. Survey findings based on declarations indicate that more than 2.7 million people in Poland benefit from LTC services delivered by their family and friends on an informal basis (with no financial remuneration).

85. **LTC costs and workforce pressures are expected to rise with aging.** Aging is expected to impact LTC through three channels: the growing number of people requiring care; the aging of the workforce in the health care and social care sector; and less familial support, due to lower dependency ratios.⁹⁷ This is anticipated to further exacerbate regional disparities in elderly and disabled care provision, with the possibility that rural areas may see even more limited provision. The EC estimates that the changes in demographics alone could see the costs of LTC in health and social systems grow by 196 percent by 2070. The NRRP foresees a reform to transform some district hospitals into long-term and geriatric care units that could ease these pressures. Additional reforms are planned for LTC services, including coordination across the health and social sectors to provide better integrated care in an outpatient setting, where feasible.

86. **As the Polish healthcare system responds to these emerging challenges, ensuring consistent and equal service delivery across regions will be critical.** Differences in subnational capacity in service provision feed into high regional and sub-regional disparities in accessibility to outpatient

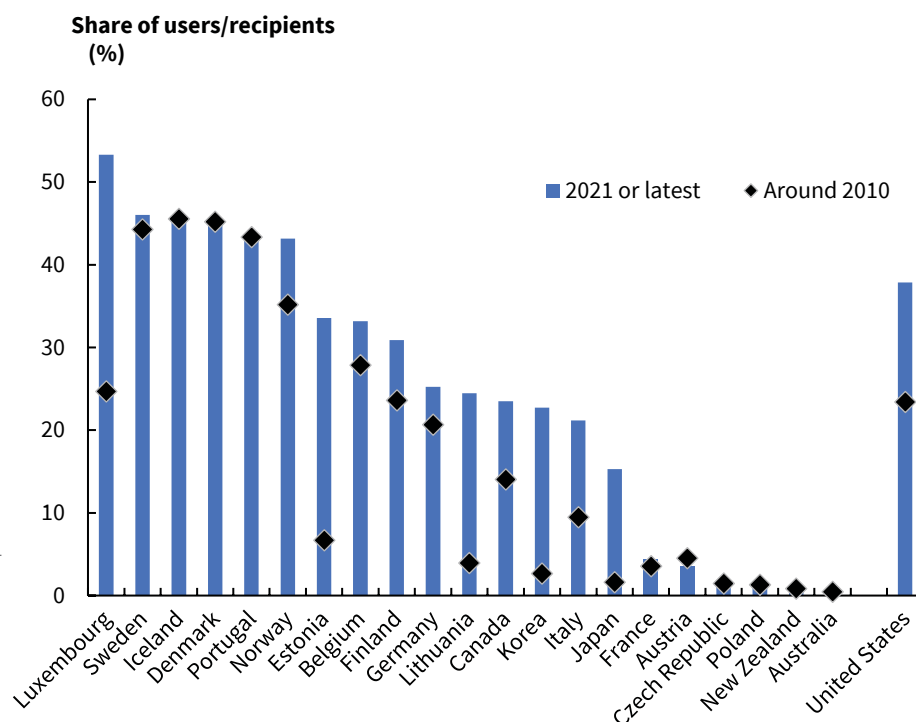
and inpatient care, including residential care services, and into limited coordination between levels of care and social and health systems. These differences in provision are compounded by variations in people's awareness of preventative care behaviors and general health literacy. In 2023, almost half the Polish adult population aged over 15 (44.6 percent) reported health literacy at levels considered to be inadequate and problematic, while people aged over 65 were at greatest risk due to low health literacy. Improving health literacy, particularly among elderly populations, could contribute to stronger and more equitable health outcomes (Słońska et al., 2015).

3.2. Labor force participation and resilience can be improved

87. **The dual challenge of the technological and green transitions, together with demographic pressures, will shape labor markets going forward.** As we saw in Chapter 2, the combination of technological change and the greening of the economy is expected to transform the task content of existing jobs, and to impact the demand for skills and the location of that demand (World Bank, 2023a).⁹⁸ In this context, supporting both growth and inclusion will require policies that foster labor market participation, systems to facilitate lifelong learning, VET systems that are responsive to employer needs and labor market institutions able to equip the labor force to better adapt to changing skills demand.
88. **A primary challenge in the coming years will be to support labor force participation, particularly by women.** Labor force participation has increased over the past decade, from 63 percent of 20- to 64-year-olds in 2012 to 77 percent in 2021.⁹⁹ However, despite the overall dynamism of the labor market, persistent participation gaps are visible along gender, regional, education, disability, and age lines. For example, the employment rates of older workers, in particular older women, are below EU-27 averages, despite having seen steady increases in recent years among the 50-59 year old cohort whose participation is at rates slightly above EU average. Lower participation rates for women aged 60 and above reflect the earlier retirement age in Poland, and feed into pension contribution gaps.
89. **Women's lower labor force participation is linked to missing markets for child and elderly care and fiscal incentives that reinforce existing gender gaps in parental engagement.** Gender employment gaps were the sixth highest in the EU27 in 2022, at 13 percentage points.¹⁰⁰ Drivers of economic activity differ markedly by gender: male inactivity is driven by disability and illness, while female labor force inactivity is more likely to be driven by early retirement, lack of child- and elderly-care, diminished incentives to work stemming from joint tax filing (see Figure A2-8 in Annex 2), parental leave provisions, and social norms reflected both in education and participation choices.¹⁰¹ Parental leave take-up is highly unequal, with take up much lower for fathers (Figure 3-3), in part a reflection of societal norms as well as unequal allowances.
90. **Care responsibilities for children continue to be a barrier to female employment, in part due to limited and uneven access to childcare facilities, particularly in rural municipalities.** Participation in early childhood education and care (ECEC) has increased since 2015 (Figure 3-4), in part aided by new benefits that support families in seeking care for young children.¹⁰² Despite the increase, participation rates, particularly for the under threes, were still among the lowest

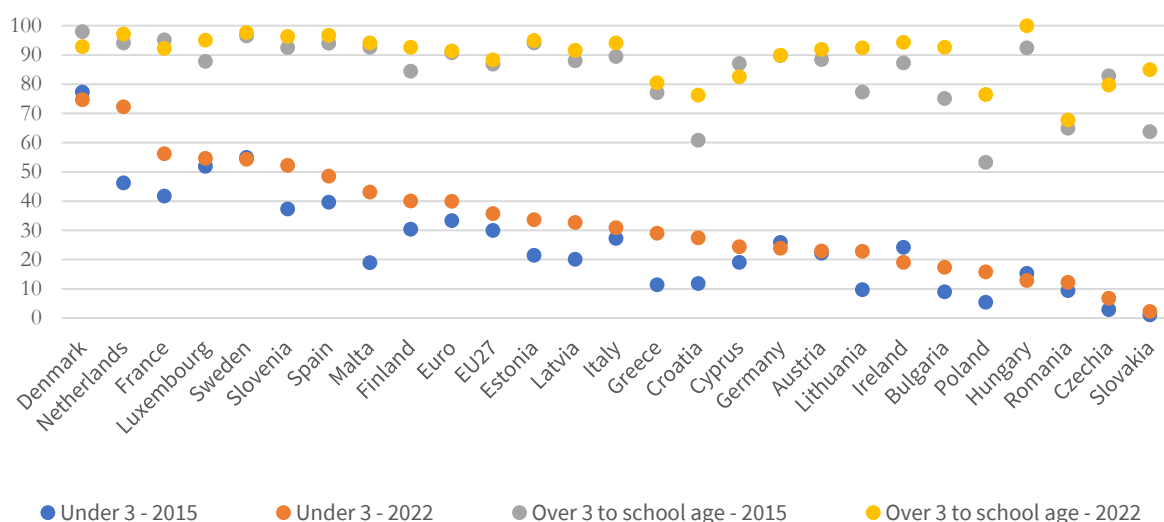
Figure 3-3:
Men's uptake
of parental
leave relative
to women
is negligible
despite
significant rights.
**Males uptake of
parental leave
as a share of
eligible**

Source: OECD Family data-
base, indicators PF2.2.B



in the EU27 in 2022.¹⁰³ The impact of these additional benefits could have been greater had they been integrated with activation measures to help mothers re-enter work. Municipal governments are responsible for public nursery provision and determine key parameters of early childcare access (the number of hours that are provided for free, hourly fees for those that are paid). Despite an entitlement to a place in kindergarten, introduced in 2017, de facto provision varies across the country and feeds through to variations in enrollment.¹⁰⁴ Enrollment is particularly low in rural areas and regions where provision is insufficient (NIK, 2019). The situation is exacerbated in some smaller and rural municipalities, where the minimum enrollment numbers needed to sustain provision may not be met due to lower fertility rates. The Toddler plus program aims to support further provision by 2029.¹⁰⁵

Figure 3-4: **The under-threes have low participation in formal childcare or education in Poland**



Source: Eurostat (EU-SILC), ilc_caindformal. Accessed December 12th 2022.

91. **In the context of rapid aging, the underutilization of older people's human capital is becoming a pressing concern.** Older workers retire early relative to other EU countries,¹⁰⁶ even when they are still healthy and wanting to work. This feeds into Poland have the fourth lowest labor force participation rates for women aged 60-64 in the EU. Beyond raising the effective retirement age, extending labor force participation among older cohorts will mean advancing lifelong training and reskilling opportunities to help them adapt to the changing demand for skills, such as digital skills. Other than the formal education system, there is very little investment in on-going learning in Poland: a 2023 survey found that the share of people aged 25 to 64 who had participated in education or training in the last four weeks was only 8.7 percent, compared to 12.8 percent in the EU, and levels were similar for men and women.¹⁰⁷ Poles do however look for learning opportunities independently, mostly using information and courses available in the internet. Including independent informal learning and extending the period over which learning can be taken up, the percentage of adults in Poland who upgraded their skills over 12 months before data collection increases to 83% (Górniak et al., 2022). These results confirm, however, that informal learning is also more popular among those with tertiary degrees, employed, professionals, and younger adults, who also more often rely on internet and self-study. Finally, prevailing social norms and stereotypes are not exclusive to women and can also impact older workers or other vulnerable groups (Jin and Baumgartner, 2023).
92. **The second key challenge for Poland is equipping students and workers in general with the skills needed to adapt to the changing labor market needs,** as discussed in Chapters 1 and 2.¹⁰⁸ The challenge for skills policies (relevant for the general education system, VET and active labor market policies) will be to develop strong foundational skills, encourage continuous learning and upgrading skills to enable workers to remain relevant in evolving labor markets, and to proactively support the more vulnerable segments of the labor force. However, participation rates in organized adult education are low and below the EU average.¹⁰⁹ National data that expand learning concepts show higher levels of adult learning¹¹⁰, reflecting a preference for informal learning. Participation is greater among those with tertiary degrees, the employed, professionals, and younger adults, who also more often rely on the internet and self-study. Basic digital skills among the adult population are below the EU average. They are similar regardless of gender, but substantially higher among more educated individuals and younger adults (OECD, 2022).¹¹¹
93. **Low perceived need for training holds back participation in lifelong learning, and there are challenges in matching supply to demand.** The majority of adults in Poland report that they do not see a strong need for further training, and the interest in engaging in developing professional competences further declines with an occupation's skill levels (Górniak et al., 2022). There is scope to strengthen demand through emphasizing the benefits of continued learning, offering financial incentives to participate,¹¹² and improving quality assurance and evaluation mechanisms.¹¹³
94. **Responsibility for adult education is dispersed across different ministries, subnational governments, and stakeholders, requiring better coordination in the provision of training opportunities.**¹¹⁴ Responsibility is shared between the Ministry of Science and Education, the Ministry of Family, Labour and Social Policy and the Chancellery of the Prime Minister; the role

of regional governments is not well defined (EC, 2023d). The system is highly decentralized.¹¹⁵ Opportunities to broaden skills through current employers could be enhanced,¹¹⁶ although these opportunities are likely to be more aligned with current job-related tasks rather than focusing on evolving skill needs more broadly. The share of ALMPs devoted to training in Poland is the lowest in the OECD (OECD, 2023). Provision could be widened beyond the registered unemployed to include more job seekers and advanced career guidance and counseling.

95. **The third key challenge is to strengthen the VET system to advance labor market responsiveness, to evolve to rapidly shifting labor markets and further remedy foundational skill gaps.** Globally, VET systems face multiple challenges in effectively delivering both technical skills and (remedial) foundational knowledge.¹¹⁷ Historically, graduates of the VET system in Poland have struggled to find employment, despite large shortages in vocational occupations. HE graduates have been more successful, but they are often not well matched to their job (OECD, 2019). Reforms to VET since 2017 aimed to enhance the quality, effectiveness, and alignment of the VET system with the demands of the labour market, including through applying a classification of occupations to particularly qualifications, advancing curriculum reform, and revising the system of exams for vocational qualifications (Pater, Cherniaiev and Bielecki, 2023). To advance uptake of certain occupations, higher subsidies have been allocated based on the annual forecast of the demand for employees in vocational education occupations.¹¹⁸ Job vacancies in Poland in 2021 were disproportionately directed to vocational education graduates,¹¹⁹ with the ratio of demand for workers to supply of workers in all Polish regions highest among elementary occupations and in specific high-technology brackets. This is a broader reflection of strong demand for routine manual tasks in Poland (Usabiaga et al., 2022; Arendt et al., 2023), alongside a broader evolution in the demand for occupations related to energy and environmental challenges, automatization, robotization and ICT (Pater, Cherniaiev and Bielecki, 2023). Given rapidly evolving labor markets, VET will need to be responsive and reactive to advance the labor market match and relevance of graduates.
96. **Finally, the capacity of labor offices (LOs) limits their ability to advance productive labor market inclusion of vulnerable groups.** Active labor market policies and effective job intermediation services implemented by the Powiat LOs¹²⁰ could play an important role in promoting access to employment, especially among the most disadvantaged. They could also help them access short-term skills training through subsidized employment and fees, and by relaxing information, skills and financial constraints. A continued challenge is a weak M&E system which does not properly collect and aggregate information from the decentralized structure of LOs, hence limiting evidence-based policy making (World Bank, 2016). Another challenge is the lack of skills and competency assessments in the jobseekers' profiling system and in the Powiat LOs' vacancy collection. This results in inefficient job matching services. The relatively low budget for public employment services compared to other countries and lack of operational tools may undermine the LOs' capacity to provide individualized case management services for the unemployed who are hardest to serve. For example, the profile of affected coal-related workers (Box 3.1) calls for a tailored employment service approach whose quality standards may not be met by local LOs (Honorati and Banaszczyk, 2023). Such implementation challenges reduce the efficiency of the limited resources invested in employment promotion and activation

Box 3.1 A just transition for Poland's coal workers

Upskilling and reskilling training for workers in the coal industry should be part of the package of services provided to ensure a just transition. While the impact of mine closures in terms of job losses is not likely to be huge, with less than 2 percent of total employment in the coal-value chain, they are concentrated in a few municipalities where coal-related employment represents over 20 percent of total employment (Honorati 2023). Mine-workers' skills are similar to those of other Polish workers; while they tend to be better at machine handling, they score worse for advanced digital skills. On the other hand, non-mine workers residing in heavily-affected municipalities (such as Wielkopolska and Lower Silesia), and lower educated coal workers (in Silesia) tend to be less skilled. They are therefore more vulnerable to the transition out of coal and more likely to require upskilling to find re-employment opportunities (Honorati, 2023).

To ensure that no-one is left behind, the capacity of the agencies responsible for integrating laid-off miners into the labor market needs to be strengthened. They need to be able to identify workers' specific profiles and needs, develop appropriate job placement tools and active market labor policies, and support the effective use of severance pay to ensure active participation by the directly and indirectly affected workforce, including youth and women.

services. The law on employment services, approved in 2023, is expected to make employment services more flexible and effective by simplifying procedures, cutting ineffective ALMPs, providing more services online and expanding unemployment insurance to part-time workers.

3.3. Addressing gaps in housing can remove barriers to mobility

97. **The insufficient volume of social and affordable housing is hindering people's geographical mobility.** The low share of rental housing and limited investment in social housing has contributed to tight housing markets, in particular in dynamic urban areas, and poses a barrier to growth as well as inclusion. Rental rates in Poland are nearly half the EU average, with 17 percent of residents renting compared to 30 percent in the EU.¹²¹ Overcrowding rates are also higher than in other EU countries – 36 percent of Poles lived in overcrowded houses in 2021 (compared to 17 percent in EU)¹²² – and energy efficiency levels could be raised. Social and affordable building stocks are more likely to be in a poor state of repair (Frankowski et al., 2022). The thin rental market, in particular in dynamic metropolitan areas, poses a barrier to both the economic growth of these areas as well as to inclusion, since the housing market is particularly tight in the low-income segment and increasingly unaffordable for lower-income households.^{123,124} It may furthermore pose barriers to a just transition, through reducing the potential mobility of those wishing to explore employment options outside of their local communities. Although tenants are more common in urban areas, 30 percent in cities of over 500,000 inhabitants compared to 8 percent in rural areas, housing availability and affordability is likely to constrain mobility (Habitat for Humanity, 2020; Lewandowski, et al., 2020).¹²⁵
98. **Despite efforts to deepen the municipal and social rental housing stock, supply in this segment is low relative to demand.**¹²⁶ Several governmental strategies and programs have been put forward to advance social and municipal housing in the last three decades. Core impediments are low rents that do not cover the costs of maintenance, repairs or modernization,

and high rates of arrears.¹²⁷ The budget dedicated to the National Housing Program¹²⁸ (initiated in 2016) provides financial incentives to municipalities in carrying out their housing tasks and has been significantly expanded since 2020.¹²⁹ These activities have however focused mostly on affordable housing construction and to a lesser extent on upgrading the existing housing stock.¹³⁰ As a result of these changes, an increase in affordable housing construction is expected,¹³¹ but further upgrading of the stock is likely to be needed.¹³²

99. **As a consequence of limited municipal and social rental housing, and a tight private rental market, affordable housing shortages have been visible in urban areas.** The lack of social and affordable housing inhibits the geographical mobility of citizens. Poorer, younger, and less educated groups are especially affected by this situation. Indeed, differences in housing costs between the biggest and smaller cities are larger than the wage gains from shifting between these labor markets for primary and secondary educated individuals, fully reducing the mobility opportunities for these groups (Frankowski et al., 2023). As such, housing availability and affordability is likely to impede the provision of public services in growing cities by reducing the ability of schools and health care facilities to attract the necessary staff. The substantial influx of refugees from Ukraine has added to housing pressures and risks further tightening the market. This is especially relevant for large cities and towns, which are the primary destination of the refugees.
100. **Housing allowances to support households struggling with housing costs are benchmarked against low-rent housing in short supply, and thus cannot sufficiently bridge the affordability gap driven by supply side factors.** The housing allowance system, introduced in 1994, has moved from being co-financed by the state government to being the sole responsibility of local governments. The reference point for the housing allowance is low-rent municipal housing, resulting in the program becoming inadequate due to short supply of housing in this segment and growing rental costs in other segments.
101. **Since 2003 a substantial urban sprawl process has taken place as core cities have depopulated at the expense of adjacent rural areas.** This was happening in the context of diminishing scope of public transport in rural areas. Urban sprawl and curtailed public transport saw a decrease in public service accessibility (e.g., education, health care) and increase in public service costs (e.g., higher investment and maintenance costs of water, sewage, road infrastructure). Simultaneously, car ownership has steadily grown, contributing to high congestion in cities and higher GHG emissions, and eroding the user population of public transport.
102. **The organic suburbanization process is partly a consequence of incomplete spatial and urban planning.** The 2003 reform of the Law on Spatial Planning and Land Use paved the way for the chaotic suburbanization of the country. The law cancelled existing general spatial plans and introduced a two-tier spatial planning system.¹³³ Many of the new developments in Poland occur through ad-hoc individual development decisions, which do not take guidance from any higher-level or coherent planning system, may not align with any urban development vision, or may even contradict or disrupt more coordinated efforts. Furthermore, since spatial plans are usually prepared for small areas (single or several plots), urban territories are often peppered with several

small and disconnected spatial plans that do not support a broader or joint vision. In their current form they are hence insufficient as a city management tool. It is expected that the new Law on Spatial Planning and Land Use (August 2023) will address some of these negative trends. There are multiple opportunities to advance spatial and urban planning in a manner that promotes a dynamic housing market with affordable housing options. These include developing the rental housing sector, with a focus on lower-cost housing solutions, and enhancing the quality and stock of municipal and social housing. These opportunities are further described in Chapter 5.

3.4. Household resilience can be further strengthened through social protection

There is substantial scope to increase the efficiency, equity and resilience of social protection

103. Poland's social protection system provides a range of benefits to individuals and families.

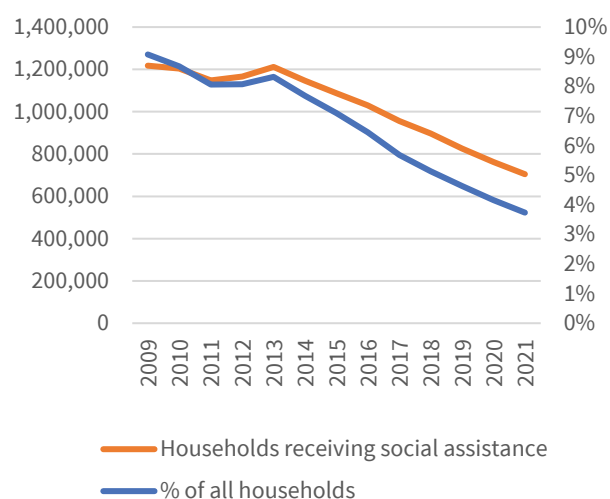
The system of transfers consists of three major categories – social assistance, family benefits and housing benefits – and, within these, a range of benefit types.¹³⁴ Since 2016, there has been an expansion of untargeted family benefits, most notably through the Family 500/800 program. These have fed into declining poverty rates, as discussed in Chapter 1, albeit at a considerable fiscal cost. Poland's social protection spending has become increasingly skewed towards supporting families, with 3.8 percent of GDP and 16.2 percent of social protection expenditures going on family benefits in 2020, compared to 2.5 percent and 8.3 percent on average in the EU. Resources allocated to family benefits have more than doubled since 2015, when 1.5 percent of GDP was devoted to this segment.¹³⁵ By contrast, spending on social exclusion and housing represents only 1.5 percent of total social protection benefits, compared to 3.7 percent in the EU. Poland has the second highest share of social protection resources flowing to non-means tested cash benefits in the EU, at 73 percent of all social protection expenditures, contributing to a welfare system with limited redistributive power (EC, 2023f).

104. There is substantial scope to improve the equity and resilience of the social protection system while increasing the efficiency of public spending on social benefits.

Gaps in social assistance coverage for the working poor persist. While minimum-income programs are targeted at low-income households (with some leakage; Statistics Poland, 2022a¹³⁶), they only reached approximately half of those living in legal poverty in 2021.¹³⁷ The combination of the declining coverage of minimum-income and means-tested family benefits programs, further documented below, with the expansion of non-means tested transfers, such as the Family 500+, Family 800 and recent deployment of 13th and 14th month pensions, offers significant scope to rebalance social benefits toward achieving equity and resilience. Doing so would require an expansion in targeting capacity, including through the use of a social registry, which could reduce administrative burdens as well as fragmentation. The need for such systems has been highlighted in the response to rising living costs, including energy costs, which involved the introduction of a number of new, predominantly universal, programs.

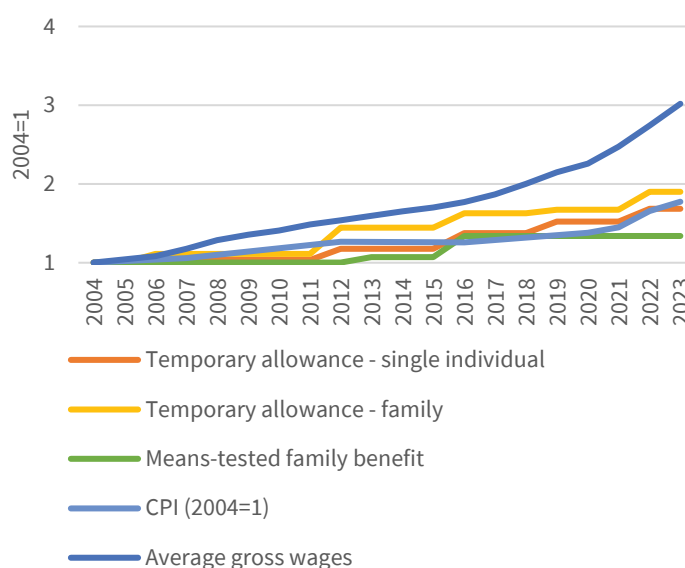
105. **The share of households supported by social transfers has declined systematically, partly as a result of higher incomes and unchanged thresholds.** The share of all households receiving social welfare benefits in monetary, non-monetary or service form declined by 56 percent in the decade leading to 2021, from 9 percent of households in 2011 to 3.7 percent in 2021 (Figure 3-5).¹³⁸ Similarly, the number of families receiving means-tested family benefits declined from 1.7 million in 2008 to under 680,000 in 2021, and from 46 percent of children under the age of 17 to 19.4 percent.^{139,140} While the decline in the share of households receiving means-tested benefits has been counteracted by the introduction of Family 500+, further extended to Family 800, this has effectively resulted in a growing coverage gap in assistance for low-income households without children. The decline in social assistance beneficiaries reflects rising nominal incomes among households in the bottom 20 percent of the income distribution. These have contributed to lifting households out of statutory poverty (Statistics Poland, 2022b).¹⁴¹ It however also reflects a deterioration in the income thresholds used to determine eligibility for the minimum income and family benefits programs. The eligibility thresholds for the temporary and permanent allowance have been broadly maintained in real terms (Figure 3-6); however, they have declined considerably relative to minimum wages, relative poverty thresholds and average wages. This reduces the ability of the social protection system to support household resilience.

Figure 3-5: Households receiving social welfare benefits have declined. **Households receiving social welfare benefits, number (lhs) and percentage of population (rhs)**



Source: Statistics Poland (2022c)

Figure 3-6: Eligibility thresholds for benefits lag behind average wages, feeding into a decline in coverage compared to the relative poverty line. **Eligibility thresholds for benefits relative to wages and CPI**



Source: World Bank review of parameters of the benefits system; GUS (CPI, Wage).

106. **Eligibility thresholds are updated irregularly, which can contribute to a loss of eligibility of low-income working households to transfers and to the declining adequacy of benefits among beneficiaries.** Poland is among the 13 EU Member States that only periodically update their minimum income support.¹⁴² This is in contrast to the 10 Member States that have automatic indexation systems in place to regularly account for changes in the cost of living. The income thresholds that determine access as well as the level of benefits under the main means-tested programs are subject to review every three years. There is no mechanism in place to account for periods of rapidly changing prices, which can occur both within the course of a year and between the three-year reviews. Holding the thresholds constant at these times will reduce both the share of households eligible for the scheme (particularly for low-income working households, who may see wages rise, albeit at a slower pace than prices) and the real value of the financial support received by households, thus undermining its adequacy. The irregular updating of thresholds therefore reduces the ability of the system to support household resilience at a time when the need for such support is increasing.
107. **Statutory poverty concepts that underpin income thresholds and allowances for social benefits also do not reflect the evolving concept of poverty or minimum needs in Poland.** The concept of statutory poverty has remained somewhat unchanged, and reflects the basket of goods used to determine the initial statutory poverty line in the Act of March 12, 2004, on Social Assistance. Since the act came into force, the basket of goods consumed by the bottom 20th to 40th percent of the income distribution has evolved as average wages have increased, and the concept of relative poverty has evolved. These evolutions in consumption bundles and minimum needs have not been included in the review of statutory poverty or subsequently in the income thresholds. For example, compared to 2002 when the first assessment of basic minimum needs was conducted and to which the statutory poverty line was benchmarked, the share of digital goods and services in the basket has expanded.
108. **Minimum-income benefits are inadequate.** The minimum-income support in Poland is among the least generous in the EU (below 40 percent of the poverty threshold for a single adult) (JRC, 2022¹⁴³). The amount of assistance provided is based on the difference between net household income per person and the statutory income threshold, but only a share of this difference (50 percent) is guaranteed by the central budget. Local governments may supplement this guaranteed portion, but this depends on the *gmina*'s own resources, which may not be enough to allow the *gmina* to support households enough. As such, even after receiving the minimum income benefit, households may continue to have income levels that are below the statutory poverty level.¹⁴⁴ Furthermore, the discretionary nature of the supplement can further reduce household's geographic mobility.
109. **While Poland's social protection system has multiple integrative elements that aim to minimize fragmentation, the large number of social protection programs and the expansion in the range of family programs have increased fragmentation, contributing to gaps and overlaps in the delivery of social protection services.** Commune level social assistance centers provide a centralized point for application for mean- tested programs. A centralized database of

social protection beneficiaries (*Emp@tia*) reduces the risk of duplication or overlap between programs. However, fragmentation still persists due to the number of programs and agencies involved, making it difficult for beneficiaries to navigate the system. Overlaps in programs have been documented, with families likely to benefit from multiple complementary programs (Klejdzysz et al., 2023), while a significant share of extremely poor individuals is not covered by the minimum income programs (Almeida et al., 2022). Programs are administered individually, and intake procedures are not integrated, contributing to inefficiencies in enrollment processes. Social welfare workers play a pivotal role in referring people to relevant services and programs, but capacity gaps are likely to impede coordination (NIK, 2019). Finally, with the three arms of social assistance – family benefits, housing benefits and social assistance – handled by different departments, coordination of key policy design issues is complicated and the system is fragmented.

110. Variations in local government administrative and financial capacity create disparities.

The responsibility for providing social assistance in Poland is delegated to local governments, who are authorized to make decisions and allocate resources based on the needs of their communities.¹⁴⁵ Capacity gaps in municipal level social welfare functions, most notably in the number of employees charged with social work functions and the number of tasks they are responsible for, can impede their ability to deliver the services required.¹⁴⁶ These capacity gaps will be further challenged by the evolving demands on social assistance centers in the context of aging populations that require further support and coordination with health services, labor market transitions that will require further activation support measures, and energy transitions that will require greater support for energy poor households (see below). Furthermore, with municipality budgets facing substantial competing demands, benefits that are not required to be provided by *gminas* but that are subject to *gmina* discretion based on local needs will come under increasing pressure.

111. The gaps in Poland's policy framework to support energy poor households have become increasingly visible in the context of rising energy prices.

Reducing energy poverty is not a formal objective of any social, housing or energy public policy, except for the TERMO program, Stop Smog program and the Clean Air Priority program, which aim to reduce energy poverty by promoting thermal modernization and heat source updates in poorer households. There are however several programs that have overlapping objectives, and which address aspects of energy poverty – most notably the housing allowance, electricity allowance and social and family assistance programs. However, these programs are not properly targeted at the energy poor, with two of the most notable programs – the housing allowance and energy allowance – failing to reach this target group (World Bank, 2020c). In the absence of targeted policies to support households at risk of energy poverty, temporary fuel transfers were enacted to reduce the impact of energy price rises in the third quarter of 2022; while these have largely cushioned impacts on poorest households, they have done so at a significant fiscal cost. Targeted support structures to support those who fail to receive basic energy services, either through social programs or energy policy, would be a more efficient way to direct public resources to those in need and will be an important ancillary policy to support heat source transition.

The pension system is under increasing pressure from demographic trends

112. **Poland's pension system is facing challenges to its financial and social sustainability.** In 2022, 7.9 million pensions were paid by the social insurance institution (*Zakład Ubezpieczeń Społecznych – ZUS*), a three-decade record. As the post-war baby boom generation reaches retirement age, this trend is expected to continue. Legislation enacted in 2009 initiated the increase in the actual retirement age by reducing access to early retirement.¹⁴⁷ The next change came into force in 2013, by gradually introducing a later retirement age for men and women started (by a quarter of a year each year) to reach 67 years for men in 2020 and 67 years for women in 2040. By 2016, the retirement age had reached 61 years for women and 66 years for men. In 2017, this trajectory was reversed, and the legal retirement age was reduced back to 60 for women and 65 for men. As a result, Poland ranks among the countries with the lowest female retirement ages in the EU. While there has been a steady increase in employment rates among people aged 50 and above, employment sharply declines at the legal retirement age. Although regulations do not restrict the possibility to work after reaching retirement age, a sharp drop in employment rates is visible for both men and women above the statutory retirement age (Figure 3-7). A tax benefit for those who remain economically active and do not receive pensions was introduced in 2022 to strengthen financial incentives for those who work longer.

113. **The social and financial sustainability of the defined-contribution system will be tested with rising life expectancy rates.** Reforms initiated in 1999 replaced a defined benefit (DB) pension formula with a defined contribution (DC), along with the continuation of the minimum pension. The new DC pension formula has been projected to lead to a reduction in the (relative) level of the benefit, expressed in the form of a shrinking individual replacement rate. In the absence of changes to the legal retirement age and with rising life expectancy,¹⁴⁸ the duration of the benefit payment is expected to increase for both men and women. In contrast to the earlier DB system, this will lead to partially reduced pension benefits in the defined-contribution formula, therefore reducing the adequacy of benefits. Only a quarter of those covered by social insurance have additional pensions savings that can be mobilized. Trust in private-savings institutions remains low and the system is seen as complex, suppressing further savings potential. While the guaranteed contributory minimum pension offers protection from old age poverty, it is subject to reaching the minimum retirement age and achieving a minimum contribution period. For those who do not meet these conditions, last resort social assistance programs are available, albeit at a considerably lower level of adequacy (with monthly entitlements of 60 percent of the guaranteed contributory minimum pension).

114. **The adequacy of pension benefits has declined since 2008 and may feed into further rises in elderly poverty.** The decline in the adequacy of benefits, captured by the ratio of average pensions to average wages (Figure 3-8), is a result of a higher share of pensioners receiving pensions under the defined-contribution system, and indexing that automatically translates into pension benefits growing more slowly than wages.¹⁴⁹ The decline in the adequacy of benefits is expected to particularly impact women, who already see a significant gender gap in pensions (34 percent lower than men's in 2021).¹⁵⁰ The number of elderly people at risk of monetary poverty

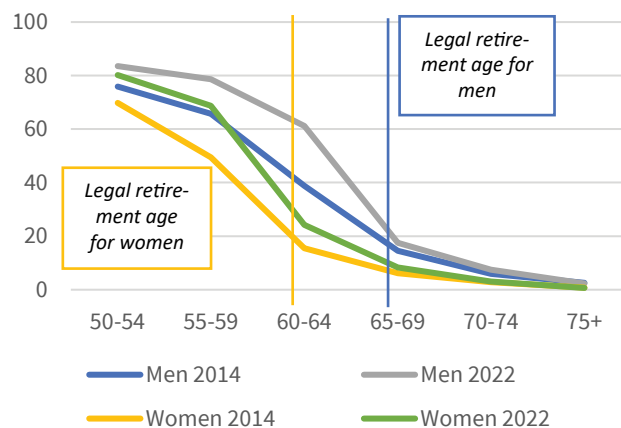
increased between 2015 and 2021 (Figure A2-9), and this is particularly visible among those reliant on survivor and disability pensions. More broadly, the elderly are also expected to constitute a greater proportion of the poor as a reflection of the rising share of the elderly in the overall population. The 13th and 14th month pensions were initially both introduced as temporary benefits but were converted into permanent benefits in 2023. They aim to bridge adequacy gaps since they are financed from taxes rather than social insurance contributions.

115. The longer duration of benefits will also affect total expenditure on pensions in the future.

The pension system is expected to contribute to public spending pressures over the medium term, as the incomplete reform of the pension system linked to the rollback of retirement ages is expected to increase the deficit of the Social Insurance Fund (FUS). The social insurance system in Poland is imbalanced, with

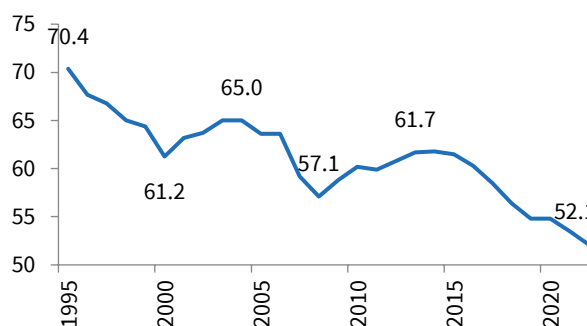
expenditures exceeding contribution revenues. The subsidy from the state has declined over time, from just over 4.5 percent of GDP in 2010 to 1.5 percent in 2022, a reflection of an additional 1.7 million contributors, approximately 1 million of whom were foreign nationals, predominantly of Ukrainian origin. Medium-term projections of the financial stability of FUS anticipate an increased deficit between 2023 and 2027, driven by rising old-age expenditure. The deficit related to the old-age sub-fund is expected to reach 2.95 percent of GDP by 2027. Longer term projections anticipate the old-age segment to remain in deficit until at least 2065.

Figure 3-7: Employment rates fall steeply for people over the legal retirement age. **Employment rate for people aged 50 or over in Poland by sex and age group**



Source: EUROSTAT.

Figure 3-8: The adequacy of pension benefits has declined since 2008. **Average old-age pension as % of the average wage in the economy**



Source: Chłoń-Domińczak, 2023

4. Achieving the green transition

Poland needs to achieve its green transition to sustain the economic competitiveness of its economy, particularly its manufacturing sector. There could also be co-benefits from a low carbon economy in related sectors, such as transport. Climate change adaptation will also be needed to protect strategic assets, notably water.

4.1. A low-carbon economy is needed to preserve economic competitiveness

The energy transition should be accelerated

116. **As an EU Member State, Poland will need to accelerate its green transition.** Over the remainder of this decade there is likely to be a concerted focus on the green transition and energy security, given Poland's commitments under EU policy action spelled out in the European Green Deal (EGD). Importantly the EU will most likely not be able to achieve its 2050 net zero target without Poland's contribution. Yet, Poland's progress has been uneven across the various policy domains of the EGD, including decarbonization, air pollution, and water and waste management. The country's climate policy ambition still trails other EU Member States, despite a clear intention to reach net zero in 2050 on the part of the new government. Poland, along with other EU MS, has submitted the joint Nationally Defined Contributions (NDC) to achieve a 55 percent EU emissions reduction by 2030 relative to 1990s levels. Complex political economy issues and weak coordination of climate and environmental issues have had a detrimental impact on the pace of the green transformation. Climate and energy policy making has been dispersed across several uncoordinated stakeholders, and collaboration between national and regional authorities has been hampered by political economy factors. This has fed into substantial regulatory ambiguity and uncertainty that has disrupted investment processes: regulatory changes introduced every few years have a significant impact on the profitability of ongoing projects and sometimes even on their feasibility (for example, onshore wind facilities) (World Bank, 2022b).

117. **Poland remains one of the most energy-inefficient and carbon-intensive countries in Europe, with a heavy dependence on coal.** It is the second-most carbon-intensive country in the EU, despite a significant decline in carbon intensity since the early 2000s. Significant amounts of coal are used in the residential and commercial heating sectors, in industry and power production. Coal remains the most important primary energy fuel, with its share in electricity above 70 percent. Since 1990, the share of renewable energy (mainly biomass and wind) has grown fivefold, and its growth is expected to continue. Yet Polish greenhouse gas emissions fell by only 1 percent in 2021 from 2005 levels, compared to an EU average reduction of 24 percent. Poland is also behind in reducing emissions in the non-emissions trading system (ETS) sectors, including buildings and transport. At current emission levels, the social cost of carbon is estimated to be over 7 percent of GDP, and the high energy and emissions intensity of the economy is likely to pose competitiveness challenges in the future.

118. Poland's decarbonization trajectory needs to be accelerated to reach net zero by 2050.

Poland is currently finalizing a review of its 10-year integrated National Energy and Climate Plan (NECP) to align it with the NZ2050 objective of the EU. The previous strategy, released in 2021 (PEP 2040), included three pillars: a just transition, zero-emission energy systems and improved air quality. An update in early 2023 also advances energy security measures. There are significant opportunities to support the faster adoption of renewable energy sources RES and to increase energy efficiency. Lower technology costs for solar PV and wind equipment, battery storage and electric vehicles, and higher energy prices, have helped incentivize a faster energy transition. For mass RES deployment, grid challenges need to be urgently addressed. Decarbonizing the power system entails resources of various scales (from small, distributed resources such as rooftop PV to large nuclear and offshore wind plants) and a mix of variable (solar, wind) and inflexible sources (nuclear). Thus, the grid architecture and operation practices will need to change significantly. Energy storage solutions, ranging from short term (flywheels and batteries) to seasonal (hydrogen/ammonia) will play an important role in storing clean energy sources. Furthermore, extra or ultra-high voltage transmission lines will be needed to allow for certain RES (offshore wind) to be transmitted to demand centers.

119. Financial intermediation is critical to enable the green transition given the large investment needs.

While public and blended finance are vital for the shift to a greener and more resilient economy, ultimately private capital is needed to help all companies realign their business models to net zero targets and fund the initiatives and innovations of the private sector. To mobilize private capital toward environmentally friendly activities and technologies there is a need for enhanced disclosure and reporting initiatives, improved risk management practices, and increased demand for green assets. Although green bond and loan markets are still relatively small, these instruments can play a transformative role by raising awareness, boosting accountability, and increasing transparency (World Bank, 2022b). To enable big scale hydrogen production in Poland, dedicated solutions for off-grid renewable energy generation and off-grid use of renewable energy for electrolysis process of hydrogen production should be deployed.

Tackling air quality requires advancing and enforcing regulations, alongside providing incentives

120. Air quality (AQ) continues to be among the worst in Europe and imposes a significant environmental and health burden on the population.

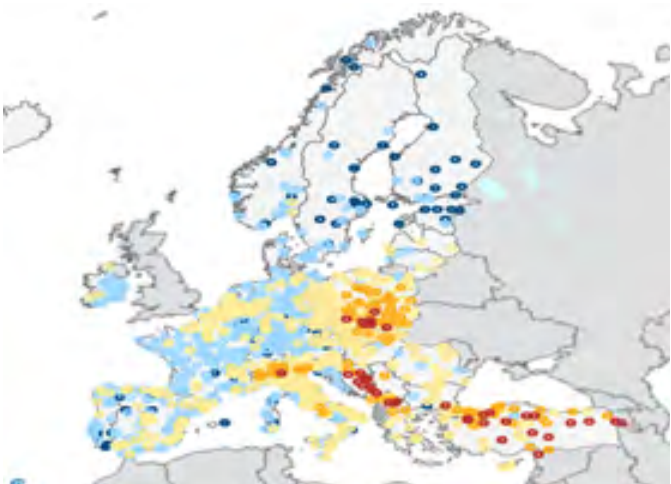
Poland has 23 of the 50 most polluted cities in the EU, with an annual mean concentration of fine and coarse particulates ($PM_{2.5}$ and PM_{10} respectively) exceeding EU regulations and WHO guidelines (Figure 4-1).¹⁵¹ While Poland has made substantial progress in reducing AQ pollutants from large-scale industry and power plants, mainly sulphur dioxide (SO_2) and nitrogen oxides (NO_x), excess levels of PM_{10} and $PM_{2.5}$ and benzo(a)pyrene in the winter remains a serious problem in selected areas of the country, albeit widespread, due to individual heating sources.¹⁵² The economic and health impacts of poor AQ are substantial: an estimated cost to the economy of up to US\$40 billion per year in 2018 (World Bank, 2019c).¹⁵³

121. The burning of solid fuels for space heating in residential buildings, and in particular single-family buildings (SFBs), is the largest contributor to small particle air pollution, accounting

for close to 80 percent of emissions (World Bank, 2020c). Other important sources of ambient air pollution include energy, transport, transboundary, industry and agricultural sources, although pollution from these sectors are more evenly distributed spatially and temporally. In southern Poland, transboundary sources contribute to PM_{2.5}, reaching more than 60 percent in the Śląskie voivodeship. Households living in SFBs and using solid fuel heat sources are more likely to be at risk of poverty and are disproportionately likely to be energy poor. These households are also more likely to live in poorly insulated buildings with low energy efficiency, raising heating costs and reducing thermal comfort (World Bank, 2020c). Approximately 40 percent of these households include an inhabitant over the age of 65.

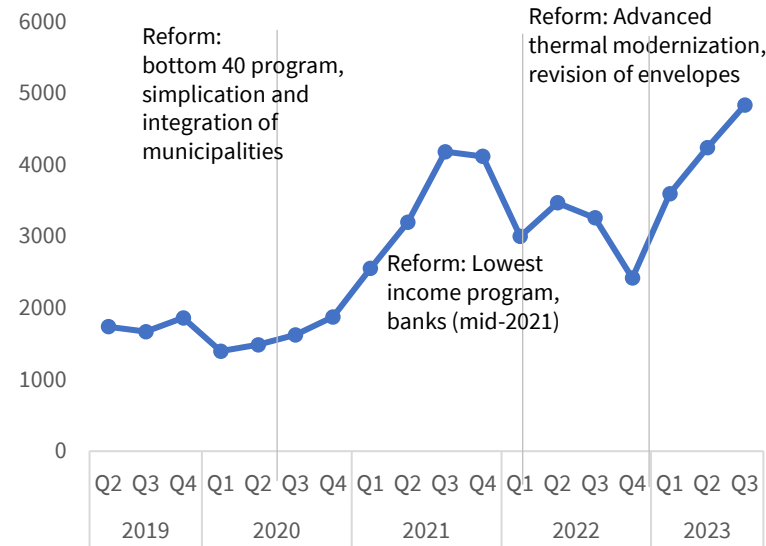
122. **Several national and regional initiatives to reduce fine particulate pollution from the residential sector have been implemented.** The most notable is the national Clean Air Priority Program (CAPP), to support heat source replacement in SFBs. The government established the nationwide CAPP in 2018, with the ambition of reducing residential emissions through a system of subsidies and tax relief for thermal retrofitting and boiler replacements in 3 million SFBs. After a slow start, program reforms have contributed to accelerated applications and investments since 2020 (Figure 4-2), feeding into a scalable mechanism for supporting heat sources replacement and thermal modernization. By October 2023 the CAPP had received over 710,990 applications and signed 602,610 co-financing agreements for a total program commitment of PLN 14.76 billion. The program is expected to receive substantial

Figure 4-1: Concentrations of PM2.5 in Poland's cities are amongst the highest in the region. **Concentrations of PM2.5 in 2020 in relation to annual EU limit and WHO guideline**



Note: EEA (2023). Annual mean PM 2.5 concentrations in 2020, >25µg/m³ (red), 20-25 (orange), 10-20 (light yellow), 5-10 (light blue), <5 (dark blue). EU limits are 25 µg/m³ and WHO guidelines are 5 µg/m³.

Figure 4-2: Applications for the Clean Air Priority Program are on the increase. **Average weekly applications received under CAPP, by quarter**



Note: Applications received from the Clean Air Priority Program, divided into quarters and translated into weekly application rates.

EU funds from the Recovery and Resilience Fund and through the Cohesion Policy, which will enable the further expansion of the program. The program has been reformed multiple times since its inception to increase inclusion, through higher subsidies and pre-financing to low-income households; support additional financing structures, through the integration of commercial banks; promote energy security and efficiency, through supporting more extensive thermal modernization; and strengthen local government ownership and participation, through municipality agreements. The program will require continued monitoring and reform to reach its objectives, in particular to encourage further thermal modernization to reduce the risk of rising heating bills and increase energy efficiency, and to support inclusion through more extensive support to those who struggle to complete program processes. Given the decentralized nature of the program, further monitoring may be needed in the case of supply side developments, including price by equipment type and evolutions in equipment suppliers.

123. Regulatory backsliding and regional gaps in monitoring and enforcement are reducing the pace of transition and may hinder the absorption of EU funds, while contributing to continued poor air quality. To maintain the pace of the heat source transition and advance on clean air ambitions, financial support alone will not be sufficient. The CAPP will need to be matched with regulatory instruments that stipulate transition timelines and fuel quality standards that direct the market. The current coal quality standards allow households to use coal with a high sulphur, ash or moisture content for heating. The emission intensity of class 5 or eco-design devices (i.e. devices approved for use under an anti-smog resolution) can be much higher when using this type of coal. Tightening the quality requirements for coal, so that the devices allowed by anti-smog resolutions emit no more than the permissible level of pollutants could further enhance air quality. Furthermore, setting minimum standards for pellets and woodchips are required to regulate the quality of fuel in this market segment. Uneven and decentralized regulatory regimes combined with spotty enforcement across voivodeships and *gminas* further suppress the momentum in moving to cleaner fuel sources. Anti-smog regulations (ASRs) require SFBs to replace non-compliant solid-fuel boilers and are in place in 14 of 16 voivodeships, with varying timelines and technological restrictions. However, deadlines are under pressure in several voivodeships, reducing the efficacy of these regulations to steer the transition in a timely manner, and knowledge of ASRs could be further advanced more broadly.

124. Municipal governments are obliged to carry out key air quality management functions without adequate capacity or dedicated financing allocations. This impedes their capacity to conduct sufficient controls and enforce standards set in regulations. Municipalities are legally obliged to comply with air quality control strategies defined in regional Air Quality Plans (AQPs); however, limited organizational capacity, human resources and funding significantly constrains the ability of smaller municipalities to manage air quality effectively. These units are required to prepare various implementation plans and strategies, including municipality environmental protection plans; low-emission development programs; energy and heat supply plans; AQPs; development strategies; and local spatial development plans, among others. The multitude of documents required means that they are usually not prepared by local authorities, and are outsourced instead. The number of people involved, their varying levels of understanding and the

administrative approval processes can lead to different AQM goals and priorities being introduced in the strategic documents, at times contradictory to each other. Funding constraints have been eased through financial support from CAPP for municipality engagement in providing information and supporting enrolment in the program. These financing streams however do not support municipalities' enforcement and control activities, which remain underfinanced and suffer from implementation gaps.¹⁵⁵ Many municipalities do not employ municipal guards,¹⁵⁶ resulting in inefficient and costly controls. Municipalities with municipal guards recorded on average 50 to 70 percent more violations of ASRs, leading to fines or referral to the court (Lillevik 2019).¹⁵⁷

125. **The Central Registry for Emissions in Buildings (CEEB) has the potential to be a pivotal tool for advancing support to households and increasing the pace of transition. However, it is not being used to its full potential.** This national electronic emissions registry was established through a free, standardized and legally regulated data collection platform and tool. Its mission is to facilitate the planning of policies and spending of public funds to improve air quality, based on a regularly updated electronic inventory database of emission sources. A phased rollout was planned subsequent to the adoption of the regulation supporting the CEEB in 2020; at the end of 2023 it contained over 6 million records. The CEEB has the potential to support municipal and national level outreach to potential beneficiaries of the CAPP, to steer private sector actors to areas where substantial investment needs are visible, and to monitor applications receipt and investment progress at a granular level. If integrated with disaggregated socio-economic information, the CEEB could also allow for targeted support to be given to poorer population segments. However, the CEEB is not yet being used for these purposes, with no formal connection established to the CAPP to allow for strengthened targeting, monitoring and evaluation mechanisms.

126. **Agriculture is another contributor to air pollution and GHG emissions** in Poland, accounting for nearly the country's entire ammonia (NH₃) emissions, and 12 percent of its nitrogen oxides (NOx) emissions. Since 2017, the emission of ammonia from Polish agriculture has been very stable, ranging from 302-311 kt NH₃ per year. This represents 96-97 percent of the country's total ammonia emissions and approximately 10 percent of the EU's total EU ammonia emissions from agriculture.¹⁵⁸ Ammonia emissions are dominated by two sources: farm animal excrements in the form of natural fertilizers applied to soil, responsible for 80 percent of emissions in this sector, and mineral fertilizers, which account for 20 percent of emissions. In 2020, Polish agriculture accounted for 12 percent of all nitrogen oxides (NOx) emitted by the country, with the use of nitrogen fertilizers and fertilization with manure accounting for 57 percent and 2 percent, respectively.

127. **In recent years, Poland has taken several measures to tackle the problem of air pollution in agriculture.** It has endorsed EU Directive 2016/2284 to reduce national ammonia emissions and aims at contributing to the Green Deal and other EU policies on greening the agricultural sector. The most notable efforts include (i) implementing emission reduction measures, such as the use of low-emission technologies and practices, as well as applying appropriate manure management systems; (ii) promoting environmentally friendly farming practices, such as organic farming; (iii) providing technical assistance and capacity building to help farmers adopt pollution-reducing

practices; and (iv) coordinating relevant stakeholders, including farmers, extensionists, and government agencies, to implement effective air pollution control measures in the agricultural sector. These measures have contributed to a decline in ammonia and nitrogen oxides emissions from agriculture in Poland in recent years, but further efforts are needed to address the problem and meet the targets set by the EU for 2030.

The competitiveness of key economic sectors requires a low-carbon pathway

128. **Changes in the EU legal framework (“Fit-for-55” package) are likely to increase the prices of emissions allowances and could reduce the competitiveness of parts of the industrial base.** In April 2023 the EU Council adopted five important laws as part of the Fit-for-55 package, including the expansion of the EU ETS, the Carbon Border Adjustment Mechanism, the Social Climate Fund to support vulnerable households and enterprises, and the inclusion of transport users in the expansion of the ETS. Households will now also be included in the ETS. Increased demand for sustainability reporting, and shifting corporate responsibility requirements and consumer preferences could impact firms’ competitiveness over the medium term. From 2024, large companies will have to prepare regular and audited sustainability reports aligned with new European Sustainability Reporting Standards. Sustainability reporting would help stakeholders, including investors, civil society organizations, consumers and government bodies, to evaluate the sustainability performance of companies as part of the EGD. This reporting will gradually extend to listed SMEs and firms that are part of GVCs. Sustainability reporting could also reorient capital flows towards sustainable investments, and help manage fiscal risks linked to climate change, resource depletion, and environmental degradation.
129. **The manufacturing sector can improve emission efficiency in a way that safeguards growth while increasing climate competitiveness.** Without sacrificing output, Poland could halve its GHG emissions from manufacturing by improving energy efficiency to reach levels closer to the EU average (World Bank, 2022b). This can be achieved if firms match the median efficiency levels typical of firms in their sector. To lower emissions intensity, Poland can for example improve the energy efficiency of production processes and/or shift to renewable energy. Poland however has one of the lowest adoptions of eco-innovative solutions among all EU countries and a low number of green patents per capita. This lack of innovation might slow its transition to a greener economy.
130. **The agricultural sector also presents opportunities for a green transition, including decarbonization and energy efficiency.** Faster adoption of energy-efficient technologies, such as energy-efficient irrigation systems, modernized machinery, and improved building insulation, can bring significant energy savings and cost reductions for farmers. Moreover, investments in RES generation and increased use of RES, such as biomass and wind energy, could help the agricultural sector and rural communities reduce their reliance on fossil fuels and transition to low-carbon energy sources, notably in marginal rural areas. The Polish CAP Strategic Plan includes capacity-building programs, knowledge sharing platforms, and financial incentives to encourage farmers to adopt green transition practices and technologies, particularly in lagging rural areas.
131. **Transitioning towards a more sustainable transport system will require policy and**

regulatory changes, on top of the necessary low-emission infrastructure. Emissions from transport have more than doubled over 2001-2021, accounting now for more than 17 percent of Poland's total GHG emissions, with 98 percent of these emissions coming from road transport.¹⁵⁹ Poland is one of the most highly motorized countries in the EU. Second-hand vehicles represent a large share of the vehicle fleet, disproportionately contributing to local air pollution, as more than 40 percent of passenger cars are older than 20 years. Hence, policies to reduce car dependency while supporting the uptake of more low- and zero-emission second-hand vehicles will be key to accelerate decarbonization of the vehicle fleet. At the same time, the high rural share of the population poses a challenge to providing competitive and sustainable transport alternatives that can connect low-density areas to regional urban nodes. In addition, with a high share of GHG emissions coming from freight transport, additional efforts are needed to meet the sector's climate objectives, starting by recovering rail's modal share. The decrease of rail's modal share, coupled with overall higher levels of freight movement in the country, has resulted in rapidly rising volumes of freight being moved on roads. The rail sector will need to diversify to regain its modal share. While substantial investment in low-emissions infrastructure is needed, it must be complemented by policy and regulatory measures that discourage passenger vehicle use while encouraging shifts in transport behaviors.

132. **The transition to e-mobility represents a business opportunity for the automobile industry in Poland and for decarbonization.** Poland employs the third largest number of people in auto manufacturing in the EU (after Germany and France). It is now one of the European leaders in power storage manufacturing, and ranks second in the world for battery cell manufacturing capacity (6 percent), after China. Battery sector exports have increased rapidly, to reach 2.4 percent of exports. The country is also building capacity in battery recycling and investing in manufacturing capacities for electric vehicles (particularly e-buses). However, faster progress in the electrification of the passenger car fleet is needed to achieve the decarbonization targets. Poland currently has a 5 percent of electrification share for new vehicles and although registration of e-vehicles has been increasing, it remains well below the EU average. The high upfront cost of e-vehicles (compared to conventional vehicles) and the lack of adequate charging infrastructure are two of the main barriers to achieving its fleet electrification targets.
133. **Scaling-up digitalization and integrating digital (data-related) logistics and supply chains could significantly cut logistics costs and boost competitiveness.** Shifting trade patterns with Ukraine have created additional capacity demand on Poland's road, railways and port infrastructure and logistics systems. The country has an opportunity to improve regional connectivity through better East-West connections. Ukrainian foodstuff exports have transited largely through land transport corridors in Poland, via EU Solidarity Lanes, bound for export gateways such as Gdansk. With continuing uncertainty around the Black Sea Grain Initiative, Poland will likely continue to play an important role in facilitating Ukraine's foreign trade, which will require additional improvements in transport infrastructure networks, services integration, and harmonization.
134. **Poland is only at the beginning of its circular economy (CE) transition, and numerous barriers remain.** Poland, as a Member State of the EU, not only shapes CE policies at the EU level,

but also needs to adopt and transpose relevant EU Directives into its own national law.¹⁶⁰ Poland scores below the EU average both for circularity and resource productivity, while effective waste management also remains a challenge. Poland has introduced a so-called “smart specialization” policy with a focus on water, fossil raw materials, and waste, and has established a public cooperation platform (the Polish Circular Hotspot) through which various stakeholders work on introducing innovative, comprehensive, practical, and scalable circular-economy solutions. The barriers that hinder the transition toward a CE include the policy and institutional frameworks and attitudes of market participants and communities. A key impediment is the lack of long-term vision, as well as insufficient coordination and collaboration at the institutional level. Current regulations do not effectively support selective waste collection and recycling — a basic CE process — and are not set up to support the introduction of new circular business models and technologies. Frequent changes in both the legislation and environmental requirements also hinder the CE. Furthermore, there is a lack of knowledge and resources among market participants, and a ‘not in my backyard’ attitude — particularly in rural areas and smaller towns — in response to proposed new infrastructure such as mining, recycling, or renewable energy sources (RES).

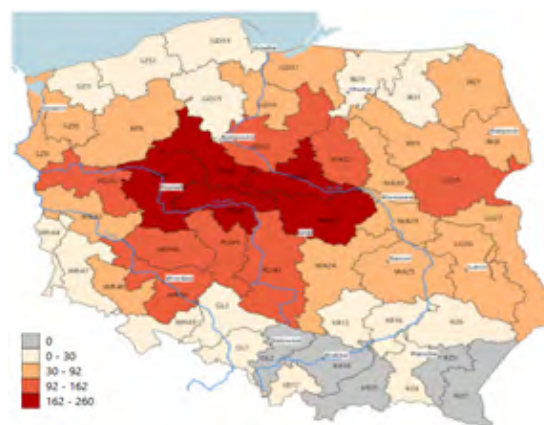
4.2. Adaptation investments should be amplified to protect vulnerable sectors

135. **Climate change impacts are presenting challenges for water management and affecting economic growth and inclusion.** These include an increased frequency of severe floods and droughts, lower water availability and quality, and degradation of watersheds. Current adaptive capacity is hindered by insufficient infrastructure investment and prevailing management practices. Water resources are impacted by many factors, including climate change and growing demand, and need to be carefully managed as a key strategic natural asset. Climate change projections for the future indicate gradual warming until the end of this century. Precipitation is also projected to increase, but higher precipitation under strong warming does not necessarily mean that there will be a corresponding increase of soil moisture. The consequences of these impacts will be widespread, negatively affecting livelihoods and economic outcomes in a broad range of sectors in the economy.

136. **Vulnerability to floods, droughts, and pollution can potentially result in large economic losses that can have fiscal implications.** Poland has incurred significant losses from extreme flooding of the Odra and Wisła rivers and their tributaries; on average, 600,000 people and US\$7 billion of assets are at risk from flooding annually (Table 4.2), with more frequent floods likely to have a stronger impact.¹⁶¹ These risks are expected to intensify due to increased precipitation intensities and volumes, higher maximum river flows, and a greater frequency of extreme rainfall. In addition, the frequency of droughts in Poland doubled between 2010-2019 compared to previous decades and is expected to continue increasing as the climate changes. Drought risk is exacerbated by insufficient water storage in local catchments and reduced levels of soil moisture. These risks can have fiscal consequences, as was the case in 2018 and 2019, when state subsidies to farmers to compensate for losses in agricultural production from water shortages amounted to about PLN 2 billion per year. The economic damage to the agricultural sector caused by the 2018 drought alone contributed to a loss of 0.13 percent of GDP (Figure 4-3).

137. **Continued investment in infrastructure, modernizing institutions and enhancing coordination, and building information platforms to monitor flows and water quality in real time will be critical.** Increasing the availability and reliability of water resources requires storage and conveyance infrastructure investment, and increased use of groundwater. Investment in new irrigation schemes using both surface and groundwater have high potential in most agricultural areas and can boost yields. The conversion of the five coal-fired power plants with open cooling systems in the Odra and Upper Wisła river basins to the use of water-efficient technologies will yield significant benefits. Improved water supply networks will save substantial volumes in the same catchments. On the institutional front, better cooperation between the Ministry of Agriculture, *Wody Polskie*, the Ministry of Agriculture and Rural Development and other water-related ministries will be necessary. New infrastructure developments may require new administrative entities (e.g., water user associations or irrigation districts), while institutional strengthening and rationalization of local water utilities, particularly in rural areas, can lead to water savings.

Figure 4-3: Droughts could cause billions of dollars in damage to agriculture. **Value of agricultural production exposed to high drought risk (in USD million)**



Source: Industrial Economics.

Table 4.2: The cost of floods is substantial

Year	River	Population affected	Cost
1987	Wisła River	50,000	US\$1 billion
1997	Odra River	200,000	US\$5 billion
2001	Wisła River	50,000	US\$1 billion
2010	Odra and Wisła	100,000	US\$3 billion
Average annual risk*		600,000	US\$7 billion

* World Bank Global Facility for Disaster Reduction and Recovery

138. **Innovative nature-based solutions for flood control should be piloted in areas where high economic gains could be obtained, before being applied to other parts of the country.** Increasing groundwater uptake for uses other than human consumption will require a revision of water use priorities and allocations specified in Polish Water Law, as well as revisions to the maximum abstraction rates while making sure they still meet safe yield requirements. An integrated approach is needed that simultaneously considers increasing water supply without disrupting ecosystem sustainability, and reducing pressure on existing resources by managing demand, avoiding losses, and maximizing reuse.
139. **Poland's agricultural sector will have to adapt to the challenges posed by climate change.** These will include increased drought and flood frequency, whilst also dealing with the environmental challenges that are visible from decades of intensive farming, which has depleted the quality of nutrients in the soils. Private sector engagement in both mitigation and adaptation will be essential for driving innovation and technology adoption, scaling up climate-

smart agricultural practices, and fostering resilience in farming communities. For example, private sector investment can fund drought tolerant seeds; weather forecasting tools and climate information; and climate resilient infrastructure, such as irrigation systems, post-harvest storage facilities and rural roads. There is also significant potential to advance climate-smart innovation in agriculture, including through digitalization, which has had modest uptake to date. By embracing advanced technologies like precision farming, remote sensing, and data analytics, Polish farmers can optimize resource allocation, monitor crop health, and make informed decisions. Climate-smart practices, such as agroforestry, crop rotation, and water management, can also enhance resilience to climate change impacts and increase productivity. The Polish CAP Strategic Plan provides a range of financial instruments to facilitate the private sector's implementation of mitigation and adaptation measures.¹⁶² Other financing sources include traditional channels, such as commercial banks, as well as equity investments, and venture capital firms. In the future, it is expected that innovative financial instruments, such as green bonds and climate funds, will offer potential avenues for mobilizing Polish private capital toward climate-resilient and low-carbon agriculture.

140. **Lower income groups have less capacity to cope with extreme events.** Less capital-intensive interventions should be prioritized to ensure improved water use in areas where expensive capital projects may not be economically feasible. National plans for introducing drought-resistant crop varieties and improving soil moisture retention by farmers would be appropriate everywhere, not just in high agricultural output regions, as they could contribute to food security. Investments in flood control measures should factor in the socio-economic conditions of populations at risk.

5. Priorities for a competitive, sustainable, and inclusive growth model

This SCD Update reexamines Poland's priorities for increasing shared prosperity on a livable planet while considering the changes in the external environment and domestic developments since 2017. The reassessment of priorities places additional emphasis on climate action needed to support both the mitigation of climate change and adaptation to its impact, reflecting the revised World Bank vision, endorsed in 2023, to create a world free of poverty on a livable planet. The reassessment focused on areas in need of policy action based on the analytical work presented in chapters 2 to 4, focusing on the policy areas to: (i) advance sustained economic competitiveness and income growth; (ii) strengthen inclusion and economic mobility; (iii) achieve the green transition. Grounded in the discussions presented in the previous sections, this SCD update reassesses the country's priorities based on four prioritization criteria: (i) their potential impact on the goal of reducing poverty and increasing the welfare of the bottom 40 percent, in particular considering this impact through the lens of economic competitiveness and growth, inclusion and the green transition; (ii) the potential time frame for realizing the expected impact; (iii) the degree to which an identified opportunity in one area has a complementary positive impact in other areas; and (iv) the existing evidence base.

The overall reform agenda in the SCD Update has evolved but remains broadly consistent with SCD-2017, reflecting progress in some areas, some sticky challenges that require continued policy focus and a greater prominence to emerging priorities, particularly environmental sustainability. Areas where Poland has made progress in recent years – for example with respect to labor regulations and the use of non-standard contracts – have been deprioritized. The priorities and development outcomes are furthermore grouped differently to streamline their focus on the most pressing gaps and to give more prominence to emerging priorities, particularly to environmental sustainability, reflecting their stronger emergence in national as well as EU-level policy objectives.

Identifying the priorities involved a multi-step selection process that was both rigorous and consultative. First, following extensive discussions with sectoral teams across the World Bank, IFC, and MIGA, the SCD team reviewed the priorities from SCD2017 to assess progress and gaps. The areas where significant progress had been made to effectively close the gap were deprioritized, and those where mixed or no progress were made were brought forward. This list along with new potential policy priorities based on the revised assessment were subsequently compiled into a comprehensive list of policy areas. This long list was subsequently prioritized taking into consideration the criteria articulated above, and consultations with internal and external stakeholders. The prioritization exercise benefited from extensive discussions with sectoral teams across World Bank, IFC and MIGA; online and face-to-face consultations conducted with external counterparts and experts, including national and local governments, think tanks, non-government and civil society organizations, academia, and private sector stakeholders.

Twelve priorities were articulated through this process, mapped into four high-level outcomes (HLOs). The HLOs are formulated to feed into the meta-objective of improving well-being on a livable planet, and the priorities are presented in reduced form in Table 5.1. Specific measures that can contribute to achieving the priorities articulated in this chapter, but it should be noted that the list is not comprehensive. It should be noted that the HLOs are interconnected, so that a priority may be listed under one HLO but can contribute across multiple HLOs (see Annex Table 2). While the relevant priorities and HLOs are assigned numbers for identification, the numbering does not indicate any ranking.

Table 5.1: **High-level outcomes and priorities**

High-level outcomes	Priorities
HLO I. Create high productivity jobs through a dynamic and innovative private sector	1. Strengthen the rule of law and quality of the regulatory framework through increased predictability, consistency, and transparency of the legislative process, and guaranteeing the independence and impartiality of courts.
	2. Maintain macroeconomic stability by ensuring fiscal sustainability through an enhanced fiscal framework and institutions , in line with the revised EU economic governance framework
	3. Increase long-term financing options by deepening domestic capital markets and ensuring adequate access to finance (including for MSMEs)
	4. Enhance market competition and innovation , including through limiting the presence of SOEs in competitive sectors, strengthening the innovation eco-structure, and creating an enabling regulatory environment to facilitate the green and digital transitions
HLO II. Raise human capital levels to seize the benefits of the technological and green transitions	5. Improve education to meet the changing need for skills , focusing on foundational skills in schools, addressing impediments to attract and recruit teachers, advancing the labor market responsiveness of VET and facilitating lifelong learning to strengthen re- and up-skilling
	6. Increase labor force participation and resilience , focusing on increasing female labor force participation, extending working lives, making labor market institutions and policies more responsive to changing labor and skills demand, and advancing geographic mobility through enhancing the affordable housing segment.
	7. Improve health outcomes and long-term care structures through advancing preventative care, strengthening hospital efficiency and quality, further measures to attract, retain and efficiently allocate human resources, and preparing long-term care structures for the aging population.
HLO III. Provide high-quality public services to reduce disparities and strengthen the social contract	8. Advance the effectiveness of local and national government administration , including through reforming inter-governmental fiscal transfers, strengthening public investment management and improving the mechanisms for multi-level governance.
	9. Improve the efficiency and effectiveness of social assistance by closing coverage and adequacy gaps in minimum-income programs, reducing program fragmentation, reinforcing adaptive social assistance structures, supporting the energy poor, and strengthening local administrative capacity to advance service delivery.
	10. Strengthen the fiscal and social sustainability of the pension system by raising the retirement age and closing the gender gap, and advancing savings through encouraging younger cohorts to save more and increasing trust in longer-term savings instruments.
HLO IV. Achieve the green transition while maintaining economic competitiveness	11. Advance decarbonization while ensuring energy security through conducive conditions and a regulatory environment for increasing investment in renewable energy sources, incentives for energy efficiency, and promoting the circular economy.
	12. Enhance management of key environmental assets (water, forests, air quality) and build climate resilience into key sectors through a review of the policies in agriculture, forestry and water management, including implementing the anti-smog regulations and solid fuel quality standards, and investing in resilient agriculture.

5.1. HLO 1: Create high productivity jobs through a dynamic and innovative private sector

A. Strengthen the rule of law and quality of the regulatory framework

Reforming the judicial system is imperative for enhancing business confidence, a prerequisite for increasing private investments.

- *Strengthen the guarantees of independence and impartiality of courts and judges by ensuring that the cases related to judges are examined by an independent and impartial court established by law, clarifying the scope of disciplinary liability of judges, and strengthening the procedural guarantees and powers of parties in disciplinary proceedings.*
- *Increase the quality of law-making processes by mandating impact assessment and public consultation for draft laws and limiting the use of fast-track procedures to well-specified and exceptional cases in the law-making process.*
- *Strengthen the use of regulatory impact assessments and increase the robustness of consultation processes to increase the ability of citizens to participate meaningfully in policy formulation. The government should consider consulting a more comprehensive range of social actors and stakeholders in decision-making procedures and engage social partners at earlier stages of work, where possible. It is also advised to limit the use of legislative pathways that allow for the reduction or complete bypassing of the consultation process.*
- *Increase the effectiveness of governance structures to ensure consistent and predictable policies, coordinated efforts between the state and social actors, cooperation and leadership. Institutional strengthening is required across all tiers of the government (national and local) and policy areas. It relates to strengthening the planning and implementation frameworks, reducing disruption from political changes, and fostering accountability to increase citizens' trust.*

B. Maintain macroeconomic stability by ensuring Ensure fiscal sustainability and enhance the fiscal framework

The following pathways have been identified to maintain macroeconomic stability by ensuring fiscal sustainability, and thus create a conducive environment for business development and job creation:

- *Boost domestic revenue mobilization efforts to ensure fiscal sustainability while accommodating higher spending on health, defense, the green transition, and to prepare for fiscal pressures linked to the rapidly aging population. Additional efforts are needed to broaden tax bases (PIT, CIT GAP), and enhance the progressivity of the tax system (property taxation, cadaster).*
- *Increase the efficiency of spending and tax expenditure. Improve the use of social transfers and targeted subsidies to create additional space for growth-enhancing expenditure, maximize the return on spending in education through optimal allocation of public resources to skills formation at different stages of the life cycle, reduce tax exemptions, and address corporate tax avoidance and evasion (grey economy).*

- *Ensure better alignment of public investment with strategic policy priorities* in order to reduce inefficiency and close the infrastructure gap. This can be achieved by increasing transparency and improving monitoring of public and private (infrastructure-related) investment being carried out.
- *Restore the transparency and accountability of fiscal accounts.* This pertains specifically to the use of off-budget special purpose vehicles (SPVs) which allow the circumvention of existing fiscal rules and ceilings and weaken parliamentary oversight, external audit and social control over public spending. Enhancing the public sector financial reporting framework by using International Public Sector Accounting Standards could upgrade the quality, coverage and comprehensiveness of current budgetary reporting.
- *Adjust the national fiscal framework to ensure consistency with upcoming changes in the EU economic governance framework.* The European Commission has put forward a legislative proposal to reform the EU economic governance framework, including the Stability and Growth Pact, to address weaknesses in the current framework. The current fiscal framework did not prevent deficits and debt levels that create vulnerabilities and pose risks to the stability of the monetary union, it has a poor record in managing tradeoffs between fiscal risks containment and output stability, and it lacks adequate tools for EU-wide stabilization (IMF, 2022).
- *Advance the institutionalization of spending reviews and improve use of performance-based budgeting* to inform the design and implementation of expenditure policy.
- *Ensure consistency between medium-term fiscal plans and annual budgets*, as well as the adequacy of corrective actions in case of deviation from plans, provide a quantification of reform impacts over the entire planning period.
- *Advance the green and circular public procurement agenda* by introducing and promoting green and circular public procurement practices.

C. Increase long-term financing opportunities by deepening domestic capital markets

Increasing private investment will require a focus on developing long term financing opportunities.

- *Increase the range of financial instruments, as well as market players.* Enhance capacity across capital market stakeholders and foster alternative sources of long-term financing, including venture (seed, start-up, later stage venture) and growth capital. Incentivize the issuance of corporate bonds for large enterprises and encourage the use of instruments such as factoring, invoicing, and leasing, especially for micro and small enterprises. Provide legal solutions to reduce payment gridlocks that affect the liquidity situation of SMEs.
- On the supply side, *reduce the information asymmetry of banks with respect to SMEs*, including by facilitating financial institutions' access to relevant government data on SMEs. Use alternative data sources and company information from the credit bureau.
- *Increase the efficacy and efficiency of public support solutions*, such as credit guarantee programs for SMEs, including minimis guarantees that provide opportunities to enterprises which find it difficult to obtain a loan, such as due to lack of collateral, and identify areas for improvement. Leverage the European Guarantee Fund to ensure SME recovery. Devise new credit rating methodologies and credit scoring for private entrepreneurs.

- *Facilitate the financial inclusion of FDPs from Ukraine.* This will require banks to adjust information and credit systems, run client segmentation, track and analyze financial behavior patterns, review credit-scoring mechanisms, tailor their product offer, develop targeted marketing, diversify delivery channels, etc. An IFC FDPs needs assessment conducted in 2023 confirms that by fall 2023, Ukrainian FDPs formed a sizeable new client segment, at over 400,000 potential clients (IFC, 2023).
- *Streamline access to the public procurement market, with a particular focus on MSMEs.*

D. Enhance market competition and innovation through an enabling regulatory environment, including for facilitating the green and digital transitions

Technological upgrading can be a powerful engine to unlock Poland's productivity growth potential. Streamlining the firm-level technology adoption would require improving enterprises' awareness, enhancing firms' capabilities, providing non-returnable technological cash grants, and removing regulatory barriers for firms to grow.

- *Lower regulatory barriers, continue to reduce regulatory complexity and streamline administrative procedures, including for start-ups, to improve allocative efficiency of the factors of production and enhance competition.* Increase the competition-friendliness of the regulatory set-up in the service sectors for selected professions, as well as in retail trade. Further reduce barriers to foreign trade in professional services.
- *Limit the presence of businesses of the state in competitive sectors, including in network sectors, to reduce the risk of market distortions, enhance efficiency, and stimulate private investment.* Improve the governance of state-owned enterprises to ensure a level playing field and ensure sectoral regulators meet OECD good practice.
- *Assess the regulatory and policy framework* to determine whether state businesses receive implicit or explicit advantages.
- *Ensure that government regulations, laws, and aid to firms* do not implicitly or explicitly favor state businesses at the expense of private competitors. This is important to ensure a level playing field and more efficient market outcomes. Similarly, ensure that government regulations and public support incentivize rather than discourage the growth of smaller enterprises.
- *Ensure adequate ICT architecture, and policy and regulatory framework, for the digital transformation.* Develop a public administration Cloud infrastructure and an e-government portal.
- *Digitize public services, such as the urban register, spatial planning procedures and the zoning register to facilitate domestic and foreign investment.* E-procurement could help to improve the allocation of resources through competition. Digitizing construction procedures would accelerate construction processes, and improve the business environment by decreasing **transactional costs**.
- *Strengthen managerial capabilities for innovation, greening and technology adoption* by emphasizing the complementary skills in public support programs.
- *Enhance the design and implementation of policies to foster technology adoption and digitalization and facilitate the transition to Industry 4.0.* Designate an ecosystem coordinating body for evidence-based policy making and a robust M&E framework. Create Digital Innovation Hubs as one-stop-

shops that help companies to improve their business and production processes, products and services using digital technologies, especially through adoption of Industry 4.0 technologies.

- *Develop Green Innovation Hubs* to provide information to firms developing green solutions, coordinate systemic actions supporting green innovations, and promote campaigns on green technologies.
- *Scale-up research and innovation (R&I) spending and increase its effectiveness by supporting research-industry linkages* that facilitate research commercialization. Increase financing for R&I and strengthen the governance, coordination, and capacity of R&I institutions.

5.2. HLO II: Strengthen human capital to benefit from the technological and green transitions

E. Improve education to meet the changing needs for skills

Despite the strong performance of the basic education system to date, this diagnostic has identified several challenges that will face the education system in the coming years. The following priority pathways for advancing education outcomes have been identified:

- *Extend the duration and coverage of the core curriculum and align it more closely with national examinations to deepen foundational skills.* To meet an increasing demand for skilled labor, extend the duration of the general core curriculum within basic vocational schools and increase the number of subjects included in national examinations to further deepen the core competencies that lay the foundation for future learning. Focus on core cognitive skills, including science-related subjects, and socio-emotional competency development through all stages of the curriculum. This would enhance learning and labor market outcomes, especially for boys and socio-economically disadvantaged children, who are more likely to advance through the vocational route.
- *Reduce the negative impact of remote learning.* Facilitate the integration of Ukrainian children in Polish schools; children who continued to follow the Ukrainian curriculum remotely for an extended period of time may require additional support. Polish students also require continued support to close the gaps in learning that emerged during the pandemic.
- *Assess and remove the impediments to attracting and recruiting teachers.* Index teachers' salaries relative to market options (by subject) and location. Review the success of reforms to teacher appraisal structures and perceptions within the profession. Proactively encourage teachers to work beyond retirement age, where feasible, including through providing incentives to work part-time.
- *Allow gminas to play a more active role in shaping education and spending in their jurisdiction:* the share of resources from *gminas*' own budgets has increased and the integration of Ukrainian refugees has added to the costs, potentially leading to further variations in expenses across *gminas*. Evaluate the financing system to create incentives for optimizing the school network and teacher employment, and to also ensure that local governments are sufficiently resourced to cover their requirements. While recent changes in the subvention algorithm incentivize the

retention of smaller schools, funding small classes and keeping a low student-to-teacher ratio may hinder progress toward increasing teacher salaries unless there is an overall increase in spending on school education. Allow certain *gminas* to experiment with more-flexible solutions to further enhance the efficiency of the current system. For instance, *gminas* could be granted more resources and freedom to offer motivational bonuses to teachers, as well as school principals.

- *Install reactive quality assurance mechanisms:* advance the pedagogical supervision system to include criteria-based inspections, and clarify further the scope of the inspection, for both public and private schools. Lower the age at which the first external assessments are held and expand their coverage to allow for reactive interventions to support schools, teachers and parents where students appear to be falling behind.

F Increase labor force participation and resilience

There are multiple pathways to advancing labor force participation and resilience of the labor force:

- *Strengthen workforce resilience to the green transition and technological change:* by focusing on those most affected (the less skilled, informal and self-employed) to counterbalance the ongoing polarization and inequality. Invest in foundational skills in basic education and VET systems to reduce skills gaps. Strengthen, incentivize and adapt the provision of advanced technical skills for lifelong learning through firms/employers, private and public providers of short-term professional training solutions. Promote partnerships with mine conglomerates for the provision of training and re-employment services for workers affected by the coal transition.
- *Make labor market institutions and ALMPs more responsive to changing labor and skills demand* by strengthening partnerships with sectoral employers' associations and skills councils and increasing the efficiency of labor offices' operational tools, for example by piloting and rolling out the European Skills, Competences, Qualifications and Occupations classification (ESCO) to improve labor offices' job matching functions and further digitalizing their business processes.
- *Increase female labor force participation* through boosting the incentives for shared parental leave and encouraging uptake of paternity leave; expanding childcare provision and elderly care structures, particularly in rural areas; encouraging flexibility in the return to work to enable a progressive return to the workplace by both men and women; and reducing fiscal disincentives, for example through single-filing of personal income tax.
- *Extend working lives:* extend the effective retirement age by raising the legal retirement age, closing the gender gap in the retirement age and further extending incentives to work beyond the legal retirement age. This could be through active aging policies that allow for and encourage stepwise retirement, and addressing the fiscal disincentives for older people to work beyond retirement age.

Geographic mobility has been compromised by a limited rental housing segment with a few affordable housing options. The following priority pathways have been identified for advancing the housing stock to increase inclusion:

- *Improve the quality and stock of social and municipal housing.* Review the finances of the municipal housing sector to ensure sufficient resources are available for construction, maintenance and upgrading, including from a calibration of rental rates and housing allowances, if required. Address rent arrears to increase financial viability, including through a review of eviction procedures. Fast-track priority maintenance to reduce the share of the stock that is immobilized due to disrepair, and to further advance the energy efficiency and livability of all housing. Pause or slow the rate of privatizations of the municipal housing stock – which have often occurred at highly discounted rates and still exceed the rate of new constructions – by making them less advantageous.
- *Develop the rental housing sector, with a focus on lower-cost housing.* This could include advancing cooperation instruments with the private sector.

G. Improve health outcomes and long-term care structures

Pathways to strengthened health care system and its outcomes:

- *Increase financing to enhance health prevention, outpatient and long-term, good quality care.* Improve coordination between health and social systems, and between national and regional budgets, to meet the growing needs of the elderly population.
- *Ensure consistent and broader health prevention activities,* including additional financing, fiscal measures such as tobacco and sugar beverage taxes, and incentivizing healthy behaviors with targeted measures and behavioral sciences support.
- *Reinforce long-term care provision* through a focus on healthy aging, implementing principles of health prevention, investing in human resources for long-term care, integrating the health and social sector data systems, using new technologies for long-term care and paying special attention to citizens of rural and remote areas with lower education and health literacy levels.
- *Strengthen the capacity of health stakeholders, including regional authorities, and implement real time, quality control systems* to improve the healthcare system's overall efficiency. Invest in human resources (boosting both numbers and capacity) and shift towards patient-focused health systems that bring together data in an integrative manner to holistically support patient care.
- *Enhance the use, production and consolidation of quality data and apply digital technologies more broadly.* Implement artificial intelligence to raise the efficiency of healthcare management and integrate data across currently unconnected systems. Share data between population registries, social and health-care providers to inform a regional and national level policy for better coordination and matching of available resources to growing needs. Strengthen the data gathering and application system to further enhance the efficiency of the healthcare system and coordination of long-term care in health and social systems. Widely adopt the use of telemedicine systems and telemonitoring of patients to increase the efficiency of the overall healthcare system, given the limited additional human resources.

5.3. HLO III. Provide high-quality public services to reduce disparities and strengthen the social contract

H. Advance the effectiveness of national and local government administrations

Pathways to increase citizens' trust in government through better service delivery include increasing political ownership, institutional coordination, and administrative capacity to design and undertake enabling reforms

- *Increase the effectiveness and efficiency of public-service delivery by accelerating digital transformation* through a holistic approach, for example bolstering foundational elements such as ICT architecture, the policy and regulatory frameworks, cybersecurity, and digital skills.
- *Bolster planning and the executive capacity of ministries and agencies* through a professional civil service, skills upgrades and establishing a remuneration system that boosts attraction and retention of talent.
- *Improve the mechanisms for multilevel governance, whole-of-government coordination, and collaboration among LGUs.* It is crucial to strengthen coordination and dialog between LGUs and the national government to develop a comprehensive reform of LGU financing.
- *Boost LGUs' own-source revenues,* for example by reforming the PIT to introduce a piggyback tax; reforming the property tax rates and collections to align with market values of properties, especially in larger cities; and considering a local business tax, such as a business value tax.
- *Conduct an intergovernmental fiscal reform,* shifting from equalization based on fiscal capacity to equalization using fiscal capacity adjusted to spending needs. Redesign the equalization system and introduce a comprehensive adjustment for spending needs to improve the equalization system for cities, which have been most affected by recent ad hoc adjustments to the LGUs' financing system.
- *Strengthen public investment management* by introducing standard criteria for project selection and prioritization at the central level; creating tools to better monitor local investment processes; enacting requirements to conduct ex-post reviews of major projects to inform future policies and procedures; and implementing demand aggregation tools to negotiate better prices for procured capital goods and services. Establish monitoring systems, which can play a significant role in enhancing LGUs' overall efficiency.

I. Improve the efficiency and effectiveness of social protection, by strengthening adaptive social assistance structures

The diagnostic has identified several opportunities to advance social protection structures in the coming years, in particular in the context of further labor market turnover related to the green and digital transitions that will require adaptive social assistance systems:

- *Review the methodology for and regularity of updating social assistance thresholds and benefit levels* in order to ensure that the reference basket of goods that feeds into the eligibility thresholds reflects concurrent concepts of inclusion and the needs of vulnerable households. Consider

annual updating of social assistance and family benefits, in the same way as is done for disability pensions and housing allowances, to ensure that the benefits provided are not rapidly eroded in periods of high inflation and that the eligibility of low-income earners is not compromised. Index the Family 500+ program to sustain its poverty attenuating impact and open up the possibility of strengthening the targeted family-benefits program.

- *Rebalance the social protection system further towards means-tested support, and review programs to reduce fragmentation:* improve means-tested benefits that have seen their coverage and adequacy eroded over time, while reviewing programs and systems in order to reduce fragmentation. Use a social registry as a common gateway to multiple programs, reduce administrative costs and support the uptake of benefits, and allow for deeper support to be provided through integrated service delivery.
- *Review the package of support needed to reduce energy poverty:* shifts in the basket of energy products consumed as well as the need to advance energy efficiency measures, most notably for household heating, will require targeted programs to support both operational and investment expenditures. While support for investment expenditures is currently provided through the Clean Air Priority Program and the TERMO program, the basket of energy products to which social assistance benefits are linked is too reliant on solid fuel products. Provide further support to those energy poor who do not qualify for social assistance measures.
- *Expand monitoring and evaluation* to include performance monitoring of local administrative capacity to deliver social assistance services. Review the caseloads of social workers and the workloads associated with tasks entrusted to *gmina* offices that go beyond social assistance. Staff social assistance centers to ensure sufficient provision and enabling conditions to meet local requirements. Implement beneficiary feedback mechanisms to provide information to national level policy makers as well as local government officials to further reinforce feedback loops. Conduct in-depth assessments of uptake to help to ensure the system reaches its goals.

J. Strengthen the fiscal and social sustainability of the pension system

Pathways to advance the fiscal and social sustainability of pensions include:

- *Raise the retirement age for both men and women while closing the gender gap.* This has the potential to improve both the financial sustainability and adequacy of the pension system, leading to longer working lives, a higher number of contributors and a lower number of old-age pensioners.
- *Strengthen trust in longer-term savings and encourage saving among younger cohorts:* building trust in pensions institutions and the instruments for longer-term savings could support further accumulation of pensions savings, particularly among younger groups. Measures underway to facilitate access to information on pensions savings across the various savings accounts¹⁶³ may contribute to building further trust towards the various instruments.

5.4. HLO IV. Achieve the green transition to ensure economic competitiveness

K. Advance decarbonization while ensuring energy security

The following *priority pathways to decarbonization* have been identified in low-carbon power generation, transport, agriculture:

- *Create conducive conditions and a regulatory environment for the rapid development of renewable energy sources and energy storage.* Speed up the deployment of renewable energy sources in power generation and low-carbon heat generation technologies, by developing a transparent regulatory framework for low-carbon gases; revising the regulatory framework to expedite the development of onshore wind projects. Also, strengthen the regulatory framework for deployment of industrial CCS and promote investments into required network infrastructure for these technologies.
- *Ensure sizeable investments in transmission and distribution systems.* These systems are old, undersized for future needs and in need of digitalization upgrades. These investment needs are sizable; unlike investments in renewable power generation, which can be undertaken by private actors, grid investments require mostly public investment.
- *Create incentives for energy efficiency using price signals, such as passing through increased carbon costs, and remove hidden subsidies.* Provide explicit R&D support, subsidy programs, energy efficiency standards (cars, buildings appliances), and smart meter technologies (non-linear pricing). Ensure energy poverty safety valves to avoid energy poverty in cases of sharp price increases in carbon prices. Phase out regressive fossil fuel subsidies, which reduce incentives to invest in energy efficiency while also reducing the speed of the transition.
- *Improve overall firm capabilities, including managerial and innovative practices, to allow firms to adopt practices* that raise energy efficiency and steer firms toward greener technology, while also boosting productivity.
- *Promote decarbonization in the agriculture sector:* Address risks to farmers, especially small landholders, by implementing a comprehensive risk management framework. Invest in modernizing and rehabilitating existing irrigation systems and promote water-efficient agriculture and high-efficiency irrigation systems. Embrace advanced technologies like precision farming, remote sensing, and data analytics to optimize resource allocation, monitor crop health, and make informed decisions. Adopt climate-smart practices, such as agroforestry, crop rotation, and water management, to enhance resilience to climate change impacts and increase productivity. Adopt low-emission farming practices, such as conservation tillage and optimized nutrient management, which can significantly reduce greenhouse gas emissions from soil and fertilizer use. Integrate agroforestry and silvo-pasture systems that can enhance carbon sequestration, while also promoting biodiversity.
- *Accelerate adoption of circular economy business models by creating a support ecosystem for businesses.* Resource and energy efficiency gains realized through the circular economy (CE) will substantially cut GHG emissions. Give priority to the CE transition to the construction, energy, food and agriculture, mining, chemicals, and recycling sectors. Organize enterprise education campaigns on the benefits of CE, consulting services, assistance in circular audit procedures, and knowledge exchange.

- *Make substantial investments in low-emission transport infrastructure.* Complement these with policy and regulatory measures that not only discourage passenger vehicle use, but also encourage shifts in transport behaviors.

L. Enhance management of key environmental assets (water, forests, air quality) and build climate resilience into key sectors

There are several opportunities for advancing air quality and raising the energy efficiency of the residential heating stock:

- *Uphold the ambition and timelines of anti-smog regulations (ASRs) and Solid Fuel Quality Standards* to maintain the pace of the heat source transition. This will require raising public awareness, combining this information with financial support programs to support households in their transitions and effective enforcement of those who fail to comply.
- *Use the Central Registry for Emissions in Buildings (CEEB) as a pivotal database to bring national programs to local level actors:* unleash its potential to facilitate the micro-targeting of communication materials, financial and technical support to households in need of heat source replacement; use public resources more efficiently; align spending and resources at the national, regional and *gmina* levels; monitor compliance with anti-smog regulations; monitor the uptake of the Clean Air Priority Program (CAPP) by those in need, and direct supply side actors to areas with the greatest need.
- *Coordinate and link CAPP policy issues* with other programs and strategies related to air pollution, energy, and environment, including with ASRs and Air Quality Plans (AQPs).
- *Implement medium-term financial planning for CAPP*, as well as financing needs for AQPs, to strengthen implementation by ensuring adequate financing and human resources at both the national and regional level. Include in financial planning three-year rolling plans with interim targets, funding needs, staffing, and periodic monitoring of deviations to ensure that both CAPP and AQPs are able to reach the targets set.
- *Monitor the latest wave of reforms to the CAPP*, put in place from January 2023, to ensure that they meet their objectives of increasing applications for complex thermal modernizations and that the lower-income segment is adequately supported. Review program complexity and processing timelines and streamline them as feasible. Extend across the country a pilot operator program to provide further support to vulnerable beneficiaries. Engage private sector actors further to facilitate market engagement. Pursue aggregated purchase schemes, utility programs and other options to mobilize supply chains, ensure technical quality and bring down prices.
- *Ensure effective monitoring and enforcement.* Provide more resources for inspections, both financial and human, to ensure that equipment and fuel comply with regulations. Furthermore, an effective use of the CEEB would allow for more detailed monitoring of localized areas with non-compliant systems.
- *Increase support to advancing energy efficiency and heat source transition* among those single-family buildings that continue to rely on solid fuels for space heating.

6. Knowledge gaps

The SCD update used a wealth of knowledge about Poland to define the main constraints to inclusive and sustainable growth on a livable planet. However, some issues that arose from the data analysis and consultations with stakeholders warrant a deeper analysis, including:

- Investment costs related to the green transition: A comprehensive assessment covering multiple sectors is needed to assess the financing needed to advance Poland's climate ambitions and to advance climate adaptation. Ideally this analysis would be complemented by an assessment of private capital investment needs and bottlenecks.
- Business of the State (BoS) and competition: An assessment of state interference into competition in key markets notably upstream and the requirement to leveling the playing field between BoS and the private sector to stimulate competition and reduce frictions and inefficiencies in key markets. This analysis could be accompanied with a divesting strategy.
- Efficiency of spending in human capital sectors. An analysis of the quality of public spending in health and education, as well as in social protection, would help with the upcoming fiscal consolidation process.
- Income inequality: Tax administration data highlights higher levels of income inequality than seen in household survey data, and the two main household datasets in Poland – the Household Budget Survey and EU-SILC – show divergent trends towards the end of the 2010s. Further analysis, including dynamic analysis using tax administration data, would be warranted.
- Labor force participation: While labor force participation has been rising, multiple impediments hold back participation among elderly cohorts and women. A deeper study could identify sub-groups that are unable to participate in the labor market and further consider policy tools to raise participation.
- Effectiveness of EU funds: Poland is a primary beneficiary of EU funds. A detailed assessment could focus on how these funds are being utilized, their impact on development goals, and ways to improve their management and effectiveness.
- Local government investment sustainability and own revenue mobilization: A potential study could address fiscal management and investment practices of local governments to ensure long-term financial stability and the ability to fund quality public services.

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Annex 1. Poland's macroeconomic context

6. Economic growth was stronger than expected and above potential during the period 2016-2022 despite the large COVID-19 shock and the spillover from the Russia's invasion of Ukraine. Poland sustained robust average growth of 4.2 percent over the 2016-2022 period, as the economy rebounded strongly from the 2020 recession triggered by the COVID-19 pandemic, during which GDP contracted 2 percent. Growth during this period accelerated 1 percentage point compared with the 2011-2016 period and was consistently above the estimated potential growth (3.5 percent). Prior to the COVID-19 pandemic private consumption growth was robust, boosted by rising incomes and a strong labor market, and accounted for more than half of the GDP growth observed over the 2016-2019 period. Meanwhile investment contributed about 1.3 percentage points and public consumption close to 0.8 percentage points (Figure A1-2). Both exports and imports of goods and services expanded at a faster pace than GDP over this period, but the contribution of net exports to growth declined to close to nil. The composition of growth changed markedly in the aftermath of the pandemic, with private consumption's contribution to growth slowing to 1.7 percentage points in 2021-2022, from 2.8 percentage points in 2016-2019, as high inflation, tighter financing conditions and uncertainty weighed on consumer sentiment. The build-up in inventory was the main contributor to growth, accounting for nearly three-quarters of the growth in the 2021-2022 period. As a result of sustained growth, Poland's per capita GDP at PPS has increased by 22.3 percent (2017-2021), compared with 12.1 percent over the previous four years (2012-2016). Growth has decelerated markedly in 2023 at 10.2 percent, on account of depressed private consumption, and the unwinding of the large inventory cycle.

Figure A1-1: **Growth contributions of TFP, Non-ICT, ICT capital, labor and skills, 2010-2021**

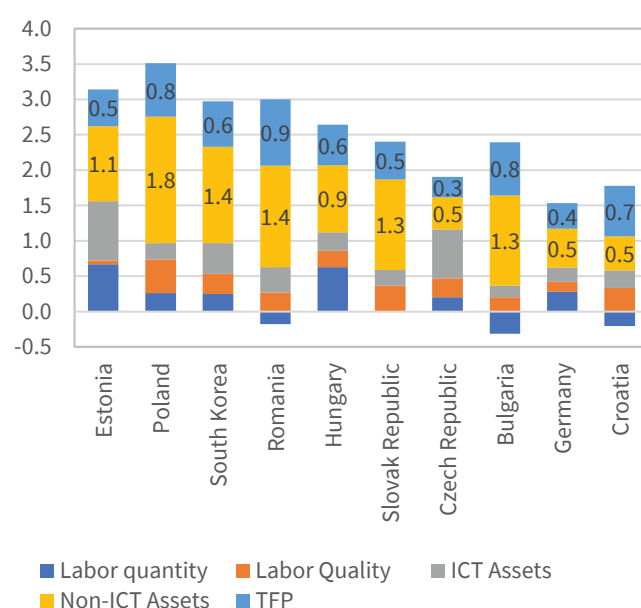
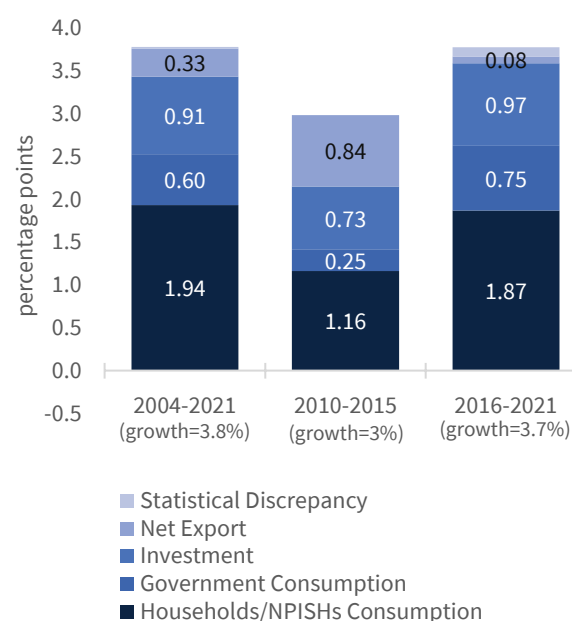


Figure A1-2: **Poland: Growth contributions of demand components**



7. **Total factor productivity (TFP) and capital deepening were the main contributors to long-term growth, but the private investment ratio remains low.** TFP contributed more than a third to growth over the 2000-2019 period, grounded in efficiency gains, while capital deepening, mostly non-ICT, contributed more than 40 percent to growth over this period, as Poland successfully absorbed EU structural funds and attracted FDI, including for integration in Regional Value Chains (RVCs). Nevertheless, there is a private sector investment “deficit” in Poland, with the country near the bottom 25th percentile in the EU-27. The contribution of ICT capital to growth was a mere 4 percent, lower than in peer countries (Figure A1-1), highlighting the potential to gain from investing in this sector, especially since rapid technological progress requires high investment outlays. Investment in buildings and infrastructure represented more than 50 percent, while intangible assets (e.g., R&D investment and intellectual property, inter alia) accounted for less than 10 percent, hindering the ability of the economy to move up the value chain (EIB, 2022).
8. **The decline in allocative efficiency in manufacturing has negatively impacted productivity growth, an effect partly offset by improved within-firm efficiency in both services and some manufacturing sectors.** Poland’s manufacturing sector productivity growth has stagnated since 2012 and was lower than in services and construction (World Bank, 2021a). This was largely due to the deterioration in the allocative efficiency of key manufacturing industries such as metals and food and beverages, where the largest low-productivity firms grew and expanded their market share at the cost of more productive firms. Industries such as electronics, apparel and textiles recorded an improvement in allocative efficiency. Lower allocative efficiency (the ‘between-firms effect’ or allocative efficiency channel), reverses the trends observed in the previous two decades (Schiffbauer, 2019). Manufacturing industries with the fastest TFP growth increased productivity through the “within component,” reflecting these firms’ own productivity improvements—through innovation, better managerial practices, or adoption of new technologies. Lower allocative efficiency in the manufacturing sector had a key role in dampening aggregate productivity growth. Improvements in firms’ capabilities are a key driver of the TFP acceleration. Meanwhile, in services allocative efficiency drove productivity growth which was also supported by within-firm efficiency improvements.
9. **Since 2016, productivity growth has accelerated in both manufacturing and services, driven by firm-level efficiency improvements.** These firm-level improvements consisted of innovations, improved managerial capabilities or adoption of more efficient technologies. However, resource allocation has deteriorated, subtracting from growth (World Bank, 2022a). The productivity gap between the best performing firms and laggards has been widening in most countries, in services as well as in manufacturing (Andrews et al., 2016; Akcigit and Ates, 2021).
10. **Increased uncertainty resulting from the COVID-19 pandemic, the ongoing war in Ukraine and a sharp acceleration in inflation in the EU has weighed on external demand, trade, and investment growth (World Bank, 2023a).** Growth in the euro area stalled amid high inflation, tight monetary policy, and more restrictive credit conditions, weighing on export demand. Energy prices in the EU have subsided since 2022 but remain close to 70 percent above the 2018-2021 average, and inflation remains persistent and above central bank targets, with important core inflation pressures due to second round effects from high energy prices and import prices, acceleration in service inflation and wage catch-ups. The National Resilience and Recovery Plan

(KPO), for which the horizontal milestone of the rule of law is yet to be complied with before the request for disbursements can be approved, aims to boost investment, including in the digital and green transitions. The COVID-19 pandemic has affected human capital accumulation, with large losses associated with distance learning, and if not reversed could have long-term impacts on skills.

- 11. Fiscal buffers were rebuilt in the years prior to the COVID-19 pandemic, creating fiscal space to respond to crises.** Robust growth and improved revenue collection together with fiscal consolidation measures helped to rebuild fiscal buffers that were eroded in the wake of the global financial crisis and the euro area debt crisis. Fiscal deficits averaged 1.5 percent of GDP over the 2015-19 period, compared with an average of 4.8 percent of GDP during 2010-14, and structural deficits were on an improving path until 2018 when it was close to 0 percent. Additionally, the debt-to-GDP ratio declined by 8.8 percentage points to 45.7 percent of GDP between 2016 and 2019. In the three years leading up to the COVID-19 pandemic, despite strong revenue mobilization and output growth, Poland breached the limits on government spending as set by the EU preventive arm, on account of new spending initiatives (including a new child benefit program in 2016), a reduction in the national pension age at the end of 2017, and additional pension benefits. New social spending initiatives have contributed to a deterioration in the structural deficit since 2019.
- 12. Ample fiscal space, the activation of the general escape clauses of the EU fiscal rule, and the suspension of the national stabilizing expenditure rule allowed a large fiscal response during subsequent crises.** The government responded swiftly with a large fiscal package to limit the impact of the COVID-19 pandemic related crisis, which in conjunction with the economic contraction caused the deficit to rise to 6.9 percent of GDP in 2020. The fiscal deficit widened again in 2022 in the wake of the war in Ukraine as the government introduced so called “Anti-Inflation Shields” programs to soften the impact of inflation partly fueled by the energy crisis. These fiscal packages consisted of temporary cuts to VAT rates on electricity, heat energy, natural gas and basic food products; abolition of excise tax on electricity sold to households; lowering of excise tax on motor fuels; and compensation for natural gas distributors.
- 13. Fiscal space has been eroded considerably in the context of multiple shocks and the structural tax reform.** The policy response to mitigate the impacts of the COVID crisis, the energy crisis and high inflation have narrowed the available policy space considerably, with primary general government deficits exceeding 5.5 percent in 2020, and 2 percent of GDP in 2022. Measures to protect households and firms from the energy and food price shocks, predominantly untargeted, (2.4 percent of GDP in 2022), contributed to the widening of the fiscal deficit to 3.7 percent of GDP in 2022. Higher debt service costs and assistance to displaced Ukrainians contributed a cumulative 1 percent of GDP to the deficit, while resolving the Getin Noble Bank S.A. cost 0.3 percent of GDP. The general government deficit is expected to exceed 4.7 percent of GDP in 2023, on account of the impact of the structural tax reform (Polish Deal, 1.1 percent of GDP), the freeze on electricity and gas prices and the zero-VAT on food (2 percent of GDP), election-related spending, and assistance to displaced Ukrainians (0.2 percent of GDP). Defense spending is expected to rise

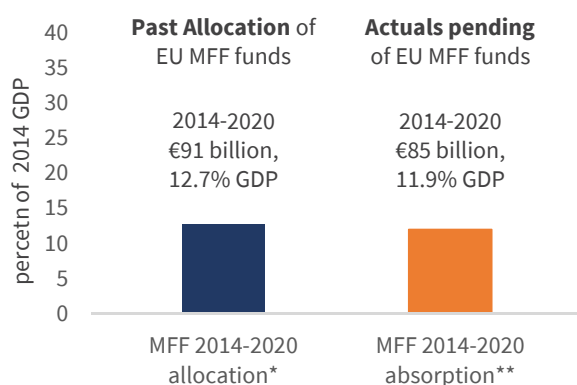
by 0.8 percent of GDP this year. The general government deficit is expected to remain above 4 percent of GDP in 2024.

14. Structural deficits have widened, and fiscal consolidation is needed to narrow the structural deficit and rebuild fiscal buffers After a brief improvement in 2021 a combination of tax policy changes and additional spending on social benefits, health, and defense led to a significant widening of the structural deficit over the 2022-2023. Pensions were increased (indexation and the 13th and 14th pension), the structural tax reform resulted in foregone income tax revenues averaging 1 percent of GDP, and public support for Ukrainian refugees averaged 0.3 percent of GDP over this period. Rising interest rates increased the debt servicing cost.

15. A strong economic rebound and high inflation helped the debt-to-GDP dynamics in the post COVID-19 period. The adoption of the Stabilizing Expenditure Rule in 2015 contributed to bringing the fiscal deficits below the Stability and Growth Pact (SGP) limit of 3 percent of GDP. Public finance sustainability improved, with general government debt declining to an average of 52 percent of GDP over the 2010-2019 period, well below the 71 percent EU average. Robust growth during 2017-2019 contributed 2.4 percentage points of the nearly 9 percentage points reduction in the debt-to-GDP ratio to 45.6 percent of GDP. In 2020 debt increased markedly to 57.2 percent of GDP due to the COVID-19 crisis, before declining to less than 50 percent of GDP by 2022. The robust recovery contributed to reducing the debt burden by 3.5 percent and 1.9 percent of GDP in 2021 and 2022, respectively, while high inflation cut the debt burden by 2.7 and 6.1 percent of GDP.

16. The finances of local government units (LGUs) have also been affected by recent tax changes and increases in minimum wages. Changes in the income tax system resulted in shared tax revenue losses for the LGU which were only partly compensated through discretionary financing measures. Moreover, income tax revenues declined as a result of the COVID-19 crisis as the

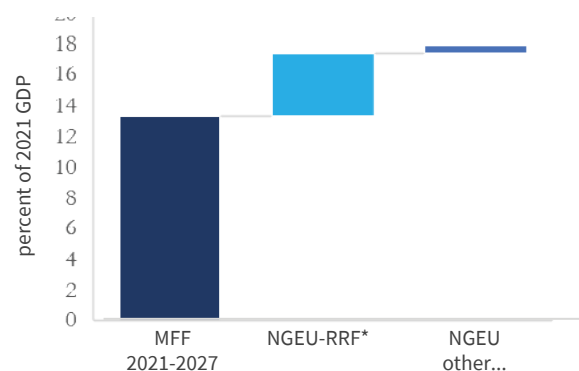
Figure A1-3: Allocations and absorption of EU funds 2014-2020



Source: World Bank, based on National and European Commission documents.

Notes: MFF refers to the EU Multiannual Financial Framework, and includes allocations under Cohesion Policy, Common Agricultural Policy.

Figure A1-4: Allocations of EU funds 2021-2027



Source: World Bank, based on National and European Commission documents.

Notes: MFF refers to the EU Multiannual Financial Framework, and includes allocations under Cohesion Policy, Common Agricultural Policy. 'NGEU-RRF' refers to Next Generation EU Recovery and Resilience Facility (grants and loans); 'NGEU-other' includes Just Transition Fund and React-EU Facilities

economy contracted. At the same time increases in minimum wages affected the wage bill at the subnational level and were not fully compensated through the education subsidy that LGUs receive from the central government. Higher energy costs also took a toll. Furthermore, large urban centers also faced an additional financial burden linked to hosting the Ukrainian refugees. These all strained municipal budgets. Changes to the subnational public financing affect revenue predictability, adequacy, and efficiency, while also increasing the complexity of the system. Inadequate financing of local governments may negatively impact their investment decisions and the quality of services provided, because they have limited tax autonomy and rely heavily on centrally administered taxes and transfers. Over the longer term LGUs will also face financial challenges due to demographic changes and internal migration, which will affect both their revenue and expenditure.

17. Poland has access to EU funds to support its growth, inclusion and sustainability reform agenda, equivalent to 3.3 percent of GDP annually.¹⁶⁴

Twenty-four national programmes in Poland benefited from ESIF funding of EUR 91.3 billion under the 2014-2020 programmes, of which EUR 78.8 billion was from cohesion policy funds (Figure A1-3). The allocation of structural funds from the Multiannual Financial Framework (MFF) for 2021-27, under the EU's cohesion and common agricultural policies, represents a significant source of funding. Through national and regional programmes, Poland benefits from EUR 75.5 billion of cohesion policy funding for 2021-2027 under the "investment in jobs and growth" goal with funding from the European Regional Development Fund (ERDF, EUR 47.4 billion), European Social Fund and Youth Employment (ESF+, EUR 15.6 billion), Cohesion Fund (CF, EUR 11.8 billion) and Just Transition Fund (EUR 3.84 billion). The cohesion funds expected to be disbursed under the 2021-27 MFF amount to EUR 78.3 billion, or the equivalent of 13.6 percent of 2021 GDP, while payments related to the Common Agriculture Policy (CAP) amount to about EUR 5 billion annually. In addition, Poland could be eligible to receive an additional EUR25.3 billion in grants (3.8 percent of 2022 GDP) and EUR34.5 billion in loans (5.3 percent of the 2022 GDP) from the Next Generation EU Funds under the Resilience and Recovery Facility (RRF) in support of the National Recovery and Resilience Plan (KPO).¹⁶⁵ The KPO aims to support post COVID-19 pandemic recovery and the digital and green transitions. About a third of the RRF funds are earmarked for the digital transition. Poland has a high implementation capacity and absorption rate (nearly 70 percent) for EU funds.

18. Poland faces moderate fiscal sustainability risks over the medium and long term.

Debt is on an increasing path and is projected to exceed 60 percent of GDP over the next decade. Fiscal sustainability in both the medium and long term are assessed to be moderate, linked to an unfavorable budgetary position (EC Debt Sustainability Monitor, 2023). Weaker growth potential in the context of tighter financing conditions contributes to the medium-term fiscal sustainability risks. In a context of higher for longer interest rates and slowing growth, the interest-growth rate ("r-g") differential could turn positive, feeding into debt dynamics through the snowball effect. Aging costs are estimated at 1.6 percent of GDP by 2070, with health care at 0.8 percent of GDP and long-term care at 0.7 percent of GDP, while costs related to pensions are expected to decline by 0.6 percent of GDP on account of lower replacement ratios, which in turn increases the risk of old age poverty.

Annex 2. Selected figures

Figure A2-1: **Regional income convergence to EU-27**

Source: World Bank 2022b and Eurostat.

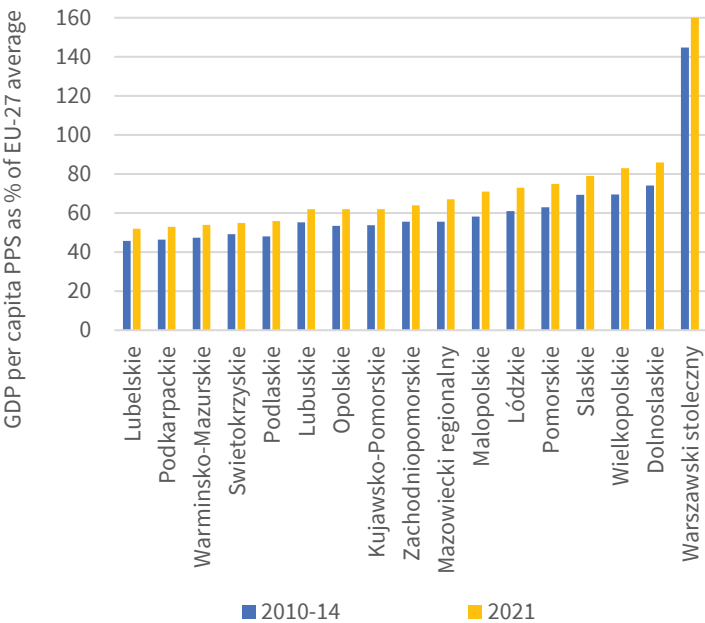


Figure A2-2: **Sector of participation by income quintile**

Source: World Bank Staff estimates using the HBS.

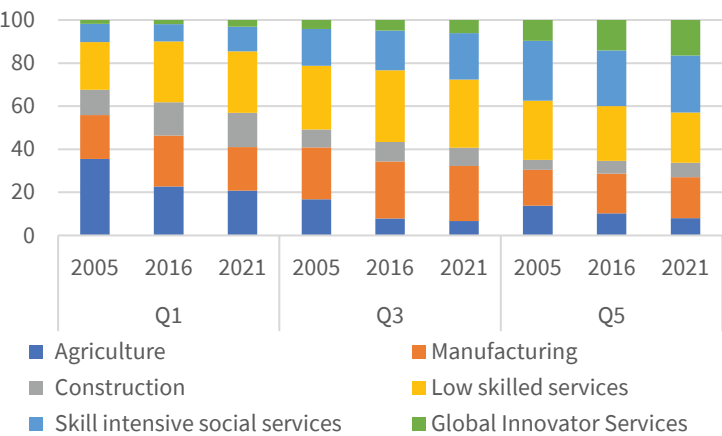
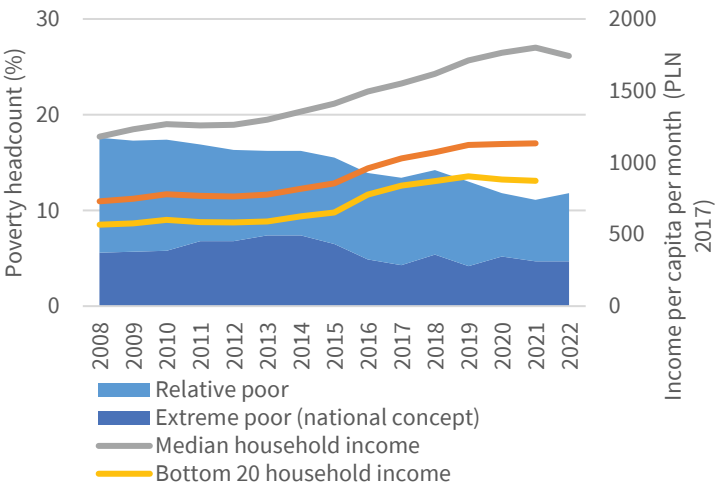


Figure A2-3: **Poverty rates using national concepts, household median and bottom 20 incomes 2011-2021**

Source: World Bank analysis using HBS and Statistics Poland (2023).



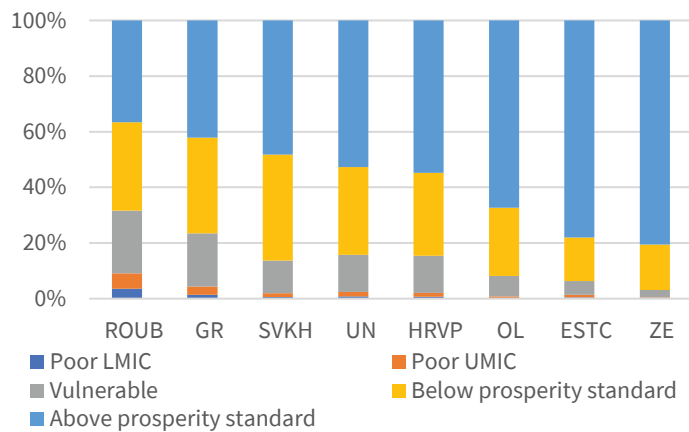


Figure A2-4: Population in selected income categories in comparator countries in Europe and Central Asia

Source: PIP using EU-SILC surveys. The following poverty lines, in 2017 PPP, are used: \$3.65 for LMIC, \$6.85 for UMIC, \$15 for vulnerable and \$25 for the prosperity standard.

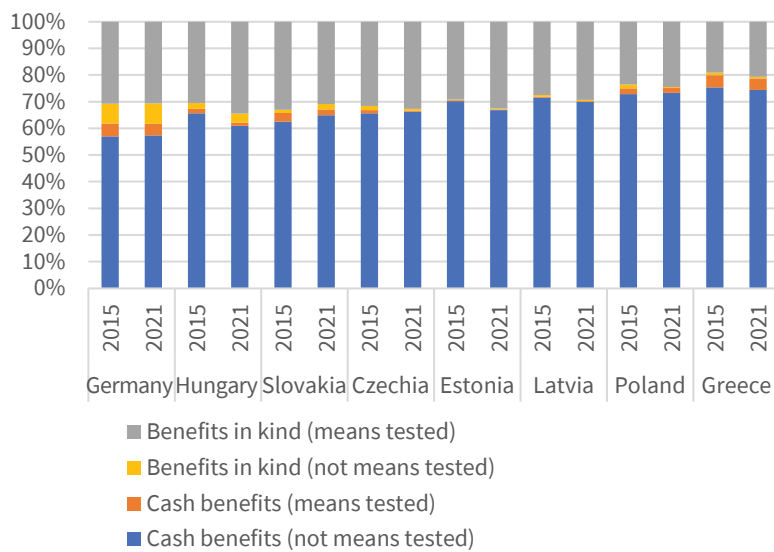


Figure A2-5: Expenditure on social protection benefits in cash and in kind, 2020

Source: Eurostat, spr_exp_fto

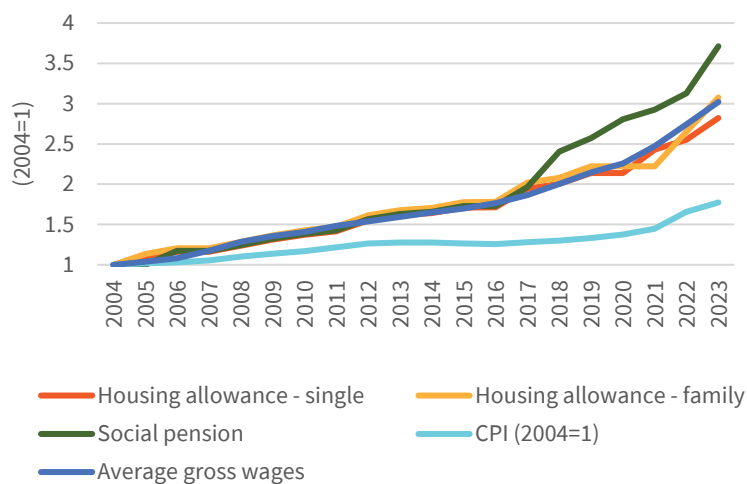


Figure A2-6: Eligibility thresholds for housing allowance and social pensions compared to average wages and CPI

Source: MOPS, GUS (CPI, Wage).

Figure A2-7: Labor market participation and unemployment among individuals aged 24-60 in 2021, by household income quintile

Source: World Bank analysis using Household Budget Survey.

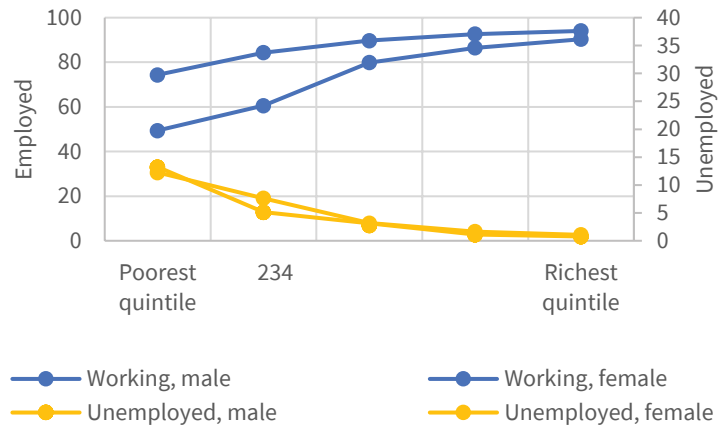


Figure A2-8: Average tax rate of first earner, effective tax rate of second earner

Source: World Bank staff estimates using OECD Dataset: Taxing Wages, Comparative Tables.

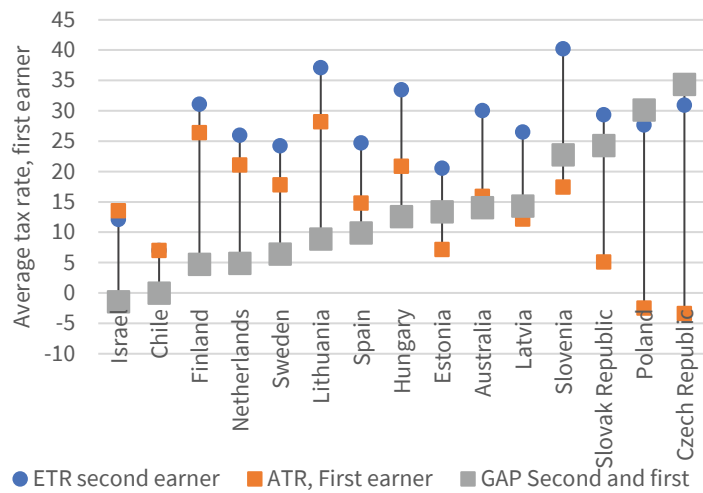


Figure A2-9: Number of people aged 65 or over at risk of monetary poverty

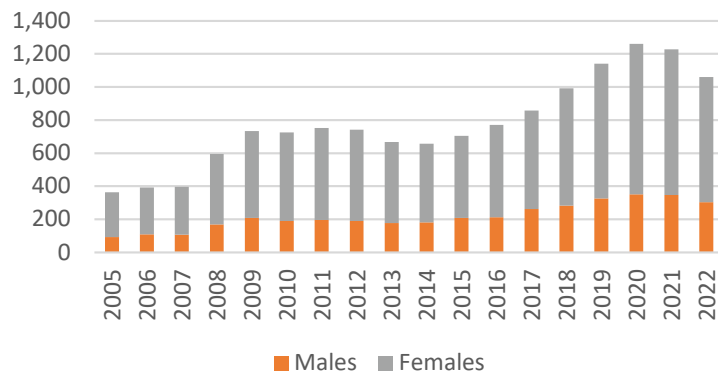
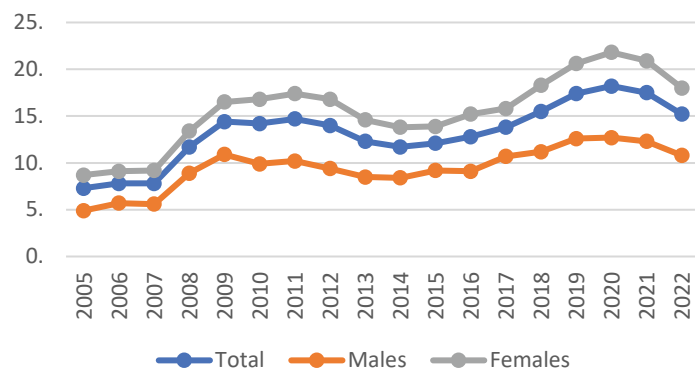


Figure A2-10: Percentage of people aged 65 or over at risk of monetary poverty



Annex 3. Priority areas in SCD-2017 and SCD Update

Table A-1. Assessment of progress against priority areas since the first SCD (2017)

Pathway	Priority area articulated in SCD-1	Progress against challenges in priority areas
Boosting growth potential	1. Enhance competition and remove barriers to entrepreneurship and private sector investment through: (i) an enabling regulatory environment; (ii) improved efficiency of the judiciary; and (iii) the predictability, consistency and transparency of policies	Limited progress since SCD-1 completion, including some backtracking and new challenges emerging. Continued concerns regarding the rule of law and undue pressures on the judiciary, including rules for disciplining judges and ensuring their independence. Digitization advances have been made but there is scope for further advances. Key issues remain with respect to enhancing competition, and levelling the playing field, including in commercial sectors. SOEs continue to represent an important share of selected sectors and continued consolidations in key sectors could be detrimental to competition and the efficient functioning of markets. The predictability, consistency and transparency of policies, including in the context of multiple shocks, have suffered.
	2. Shift to a more strategic public investment policy, improving the efficiency of EU funds and enhancing R&D policy	Some progress since SCD-1 completion. Poland lags behind the average EU country in terms of efficiency of public investments in the context of increased funds allocated to investment as part of the post-pandemic economic recovery package. Strong institutional design but lagging in effectiveness. Challenges include coordination between entities, project selection, portfolio management and oversight, availability of funding.
	3. (i) Ensure sound macro policies, countercyclical monetary and fiscal policy and (ii) make public finance more transparent, effective and efficient	Some backtracking and new challenges emerged given the multiple and overlapping global shocks, increased risks of policy missteps in the context of high and persistent inflation, a sharp slowdown in growth. There has been a backtracking in budget comprehensiveness and unity, with an increase in off-budget spending that is not subject to parliamentary oversight. Increased untargeted spending and incentives affect the efficiency of public spending.
Enhancing inclusion	4. Improve skills of the workforce, ensuring equal opportunities and improved quality and relevance of education provision and adult learning possibilities across income deciles and regions	Some progress against SCD-1, but new challenges have emerged. The COVID-19 crisis has resulted in a significant loss in learning due to distance learning that, if not reversed, will impact human capital accumulation with implications for long-term growth. Adult learning continues to be muted.
	5. Improve access and quality of health care services through better organization and coordination and more efficient use of human and financial resources	Muted progress and new challenges emerging. Reforms focused mainly on improving diagnostics and coordination in primary care, including for chronic diseases, and improved prevention. A shift to telecare starting in March 2020. Health care system vulnerabilities have intensified with the onset of the COVID-19 pandemic, with an important excess mortality and an important decline in life expectancy, as access to healthcare was disrupted with postponements in diagnostics and treatment. The healthcare system continues to face shortages in terms of financing and human resources.
	6. Increase labor force participation through improved quality and availability of child and elderly care services	Advances in labor force participation, but significant bottlenecks remain with respect to labor market participation and new challenges emerging. Progress advanced on multiple outcomes, with continued increases in labor force participation among women and the elderly. However, multiple opportunities remain to advance female labor market participation and that of older people, and new challenges have emerged related to green and technological transitions.
	7. Reduce labor market barriers by: (i) simplifying labor regulations; (ii) improving maintenance, investment and management of road and rail infrastructure; and (iii) ensuring affordable housing	Mixed progress. Progress in labor regulations, and drop in non-standard labor contracts, but some employment under temporary contracts continues to be seen for youth and low-skilled workers. Regionally uneven but muted progress on transportation. Affordable housing has expanded as a bottleneck in dynamic urban areas.
Sustainability	8. Ensure sustainability of the pensions system through promotion of longer working lives, in particular for women, and promotion of private pensions savings	Muted progress: reduction of national pension age in October 2017. Rising effective retirement age despite the decline in the legal retirement age. Fiscal deficit projected to widen, and the share of the old-age pension as a percentage of the average wage in the economy continues to decline. However fiscal incentives for the extension of working lives put in place in 2022.
	9. Manage the transition to low-emissions economy and strengthen water management.	Mixed progress: advancement in institutional structures to strengthen air quality, limited progress in increasing the ambitiousness of national decarbonization strategies, addressing regulatory barriers and regulatory framework gaps. Challenges: large financing needs for greening given increasing power demand in the context of electrification of end uses (transport heating) and higher financing costs. Institutional strengthening and adequate regulatory framework and skills needed in the context of nuclear deployment.

	HLO-I Create high productivity jobs through a dynamic private sector and innovative	HLO-II Raise human capital levels to seize the benefits of the technological and green transitions	HLO-III Provide high quality public services to reduce disparities and strengthen the social contact	HLO-IV Achieve the green transition while maintaining economic competitiveness
Priority #1	X	X	X	X
Priority #2	X		X	X
Priority #3	X			X
Priority #4				X
Priority #5	X	X	X	
Priority #6	X	X	X	X
Priority #7		X		
Priority #8	X	X	X	X
Priority #9		X	X	X
Priority #10		X	X	
Priority #11	X			X
Priority #12				

Endnotes

1 Green jobs have been found to more frequently use higher order skills (World Bank, 2022b; Vona, Marin, and Consoli 2019; Marin and Vona 2019), and workers in these jobs have higher levels of education, work experience and on-the-job training. In addition, green jobs may also be in different places than the non-green jobs they replace.

2 Note that social assistance refers to one arm of the broader social protection system, also comprised of social insurance and active labor market programs.

3 World Bank staff estimates using the Household Budget Survey in 2021. This result holds when considering the temporary allowance and permanent allowance as reported in the survey, and furthermore continues to be visible when adding those receiving means tested family allowance benefits.

4 The prioritization in the SCD Update has been informed by recent analytical work and reflects the changed contextual backdrop since the first SCD (see Annex 3 for the priority areas laid out in the first SCD, and a summary of progress made against them).

5 Increased fiscal flexibility was possible due to the suspension of the general escape clause of the Stability and Growth Pact in order to allow an adequate response to the COVID-19 pandemic and the energy price shock. Measures to protect households and firms from the energy and food price shock, predominantly untargeted, cost 2.4 percent of GDP in 2022, contributing to the widening of the fiscal deficit to 3.7 percent of GDP. Higher debt service costs and assistance to displaced Ukrainians contributed a cumulative 1 percent of GDP, while resolving the Getin Noble Bank S.A. cost 0.3 percent of GDP.

6 The Act of 11 March 2022 on the Defense of the Homeland stipulates an increase in national defense expenditure from the budgeted 2.2 percent of GDP in 2022 to 3 percent of GDP starting in 2023.

7 Inflation has recently decelerated, down to 6.2 percent year-on-year in December 2023 and 2.8 percent in February 2024, prompting the central bank to cut the policy rate by 100 bp since September, partly undoing the monetary tightening cycle.

8 World Bank staff analysis using Household Budget Survey (HBS) data. The analysis benefited from examining a range of national and international poverty thresholds, using income as well as an expenditure poverty concept. A selected analysis is presented in the SCD-Update, with more detailed assessments available in a background note.

9 In addition to those who are in extreme poverty, approximately one in six households (12%) are considered to be vulnerable to poverty based on Poland's national relative poverty concept. Based on the European at-risk-of-poverty concept, anchored to the 2017 poverty line, poverty declined from 54 percent of the population in 2005 to 7 percent in 2021, a palpable achievement.

10 World Bank analysis using Household Budget Survey data to 2021. In 2021, 2-4% of households were dropped from the analysis due to non-reports of labor income despite reporting working. Significant sensitivity analysis was conducted to understand the impacts of this decision, and

alternative methods including imputation approaches were considered. A reduction in the elasticity of poverty reduction and bottom 20 incomes to growth has been visible since 2016. Poland was more resilient than other EU countries in the first year of the pandemic, with employment rising in 2020 despite a contraction in GDP of 2 percent. Incomes of the bottom 20 percent of households were broadly shielded, but those of the poorest 10 percent less so, resulting in a rise in national extreme poverty rates in 2020. Approximately one in six households (16.8 percent) noted a decline in income in 2021 as a consequence of the COVID-19 crisis, and approximately one third of these saw a significant decline (Statistics Poland, 2022). This has coincided with an increasing use of savings, loans or credit among poorer households as the share of expenditure in available income has risen for the bottom 20 percent of the expenditure distribution, from 108 percent in 2018 to 150 percent in 2022 (Statistics Poland, 2019 and 2023).

11 Inequality analysis using EU-SILC data, which is reported by Poland to Eurostat for cross-country analysis, shows the Gini Coefficient over disposable income declining by 2 percentage points between 2018 to 2020, in contrast to the 2-percentage point rise seen in the HBS. Measured using the HBS, the Gini coefficient rose systematically from 29.8 in 2017 to 31.9 in 2021, after which it has subsequently declined slightly to 31.4 in 2022 and 2023 (GUS 2024).

12 World Bank staff analysis using HBS annual data. A decomposition was conducted to assess the role of various income sources in the evolution of disposable income inequality between 2005 and 2021, split into various sub-periods. Income sources were separated into gross labor incomes (from non-agricultural sources), agricultural income, non-contributory benefits, contributory benefits, personal income tax payments, social insurance contributions, pension receipts, capital income and other income sources. Non-agricultural income sources, predominantly from labor income, are more unequally distributed than total disposable income. Gross income from non-agricultural sources saw a notable decline in their contribution to total disposable income inequality between 2005 and 2017, with the Gini coefficient for labor income declining from 0.69 to 0.61. Since 2017, the dispersion from labor income sources has stabilized – resulting in a dissipation in the role of this income source in reducing inequality. While labor incomes continue to exert a downward pressure on inequality since 2017, their contributions to reducing inequality have been offset by contributory social security contributions.

13 Brzezinski et al. (2021) combine survey data with tax returns data to provide top-corrected measures of income inequality in Poland. The adjustments suggest that the Gini coefficient grew by 14-26% more compared to the uncorrected survey estimates. In 2015 the top-corrected Gini index equaled 38, while the survey-based estimate was only at 30. The top-correction of the Gini index in Poland is 2 to 3 times higher than in other countries, which shows that underestimation of income inequality in survey data is a particularly important problem in Poland. Measures of inequality captured using tax administrative data show similarly higher levels of inequality, with the Gini coefficient for net income rising from 49.5 to 50.3.

14 Survey-based measures of inequality detected a substantial decline in the Gini Index between 2004 and 2021, from 34.4 to 31, positioning most metrics of inequality in the bottom half of EU-27 countries and comparator countries.

15 Bukowski and Novokmet (2021) find that the top decile of the income distribution captured 57% of total macro growth in the years 1989-2015. While the real income of the bottom 50% grew on average

by 1% annually, the real income of the top decile increased by 4.2% annually, and the real income of the top 1% increased by 6.8% annually. Bukowski, Chrostek, Novokmet and Skawiński (2023), combine micro-level tax data, household surveys and national accounts to analyze inequality trends between 2000 and 2018. They find evidence of high inequalities in Poland compared to other EU countries, with 37% of incomes accrued to the top 10% compared to 21.5% to the bottom 50%. Their assessment of high-income earners, typically under-sampled in household surveys, provides further insight into the redistribution of the taxation system. They find that the tax system is regressive at the top end of the income distribution, due to lower taxation of business incomes and a low burden of social contributions.

16 Bukowski and Novokmet (2021) find that the top decile of the income distribution captured 57% of total macro growth in the years 1989-2015. While the real income of the bottom 50% grew on average by 1% annually, the real income of the top decile increased by 4.2% annually, and the real income of the top 1% increased by 6.8% annually.

17 Since 2016, income and expenditure growth of the bottom 40 percent of the income distribution – and consequently poverty rates – have diverged, with the bottom 40's expenditures growing faster than those of the top 60, while income patterns show the reverse.

18 A Shapley decomposition was used to determine the contribution of various income and demographic components to declines in anchored AROP poverty and growth in incomes by quintile and bottom 40 households.

19 The expansion of family benefits programs dominated poverty reduction seen in 2015-2016 and fundamentally altered the profile of poorer households (described in greater detail later). The higher poverty rates among families with two or more children seen prior to 2015 declined considerably in 2016 due to the rollout of the government's flagship family benefit program - Family 500+. Between 2016 and 2019 the program had a component targeted to poor families with children, which was subsequently removed and shifted into a universal child transfer. Furthermore, the government introduced supplementary pensions (13th and 14th month pension) in 2019 and 2021 respectively, which shifted to automated benefits in 2020 and 2023.

20 While the universal benefits of the Family 500+ program have flowed to some of the poorest families in Poland and the supplementary pension benefits (13th and 14th month pensions) should act to reduce the rate of elderly poverty, the programs have reduced the overall efficiency of the social assistance system. Last resort social assistance programs are well targeted to the poor, albeit inadequately and with coverage gaps. The expansion of non-means tested and demographically targeted transfers in recent years has resulted in more than 60 percent of households in the top two income quintiles receiving non-contributory transfers.

21 Rising labor income contributed to 24 percent of the growth in the incomes of bottom 40 households compared to 55 percent of the income growth in incomes among top 20 households.

22 National extreme poverty rates are significantly higher among those living in rural areas (8% in rural areas compared to 2% in urban areas (Statistics Poland, 2023, Economist poverty rates in Poland in 2022)).

23 For the average single worker in Poland, the tax wedge has been reduced by 1.3 percentage points from 34.9 percent to 33.6 percent, the 24th lowest among OECD member countries.

24 Poland has the second highest gap between the effective tax rate of second earners and the average tax rate of first earners, a reflection of the system of joint taxation.

25 Dolnośląskie (Lower Silesia), Lubelskie, Łódzkie, Małopolskie (Lesser Poland), Śląskie (Silesia), Wielkopolska (Greater Poland).

26 World Bank staff estimates using the Household Budget Survey in 2021.

27 Poland is well placed to continue to benefit from integration into GVCs, building on the strong performance observed in the decade prior to the COVID-19 crisis when it recorded an annual average growth in GVC participation of 5.2 percent (WTO, 2023). GVC participation is measured as the sum of foreign value added in exports and domestic value added in other economies' exports (Preliminary data for 2020. WTO calculation based on OECD TiVA database).

28 Elasticities are estimated based on analysis of a sample of 48 high- and middle-income OECD and non-OECD countries covering 45 goods and services sectors for the period 1995-2018. It finds that export-employment elasticities within sectors are positive.

29 The direct and indirect contributions of GVC participation to worker-level wages can be predicted using Mincerian wage regressions. This then allows us to compute the Gini coefficient based on predicted wages in each country to quantify the relationship between GVC participation and inequality in a sample of 38 countries. The Gini coefficient is a non-linear measure, so the sum of Gini coefficients calculated with separate shocks (direct and indirect contribution) may not equal the Gini coefficient calculated with the same two shocks jointly (total contribution). The interaction terms show this difference.

30 The task content of jobs has also shifted towards a rising share of employment in non-routine cognitive skills roles at higher income levels, a reflection of the shift in skills, technology use and patterns of globalization (World Bank, 2019a). In high-income countries like Poland, jobs are less routine-intensive than in low- and middle-income countries (Lo Bello et al., 2019, Caunedo et al., 2021; Lewandowski et al., 2022), especially in highly-skilled occupations, and this gap has widened over time (Lewandowski et al., 2022).

31 Poland's total population decreased by 2 percent between 2010 and 2022, with a 6 percent decline of those aged 15 to 64 (Statistics Poland, 2022d). By contrast, the population in the EU-27 increased by 1.5% over this period (Eurostat indicator, TPS00001, accessed on July 31st, 2023).

32 Medium- and long-term aging impacts will intensify over the next four decades; the number of people above the age of 80 is expected to nearly triple, from 4 percent in 2019 to 12 percent in 2060. Poland's old-age dependency ratio in 2023 is the 6th lowest in the EU-27 but is projected to rise to the 10th highest in 2050 and the 6th highest in 2060 (Eurostat indicator, TPS00200. Accessed September 12th, 2023).

33 The number of foreigners applying for short-period work permits has increased fourfold in the past decade (GUS and Ministry of Social Policy and Family). Ukrainians represented a large share of this group, especially after 2014 and more recently through the Ukraine refugee crisis.

34 An increase in participation and a trend decline in the unemployment rate—from nearly 10 percent in 2010 to around 2 percent currently—has bolstered the supply of labor over this period. Going

forward, demographics and the lack of scope for a further decline in unemployment will constrain labor supply in the absence of migration flows.

35 Urban areas accounted for 60 percent of the population in 2022, compared to 61 percent in 2010 and 62 percent between 1990 and 2000. The rise in the population in rural areas reflects a shift to rural areas concentrated around larger cities (Statistics Poland, Demographic Situation in Poland up to 2022), while rural areas further from cities are showing a marked decline (OECD, Urban-Rural Linkages in Poland, 2023).

36 Since the start of the invasion, Poland has welcomed over 1.7 million forcibly displaced persons (FDPs) from Ukraine – approximately 5% of Poland’s total population <https://data.unhcr.org/en/situations/ukraine/location/10781>

37 https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys/latest-business-and-consumer-surveys_en

38 Employment rates in Poland have risen significantly since the early 2010s, from 4.8 percentage points below the EU average in 2010 to 2.6 percentage points above it in 2023.

39 Green jobs have been found to more frequently use higher order skills (World Bank, 2022b; Vona, Marin, and Consoli, 2019; Marin and Vona, 2019; Sanchez-Reaza et al., 2023). Workers in these jobs have higher levels of education, work experience and on-the-job training. In addition, green jobs may also be located in different places than the non-green jobs they replace.

40 EU Member States have committed to reduce net greenhouse gas emissions by 55 percent by 2030 compared to 1990 levels and achieve climate neutrality by 2050.

41 According to an updated scenario of the *Energy Policy of Poland until 2040* (PEP 2040), under which zero-emissions sources (renewables and nuclear) would account for 74 percent of the installed capacity and cover around 73 percent of Poland’s electricity demand by 2040.

42 Poorer households have been more vulnerable to rising energy prices (World Bank, 2023b).

43 The Bertelsmann Transformation index has deteriorated significantly, bringing the country’s ranking to 47 out of the 137 countries included in the BTI 2021, below Croatia (25) and Romania (37), and down from a rank of 5 out of 129 in 2016. It fared worse on rule of law than peers (5.3), consensus building is also lagging behind (with a score of 5.2 out of 10) and Poland scored lower on the Stability of Democratic Institutions index (6.5). Conversely Poland ranks higher in terms of economic (ranked 10) and political transformation (ranked 24). The Freedom House Nation in Transit indicators declined for an 8th consecutive year in 2021 on account of weaker democratic institutions and conflicts over the rule of law with the EU, the Council of Europe, and other EU member states.

44 Percentile rank indicates the rank of a country among all countries in the world, with 0 corresponding to the lowest rank and 100 corresponding to the highest rank (WGI, World Bank).

45 The World Bank Country-Level Institutional Assessment and Review (CLIAR) framework was used to assess the quality of institutional arrangements in Poland compared with a set of countries. This exercise generates the empirical evidence needed to map out the country’s institutional profile and identifies its institutional strengths and weaknesses. The benchmarking exercise clusters an

array of well-established institutional indicators into nine institutional categories: Anticorruption, transparency, and accountability; Business environment and trade; Financial market; Labor market; Justice; Political; Public sector; Social; and SOEs' corporate governance. The benchmarking exercise employs the "closeness to frontier" (CTF) methodology to standardize and compare a wide range of institutional indicators. Relative institutional weaknesses and strengths are defined based on the percentile to which the specific indicator belongs, relative to the set of comparator countries. Structural comparators are those countries that are considered as comparable peers regarding either their geographical position, institutional heritage, and the level of economic development, or all those characteristics combined. They include Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Croatia, Romania, Slovakia, Slovenia. Aspirational comparators are those countries that Poland should be converging to in the medium and long term, and in this assessment, they include all the OECD countries.

46 The benchmarking showed relatively positive results compared to structural comparators with respect to the business environment, trade and political institutions and anticorruption, transparency and accountability, but placed public sector performance, the financial and labor market and governance of SOEs in weaker categories.

47 Political institutions are captured using a variety of indicators from the World Justice project, variety of democracy database, BTI, and Freedom house. Poland's indicators lag within this family with respect to checks on government, civil liberties, and fundamental and political rights.

48 The Bertelsmann Transformation index has deteriorated significantly, bringing the country's ranking to 47 out of the 137 countries included in the BTI 2021, below Croatia (25) and Romania (37), and down from a rank of 5 out of 129 in 2016. It fared worse on rule of law than peers (5.3), consensus building is also lagging behind (with a score of 5.2 out of 10) and Poland scored lower on the Stability of Democratic Institutions index (6.5). Conversely Poland ranks higher in terms of economic (ranked 10) and political transformation (ranked 24). The Freedom House Nation in Transit indicators declined for an 8th consecutive year in 2021 on account of weaker democratic institutions and conflicts over the rule of law with the EU, the Council of Europe, and other EU Member States.

49 Percentile rank indicates the rank of a country among all countries in the world, with 0 corresponding to the lowest rank and 100 corresponding to the highest rank.

50 Bertelsmann Stiftung, Sustainable Governance Indicators.

51 European Commission (2023) "Poland Country Report", Commission Staff Working Document, SWD (2023) 621 final. In 2022, 21% of laws were passed using the alternative track and 42% of the laws passed using the regular track had no documented public consultation (Grant Thornton. Barometr prawa. Analiza stabilności otoczenia prawnego w polskiej gospodarce Edycja 2022). As a consequence of these shifts, Poland's indicators capturing the application of RIAs and whether the quality and sustainability of the RIA process has been ensured have dropped markedly, from among the top of the EU-27 in 2014 to the bottom in 2022 (Bertelsmann Stiftung, Sustainable Governance Indicators).

52 Reporters without borders highlights the acquisition of the local press by state-controlled oil company Orlen (Reporters Without Borders, 2023). According to the Media Pluralism Monitor (MPM) and an assessment of indicators in four thematic areas, risks grew in 2021 in three areas: Fundamental

Protection (from 41% to 57%), Political Independence (from 69% to 74%) and Social Inclusiveness (from 60% to 62%) while stood at the same level in the area of Market Plurality (74%) (Media Freedom Rapid Response, 2022). According to the Media Pluralism Monitor (MPM) and an assessment of indicators in four thematic areas, in 2021 risks grew in three areas: fundamental protection (from 41% to 57%), political independence (from 69% to 74%) and social inclusiveness (from 60% to 62%). Market plurality remained unchanged (74%) (Media Freedom Rapid Response, 2022).

53 In Figure 2-3, enterprise resource planning (ERP) systems are software-based tools that can integrate the management of internal and external information flows, from material and human resources to finance, accounting, and customer relations. Here, only sharing of information within the firm is considered. Cloud computing refers to ICT services used over the Internet as a set of computing resources to access software, computing power, storage capacity and so on. Supply chain management refers to the use of automated data exchange applications. Big data analysis refers to the use of techniques, technologies, and software tools for analyzing big data. This, in turn, relates to the huge amount of data generated from activities that are carried out electronically and from machine-to-machine communications. Social media refers to applications based on Internet technology or communication platforms for connecting, creating, and exchanging content online with customers, suppliers, or partners, or within the enterprise. Radio frequency identification (RFID) is a technology that enables contactless transmission of information via radio waves.

54 Poland's 2018 Product Market Regulation overall indicator stood at 1.45, compared to an OECD average of 1.38, 1 for the five most competitive economies and 1.82 for the five least competition friendly economies.

55 SME Finance Forum.

56 Based on: Government Policy on the Development of Public-Private Partnerships until 2030 (draft of November 17, 2022) and the PPP Market Report 2009-2022 published by the Department of Public-Private Partnership, Ministry of Development Funds and Regional Policy.

57 These results from adult education in the PIAAC are from 2012, and therefore may have evolved in the 2023 round.

58 Some labor market pressures have been relieved by the successful integration in the labor market of Ukrainians forcibly displaced by the war in Ukraine, but the duration of their stay is uncertain, and depends on the geopolitical situation. Of the nearly 1 million Ukrainians who have settled in Poland, close to 60 percent have found jobs, increasing the labor supply by close to 2 percent.

59 The job polarization hypothesis argues that ICT capital substitutes for routine tasks and complements non-routine tasks (the ALM hypothesis) and is based on seminal work by Autor et al. (2003). Routine tasks tend to be concentrated in the middle of the skills distribution (clerical and manufacturing/assembly line jobs). Labor demand grows for high-skilled and elementary jobs, leading to the polarization of the labor market.

60 World Bank calculations based on Ministry of Finance data (<https://www.gov.pl/web/finance/Historical-data>).

61 50% in 2021, compared with the EU average which is around 25%.

62 Ensuring consistent and regular access to detailed data on both procurement system performance and the public procurement profession are key to monitoring progress on professionalization.

63 See the European Semester country reports for Poland (EC 2018-2020).

64 Poland has developed a new approach to implementing integrated territorial investments (ITIs) involving associations of municipalities with a joint intermunicipal strategy to implement specific investments. This instrument has fostered local investments in areas that span the boundaries of a single municipality, for instance fighting air pollution, floor management and public transport.

65 V-Dem indicator capturing judicial purges, judicial constraints on the executive and court packing. Last accessed in September 2023.

66 A dispute with the EU over the rule of law, judiciary independence and primacy of EU law over the Polish Constitution has ensued following 2016-2018 legal changes that the EU argue affect the independence of the judiciary and infringe upon the separation of powers. The EU assessed that these changes open the possibility for both the legislative and executive powers to interfere in the judicial system. In July 2021, the European Court of Justice (ECJ) ruled that the whole disciplinary system for judges in Poland was “not compatible with EU law” and on December 22, 2022, the European Commission launched an infringement procedure against Poland due to serious concerns over the Polish Constitutional Tribunal.

67 Digital Economy and Society Index 2022 (<https://digital-agenda-data.eu/datasets/desi/visualizations>).

113

68 The Quality of Government Institute (QoGI), University of Gothenburg, as cited in “Public Administration and Governance: Poland, 2020”, European Commission, 2021.

69 Employment in the public administration of those with disabilities has grown consistently since 2012, a positive development for inclusive employment practices within the administration.

70 The share of students who leave education and training early is below the EU-27 average (5.9 percent compared to 9.7). The gender gap in access to basic education is driven by boys leaving school earlier than girls, Eurostat indicator edat_lfse_30. Accessed December 15th, 2022. Breaks in the time series make consistent comparisons over time difficult to interpret.

71 Fewer students are considered to be performing below the EU-27 and OECD average, while a larger share of students achieve a higher level of proficiency in at least one subject. In 2018, 16 percent of students scored Level 5 or higher in mathematics, compared with the 11 percent OECD average, 12 percent in reading compared with the OECD average of 9 percent, and 9 percent in science compared with the 7 percent OECD average. In PIRLS 2021, Poland and Finland received the top EU scores, although their assessed 4th grade students are considerably older, as education starts one year later than in many other EU countries.

72 Most, but not all, of the earlier reforms have been reversed since 2016: the age of starting primary school was raised from 6 to 7; the system switched from a 1+6+3+3 system (1 year of compulsory pre-school, 6 primary years, 3 lower-secondary and 3 higher secondary/vocational), towards an 8+4 structure (8 primary years and 4 years of higher secondary/vocational education). Lower-secondary schools were abolished at the start of the 2019/20 school year, resulting in children moving directly

from primary to upper-secondary or vocational school. Moreover, basic vocational training schools were no longer obliged to provide a year of the general curriculum, reducing the period in which foundational skills were acquired. The upper-secondary curriculum has been updated.

73 An assessment of upper-secondary students in Warsaw found that students who entered into the pandemic having gone through the post-2016 reform system suffered greater learning losses than those in the earlier education system (Jakubowski, et al., 2023). The losses were larger for low-achieving students and in science subjects that were eliminated from national examinations after primary school.

74 School closures in Poland of nearly 26 were among the longest in Europe. Alongside the estimated impacts on learning cited in the text, closures and the switch to distance learning are estimated to furthermore have contributed to broader mental health costs (Stunža et al, 2020), with consequences for human capital accumulation.

75 Total compulsory instruction time in ISCED-1 and ISCED-24 levels is among the lower in Poland compared to other EU-27 and OECD countries (OECD 2023b, Table D1.1) Education at a Glance 2021: OECD Indicators; European Commission/EACEA/Eurydice, 2023. Recommended Annual Instruction Time in Full-time Compulsory Education in Europe – 2022/2023. Eurydice – Facts and Figures. Luxembourg: Publications Office of the European Union.

76 Eurostat, educ_uoe_perp01 and educ_uoe_perp04 for primary school (10.2 in Poland 13.6 in the EU-27) and educ_uoe_perp04 in secondary school (11.5 pupils per teacher in Poland, 11.2 in the EU-27). Accessed July 1, 2023.

77 World Bank (2023b). Approximately 25 percent of rural *gminas* have 9.4 students per teacher, compared to 25 percent of urban *gminas* with more than 14 students per teacher.

78 <https://barometrzwodow.pl/en/module/forecasts-on-maps>

79 PIRLS 2021 results reveal a large decline in teacher job satisfaction, which could be related to the lower purchasing power of teachers' wages and negative experiences of the pandemic and the recent educational reforms (Każmierczak and Bulkowski, forthcoming).

80 Eurostat, educ_uoc_perp01. 43% of primary school teachers were aged 50 or older in 2021, compared to 36% in the EU, while 6% of primary school teachers were aged younger than 30, compared to 10% in the EU-27. Accessed July 1, 2023.

81 At 60, the retirement age for women, who constitute approximately 90 percent of the primary teacher workforce, is the lowest in Europe. Taxation reforms introduced in 2021 as part of the Polish Deal aim to increase the share of individuals working beyond retirement age by making income from labor sources non-taxable, while still continuing to tax personal income from pensions. In practice, the design of this reform is most likely to induce labor participation effects among higher income individuals.

82 Of the 132,447 teachers in primary education in 2021, only 6,586 were aged 60 and above; in contrast, in Sweden and Portugal – with a primary teacher workforce 2 and 3 times smaller than Poland's respectively – there were over 8,000 primary teachers aged 60 and above. Eurostat, educ_uoc_perp01. Sweden, with a retirement age of 67, has 8,253 primary school teachers aged 60 and

above of 70,777 primary teachers in total (12% of the workforce), while Portugal, with a retirement age of 66, has 8,506 primary school teachers of 52,436 primary teachers in total (16% of the workforce). Accessed July 1, 2023.

83 The majority of Ukrainian students are found in Mazowieckie, **Śląskie, and Dolnośląskie (Association of Polish Cities, 2022)**, and large cities have reported significant enrollments in the education system. Additional funds transferred by the central government cover the running costs of providing education. Still, if the situation continues, large cities will need to make additional investments in facilities and teachers in order to support refugee students (World Bank, 2023c).

84 At the median, urban *gminas* spent a total of 159 percent of what they received in the subvention in 2021, while rural *gminas* spent 171 percent (World Bank, 2023c).

85 Assessments could include, for example, science subjects, to avoid negatively influencing focus on subjects that are not included in the test.

86 Law of March 12th, 2022, on Assistance to Ukrainian citizens. Guidance and educational materials for teaching Ukrainian students were furthermore developed and Polish language courses for school staff launched.

87 <https://www.unicef.org/eca/press-releases/more-half-ukrainian-refugee-children-not-enrolled-schools-poland-unicef-unhcr>. In addition, World Bank analysis of pupil registration data compared to active registrations using data provided by the Ministry of Education on Poland's data portal: <https://dane.gov.pl/en>.

88 Life expectancy at birth declined to 75.5 years in 2021 - four and a half years below the EU average and the 7th lowest in the EU (Eurostat, indicator demo_mlexpec. Last accessed July 2, 2023). High excess mortality due to the COVID-19 pandemic caused life expectancy to fall by 2.5 years between 2019 and 2021, among the largest reductions observed in the EU and bringing life expectancy back to 2008 levels. The fall in life expectancy at birth was higher in absolute and relative terms for men, despite having a lower starting life expectancy in 2019.

89 Healthy life years (HLY) are approximately 77 percent of total life span and, in 2021 only 64 percent of adults perceived their health as good or very good (Eurostat, indicator sdg_03_20. Last accessed July 2023). Some 39 percent of Polish adults reported having at least one chronic condition in 2019 – a slightly higher proportion than across the EU as a whole (36 percent), according to EU-SILC. This proportion increases to 70 percent for Polish people aged over 65 (OECD, 2021).

90 For example, high mortality continues to be driven by behavioral driven risk factors, including smoking, alcohol-related causes, and limited physical exercise. Only 6 percent of individuals report doing health enhancing physical activity at least once a week (Eurostat, health_ehis_pe92).

91 Furthermore, one fifth of adults are now obese, a higher share than in the EU, and average physical activity is below with lower the EU average (Eurostat, hlth_ehis_sk3. Accessed on 13th January 2022). Ischemic heart disease, stroke and lung cancer were the main causes of death before the pandemic, but COVID-19 accounted for a substantial share of deaths in 2020 (OECD, 2021).

92 Healthcare spending as a share of GDP is also lower than the EU average (6.5 percent in 2020 compared to 10.9 percent).

93 According to the forecasts of the National Cancer Registry, between 2014 and 2025 the number of cancer cases is expected to increase by nearly 20 percent. Annually, 100,000 people die from different types of cancers and the standardized cancer mortality ratio is much higher than the EU average. Lung cancer, one of the key “killers”, is almost entirely preventable with the appropriate support systems for tobacco control.

94 Vaccination rates in cities, while still low, were double those in rural areas (11.6 percent compared to 5.8 percent).

95 Amongst OECD countries, Poland has one of the highest diabetes-related hospital admission rates (190 per 100 000 population compared to 127 on average in the OECD (OECD Health Statistics 2021). These “avoidable hospitalizations” indicate a lack of coordination and a poor use of the Polish health system’s limited resources.

96 Eurostat indicator hlth_rs_prs1.

97 The number of hours of care demanded has been estimated to increase by 37 percent by 2030 with a much smaller increase of 18 percent of the population aged 50 plus (World Bank, 2018).

98 Green jobs have been found to more frequently use higher order skills (World Bank, 2022b; Vona, Marin, and Consoli 2019; Marin and Vona 2019), and workers in these jobs have higher levels of education, work experience and on-the-job training. In addition, green jobs may also be in different places than the non-green jobs they replace.

98 Eurostat indicator lfsi_emp_a.

100 Defined as the difference between the employment rates of men and women aged 20-64 (Eurostat data indicator lfsi_emp_a, accessed September 2023). Gender gaps widened following the introduction of Family 500+, but narrowed after the removal of a means-tested threshold that created a disincentive for joining the labor market. Myck, Oczkowska, Trzcinski, Krol (2021) “Five years in operation: the Polish Universal Child Benefit”; Magda, Kiełczewska, Brandt, 2018.

101 The main reason for female inactivity while of working age (15-64) is retirement, reported by both men and women, and almost half of all women it is possibly due to the 2017 reform lowering the retirement age to 60. Family and care responsibilities (for children, elderly and people with disabilities) represent the second most common reason, reported by 23 percent of women. The third reason, reported by 16 percent of women, is the participation in education and training – this is prevalent especially among younger women (15-30) (EU-LFS 2019).

102 The Family Care Capital program commenced in 2022 and provides parents of children between 12 and 35 months, from the second child and beyond, with a maximum subsidy of PLN 12000. The program intends the resources to be utilized as a childcare subsidy, but the usage is de facto at the discretion of parents. A complementary program, rolled out in April 2022, allocates resources directly to child-care providers to co-finance childcare of those who do not meet the criteria for the Family Care program. Collectively the programs supported nearly 750,000 children in 2022 (600,000 under Family Care) at a cost of PLN 3.8 billion.

103 Most children aged under 3 continue to be cared for only by their parents, and participation in ECEC among this group remains the third lowest in the EU. The participation rate of 5- and 6-year-olds in kindergarten has risen since 2007, and is high at 97% in 2021, but the rate of participation remains low for those under 3-year-olds despite rising by 11 pp since the introduction of an entitlement into kindergarten from age 3 in 2017 (EC, 2022b).

104 Statistics Poland, Indicator K33/G255/P3227/745255

105 The Toddler Plus Programme (*Maluch Plus*), supported by the RRF and Cohesion Funds, aims to support local governments in the creation of a further 102,000 childcare places by 2029 from 190,000 places in 2021 (Statistics Poland, Nurseries and children's clubs in 2021).

106 The employment rate of older workers, despite recording a steady increase, is still 7.8 percentage points below the EU average (59.6 percent), with a much bigger gap for older women, at 12.4 percentage points below the EU average (53.4 percent). The reversal of the pension reform, bringing the statutory pension age of women to the lowest in the EU, has contributed to this low employment rate.

107 Eurostat indicator trng_lfse_01.

108 Labor-capital ratios may change with the advance of automation, robotization, and AI potentially reducing demand for labor, in particular low-skilled workers, negatively affecting employment and reducing wage pressures (Acemoglu and Restrepo (2019, 2020). Higher educated workers are more likely to adapt to the changing nature of jobs and are more likely to engage in jobs that contribute to the greening of the economy.

109 In 2023, 8.7% of Polish adults (25-64-year-olds) had participated in formal educational activities in the preceding 4 weeks, compared to 12.7% on average in EU countries (Eurostat, indicators). The results in this area in Poland have been constantly increasing in recent quarters - in the last quarter of 2023 they reached 9.3%. It is worth noting that the LFS survey does not facilitate a more accurate identification of adults' participation in non-formal education, which is the main area of educational activity of adults aged 25 and over, i.e. from completing traditional formal education pathways; for this reason, the European Adult Learning Index has been changed - from 2022 it is based on the reference of adult participation in education (education and training) to 12 months before the survey; however, the first results from the LFS study after this change were not announced by Eurostat due to unexpected methodological difficulties. The national study Balance of Human Capital indicates much higher results regarding adult participation in education - this is the result of moving away from the language associated with formal education to examining adult activity in education other than formal (non-formal). It should be emphasized that this is not only about research methodology. Better identification of adult activity in education other than formal education may contribute to improving the effectiveness of directions for supporting adult educational activity.¹⁰⁶ The share of young adults (aged 16-34) with basic or above basic overall digital skills was between 60-70% in 2021, compared to 40% of those aged 45-54, 20% of those aged 55-64 and 10% of those aged 65-74. Approximately 70% of those with tertiary education had basic or above basic skills, compared to 10% of those with lower secondary and above.

111 The share of young adults (aged 16-34) with basic or above basic overall digital skills was between 60-70% in 2021, compared to 40% of those aged 45-54, 20% of those aged 55-64 and 10% of those aged 65-74. Approximately 70% of those with tertiary education had basic or above basic skills, compared to 10% of those with lower secondary and above.

112 One idea was to provide educational vouchers as a way for government to support demand for further training. However, this system was never fully implemented. It functions now for the unemployed, but plays a marginal role on the current labor market.

113 Imposing and monitoring quality standards is crucial. In the formal education system, standardized curricula, systematic evaluations and learning outcomes assessments are the main tools for ensuring quality. However, while this system functions relatively well for general curricula, vocational training is too diversified. Vocational national examinations include more than 200 professions, with different curricula, requirements and examination options. The provision of formal and informal training is even more diversified. Multiple providers, mostly private, offer educational and training services of varying quality. For private training, competition between providers assures high quality. On the other hand, a recent survey of training providers shows they are rarely looking for quality improvements and are satisfied with the status quo (Górniak et al., 2022). For government-financed training, ensuring quality depends on the effectiveness of the internal process of quality assurance, which is challenging due to lack of standards and quality assurance organizations.

114 The advantage of decentralized provision is that adults can choose from a variety of options to update their skills. However, there are also important coordination costs of the government institutions, employers, educational and training institutions and adults. Multiple ministries and government agencies provide similar training programs, while supply of training in other areas is often missing or is underfunded. This supply-driven approach has also resulted in the overprovision of certain options.

115 Educational tasks related to running schools and educational institutions by local government units are financed from the revenues of local government units. One of the revenues of local governments is the educational part of the overall State-budget subsidy (along with targeted State-budget subsidies and own income). The amount of the educational subsidy cannot be directly related to the educational tasks imposed on local government units. There is no provision in the current legal system stating that the state budget guarantees, within the educational part of the overall State-budget, funds to cover all expenses for the implementation of educational tasks of local government units. The final level of expenditure incurred by local government units for the implementation of educational tasks is a consequence of a number of decisions made by these units regarding the system of organizing education in their unit. The state budget cannot subsidize all costs of implementing educational tasks. For this reason, other sources of income than transfers from the state budget (overall State-budget school education subsidy and targeted State-budget subsidies) have been established for local governments, i.e., among others: shares in PIT (personal income tax) and CIT (corporate income tax). Analyzing the ratio of current educational expenses (excluding investment expenses) to the part of local government revenues including educational subsidies plus subsidies from the state budget in 2023, it improved and decreased by 2,24 percentage points compared to 2022 (in 2023 the indicator was 121,28 vs 123.53 in 2022). This means that the degree to which expenses are covered by subsidies and targeted subsidies from the State increases (local governments must

contribute less from their own revenues).

116 In 2015, 12% of all Polish firms provided training to their employees. This increased to 18% in 2019, similar to Austria, Latvia, and Estonia and just below the EU average. A culture of firms actively supporting training for employees could be strengthened – 32% of firms had a training budget in 2021. Only one in three firms conducts an assessment of skills deficits among employees systematically while 44% do so occasionally. Around a fifth of firms did not offer any training to staff in 2021, with most of those firms reporting a lack of need to upgrade skills (BKL, 2022).

117 Insufficient emphasis on work-based learning, along with inadequately trained and supported teachers, outdated infrastructure, and limited consideration of labor market needs, contribute to issues of quality and relevance, and stand in the way of a greater contribution of TVET systems to employability (World Bank, ILO, UNESCO, 2023).

118 In order to encourage students to take vocational education, especially in demanded fields and to support vocational schools the Ministry supports chosen occupations with a higher subsidy (Pater et al., 2023). The chosen occupations are based on the annual forecast of the demand for employees in vocational education occupations in the light of the Act of December 14, 2016 Education Law (Dz.U. of 2020, item 910 and 1378 and of 2021, item 4), as well as the Act of September 7, 1991 on the education system (Dz.U. 2019, item 1481, 1818 and 2197). The forecast is made annually by the Ministry of Education and Science on the basis of research results obtained from the Educational Research Institute (Pater, 2023 and Ministry of Education and Science 2023). This is a tool that aims to support local governments in preparing an offer for vocational education that meets the needs of the market, as well as the main material for vocational schools, which on its basis can propose new courses of education and develop current ones. Alongside the increased subsidy, the forecast is also used by the regional labour market councils to give opinions on the legitimacy of education in a given occupation. Also, the regional governments should take into account the information from the forecast in the annual list of occupations for which vocational training of juvenile employees can be reimbursed.

119 In 2021 the number of employees in vocational education occupations was estimated by Statistics Poland at 1.6 million workers based on the “Labour market demand for employees by occupation” survey (Statistics Poland 2023). According to this survey the number of employees in Poland was estimated at 12.1 million workers. The number of job vacancies (flow in 2021Q1) was estimated at 62,500 (423,900 for all occupations). This indicates that 14.7% of all job vacancies in Poland were directed to vocational education graduates.

120 Powiat LOs provide employment services to registered unemployed, jobseekers, and workers at risk of losing their jobs. Based on the jobseekers’ profile, Powiat LOs provide a wide menu of employment services and programs, including job search assistance; job matching; career counseling; identifying, organizing, and financing of vocational training; internships and scholarships; initiating and subsidizing of additional job creation (wage subsidies), and payment of unemployment benefits.

121 Eurostat, indicator ilc_lvho02. (accessed July 2023). 83% of residents live in owned housing in Poland, compared to 70% on average in the EU. By contrast, in Germany there is an almost 50-50 split, while Austria has 54% ownership and 46% rental.

122 Polish households are among the largest (2.8 people on average) while having among the smallest amount of space per person (1.1 room on average), with EU averages respectively 2.3 persons and 1.6 rooms per person. Eurostat, indicator ILC_LVHO05A (accessed July 2023). An individual is considered to live in an overcrowded dwelling if the number of rooms in that dwelling fails to meet any of six criteria established by the household size and demographic composition.

123 The concept of “affordable housing” is not defined in the Polish legal framework. In this document it encompasses both municipal housing for the poorest (*mieszkania komunalne*) and social rental housing (*mieszkania społeczne*), as well as the broader supply of private housing that is directed to lower-income households. As such, affordable housing may be constrained due to both limited supply of municipal or social rental housing, or due to tightness in the broader housing market – particularly the rental segment – which drive up prices. The legal definition of social rental housing is included in the Act of July 20, 2017, on the National Real Estate Stock. It states that social rental housing meets three conditions: i) access to residential units is based on non-market principles determined by public authorities, ii) during construction, reconstruction, or use of buildings, entities implementing investments or maintenance receive support from the National Real Estate Stock or public funds, iii) it is run by entities whose main objective is not to generate profit.

124 Furthermore, despite a deficit of rental housing, the recent census revealed a substantial number of units remain unoccupied (PIE, 2022).

125 Housing costs, as a share of total disposable income, fall just below the EU average in Poland. These low figures reflect a relatively high share of ownership, consisting predominantly of outright ownership. Among those that rent, housing cost overburden rates are significantly higher, particularly in densely populated urban areas (Eurostat, indicator ilc_meded01). Housing costs constituted 17.9% of total disposable income, as estimated in the EU-SILC 2021, compared to the EU-27 average of 19.4%, and the housing cost overburden rate was 6.7% in cities, compared to 10.8% in the EU-27. The housing cost overburden rate is the share of the population living in a household where total housing costs represent more than 40% of disposable income (Eurostat, indicator ilc_lvho02). The share of households reporting owning their own homes in Poland is substantially higher than the EU average, at 87% of the population in 2021, as estimated in the EU-SILC of 2022, compared to the 69% EU-27 average, and 74% reported owning their home outright, with no outstanding mortgage or loans. As a consequence, only 13% of households reported renting their home – compared to 53% and 23% in neighboring Germany and Czechia respectively.

126 In 2020, there were approximately 807,000 municipal dwellings (for the poorest) in Poland (an over 50% decrease from 1.7 million in 1995) and an additional 106,000 affordable units (i.e., 5.4 and 0.7% of the housing stock respectively) (Nykiel K., (2022), Niedobór mieszkań wciąż występuje, ale większym problemem jest ich jakość, dostępność i lokalizacja in Kucharczuk J., and Musiałek P. (2022) *Lokalna alternatywa Jak wybudować w Polsce brakujące mieszkania?* Klub Jagielloński, Raport 4/2022). Municipal housing is present in every city, while housing available through the social rental formula is present in approximately 25% of cities and some rural communes. Furthermore, there are significant sections of social housing stock that are unoccupied due to their poor condition, with an estimated 7.7% of social housing units owned by the biggest cities unoccupied (Eurofound, 2023). The number of people on social housing waiting lists are estimated to be considerable, with 136,000 waiting for municipal housing in 2020 (Eurofound, 2023).

127 In 2020, 48.6% of municipal apartments had rent arrears.

128 <https://www.gov.pl/web/rozwoj-technologia/narodowy-program-mieszkaniowy>.

129 The Social Rental Housing preferential credit (financed from the state budget and managed by BGK) offers up to PLN 450 million per year for construction of affordable housing (<https://www.bgk.pl/samorzady/mieszkalnictwo/kredyt-preferencyjny-sbc/>). This program can be complemented by beneficiaries (e.g., municipalities, TBSs, SIMs) with state-financed grants from the Subsidy Fund. On July 1, 2023, a new instrument for individuals was launched, the '2% Safe Loan' (<https://www.gov.pl/web/rozwoj-technologia/bezpieczny-kredyt>).

130 Poland took steps towards incentivizing multi-family buildings (MFBs) retrofits; the Thermo-modernization Fund was established in 1999 and morphed into the Thermo-modernization and Renovations Fund in 2008. These measures provided important support though of limited scope. The current "TERMO" program offers different instruments: i) thermo-modernization bonus with option thermos-modernization grant, ii) renovation bonus, iii) compensation bonus, iv) municipal housing stock bonus with an option municipal housing stock grant, and v) RES grant. These are mostly targeted at MFBs and most of the social housing units are in this type of housing stock. Single-family buildings are covered by a separate Clean Air Priority Program. The "municipal housing stock bonus" with an optional "municipal housing stock grant" (polish: premia MZG and grant MZG) have been operational since the end of 2022 and provide municipalities with financial incentives to retrofit municipal housing stock in multi-family buildings if all units belong to the municipal stock. The grant element of the "TERMO" program instruments is financed through the NRRP and available till June 2026 <https://www.gov.pl/web/rozwoj-technologia/wspieranie-termomodernizacji-remontow-i-oz>.

131 Currently, some 9,000 municipal housing units and 19,500 housing units (mostly social rental constructed by TBS/SIM) are under construction. Data from the Ministry of Development and Technology, as of 30-04-2023.

132 In 2020, only 42.9% of municipal apartments had central heating, and only 91% had access to sewage systems. In the same year, repair works were carried out in only 4.4% of municipal apartments, and modernization (defined as equipping with at least one new device) was done in 1% of the total.

133 Subsequent to the legislative reform, every locality was obliged to prepare a "studium" (a spatial development strategy covering the whole municipal territory), but such studiums did not constitute local law. Conversely, spatial plans, which had the force of the law, could be prepared by a local administration but were not obligatory. Another major change introduced by the 2003 law granted municipalities the power to issue administrative decisions on the construction conditions of a given plot (Polish: *decyzja o warunkach zabudowy*) that could replace the stipulations of studiums (but not of the spatial plans). Since spatial plan coverage in Poland is low (around 30 percent of the country's territory, albeit with significant geographic variation) and studiums are often outdated (15-20 years old), their provisions are frequently overridden by individual administrative decisions on the construction conditions for a given plot.

134 There are three main social assistance cash benefits: the periodic allowance, the permanent allowance and special-purpose benefits. Family benefits include a range of programs administered by *gmina* level social assistance centers, notably the means-tested family allowance and supplements

to this (*Zasiłek rodzinny* and [Dodatki do zasiłku rodzinnego](#)), and by the social security provider ZUS, including the Family 500 Plus Programme (*Program Rodzina*), the “good start” program (*Program Dobry Start*), family care capital (*Rodzinny kapitał opiekuńczy*), the housing allowance (*Dodatki mieszkaniowe*) and energy allowance.

135 Eurostat indicator spr_exp_sum. Last accessed July 2023.

136 Also, GUS indicator K22/G553/P3536.

137 World Bank staff estimates using the Household Budget Survey.

138 GUS indicator K22/G553/P3536. A household that benefits from social welfare benefits is one that has received monetary benefits, non-monetary benefits or in the form of services through a social welfare center in accordance with the Law on Social Assistance, dated 12 March 2004 (Journal of Laws 2020 item 1876), as amended d. (uniform text D.U. of June 29, 2016, item 930). The number of social assistance beneficiaries in Poland fell to 1,589,300 in 2020, 186,400 fewer than in 2019 (European Commission, 2023g).

139 GUS indicator K22/G477/P2992. Family benefits are defined according to the Act of 28th November 2003 on Family benefits. For the purpose of the indicator, these include family allowance, family allowance supplements, single payment birth grant, attendance benefits (care allowance, care benefit, special attendance allowance) and parental benefits. Data on family benefits were extended from 2017 to include other family benefits (alimony benefits, family relief).

140 The number of housing allowances decreased from 9.9 million in 2004 to 2.5 million in 2021 (GUS indicator K11/G335/P2173). The housing allowance is a temporary allowance, granted on the basis of the Act of 21 June 2001 on housing allowances. Social assistance beneficiaries continue to be strongly concentrated in the North-Eastern and Eastern voivodeships which have lower levels of urbanization and higher levels of extreme poverty and unemployment.

141 Also, GUS indicator K22/G553/P3536.

142 The decision is made based on a review of the social intervention threshold conducted every three years (pl. *próg interwencji socjalnej*). The threshold is set by the Institute of Labor and Social Affairs (pl. *Instytut Pracy i Spraw Socjalnych*), an independent research institute. The method of determining the threshold is established in the Regulation to the Act on Social Assistance, and the levels are subsequently used to inform government decisions on the income criteria for social assistance benefits. After the assessment of the social intervention threshold, the government can freeze or adjust the income thresholds and rules determining allocations. Family benefits are paid to families with children, conditional on their new income being below a specific threshold.

143 Also, World Bank analysis of Household Budget Survey.

144 World Bank staff analysis using HBS 2021.

145 Social assistance is both the responsibility of the national and local government administration bodies in Poland, requiring cooperation between the provision of standards by the Ministry of Family, Labor and Social Policy and the municipality charged with the delegated function.

146 Gaps in staffing, with 46% of social welfare centers exceeding the 50 families per worker indicator

required in the Social Assistance Act, and in the equipment and tools available, alongside poor remuneration levels, are contributing to frustration.

147 Only miners, people working in special conditions or having occupations with a special character who were employed before 1999, teachers, and people who had full job tenure in special conditions before the end of 1999, can retire below the legal retirement age.

148 Between 1990 and 2006 the life expectancy of men at retirement age increased by three years – from 16 to 19 years. The increase of the effective retirement age after 2009 led to decreases in the potential duration of receiving the benefit for men to around 16 years in 2018. After the COVID-19 pandemic and the large number of excess deaths, the life expectancy of men at actual retirement age declined to 14.2 years. In the case of women, between 1990 and 2006 life expectancy at retirement age increased from 23.3 years to 26.2 years, and to 28 years in 2007. By 2018, it declined to 23.4 years and during the pandemic it fell further, to 22.1 years.

149 Pension indexation is based on the CPI and a fifth of annual average wage growth.

150 The gender gap in pensions is related to both labor market factors, notably shorter working lives and lower average wages, and pension system related factors.

151 <https://www.eea.europa.eu/themes/air/urban-air-quality/european-city-air-quality-viewer>

152

153 Respiratory illness caused by exposure to fine particulate matter has resulted in approximately 36,500 premature deaths in Poland (European Environment Agency, 2022). Poland contributes disproportionately to the number of premature deaths attributed to PM_{2.5} exposure in the EU-27, accounting for 15.3 percent of all premature deaths in 2022, while only accounting for 87.6 percent of the population. However, its contribution to deaths from NO₂ and O₃ exposure is lower than the average.

154 A 2018 report by Poland's Supreme Audit Office (NIK, 2018) criticizes the number and effectiveness of current inspections. In most municipalities, only a low number of household inspections are implemented, given the limited number of inspectors assigned to control tasks and the high costs of laboratory evaluations of the quality of solid fuels burned in households – up to EUR 150 per sample. In general, offices in large cities carry out significantly more checks than smaller municipalities. The least number of inspections is carried out in rural municipalities where an average number of 0.5 inspections was carried out per municipality in 2018 (Portal Komunalny.pl. 2018).

155 Municipal guards are municipal police forces that are funded and administered by some municipalities in Poland, depending on their size and financial resources. Not all municipalities maintain municipal guards.

156 For example, in 2017, 12,000 furnace inspections were carried out in Małopolska region in municipalities with municipal guards, compared to 450 inspections in communes without guards.

157 Within the road sector, around half of the GHG emissions come from passenger cars, with the other half coming from light and heavy commercial vehicles and buses.

158 In the EU, the circular economy is defined as an economic system where the value of products, materials, and other resources is maintained for as long as possible, thus reducing their environmental impact and minimizing waste and emissions. In the context of the EGD the EU adopted its second Circular Economy Action Plan (CEAP) in 2020 as part of its industrial strategy, calling for a product-focused policy framework aimed at improving product design, empowering consumers, and public buyers, and promoting circularity in production processes. The transition to a more circular economy (CE) is an integral part of the EGD and of the EU's Industrial Strategy.

159 World Bank Global Facility for Disaster Reduction and Recovery.

160 The Polish CAP Strategic Plan envisages capacity-building programs, knowledge-sharing platforms, and financial incentives to encourage farmers to adopt green transition practices and technologies, particularly in lagging rural areas. With its CAP Strategic Plan 2023-2027 (EUR 22.1 billion from the EU budget and EUR 3.1 billion from national funding), Poland aims to support sustainable development of farms, including through voluntary eco-schemes; the processing sector; and improve living and working conditions in rural areas. It also aims to protect water, soil, air and biodiversity and promote the production and use of sustainable energy.

161 The Central Pensions Information platform (*Centralna Informacja Emerytalna – CIE*) aims to aggregate information across various accounts.

162 EU funding is available to EU Member States under the following EU instruments: Recovery and Resilience Facility, European Agricultural and Guarantee Fund, European Agricultural Fund for Rural Development, Cohesion Policy and Just Transition Fund.

163 Poland has not yet fulfilled the Rule of Law horizontal milestone which affects disbursements of RRF Funds. The Rule of Law is also an enabling condition for Cohesion Funds and could affect disbursement of new EU Cohesion Funds. On November 21, 2023 the EC gave a positive assessment of the country's revised recovery plan, which includes green reforms and investments.