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Subnational Public Finances Assessment

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LIST OF ACRONYMS

APP	Air Protection Program
ASR	Anti-Smog Resolution
B[a]P	Benzo(a)pyrene
CIT	Corporate Income Tax
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
EGD	European Green Deal
EPL	Environmental Protection Law
ERDF	European Regional Development Fund
EU	European Union
FDP	Forcibly Displaced People
FEnKS	European Funds for Infrastructure, Climate, and Environment
FUA	Functional Urban Area
GUS	Główny Urząd Statystyczny (Central Statistical Office)
IFI	Independent Financial Institutions
IMF	International Monetary Fund
ITS	Intelligent Transportation Systems
JTF	Just Transition Fund
KPO	Krajowy Plan Odbudowy (National Recovery and Resilience Plan)
LGU	Local Government Unit
MFF	Multiannual Financial Forecast
KRRIO	National Council of Regional Audit Chambers
NECP	National Energy and Climate Plan
NFOŚiGW	Narodowy Fundusz Ochrony Środowiska i Gospodarki Wodnej (National Fund for Environmental Protection and Water Management)
NGO	Non-Governmental Organization
NIK	Najwyższa Izba Kontroli (Supreme Audit Office)
PESEL	Powszechny Elektroniczny System Ewidencji Ludności (Universal Electronic Civil Registration System)
PIS	Program Inwestycji Strategicznych (Strategic Investments Programme)
PIT	Personal Income Tax
PM2.5	Particulate Matter 2.5
PM10	Particulate Matter 10
PPP	Public-Private-Partnership
PPS	Purchasing Power Standard
RFIL	Rządowy Fundusz Inwestycji Lokalnych (Government Fund for Local Investment)
RIO	Regionalna Izba Obrachunkowa (Regional Audit Chamber)
SP-ZOZ	Independent Public Health Care Institution
ZMP	Związek Miast Polskich (Association of Polish Cities)

Executive Summary

1. Fiscal decentralization in Poland is critical to ensure access to public services, and to encourage local government (LGUs) units to manage resources efficiently while reducing regional developmental disparities. Poland's fiscal decentralization framework governs how fiscal responsibilities and financial resources are allocated between the central government and LGUs to ensure the efficient provision of public services and promote regional cohesion. However, local governments face challenges in ensuring efficiency, access, and equality in public services provision, and there is no comprehensive system to monitor spending efficiency and inform decisions that could lead to improvements. To improve the relationship between cohesion policy and local finance, a wider range of socioeconomic factors should be taken into account when classifying municipalities, rather than just their administrative status (rural, urban, urban-rural).

2. LGUs will face financial challenges due to demographic changes and internal migration, which will affect both their revenue and expenditure. Population decline and aging and out-migration, particularly in non-metropolitan areas, will impact growth and the cost of public services, while reducing the tax base. Poland has a lower population density than larger EU countries, leading to challenges in the efficient provision of public services. Metropolitan areas are attracting more people, contributing to the decline in population in nonmetropolitan areas, especially in rural and rural-urban municipalities in the eastern and central parts of the country. The migration of young people in general and women in particular is exacerbating the country's demographic challenges, leading to higher dependency ratios and a decline in birth rates and the workforce. Furthermore, LGUs' revenues are expected to decline due to the lower tax base, while expenses related to elderly care will increase, and labor shortages could affect the provision of care services. The changing demographics will also affect the demand for education services, even in regions that currently have a younger school-age population, impacting both spending and labor demand.

3. Changes in tax policies are having a significant and permanent impact on subnational financing. The "Polish Deal" tax reform of 2022 has lowered taxes on labor income, especially for low-income earners and those who delay retirement, resulting in a permanent decline in government revenues. These changes also have significant implications for how local governments are financed, because the modifications to the Personal Income Tax (PIT) and Corporate Income Tax (CIT) have resulted in a permanent decrease in shared tax revenue and an increased need for revenue compensation. The need for supplementary transfers to local governments that arose in 2021 and is persisting suggests that the current financing system may not be optimal. Inadequate financing of local governments may negatively impact their investment decisions and the quality of service provision, because they have limited tax autonomy and rely heavily on centrally administered taxes and transfers.

4. The central government has introduced discretionary financing measures that benefit primarily rural and urban-rural municipalities. Such municipalities have been the primary recipients of supplementary funds and grants from government investment programs. These financing flows are large, relative to the revenues of some of these LGUs, and some funds come from off-budget sources such as the COVID-19 Counteracting Fund that are not considered part of the state budget and thus not subject to parliamentary oversight and the provisions of the Public Finance Act. This creates more room for discretion and thus weakens transparency and accountability with regard to the distribution of public funds. Because rural and urban-rural municipalities have the largest gaps in basic infrastructure and the lowest capacity to mobilize resources for investment, providing additional

transfers to these municipalities may be necessary for cohesion and inclusiveness. However, any such transfers should take place by means of transparent processes and follow allocation, planning, and supervision criteria.

5. **Changes in the subnational public financing affect predictability, adequacy, and efficiency, while also increasing the complexity of the system.** Predictability has been negatively impacted by frequent changes to the financing system, as well as by an increase in ad hoc financing in response to LGUs' declining financial situations. The system for compensating revenue losses related to tax reforms is suboptimal. The bundling of transfers at the end of the year and the surge in investment funds to small rural and urban-rural municipalities with limited implementation capacity affect spending efficiency. Furthermore, the high fragmentation of projects, limited control, and a lack of tools for aggregating the procurement of goods and services may result in higher inefficiency related to public procurement. The complexity of the financial system for LGUs has increased significantly in recent years, partly due to (1) the complexity of the system for compensating for lost PIT and CIT revenues; (2) the application of different allocation rules, depending on the type of supplementary funds granted to LGUs; and (3) the introduction of additional conditions for obtaining specific funds.

6. **Fiscal transfers increase the rate of economic convergence in Poland.** While fiscal transfers, on average, do not stimulate overall economic growth, directing them toward less-developed regions can have a positive impact on economic activities and contribute to economic convergence. Indeed, the analysis in this report finds that net fiscal transfers have a strong positive effect on GDP per capita growth in net transfer receivers, implying that fiscal transfers positively impact regional economic convergence. The analysis also suggests that targeted allocation of fiscal transfers to poorer regions can effectively promote economic development and reduce regional disparities. Large macroeconomic shocks such as the global financial crises and the eurozone debt crisis hinder economic convergence.

7. **As the country's income converges to the average EU level, the importance of EU cohesion funds is expected to decline over the medium-to-long term.** EU funds have been an important source of funding for local development and cohesion since Poland's accession to the EU. However, because Poland's regions are becoming wealthier, EU funds allocations are likely to decline over time. In anticipations, local governments should explore alternative financing methods, including boosting own revenues.

8. **Despite having made significant investments, Poland still faces large infrastructure needs, including for the implementation of the European Green Deal (EGD).** Although progress has been made in reducing the gaps in basic infrastructure, some persist. The country's large investment needs are linked in part to the spatial distribution of the population, with almost 40 percent residing in rural areas, as well as the concentration of new settlements in such areas surrounding urban centers. Meeting the demands of universal access to water supply, sewerage, and quality roads will require significant investment, especially in rural and urban-rural municipalities that have limited revenue generation potential. LGUs, particularly towns and cities, will play a crucial role in implementing the EGD, especially in terms of building renovation, public transport, climate change adaptation, and the Just Transition Fund.

9. **The war in Ukraine has added to pressures on Poland's subnational finances, as demand for public services has increased with the sharp increase in the number of forcibly displaced persons (FDPs) in some LGUs.** Poland has provided unprecedented support to the FDPs from Ukraine, with a level of spending that is one of the highest, as a share of GDP, among EU countries. With roughly 1 million FDPs from Ukraine having settled temporarily in Poland these pressures are likely to remain. The large increase in population in some LGUs has dramatically increased demand for public services,

including for education, and for housing. Nearly 190,000 children from Ukraine were enrolled in schools and pre-schools in Poland in 2022/23 school year, mostly in Mazowieckie, Śląskie, and Dolnośląskie, although more than half of the displaced children from Ukraine are not in the Polish schooling system.

10. **Emerging pressures in education financing in Poland have resulted in cuts in investment and extracurricular activities spending.** The education system in Poland is highly decentralized, with municipalities playing a significant role in the managing and financing of primary education. The education system is efficient, with learning outcomes ranking among the top in the EU. While spending on education is in line with the EU average, a larger portion is allocated to tertiary education, and Poland spends less on primary and secondary education as a percentage of GDP than most EU countries. Recently, as the education subsidies from the central government have not kept pace with inflation, local governments have limited investments in educational infrastructure and extracurricular activities.

11. **There are significant variations in the education expenditures of different gminas and there appears to be no correlation between student learning outcomes and expenditures or cost-related factors.** Nearly 50 percent of the variations in gmina expenditure can be attributed to factors such as the type of gmina (rural or urban), school organization (class and school size), and objective cost-related factors reflected in the level of educational subvention. Additionally, the amount spent on education is linked to a gmina's income, with wealthier gminas spending more on their schools. The empirical results consistently show no significant relationship between any of these factors and student outcomes, including average scores and measures of inequity.

12. **Subnational fiscal rules and LGUs budget supervision by the Regional Audit Chambers (RIOs) ensure that LGUs' budgets are generally balanced while also limiting borrowing, resulting in a low subnational debt burden.** The fiscal framework has been put to the test by major events like the global financial crisis and the eurozone crisis, but public sector debt limits have not been breached. Although these shocks caused LGUs' debt to rise, quick remedial actions and economic recovery helped restore fiscal space. Despite the pandemic and the Ukraine conflict, local government debt has not been significantly impacted due to supplementary transfers received by LGUs. However, the effects of important changes such as the structural tax reform and amendments to the local government financing system, combined with the challenging macroeconomic situation, including weak growth and high inflation, may pose challenges going forward.

13. **Overall, the need for comprehensive reform of the subnational financing system has been made more acute by the recent tax reforms and increasing spending needs. Any such reform of that system would need to consider the following key aspects:**

- **Reform of own income** – Sufficient revenue autonomy is paramount to improving the public goods and services provision and ensuring accountability. Allowing elected authorities to set tax rates for a specific list of taxes outlined in national legislation would contribute to increased revenue autonomy. This approach would enable the wealthiest subnational governments, with sizeable tax bases, to finance most of their devolved expenditure responsibilities with their own revenues (UN-HABITAT 2015). In Poland, several policy options could increase LGU revenues autonomy (World Bank 2019): (1) introducing a local PIT that piggybacks on the administration of the national PIT, as is done in many European countries; (2) reforming the property tax rates and adjusting the assessment formula to better reflect differences in property market values and reforming valuation methods in order to narrow the gap between the assessed value and the actual market value of a property, especially in larger cities.

- **Intergovernmental fiscal transfers reform** – International good practices suggest that when designing equalization transfers, it is better to use the “fiscal gap” approach. This method takes into account the difference between estimated spending needs and the fiscal capacity of a particular LGU. Poland can improve its equalization system by shifting from fiscal capacity-based equalization to fiscal capacity adjusted to spending needs (World Bank 2019).
- **Improvements in governance** – Governance is an essential determinant of how efficiently costs of service delivery are shared, how service delivery is coordinated across local government boundaries, how easily residents and businesses can access public services, and of how accountable local governments are to their citizens and how responsive they are to the latter’s demands. Governance models typically align with the local and national context (UN-HABITAT 2015). Poland should consider enhancing the mechanisms pertaining to multilevel governance, whole-of-government coordination, and collaboration among LGUs. It is crucial to strengthen coordination and dialogue between LGUs and the national government to develop a comprehensive reform of LGU financing. The inefficiency in public investments, as described in IMF (2020), demands a revamping of public investment management. Additionally, monitoring systems can play a significant role in enhancing the overall efficiency of LGUs. However, the current perception of monitoring as a tool for control rather than for improving decision-making and policy implementation needs to be addressed. To this end, LGUs should be encouraged to adopt monitoring as a management tool and be supported in developing appropriate monitoring tools.

Chapter 1 – Trends and Challenges in Subnational Finances

1.1 Fiscal decentralization framework

14. **Poland’s fiscal decentralization framework governs how fiscal responsibilities and financial resources are allocated between the central and local government units to ensure the efficient provision of public services while strengthening regional cohesion.** It comprises the constitutional setup of the country, the division of powers between the different levels of government, fiscal rules and intergovernmental budget frameworks, the interministerial organization of fiscal decision-making, and the role of different bodies in shaping fiscal relations (OECD and KIPF 2015). LGUs accounted for 32 percent of general government spending in 2022. Municipalities’ budgets account roughly for three quarters of total public finances managed at the subnational level, reflecting the large number of responsibilities that have devolved to them, while counties and regions account for the remainder.

15. **In Poland, regional and local governments have a significant degree of spending autonomy.** Fiscal decentralization is enshrined in the country’s constitution and is further defined by laws and regulations. The government levels have clearly defined roles and responsibilities in terms of fiscal functions, including the generation and distribution of resources between and within them. Poland is a unitary country with a three-tier system of territorial organization and local government units (LGUs) play a vital role in providing public services. LGUs come in three types: municipalities (gminas), counties (poviats), and regions (voivodships), although some urban gminas (a total of 66) have county status, which affects their devolved responsibilities.¹ These LGUs differ in population size (table 1.1.), arising from their diverse socioeconomic potential as well as their varied historical and cultural contexts.

Table 1.1 Territorial organization of Poland, January 2022

	Municipal level – gminas	Intermediate level – poviats		Regional level – voivodships
		Cities with poviat status (city counties)		
Number of units	2,411	66	314	16
Population size – (2021):				
• Mean	10,562	188,515	81,101	2,369,232
• Max	95,740	1,863,056	436,473	5,512,794
• Min	1,183	32,743	18,992	948,583
• Median	7,164	104,953	70,101	2,062,116

Source: GUS website.

Note: In the group of urban municipalities there are 66 cities with county status (city counties) that have the responsibilities of both administrative levels.

16. **Fiscal decentralization can enhance the efficiency of public service delivery, promote accountability, and encourage competition among local governments to improve public services.** LGUs have an advantage over the central government in terms of their knowledge of citizens’ needs

¹ In Poland, there are three categories of municipalities: urban, rural, and urban-rural. Urban municipalities cover the exact boundaries of the towns forming the municipalities, rural municipalities do not have towns within their areas, and urban-rural municipalities encompass both towns within the administrative boundaries and rural areas outside the towns.

and preferences. This advantage, coupled with the fact that the costs and benefits of public services delivered at the local level are fully internalized, contributes to increased allocative efficiency. Fiscal decentralization also promotes stronger accountability, particularly in the social sectors, which further enhances productive efficiency. However, weak accountability can lead to political rent-seeking behavior and inefficiencies in nonproductive expenditures. According to the “voting with one’s feet” hypothesis, fiscal decentralization can foster competition among LGUs to improve public services, because voters can assess the performance of leading LGUs and make inferences about the competencies of their own local authorities.

17. Local governments depend heavily on the central government for their revenue and have very different fiscal capacities, and as a result fiscal equalization transfers play an important role.

LGUs’ revenues in Poland come mainly from four sources: (1) own-source tax revenues (property tax in the case of municipalities, taxes on agricultural lands, forests, large vehicles, and duties); (2) PIT and CIT tax sharing; (3) grants, including general-purpose grants and conditional (earmarked) grants; and (4) nontax own-source revenues, including user tariffs and fees, revenue from property, leasing and sales (figure 1.1 and table 1.2).² Municipalities are the sole tier of LGU in Poland that have any autonomy in terms of tax policy. Subnational tax revenues represent around 4.5 percent of GDP and less than 13 percent of total tax revenues. Shared taxes come from PIT (48 percent of subnational tax revenues) and CIT (9 percent of subnational tax revenues) and are shared with all three levels of subnational government in a fixed proportion of the proceeds collected within the territory of each jurisdiction (OECD 2021). However, LGUs have no influence on the parameters of PIT and CIT. In 2021 the share of local governments in PIT revenues stood at 51.2 percent and for CIT at 22.86 percent.

18. LGUs receive an average of 45 percent of their total revenues from transfers that consist of grants and subventions. The general-purpose grant consists of four main parts: (1) education share (20 percent of subnational government revenues and 75 percent of general subventions);³ (2) equalization share (5 percent of subnational revenues);⁴ (3) balancing share (for municipalities and counties), based on social expenditure;⁵ and (4) regional share. Some municipalities also receive “compensation” grants for lost property tax revenues due to special economic zones. Conditional grants are used to cofinance local government tasks and finance tasks delegated to local governments by the central administration (including social assistance). These grants also include most of the EU grants.

19. Fiscal equalization is a long-established practice in Poland. Since the decentralization reform, LGUs with lower revenues have received transfers to even out the differences in their fiscal capacity. There are two forms of fiscal capacity equalization: vertical and horizontal. The general-purpose grant, which is disbursed out of the national budget, represents a form of vertical equalization. Horizontal equalization of revenue capacity— the balancing part that introduces horizontal equalization (“Robin Hood” payments) between LGUs— takes different forms for each tier.⁶ Starting in 2023, an additional so-called development subvention was introduced. It was intended to compensate for the lost

² Shared taxes are reported as part of own income. The international literature is ambivalent about whether shared taxes should be treated as own revenue or vertical transfers.

³ The education share covers educational expenses, including teachers’ salaries.

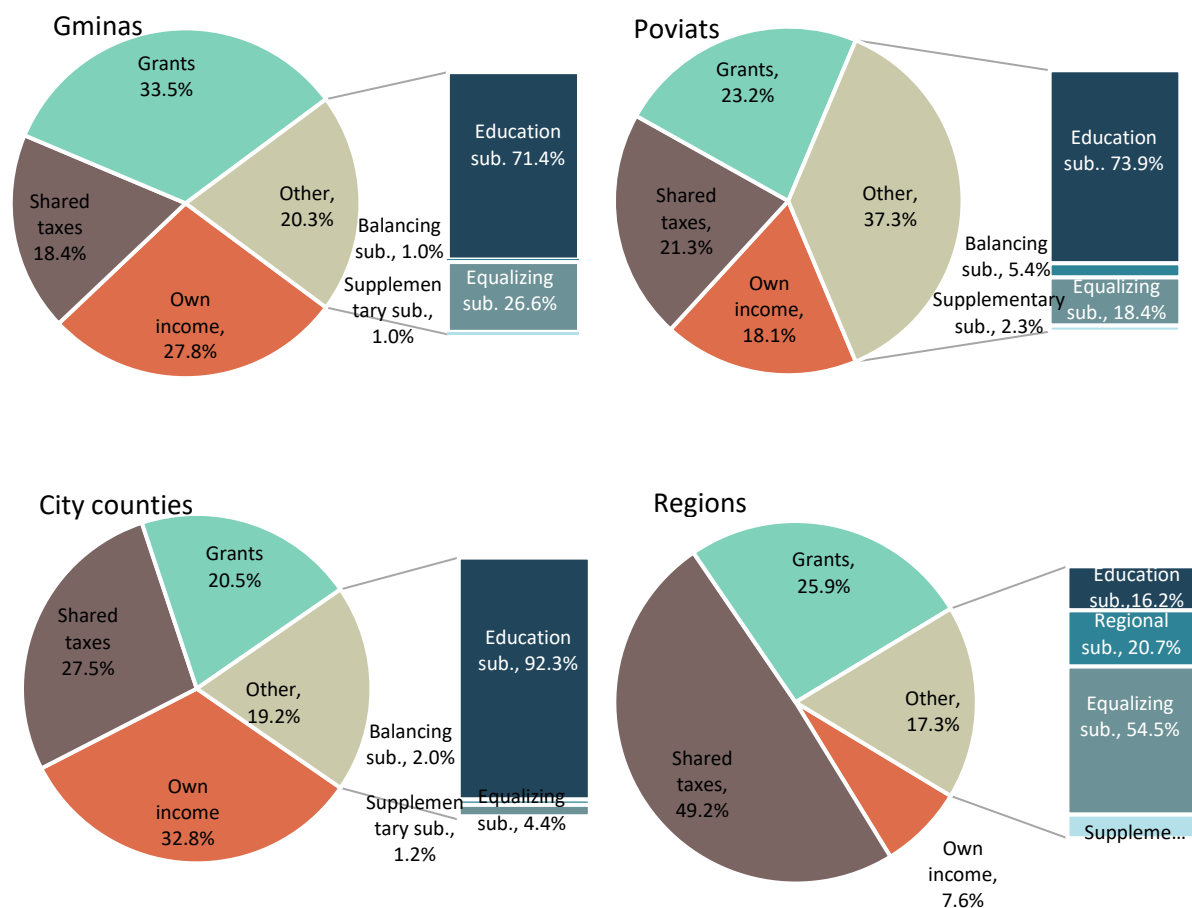
⁴ This type of share is allocated to all LGUs with below-average tax capacity and the grant is determined based on population and tax capacity.

⁵ The balancing share considers per capita GDP, the road density per capita, and the unemployment rate in the area.

⁶ For a detailed description of the equalization system, see World Bank 2019.

revenue from shared taxes as a result of tax reform. Large financing gaps at the LGU level prompted the government to pay the 2023 subvention ahead of time in 2022.⁷

FIGURE 1.1 LGUs' Revenue Sources in Poland, 2022



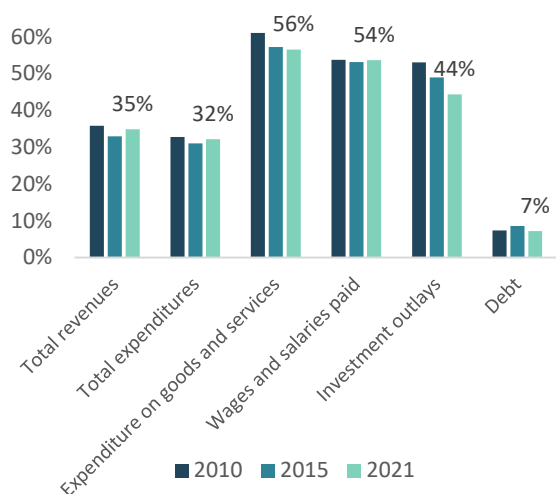
Source: Ministry of Finance.

20. In Poland there is an asymmetric decentralization of revenues and expenditures between central and local governments that results in important vertical fiscal gaps. This is in line with other decentralized countries, as certain taxes are more effectively managed by the central government, while local governments are better equipped to provide public services that meet the needs of citizens. Local government units play a crucial role in delivering public services in Poland, as demonstrated by their significant contributions to spending on goods and services, wages and salaries, and public investments, with LGUs responsible for over 55 percent, over 54 percent, and over 40 percent of general government spending in these areas, respectively (figure 1.2).⁸ In certain areas such as social housing, recreation and sports, and environmental protection, local government investments make up 80 percent or more of the government's total expenditures (figure 1.3).

⁷ The distribution of funds did not follow the established criteria and instead relied on the income level of the LGUs from PIT. Additionally, because there was no legal framework for allocating these funds as development subsidies, they were recorded as part of the LGUs' PIT income.

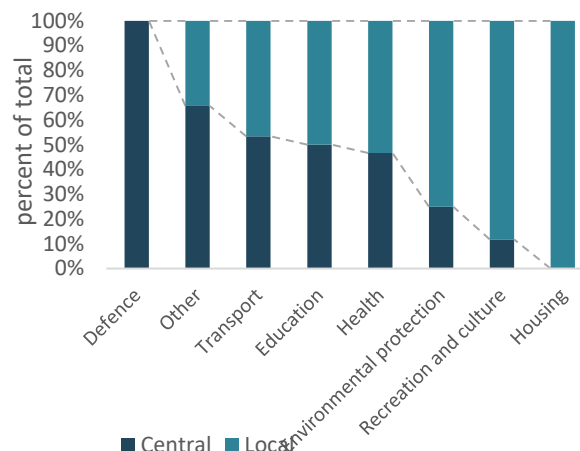
⁸ In terms of spending, Poland ranks slightly below the EU average, where 55 percent of spending occurs outside of the central level. The EU's average is boosted by federal states with a high emphasis on investment spending at the "state" level, which is not currently the case in Poland.

FIGURE 1.2 Local Governments' Shares in General Government Spending



Source: WB staff analysis based on Eurostat data.

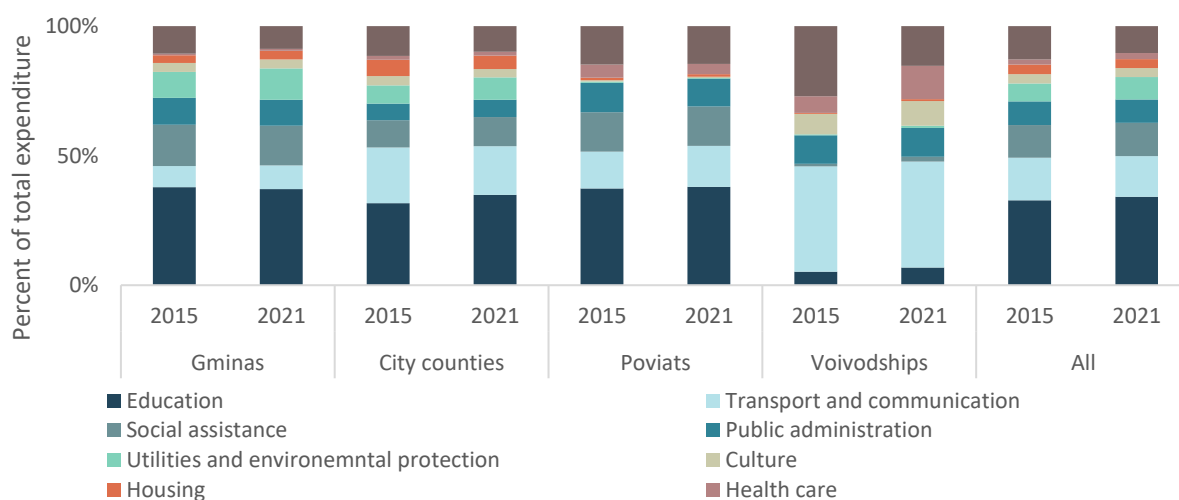
FIGURE 1.3 Shares of Central and Local Government Investment by Area, 2016–20 average



Source: WB staff analysis based on Eurostat data.

21. **Local governments play a critical role in spending on local public goods and services and have a high level of autonomy in decision-making (figure 1.4).** Municipalities are responsible for spatial planning, infrastructure development, public utilities, housing, social services, education, environmental protection, basic health care, recreation, and culture. Counties are in charge of expenditures related to secondary education, health, social welfare, economic activity, and job creation. Regions deal with issues of regional importance determined by law, but do have a limited role in offering public services.⁹ Additionally, regions are responsible for implementing a significant part of European cohesion policy since the EU accession through the EU cohesion funds. However, the high spending power of local government units with limited revenue autonomy may encourage fiscal profligacy, which can soften the budget constraint (World Bank 2017).

FIGURE 1.4 LGU Expenditure by Function*, 2015 vs. 2021



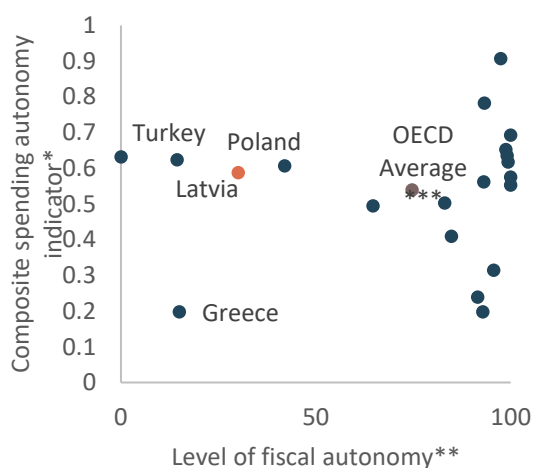
Note: * Excluding expenditure on benefits related to the Family 500+ program.

Source: Eurostat (COFOG data)

⁹ See annex 1 for more details on the division of responsibilities.

22. Over the years, local governments have seen a reduction in their decision-making authority, with certain responsibilities now delegated to other parties. For example, Wody Polskie, a non-LGU agency, is now responsible for making decisions concerning certain fee regulations, while voivods handle investment expenditure decisions related to healthcare.¹⁰ Furthermore, the introduction of new regulations, such as those related to spatial management and planning, have further limited the decision-making powers of LGUs in this area. Additionally, education superintendents have increased their oversight in the education sector, as per the Fundacja Batorego report of 2023.

FIGURE 1.5 LGUs' Revenue and Spending Autonomy in OECD Countries



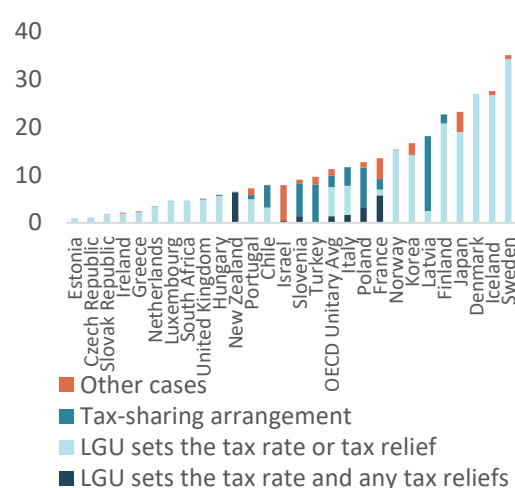
Source: Fiscal Federalism 2022, OECD 2021.

Note: * Scale is 0 to 1 (most centralized to most decentralized), 2019 data.

** Fully or partially autonomous local taxes as percent of total LGUs' tax revenue, 2018 data.

*** Only unitary countries are included in the graph and the average.

FIGURE 1.6 Tax Autonomy—Subnational Taxes as Percentage of Total Tax Revenue, 2018



Source: Fiscal Federalism 2022, OECD 2021.

23. Compared to other OECD countries, local government revenue autonomy in Poland is limited (figure 1.5). This is partly because LGUs have limited discretion in establishing their own sources of revenue. It is crucial for local governments to have the freedom to raise their own revenues to avoid relying heavily on transfers from the central government. This reality could discourage local governments from utilizing their own resources. LGUs only contribute about 12 percent of the total tax revenue, and just 30 percent of this revenue comes from taxes that local governments have complete or partial autonomy over. The lack of autonomy in taxation is due to the high proportion of shared taxes (PIT, CIT), where rates and exemptions are determined by the central government (figure 1.6). Only gminas have the power to impose locally administered taxes like the real estate tax, which makes up 75 percent of locally administered taxes. This tax applies to buildings, land not subject to taxes on agriculture or forests, and other assets, including residential buildings, factories, and other commercial buildings. The central government sets a ceiling on the tax rate, which is levied as a fixed amount per square meter, adjusted annually for inflation. However, this tax structure results in low revenue collections compared to other countries and is unrelated to the market prices of properties,

¹⁰ Voivods are the representatives of the central government in each region (voivodship).

especially in larger cities (World Bank 2019). Subnational governments can also earn revenues from fees (licenses and permits), user fees, and rental charges on local government property.

Table 1.2 LGU Revenues, 2022 (PLN, billion)*

	Gminas	City Counties	Poviats	Voivodships	Total
Total**	160.2 (100%)	105.0 (100%)	38.9 (100%)	24.6 (100%)	328.6 (100%)
Own income	79.4 (50%)	66.4 (64%)	15.3 (39%)	14.0 (57%)	175.2 (53%)
Shared taxes	31.7 (20%)	30.3 (29%)	8.3 (21%)	12.1 (49%)	82.4 (25%)
PIT	30.1 (19%)	26.7 (26%)	8.0 (20%)	2.3 (10%)	67.2 (21%)
CIT	1.5 (1%)	3.5 (3%)	0.3 (1%)	9.8 (39%)	15.2 (4%)
Other own income	47.7 (30%)	36.1 (35%)	7.0 (18%)	1.9 (8%)	92.8 (29%)
Property tax	17.4 (11%)	10.6 (10%)	0 (0%)	0.0 (0%)	28.1 (9%)
Other own income	30.2 (19%)	25.5 (25%)	7.0 (18%)	1.9 (8%)	64.7 (20%)
Transfers**	80.8 (50%)	38.6 (36%)	23.6 (61%)	10.6 (43%)	153.4 (47%)
Subventions	34.9 (22%)	21.2 (20%)	14.6 (37%)	4.3 (17%)	74.9 (23%)
Educational	24.9 (16%)	19.6 (19%)	10.8 (28%)	0.7 (3%)	55.9 (17%)
Other subventions	10.0 (6%)	1.6 (1%)	3.8 (9%)	3.6 (14%)	19.0 (6%)
Grants**	45.9 (28%)	17.4 (16%)	9.0 (24%)	6.4 (26%)	78.7 (24%)
From COVID/Aid Funds	19.8 (12%)	4.1 (3%)	1.8 (5%)	0.1 (<1%)	25.8 (8%)
Other	26.1 (16%)	13.3 (13%)	7.2 (19%)	6.3 (26%)	52.9 (16%)

Source: WB staff analysis based on Ministry of Finance data.

Note: * Share of total revenue is given in brackets; ** excluding grants for the Family 500+ program.

24. **There are still unaddressed weaknesses in the equalization mechanism.** Among its primary flaws are that (1) it imposes a high marginal contribution rate on the developed regions that must make net transfers to the pool of resources to share, thus creating inefficiencies and distorting incentives to increase LGU fiscal capacity; (2) the criteria governing the distribution of shared resources do not take into account spending needs, which is arguably at odds with the objectives of closing asymmetries in service delivery and promoting fairness; (3) it is highly sensitive to information lags and the domestic economic cycle and thus fails to consider the current fiscal circumstances of Poland's LGUs; and (4) it is overly complicated (World Bank 2019; Swianiewicz 2021). In response to complaints from multiple LGUs, the Constitutional Tribunal declared some regulations of the current horizontal equalization system unconstitutional in 2014. The government was ordered to prepare a reform proposal to address these unconstitutional provisions, but so far no significant changes have been made.

25. **Recent changes to the personal and corporate income tax systems have had a significant impact on the revenue of local governments, because shared taxes play an important role.** The amount of PIT and CIT revenues that local governments receive is based on the jurisdiction where these revenues were collected.¹¹ Shared taxes are an important source of revenue, making up around 20 percent of revenues for gminas and poviats, nearly 30 percent for city counties, and 50 percent for voivodships. However, due to significant changes in the PIT since 2019 (box 1), the amount of funds available for LGUs has decreased by approximately 0.5 percent of GDP (Association of Polish Cities 2021). The structural tax reform implemented in 2022 will also have a significant impact on shared

¹¹ In 2021, PIT shares were 38.23 percent for municipalities, 10.25 percent for counties, and 1.60 percent for voivodships. CIT shares were 6.71 percent for municipalities, 1.40 percent for counties, and 14.75 percent for voivodships. The total share of LGUs in PIT was 50.08 percent, and in CIT it was 22.86 percent.

taxes, with the full effect being seen in 2023–24. In contrast, the CIT reforms have had a smaller impact on revenues; CIT only plays a significant role in regions and the changes have not had a significant effect on CIT revenues.¹² During the time of the reform, CIT revenues were boosted by the better financial situation of companies, as well as increased efforts to enhance compliance and collections.¹³ Changes in how top-up transfers are allocated to revenue categories by LGUs can impact local public finances and their transparency. For example, in 2022 PIT revenue reported by LGUs included a development subvention of approximately PLN 8 billion for 2023.¹⁴

Box 1 Major Changes to the PIT in Poland, 2019–22

2019¹

- There was a reduction in the basic PIT rate from 18 to 17 percent, along with an increase in deductible costs
- “Zero PIT” for individuals under the age of 26.

2020²

- In 2020, new PIT deductions for entrepreneurs and new CIT deductions related to intellectual property and R&D were put in place.
- A more favorable lump-sum form of taxation was made available, prompting taxpayers to choose this form of taxation, the revenue from which is not shared with LGUs.

2022

In 2022, a structural tax reform called “the Polish Deal” was implemented to make the tax system more progressive and provide funding for the National Health Fund. Additional changes were made to the reform in the second half of the year. The key changes were that:

- the basic PIT rate was reduced from 17 percent to 12 percent,
- the tax-free amount was increased to PLN 30,000
- the highest marginal tax rate (32 percent) income threshold was increased to PLN 120,000 from PLN 85,528, and
- health insurance contributions were no longer deductible.

The reform had a limited effect on the revenue of the central budget, because the decrease in tax revenue was balanced by an uptick resulting from the taxation of health insurance premiums.³ However, the reform has had a notable impact on LGUs, and its full impact will only be apparent by 2023–24.

¹ The changes were made during this year, but the impact was not fully visible until 2020.

² The changes were made during this year, with the impact becoming visible in 2021.

³ The forgone PIT revenues are estimated to have been nearly 1.02 percent of GDP in 2022 and to be 1.1 percent of GDP in 2023.

26. As a result of recent crises such as COVID-19 and the war in Ukraine, special funds operating outside of the state budget have become an additional source of revenue for LGUs, which has allowed for increased discretion in the distribution of transfers. The COVID-19 pandemic response was primarily spearheaded by the central government, though the LGUs did play a role in its implementation.¹⁵ To aid local governments during the pandemic fiscal and debt regulations were

¹² This is due to provinces’ having the largest share in the distribution of CIT and the relatively small base of other income in their case.

¹³ According to estimates by PIE, a government think tank, although the pandemic year 2020 saw an increase in the CIT gap, there has been a significant reduction over the last few years (PIE, “CIT gap in Poland,” Working Paper 2/2022).

¹⁴ The reason for this was the absence of an adequate legal basis and the government’s decision to make an expedited payment of the development subvention, which was originally not due until 2023. In addition, due to the lack of an adequate legal basis, transfers paid in 2020–21 under government investment programs were classified as LGUs’ “own income” rather than grants.

¹⁵ Poland declared a “state of epidemic emergency” and the response to the COVID-19 pandemic was coordinated by the Prime Minister’s office, with the support of crisis management bodies, including a newly created Scientific Advisory Council.

relaxed temporarily, such as those concerning the balanced budget and individual debt repayment ratio. Furthermore, LGUs were allocated an additional PLN 270 million in education subventions to facilitate remote learning by providing schools with necessary equipment. The COVID Fund supported the primary fiscal instrument, the RFIL, which allocated PLN 13 billion to LGUs to support their investments during 2020–21 (GUS 2022).¹⁶ Subnational governments have been facing a major challenge related to the war in Ukraine, due to the high number of forcibly displaced individuals (FDPs). In the first two months of the conflict alone, over three million Ukrainian FDPs, mostly women and children, arrived in the country, leading to an increased demand for housing and public services, especially in urban areas where FDPs constitute up to 20 percent of the population. Although the number of FDPs has decreased as some have returned to Ukraine, there are still around one million FDPs living in Poland. The Aid Fund was established to provide financial assistance to Ukrainian migrants, and, like the COVID Fund, is managed by the BGK, the state development bank, as a cash-flow fund. Importantly, the fund is not regarded as part of the national public finance sector and thus does not impact debt.¹⁷ LGUs received PLN 7 billion from the Aid Fund in 2022, PLN 1.6 billion of which was allocated for education-related tasks. The allocation of additional funds outside the budget is often at the discretion of central authorities and without well-defined criteria, which may raise concerns about favoritism and political motivations. Nonetheless, streamlining bureaucratic procedures has helped in the prompt disbursement of funds to LGUs.

1.2 Financial performance of local governments

As a result of the changes in the tax system, the revenue-to-GDP ratio has decreased to its lowest point since 2017

27. **In 2022, LGU revenues experienced a decline in real terms and as a percentage of GDP, despite receiving extra transfers from the central government. This was mainly due to the impact of the tax reform on PIT revenues.** LGU revenues, excluding the targeted grant for the Family 500+ program, amounted to 10.6 percent of GDP (PLN 328.6 billion).¹⁸ Despite LGUs' receiving additional funds in the latter half of 2022, including PLN 8 billion in development subvention originally planned for 2023, their revenue declined by 0.8 percentage points of GDP compared to 2021. Furthermore, the sharp rise in inflation in 2022 contributed to the first decline in LGU revenues adjusted for inflation since 2016 (figure 1.7).¹⁹

28. **Rural and urban-rural LGUs have seen a faster growth rate in revenue compared to other types of LGUs.** In 2022, municipalities experienced a rise in revenues of almost 2 percent, with the increase from 2015 to 2022 totaling 37 percent. City counties and provinces on the other hand saw less significant growth over this period, with 10 and 12 percent increases, respectively (figure 1.8). Moreover, city counties suffered a drop in revenue of nearly 8 percent in real terms in 2022. Municipal

¹⁶ LGUs received most of these funds (PLN 10.4 billion) in 2020 while the implementation of projects largely took place in subsequent years.

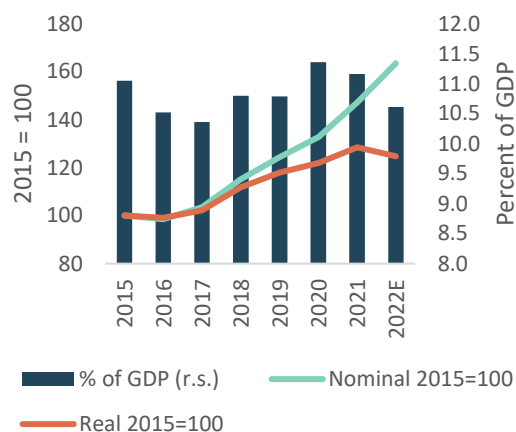
¹⁷ As defined within the framework of Polish law. According to the EU definition, both funds are included in the general government sector.

¹⁸ The grant for 2021 totaled PLN 40.6 billion. To ensure accurate data comparison, throughout the report we omit the grants when presenting figures for LGU revenues, because grants were only introduced in 2016 and grant amounts have differed across years. As of June 2022, the benefit payment has been transferred to the Social Security Institution (ZUS).

¹⁹ The decrease in revenue in 2016 was primarily caused by a significant reduction in investment grants. This reduction was partly a result of political changes, with a new government coming into power, and was also partly due to the phase of spending funds from the EU budget.

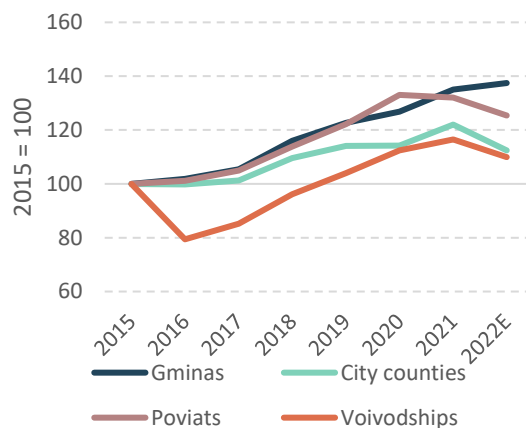
revenue increased by 0.28 percentage points of GDP between 2015 and 2022, while city counties' and voivodships' revenues decreased by 0.53 and 0.15 percentage points of GDP, respectively. The recent introduction of supplementary subventions has led to the allocation of funds to rural and urban-rural municipalities. These subventions and investment funds (figure 1.9) benefit smaller LGUs, which are given priority in the disbursement of government grants from investment programs such as PIS and RFIL, financed from the off-budget COVID Fund. This explains why rural and urban-rural municipalities experienced a faster revenue growth than city counties.

FIGURE 1.7 LGUs' revenues, 2015–22



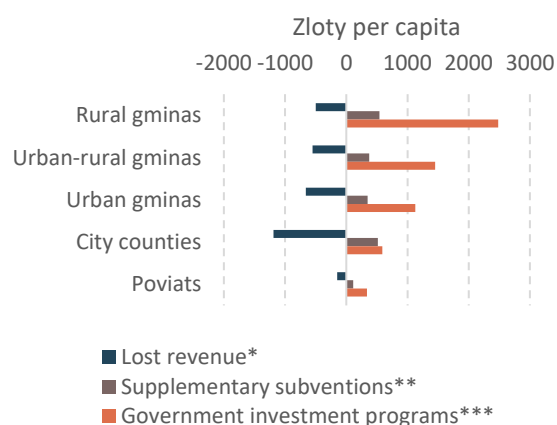
Source: KRRIO 2022b.

FIGURE 1.8 LGUs' revenue in Real Terms, 2015–22



Source: KRRIO 2022b.

FIGURE 1.9 Compensation of Lost Tax Revenue, 2019–22 (Cumulative)

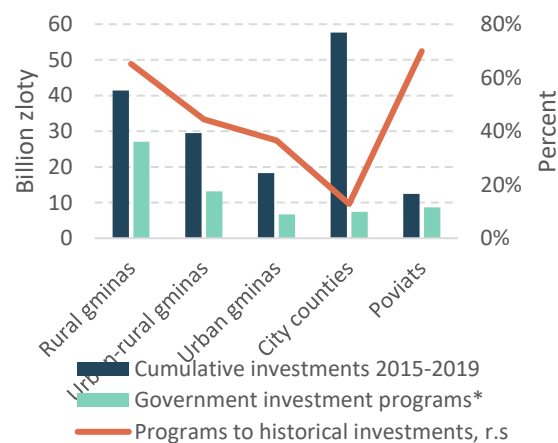


Source: WB staff calculations based on Ministry of Finance and ZMP data.

Note: * Due to tax changes, cumulative 2019–22; ** PLN 8 billion in 2021 and PLN 14.7 billion in 2022.

** RPIL and PIS.

FIGURE 1.10 Government Investment Programs Relative to Historical Trends



Source: WB staff calculations based on Ministry of Finance and ZMP data.

Note: * RPIL and PIS.

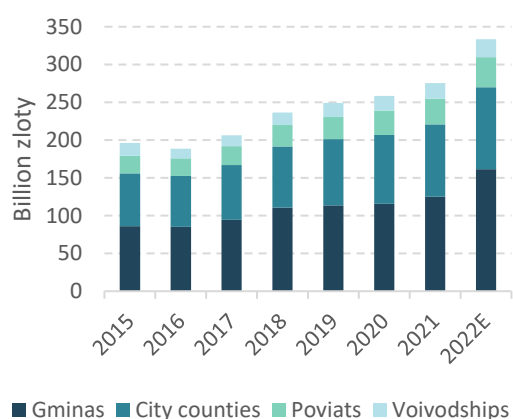
29. There are noticeable differences between rural and urban-rural municipalities in terms of the compensation they received for lost revenues. Some municipalities, even those with low per

capita tax revenue, have not received full compensation for lost PIT revenue. Others have received significant capital funds, but their lost current revenue have not been compensated. This has worsened the financial situation of these LGUs and indicates a lack of precision in income equalization efforts. However, the recent reallocation of transfers has favored rural and urban-rural municipalities, resulting in a substantial increase in funds for investment purposes (figure 1.10). This has raised concerns about absorption capacity and allocative efficiency. Furthermore, the additional funds are primarily directed toward regions with significant population outflow and rapid population aging, which may require central government support for infrastructure maintenance costs in the future.

Spending pressures are mounting, including in education

30. **Local government expenditure reached almost 11 percent of GDP in 2022.** Municipalities and city counties were responsible for 80 percent of the total expenditure, which amounted to over PLN 336 billion (figures 1.11 and 1.12).²⁰ Current expenditures were relatively stable, with the largest portion going toward wages and salaries and statutory responsibilities (table 1.3). In recent years, there has been a shift away from social benefits spending²¹ due to a favorable labor market. However, nonwage costs have increased due to inflation and debt servicing costs have increased fourfold due to higher interest rates and debt levels.²² Despite the increase, debt servicing costs only accounted for 1.5 percent of current expenditure in 2022, but they are expected to rise further in 2023 due to tighter financing conditions. Capital expenditure has exhibited greater volatility: in the period 2015–22 it fluctuated between 1.4 and 2.5 percent of GDP.

FIGURE 1.11 LGUs' Expenditure by Government Level, 2015–22



Source: KRRIO 2022b.

FIGURE 1.12 LGUs' Current and Capital Expenditure, 2015–22



Source: KRRIO 2022b.

31. **There was a noticeable increase in capital spending in 2022, mainly due to high inflation and new government investment programs.** Meanwhile, public local investment remained stable as a

²⁰ As in the case of revenue, expenses for care allowance payments under the Family 500+ program were omitted (PLN 17 billion in 2022).

²¹ With the exception of the Family 500+ allowance.

²² In March 2020, the NBP reference rate was lowered to 0.1 percent. It was maintained at that level until September 2021. The cycle of rate hikes— which began in October 2021—brought the NBP reference rate up to 6.75 percent by September 8, 2022.

percentage of GDP. In 2016, capital expenditure dropped significantly due to a decline in EU funds and a political transition. However, it rebounded in subsequent years and stabilized at around PLN 50 billion (figure 1.13). In 2022, capital expenditure rose by almost 25 percent, primarily due to increased costs, but only increased by 0.1 percentage points in terms of GDP. LGU investment expenditure is highly volatile, as it reflects EU funds spending cycles and domestic political cycles. Before local elections, capital expenditure usually rises as incumbents finalize their projects. The government has recently launched investment programs, mainly financed from the COVID Fund, that provide local governments with nonrefundable grants that cofinance between 80 and 95 percent of the investment (table 1.4). These programs have become a significant source of investment financing for municipalities: in 2021–22, for example, they accounted for 45–50 percent of total investment expenditures. However, the use of off-budget funds may weaken oversight, transparency, and public investment management, because these funds are allocated without in-depth analysis and the allocation mechanisms are not fully transparent.

Table 1.3 LGU Expenditure in 2022 (PLN, billion)*

	Gminas	City Counties	Poviats	Voivodships	Total
Total**	163.8 (100%)	109.3 (100%)	39.9 (100%)	23.8 (100%)	336.7 (100%)
Current expenditure**	131.8 (81%)	92.0 (84%)	32.1 (81%)	15.8 (67%)	271.7 (81%)
Wages and salaries	52.1 (32%)	37.4 (35%)	19.7 (49%)	3.9 (16%)	113.1 (33%)
Grants for current tasks	10.8 (7%)	12.0 (11%)	2.4 (6%)	6.6 (28%)	31.7 (10%)
Benefits to individuals	30.0 (18%)	7.8 (6%)	1.0 (3%)	0.2 (1%)	39.0 (12%)
Debt service	1.8 (1%)	1.9 (2%)	0.3 (1%)	0.3 (1%)	4.3 (1%)
Other	37.1 (23%)	32.9 (32%)	8.7 (22%)	4.9 (20%)	83.6 (25%)
Capital expenditure	32.0 (19%)	17.3 (16%)	7.7 (19%)	7.9 (33%)	64.9 (19%)
Investments and capital purchases	30.5 (18%)	14.7 (14%)	7.6 (19%)	7.5 (31%)	60.4 (18%)
Other	1.5 (1%)	2.6 (2%)	0.1 (<1%)	0.4 (2%)	4.5 (1%)

Source: WB staff analysis based on Ministry of Finance data.

Note: * The share of total expenditure of a given government level is given in brackets; ** excluding benefit payments from the 500+ program.

Table 1.4 Government Investment Programs and Funds Dedicated to Local Authorities

Program	Area	Scale	Main Sources of Financing
Government Road Development Fund	Roads and road safety infrastructure	PLN 3 billion per year (on average since 2019)	NFOŚiGW, subsidies from the state budget, and the State Forestry Enterprise ²³
Government Local Investment Fund	Wide range of eligible expenses	More than PLN 13 billion; the funds were disbursed in 2020–21	The COVID Fund
Strategic Investments Program “Polish Deal”	Wide range of eligible expenses	More than PLN 58 billion distributed as promissory notes ²⁴	The COVID Fund

Source: WB staff analysis using information from BGK and gov.pl websites.

32. Currently, municipalities receive the highest share of investments and are expected to receive even more through full implementation of government programs. As a result of increased

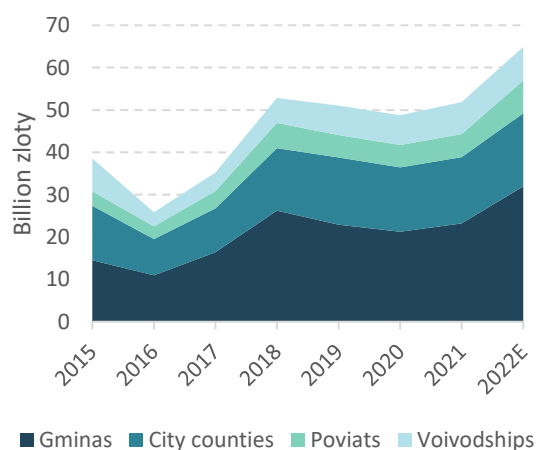
²³ National Fund for Environmental Protection and Water Management.

²⁴ The value of financing for investments scheduled for implementation in 2022 was approximately PLN 3 billion, and the value of procurement proceedings that were resolved and will be implemented mostly in subsequent years was PLN 17.5 billion (data as of September 2022; BGK 2022).

funding, municipalities saw a 40 percent increase in capital expenditure in 2022. A similar rise was also observed in counties.²⁵ However, investment expenditures for city counties and voivodships have only grown by 6 percent and 5 percent, respectively. City counties have limited access to government program funds compared to municipalities, while voivodships; investment expenditure is closely linked to the EU funds spending cycle.

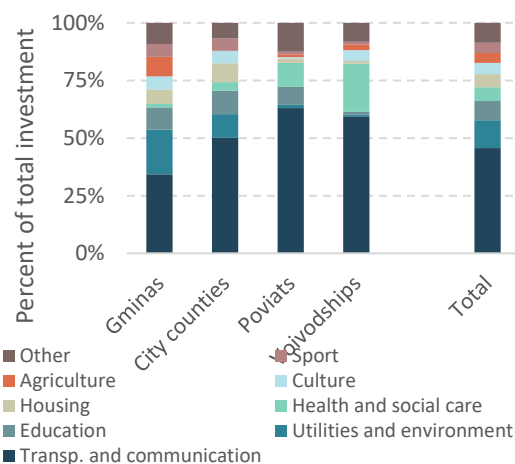
33. **LGUs allocate a significant portion of their investments toward basic infrastructure, such as roads.** However, there is still a pressing need for additional investment in this area. Around 50 percent of investment expenditures are dedicated to “transportation and communications,” with roads being the primary focus for counties (poviats) and voivodships (figure 1.14). Health-related investments comprise a significant portion in the case of voivodships. Meanwhile, municipalities and city counties take a more diversified approach to investment expenditures, with significant investments directed toward municipal infrastructure (including water supply and sewerage systems), environmental protection, educational institutions, and housing.

FIGURE 1.13 LGUs’ Capital Expenditure by Government Level, 2015–22



Source: KRRIO 2022b.

FIGURE 1.14 LGUs’ Investment Structure, 2019–21 (Cumulative Expenditure)



Source: KRRIO 2022b.

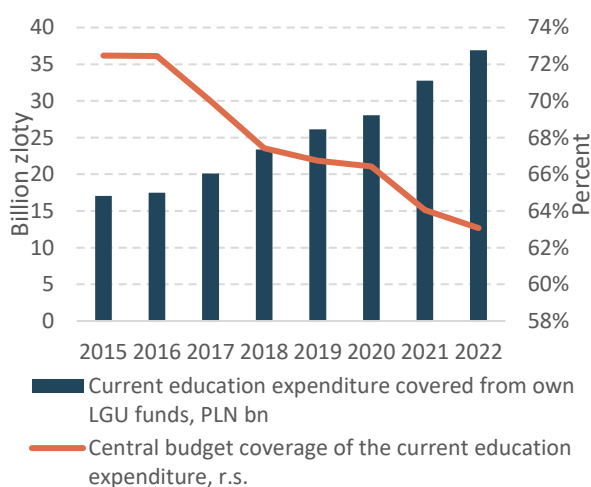
34. **Subnational fiscal rules and LGUs’ budget supervision by the Regional Audit Chambers (RIOs) ensure that LGUs’ budgets are generally balanced while also limiting borrowing, resulting in a low subnational debt burden.** The fiscal framework has been put to the test by major events like the global financial crisis and the eurozone crisis, but public sector debt limits have not been breached. Although these shocks caused LGUs’ debt to rise, quick remedial actions and economic recovery helped restore fiscal space. Despite the pandemic and the Ukraine conflict, local government debt has not been significantly impacted, due to supplementary transfers received by LGUs. However, the effects of important changes such as the structural tax reform and amendments to the local government financing system, combined with the challenging macroeconomic situation (notably weak growth and high inflation), may pose challenges for some LGUs going forward and it is likely that new ad hoc transfers will be needed.

²⁵ In the case of city counties, a significant portion (25–30 percent) of investment spending is carried out by municipal companies. These expenditures are not recognized in city budgets. The combined investment expenditures of city counties and municipal companies are comparable to the size of the investment expenditures of municipalities.

35. **There is a significant opportunity to improve the efficiency of public investment processes in Poland.** Poland has a 36 percent efficiency gap compared to other countries with similar levels of public capital stock per capita. This gap is larger than the average for EU countries, indicating that almost one-third of public investment spending in Poland is not resulting in the increase in infrastructure level or quality achieved by the most efficient comparator country. The entities engaged in investment processes seem to have good institutional design that does not, however, translate into a high level of effectiveness in practice, highlighting the potential to improve the implementation of public investment practices. Improvements are needed in the coordination between entities, budget comprehensiveness and unity, maintenance funding, project selection, and portfolio oversight and management (IMF 2022).

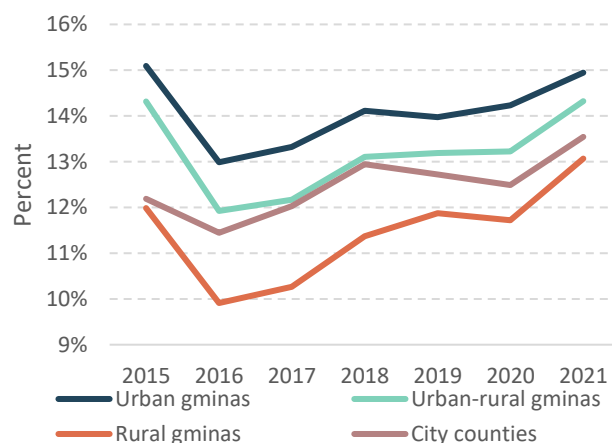
36. **All LGUs except for provinces allocate a significant portion of their budget to education.** Municipalities are responsible for managing primary schools, while counties oversee most secondary and special schools. Education expenses account for about 40 percent of the total expenditure of municipalities and counties. Local authorities must comply with the educational standards and regulations set by the central government, and decisions regarding the school network as of 2015 require the approval of the Ministry of Education. Additionally, education superintendents have been more closely monitored since 2021. Therefore, LGUs have less flexibility in determining education-related expenses due to these developments.

FIGURE 1.15 Financing of Current Expenditure in the Education Sector, 2015–22



Source: WB staff based on Ministry of Finance data.

FIGURE 1.16 Share of LGUs' Own Expenditure* on Education in Total Expenditure*, 2015–21



Source: WB staff based on Ministry of Finance data.

Note: *Current expenditure.

37. **Local government units have been facing a growing responsibility for financing education, resulting in education expenses taking priority over other LGU expenditures.** The central budget covered more than 70 percent of current educational spending until the recent reform that reintroduced eight-grade primary schools.²⁶ As of 2022, the central budget now covers only 63 percent, causing LGUs to shoulder an increasing portion of education expenses, which accounts for a growing percentage of their overall expenses (figures 1.15 and 1.16). Despite a stable number of students, there has been a substantial increase in educational expenses since the reform. In nominal

²⁶ The education subvention is the most significant allocation from the central budget for education. However, LGUs can utilize the funds from this source for any purpose within their responsibilities.

terms, since 2015 expenditure per pupil has risen by 54 percent, and in real terms, it has increased by 34 percent.²⁷ However, this rise in spending may not result in improved educational outcomes if effective cost measures are not implemented.²⁸

38. The education sector is facing increased spending pressures due to a variety of factors, such as demographic changes, centrally set salary increments, and spatial development. LGUs are largely financing from their own resources the higher expenditure in the education sector, which has resulted from the government-mandated salary increments for teachers, the rising number of special educational needs assessments, and the cost of providing daycare. Municipalities located on the outskirts of larger cities are seeing a surge in demand for the adaptation and expansion of buildings to accommodate more classrooms as those municipalities continue to grow. In contrast, areas experiencing depopulation are facing rapidly increasing costs per student. Furthermore, public schools are losing educational subsidies as students migrate to nonpublic schools, creating additional challenges. Despite mounting financial pressures, few local authorities have strategies or diagnostics that consider projections for developments in the education sector in their communities or regions (Supreme Audit Office NIK 2022). Political-economy considerations also hinder the optimization of the public school network to address some of these issues.

The investment cycle is a key driver of LGUs' financial results

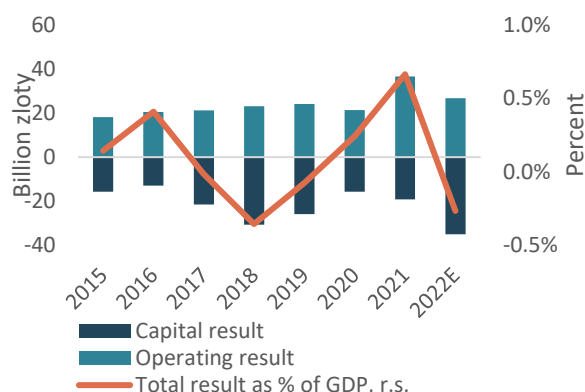
39. The financial results of local governments are impacted by their investment patterns, which are significantly influenced by both EU funds spending and electoral cycles. Typically, when an LGU invests substantially, a higher deficit results, as the deficit on the capital accounts exceeds the operating surplus. Moreover, the government's investment initiatives and the transfer of additional funds to LGUs at the end of the fiscal year affect both current and capital outcomes. After a record surplus in 2021, LGUs recorded a smaller-than-budgeted deficit, with additional transfers boosting LGUs' free funds and cumulated surpluses. The deficit of 0.3 percent of GDP was four times smaller than what the LGUs had budgeted for at the beginning of the year, with additional funds disbursed to LGUs in the fourth quarter of 2022, driving the better-than-expected financial result of LGUs (figure 1.17). These results generated a record amount of free funds and budget surpluses from previous years amounting to close to a third of revenues in the case of gminas (figure 1.18).

40. The effects of transferring extra funds toward the end of the fiscal year and investment programs vary depending on the type of LGU. Smaller municipalities receive more-favorable distributions of funds, while larger urban centers must make greater spending adjustments. As a result, for the latter there was a lower current surplus, fewer capital expenditures, and a higher overall deficit in 2022. To support investments, city counties will have to actively seek investment from other sources, such as EU funds, or resort to debt financing. The use of debt financing for investment may increase if the disbursement of funds under the National Recovery and Resilience Plan (NRRP) is further delayed.

²⁷ As of 2022, the number of child and youth pupils was 4.8 million, the same as in 2015. However, the total number of pupils, which includes adults and uncategorized individuals, slightly decreased from 5.3 million in 2015 to 5.2 million in 2022.

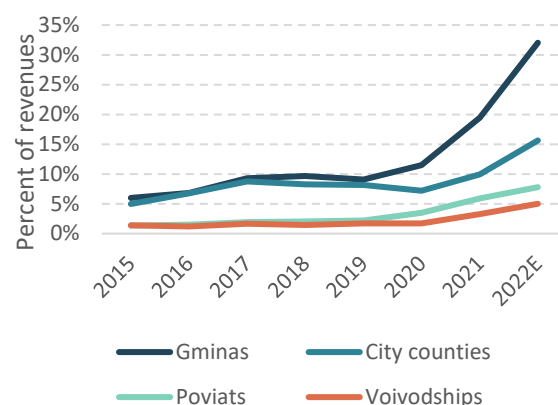
²⁸ The efficiency of the education system is discussed in chapter 2.

FIGURE 1.17 Aggregated LGUs' Results, 2015–22



Source: KRRIO 2022b.

FIGURE 1.18 Free Funds and Accumulated Budget Surpluses from Previous Years, 2015–22



Source: KRRIO 2022b.

Debt-to-GDP ratios are low

41. **The debt of local governments is currently low, decreasing to 3 percent of the GDP in 2022 after experiencing modest increases in previous years.** At the end of 2022, the total debt of LGUs was PLN 90.8 billion, which accounted for 7.3 percent of the public finance sector's total debt.²⁹ City counties contributed 50 percent of the LGU debt, while municipalities accounted for 38 percent.³⁰ City counties also had the most significant impact on the recent debt growth, contributing to 60 percent of the debt increase of LGUs since 2015. Although municipal debt increased, county debt remained almost unchanged, and voivodships' debt slightly declined from 2015 to 2022 (figure 1.19).

42. **In 2022, though the debt level of LGUs was 28 percent of their revenues, it has been decreasing consistently since 2020 (figure 1.20).**³¹ Among all LGUs, counties have the highest debt-to-revenue ratio due to their ability to contract debt and receive both municipal and county revenues. They also implement comprehensive investment programs, often cofinanced with EU funds. However, the level of debt has fluctuated in relation to revenue, decreasing from 49 percent in 2020 to 44 percent in 2022. Rising financing costs have resulted in higher debt servicing costs, posing an additional challenge for city counties. In 2022, debt servicing increased to 2 percent of current expenditure, up from 0.6 percent in 2021, which also reflected the composition of the debt of city counties.³²

43. **The debt of the LGUs mainly consists of domestic debt and foreign debt levels are low.**³³ Most of the LGU debt is held by local banks, which own 64.4 percent of the total LGU debts and 87.8

²⁹ Taking the European System of Accounts (ESA) methodology into account, local sector debt accounted for 6.5 percent of general government debt at the end of 2022.

³⁰ Other entities in the public finance sector hold PLN 3.4 billion of liabilities, while LGUs have an external debt of PLN 87.4 billion. Based on the ESA methodology, the debt of LGUs is the largest portion of the local sector debt. This also includes the debt of cultural institutions, public health care units supervised by LGUs, and other legal entities of local governments. The total local sector debt reached PLN 98.0 billion by the end of 2022, which was equivalent to 3.2 percent of GDP. The average percentage over the last 10 years is 4.0 percent.

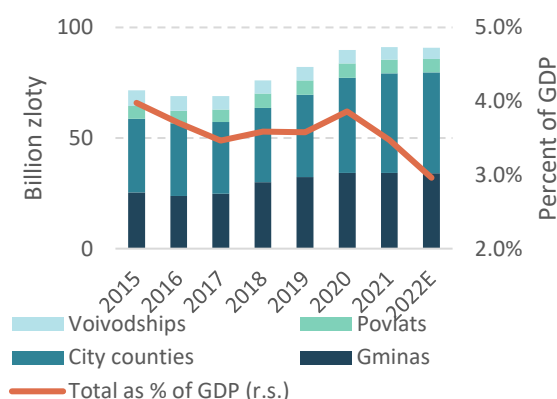
³¹ The debt-to-revenue ratio is calculated using adjusted revenues, which excludes grants for Family 500+ benefit payments from the revenue calculation.

³² Most obligations are based on a variable interest rate.

³³ Foreign debt refers to debt held by nonresidents.

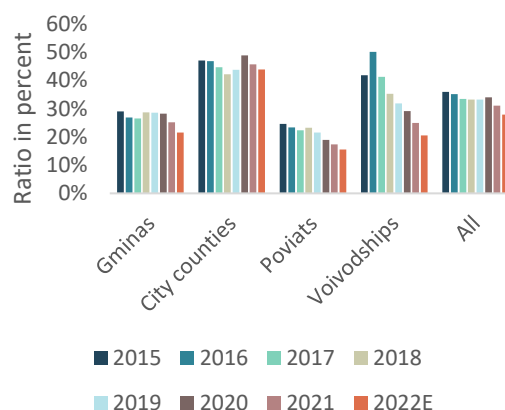
percent of their domestic debt. At the end of 2022, LGUs' foreign liabilities were PLN 24.2 billion, which represented 26.6 percent of the total LGU debt. City counties issued more than 90 percent of the total LGU foreign debt and have the highest share of foreign liabilities (48.5 percent) in their total debt among all types of LGUs. Voivodships' foreign liabilities amounted to PLN 2.0 billion, representing 40 percent of their total debt. Municipalities and counties on the other hand only have domestic debt.

FIGURE 1.19 LGUs' Debt, 2015–22



Source: KRRIO 2022b.

FIGURE 1.20 Debt-to-Revenues* Ratios by Type of LGU, 2015–22



Source: KRRIO 2022b.

Note: *Revenues exclude grants for the Family 500+ benefit program.

44. The risks associated with the debt of local government-related entities are highly concentrated and pertain primarily to subordinate health care facilities debt. Entities with legal personality that are funded or supervised by LGUs are responsible for approximately 2 percent of LGU revenues. Although the liabilities of supervised entities have increased in nominal terms over the past few years, they have remained stable as a percentage of revenues. Independent Public Health Care Institutions (SP ZOZ) account for almost 98 percent of these liabilities (PLN 6.5 billion outstanding as of the end of 2022), of which 20 percent have reached maturity. Incorporated entities debt is highly concentrated with 10 LGUs (8 voivodships and 2 city counties) accounting for more than half. The largest SP ZOZ liabilities occur in Lubelskie voivodship (PLN 0.8 billion in 2021) where they represent 56.7 percent of the region revenues. The increase in prices in 2022 led to a further deterioration and there is increasing pressure on the National Health Fund, which sets the prices of medical procedures, and on the central government to allocate additional funds to health care.

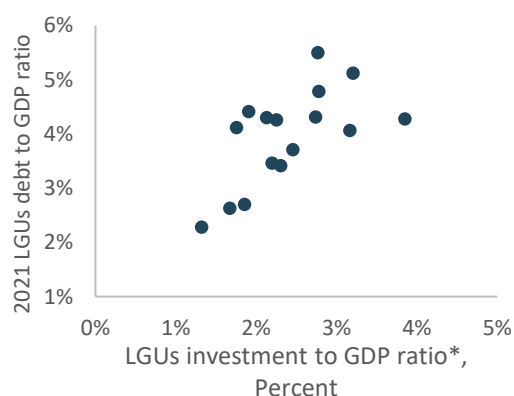
45. LGUs are complying with debt repayment plans and consistently issue lower volumes of debt than planned. Debt service is generally in line with the budgeted amount, with deviation of less than 1 percent, except in 2020. Issuances of new liabilities are usually significantly lower than planned, due largely to budget overperformance. Voivodships overestimate borrowing needs with debt issuance more than 40 percent below plan, while in the case of counties debt issuance is on average 10–15 percent below plan.

46. Regions with high investment rates tend to have higher debt levels for LGUs, particularly the catching-up provinces (as seen in figures 1.21 and 1.22). The goal of LGU investments is to enhance the social and economic appeal of these areas, ultimately spurring private investment and narrowing income disparities while promoting more-balanced population density. However,

population density is not solely determined by infrastructure availability; a mix of factors impacts the appeal of a location for living and working. Some regions face depopulation due to urbanization and agricultural consolidation, making it difficult to attract and retain residents. At the same time, the low level of investments—and low levels of indebtedness—of relatively well-developed regions might be a sign of lagging transformations, including the digital and green transformations.

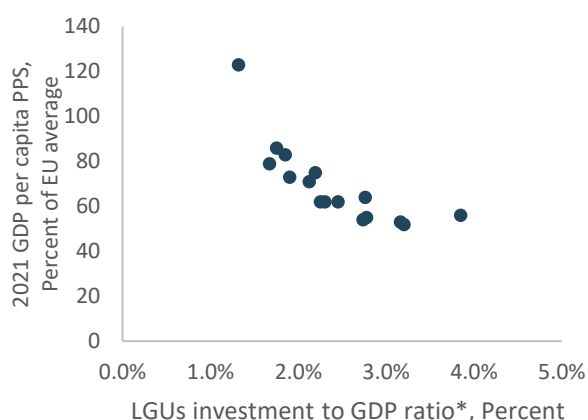
47. **It is expected that the increase in capital expenditure by LGUs, in connection with government investment programs, will not result in a significant increase in debt compared to past cycles.** Instead, debt at the central level will be higher. In the past, the investment build-up phase was often accompanied by increased debt, because the operating surpluses generated during these periods were insufficient. The situation today is different. Investment grants related to various government programs have increased in recent years and their impact is becoming apparent. These grants require minimal cofinancing from LGUs and could serve as a substitute for debt-financed investments. This effect was already evident in 2022, with capital expenditure surging while LGUs’ nominal liabilities remained stable. The funds received by LGUs mainly come from off-budget sources, financed through BGK’s bond issuance. While this formula reduces financing costs, it weakens the mechanisms for controlling spending effectiveness, particularly for centrally financed projects where the verification process of applications is less thorough

FIGURE 1.21 Aggregated LGU Debt and Investment Rates for the Regions



Source: WB staff analysis based on KRRIO and GUS data.
Note: *Average from 2016 to 2021.

FIGURE 1.22 LGU Investment Rates vs. GDP Per Capita



Source: WB staff analysis based on KRRIO and GUS data.
Note: *Average from 2016 to 2021.

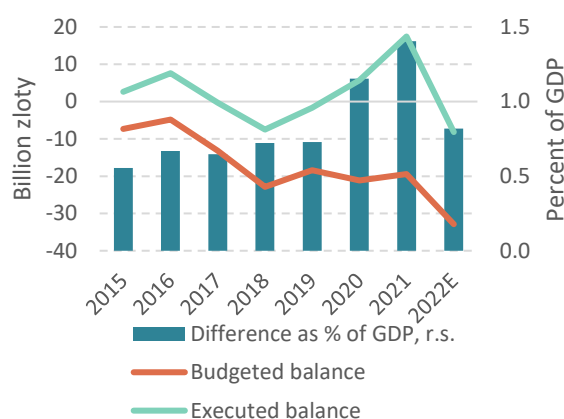
Budget realism is affected by spending overestimation and underexecution

48. **LGUs in Poland have consistently overperformed in terms of balances, mainly due to underexecution of spending.** The difference between budgeted and actual balances was highest in 2020–21, when the economy was impacted by the COVID-19 pandemic. Though the difference declined to 0.8 percent of GDP in 2022, it remained above the levels seen in the past decade. This outcome was largely due to underexecution of the budget, which has been consistently increasing and larger than underrealized revenues. LGUs have systematically underexecuted their budgets between 6 and 9 percent of the total envelope, with underexecution reaching 1.9 percent of GDP in 2022 (figure

1.23). Consistent deviations from budgeted levels have been observed in certain areas over time, affecting both revenue and expenditure. Specifically, LGUs consistently received grants that were of lower amounts than planned between 2015–22, while underexecution was consistently high across all categories of budgeted spending. The categories with the largest underexecutions included capital spending, statutory tasks of budget entities, and salaries and compensation.

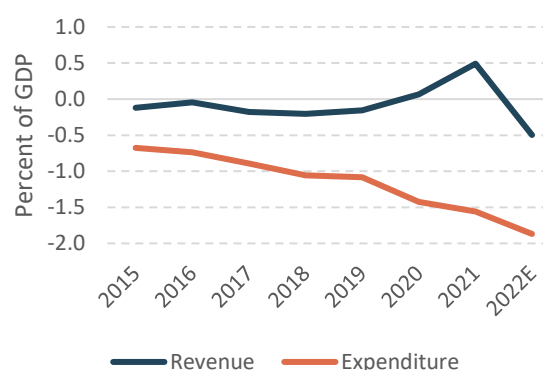
49. **When financial plans consistently overestimate expenses, it may be a sign of flaws in the budgeting process and unintended effects of liability issuance restrictions.** The frequent and significant overestimation of expenses, deficits, and debt levels in LGUs’ plans reduces the usefulness of those plans and may indicate weaknesses in the planning approach. This approach relies heavily on historical data and is constrained by fiscal rules, leading LGUs to overestimate their expenses and deficits in order to avoid incurring unplanned liabilities (Dylewski 2016).

FIGURE 1.23 Budgeted vs. Executed LGU Balances, 2015–22



Source: KRRIO 2022b.

FIGURE 1.24 LGU Revenues and Expenditures Under- and Over execution, 2015–22



Source: KRRIO 2022b.

1.3 Sustainability analysis

LGUs are subject to strict fiscal rules with a clearly defined correction mechanism

50. **Local governments must adhere to strict fiscal regulations, which have been temporarily relaxed or suspended to provide the necessary flexibility in responding to the pandemic and the influx of war-related refugees.** LGUs can only borrow funds for predefined purposes and current expenditures planned for a budget year cannot exceed the sum of current revenues, the budget surplus from the previous year, and unassigned resources. Previously, a general rule applied to all subnational government units that prohibited overall debt of each LGU from exceeding 60 percent of the revenues collected, while interest payments could not surpass 15 percent of revenues. However, a new rule introduced in 2014 defines LGU-specific debt thresholds based on a seven-year average ratio of the sum of the current surplus and property sales to total revenues. Due to the outbreak of the pandemic and the war in Ukraine, fiscal rules were temporarily relaxed and will remain so until 2025. LGUs may only take out loans and issue securities for specific purposes, including repaying preexisting liabilities, financing transitional budget deficits, financing planned budget deficits, and advanced funding of tasks cofinanced with EU funds. Loans taken out to cover temporary budget deficits must be repaid or redeemed within the year they were incurred or issued.

51. **The Regional Audit Chambers (RIOs) play an important role in ensuring that LGUs adhere to budgetary principles and financial planning.** In cases where the proposed budget and multiannual financial forecast (MFF) of an LGU do not comply with the individual debt ratio and the principle of balanced budgets, the RIO requires the LGU to create and adopt a three-year remedial action plan. This plan should include an analysis of the LGU's financial situation and the risks to public tasks implementation, along with a corrective action plan and implementation schedule. If the RIO approves the remedial program, the budget can be adopted, even if it does not comply with the balanced budget rule and individual debt ratio. However, if the LGU fails to create a program or the RIO does not approve it, a remedial program will be imposed, bypassing the mayor and LGU's council (OECD 2021).

52. **To enhance subnational fiscal rules, greater attention should be given to countercyclicality and the differing needs of LGUs.** These rules set clear and credible boundaries for budgetary policies and ensure a commitment to sound and sustainable budgetary practices. While these rules have evolved over time, the institutional support for them has remained relatively unchanged. In Poland, local government fiscal rules adhere to good practices and contribute positively to the overall Fiscal Rules Index for the country (EC 2022a).³⁴ However, the lack of involvement of independent institutions in the process of providing or endorsing macro and budgetary forecasts, as well as the absence of targets defined in cyclically adjusted terms, are areas of concern. Additionally, the uniformity of rules for different types of LGUs, from large metropolitan areas to small rural municipalities, is a weakness in the current fiscal framework.

53. **The ability of local fiscal rules to cope effectively with financial crises was put to the test during the global financial crisis and the eurozone crisis, and since then, enhanced monitoring and measures such as supplementary subsidies have been implemented to prevent significant debt accumulation.** The local government deficit rose from a balanced budget in 2007 to a deficit of 1.2 percent of GDP in 2010, with a corresponding increase in the local government debt-to-GDP ratio. While the ratio remained below the EU average, the number of local governments in Poland with debt exceeding 40 percent of revenues had increased significantly by 2012. Many local governments had to implement fiscal adjustments and the debt level eventually stabilized with economic recovery. Although the share of municipalities with debt of more than 40 percent of revenues has gradually decreased, the proportion of city counties with debt exceeding 40 percent remains elevated. This is due to the fact that, after joining the EU, these cities became significant beneficiaries of EU investment funds, resulting in a structural increase in funds needed to cofinance projects. During recent crises, including the pandemic and the war in Ukraine, local governments were also provided with additional funding.

54. **The Medium Term Budgetary Frameworks (MTBFs) at the LGU level suffer from similar shortcomings as the central-level MTBF.** In Poland, the MTBF has been evaluated to have weaknesses and gaps in relation to the national medium-term fiscal plans and annual budget connections, as well as a lack of (1) well-defined corrective actions in case of deviations from plans, (2) quantification of the impact of reforms over the plan's time span, and (3) involvement of Independent Financial Institutions (IFIs) in national medium-term fiscal plan preparation. The MTBF index for Poland is the lowest among all EU countries (EC 2022b). Additionally, the insufficient involvement of IFIs in various fiscal processes is reflected by the Index of Fiscal Institutions, where Poland's score is again the lowest among all EU countries (EC 2022c).

³⁴ In 2016, Poland had a higher Fiscal Rules Index score compared to the EU average. However, other EU countries have made greater progress in recent years, causing Poland's score to fall below the average.

55. **The fiscal and intergovernmental frameworks in Poland are both negatively impacted by the decline in governance quality.** Poland has experienced a significant weakening in governance effectiveness (World Bank 2023; EC 2020). This has resulted in lower predictability, adequacy, and efficiency in LGUs, as well as an increase in complexity. Predictability has worsened due to frequent changes, including tax code changes, and the government's reliance on ad hoc actions in response to unfavorable financial situations of LGUs. The system compensating for losses related to tax reform has proven inadequate. Additionally, efficiency may be negatively impacted by issues related to the accumulation of transfers at the end of the year and the increase in funds for investments in small rural and urban-rural municipalities that are not equipped to handle many projects. The complexity of LGUs' financial systems has significantly increased in recent years due to the high level of complexity in the system compensating for lost PIT and CIT revenues, different allocation rules depending on the type of additional funds granted, and additional conditions for obtaining specific funds.

The investment needs of LGUs are still significant, and the financing system in place can pose a significant challenge, especially for city counties.

56. **Capital revenue and operating results affect the investment envelope and ultimately the quality of public services provision.** LGUs prioritize current expenditures for providing public services in the short term. However, it is important to ensure adequate investment levels to ensure high-quality public services in the medium and long terms. The quality of services provided is affected directly, such as the number and quality of educational facilities, and indirectly, such as investment in public infrastructure to ensure the future local tax base. LGUs can invest more if the surplus of free funds transferred to the next budget period exceeds the size of debt payments. Debt is a complementary source of funding, mainly during periods of investment accumulation due to the EU funding cycle or local elections.³⁵ Investment depends significantly on capital transfers from domestic and foreign sources, such as central budgets, extrabudgetary funds, and EU funds. Lower transfers, as was the case in 2016, affect investment outlays, with a coefficient above 1, as the use of own funds for investment is strongly correlated with the use of transfers (grants) due to cofinancing requirements. LGUs prefer running surpluses that they can spend the following year rather than making self-financed investments during years when investment grants are limited.

57. **Rural and urban-rural municipalities have the largest deficiencies in basic infrastructure and in many cases the lowest capacity to generate their own funds for investment purposes.** The highest LGU investment level was attained in 2009–10 (3 percent of GDP), a period during which Poland absorbed large funds from the first EU budget following Poland's accession to the EU in 2004 and when infrastructure projects related to the European Football Championship hosted by Poland were implemented (Euro 2012). In the past decade, LGUs have invested an average of 2 percent of GDP. These investments have helped significantly reduce gaps in basic infrastructure, but some remain. The majority of rural municipalities (about 75 percent of the total) and just over 20 percent of urban-rural municipalities have the greatest need for new sewerage networks. Additionally, the need for water supply networks is concentrated in a group of rural and urban-rural municipalities (70 percent and 25 percent, respectively). The estimated value of investment needs in these areas is approximately PLN 8–9 billion per year (Sierak et al. 2019). Some municipalities, especially those in rural and urban-rural areas, require significant investments in basic infrastructure, but often have limited financing capacity

³⁵ Credibility requirements and acquisition costs make it more accessible to larger entities such as city counties and provinces.

due to low operating surpluses (table 1.5). To promote cohesion and inclusivity, it may be appropriate to provide additional investment grants to these municipalities through local government investment programs. It is important, however, to run these programs transparently and with clearly defined criteria.

58. **Large cities' credit ratings have been impacted by the tax system changes, which could have implications on financing costs and access to financing.**³⁶ The creditworthiness of LGUs is determined in part by their ability to generate sufficient revenue and stability, predictability, and unconditional intergovernmental grants. Recent tax reforms have negatively affected these parameters and the compensatory measures included in the amended regulation for the LGUs' revenue system are insufficient to fully offset the expected drop in PIT revenue. At the same time, LGUs are struggling to reduce spending, particularly in wages and salaries, due to mounting cost pressures. Consequently the share of capital expenditure in total expenditure could decline (Fitch's 2022).³⁷

Table 1.5 Ratios of Investment Needs in Water Supply and Sewage Networks to Operating Surpluses, by Type of Municipality and Province, 2017–27

	Urban gminas	Urban-rural gminas	Rural gminas	City counties	Average for all types
Dolnośląskie	29.3%	64.3%	69.5%	31.7%	48.7%
Kujawsko-pomorskie	30.4%	36.1%	50.5%	18.1%	33.8%
Lubelskie	17.5%	40.2%	112.8%	63.6%	58.5%
Lubuskie	10.2%	49.7%	102.6%	17.0%	44.9%
Łódzkie	13.0%	37.1%	77.5%	75.2%	50.7%
Małopolskie	18.0%	33.0%	48.9%	97.8%	49.4%
Mazowieckie	22.6%	37.6%	72.1%	6.5%	34.7%
Opolskie	28.2%	70.0%	79.1%	32.1%	52.4%
Podkarpackie	9.3%	38.3%	43.3%	12.9%	26.0%
Podlaskie	8.3%	94.2%	148.0%	16.0%	66.6%
Pomorskie	10.4%	26.6%	44.2%	23.4%	26.2%
Śląskie	41.8%	58.0%	60.0%	14.8%	43.6%
Świętokrzyskie	12.4%	69.5%	117.5%	n.a.*	44.4%
Warmińsko-mazurskie	15.9%	97.2%	167.6%	6.8%	71.9%
Wielkopolskie	17.5%	33.5%	51.2%	22.2%	31.1%
Zachodniopomorskie	22.0%	40.0%	133.0%	20.6%	53.9%
Average for Poland	19.2%	51.6%	86.1%	27.3%	46.0%

Source: Sierak et al. 2019.

Note: * not available due to the projected operating deficit.

59. **Local governments will play a crucial role in carrying out climate change mitigation and adaption actions.** Local governments, especially towns and cities, will have an important role in carrying out the European Green Deal (EGD) in the following areas: building renovation, public transportation, climate change adaptation, and the Just Transition Fund (Dulak 2022). The EC intends to expand technical assistance, make it more accessible, and offer financial support to city authorities for building renovations. Cohesion policy instruments such as the European Regional Development Fund (ERDF) and the European Agricultural Fund for Rural Development (EAFRD) will be crucial in supporting this effort. Additionally, Sustainable and Smart Mobility Strategies prioritize urban transport. At the national level, projects related to urban transport will be funded through the European Funds for Infrastructure, Climate, and Environment (FEnKS) program. City eco-mobility projects will be implemented as part of the regional operational programs (ROP). According to the Ministry of Climate and Environment, changes introduced to the EPL require cities with over 20,000 inhabitants to develop and implement urban adaptation plans.³⁸ Poland will also be the largest

³⁶ In September 2022, the rating agency Fitch downgraded the Standalone Credit Profiles of 9 out of the 17 cities that were being reviewed. The reason for the downgrade was the tax reforms introduced through the "Polish Deal."

³⁷ This will be 13 percent on average in the period 2022–26, compared to an average of 17 percent in the period 2017–21.

³⁸ The bill proposal to amend certain laws to strengthen the climate dimension of urban policy.

beneficiary of the Just Transition Fund, as it is expected to receive around 20 percent of the total envelope. Under EGD, member states must allocate more funds to meet the objective of a zero-emission economy through the cohesion policy. In the current budget perspective, each region, regardless of its level of development, must allocate a minimum of 30 percent of the funds from the ERDF to this objective (Dulak 2022).³⁹

60. Large investments are necessary to support the transformation toward a green and digital economy and society, particularly for towns and cities. By 2030, an estimated amount of PLN 400 billion will be needed for investments in thermal modernization, with 75 percent allocated for residential buildings (Long-Term Renovation Strategy). Local and regional authorities responsible for housing policies and spatial planning will require technical assistance and support to carry out renovation projects efficiently. Additionally, under the electromobility law, municipalities with a population of over 50,000 will be required to have at least 30 percent of their bus fleets powered by biomethane or zero-emission sources starting from 2028, with intermediate targets of 10 percent by 2023 and 20 percent by 2025.⁴⁰ However, ongoing investments of PLN 1.5–2 billion and planned investments for replacing the bus fleet will not be enough to meet the 2028 target in almost two-thirds of localities. Therefore, a significant increase in investments is necessary (BGK 2023). Estimates indicate that replacing the entire urban fleet with zero-emission vehicles nationwide (including cities not covered by the law) would cost around PLN 30 billion. In addition, there are the costs of the necessary infrastructure (Portal Samorządowy 2023).⁴¹

61. The current city financing system can impede necessary adjustments, especially in the case of unfavorable macroeconomic conditions. Changes to the financing system for LGUs have had the greatest impact on revenue, particularly for towns and cities. The urban municipalities and city-counties' operating surplus ratios declined to 4.6 and 5.4 percent, respectively, in 2022, well below the 2015–21 averages of 9.1 and 8.8 percent.⁴² In 2022, around 20 percent of city counties and 11 percent of urban municipalities recorded an operating budget deficit. To match the historical capital expenditure ratios, city counties need to either significantly decrease the share of current spending or increase debt financing (Bitner and Sierak 2022). Because LGUs are primarily responsible for providing public services and their ability to borrow money is limited by fiscal rules and market conditions, investments may fall short of historical levels for urban municipalities and city-counties. In a less-favorable economic situation, even reducing current expenses and increasing debt financing may not be enough to maintain previous investment levels. The current financial system makes it easier for other entities to maintain historical investment levels (Bitner and Sierak 2022).⁴³

The biggest structural challenge that affects LGUs is the demographic situation

62. In Poland, the biggest structural challenge is linked to demographic shifts, particularly depopulation and aging. Poland's population is declining and rapidly aging with the trends expected to intensify. The population declined by close to half a million between 2011 and 2021, according to

³⁹ In the previous budgetary perspective, more-developed regions were required to allocate 20 percent of the ERDF funds to support the transition to a low-emission economy, transitional regions 15, and less-developed regions 12.

⁴⁰ Act of 11 January 2018 on electromobility and alternative fuels.

⁴¹ Portal Samorządowy. 21.03.2023. „Samorzady hamują z wymianą autobusów na elektryczne. Te liczby mówią same za siebie”: <https://www.portalsamorzadowy.pl/gospodarka-komunalna/samorzady-hamuja-z-wymiana-autobusow-na-elektryczne-te-liczby-mowia-same-za-siebie,448802.html>

⁴² The operating surplus ratio is calculated as (current revenue - current expenditure)/current revenue; current revenue excludes grants for the Family 500+ benefit program.

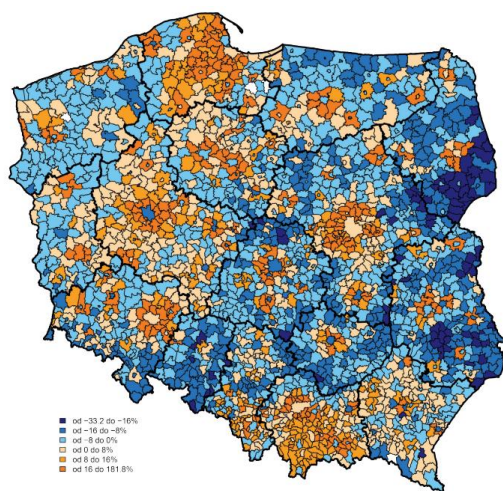
⁴³ The analysis does not distinguish between subtypes of municipalities. The situation of urban gminas may be closer to that of powiat cities than to other types of gminas (rural and urban-rural).

census data (GUS 2023). The median age increased from 38.1 in 2011 to 41.7 years in 2021 and as of 2021 25 percent of the population was older than 60. Some municipalities have seen a decline of more than 20 percent between 2011 and 2021. Major urban centers, with their ability to attract both foreign and domestic migrants, are in a comparatively better situation. In this context, migration can play a crucial role. According to Eurostat’s baseline, compared to 2020 Poland’s population is projected to be 1.4 percent smaller in 2030, 5.6 percent smaller in 2040, and 8.8 percent smaller in 2050. The percentage of people ages 65 and over will increase from 18.2 percent in 2020 to 21.9, 24.3, and 29.1 percent in 2030, 2040, and 2050, respectively.

63. **The main uncertainty concerning the population size and demographics revolves around migration processes.** The war in Ukraine triggered a significant influx of people, although this may be only temporary. With labor market shortages, migration from other regions is also on the rise. The absence of a well-defined immigration policy is hindering progress in this area. The eastern and some of the central regions of the country, along with municipalities in rural and urban areas, are particularly affected by outward migration and population decline (figure 1.25). Additionally, the fact that young people and women are more likely to migrate exacerbates demographic challenges and creates imbalances.

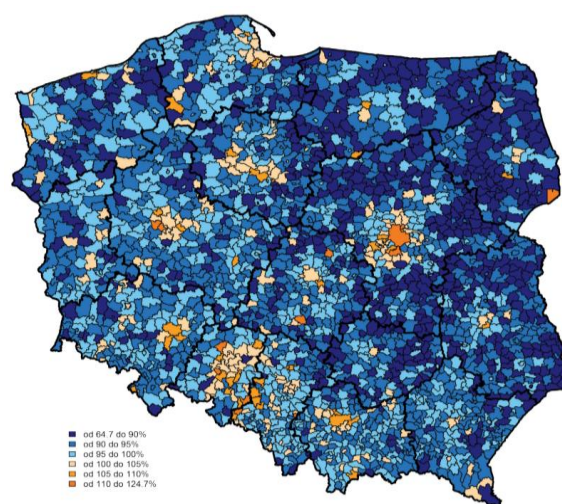
64. **In regions that experience outmigration, there is a higher proportion of older individuals and men who remain (figure 1.26).** This imbalance can have negative effects on important societal processes such as family formation, childbirth, and economic relationships (such as the ratio of active workforce to non-working-age individuals). These negative effects can be observed in both the revenue and expenditure of LGU budgets. As young people leave and the proportion of people relying on social benefits such as disability and old age pensions increases, the income of the local authorities will decrease. At the same time, expenses related to caring for the elderly will increase. There could also be challenges in terms of availability of human resources to meet these needs. On the other hand, there will be less need for education, in terms of both spending and the allocation of human resources.

FIGURE 1.25 Population Change by Municipality, 2000–2019



Source: Demographic Strategy 2040.

FIGURE 1.26 Ratio of Women to Men, Ages 20–39, by Municipality, 2019



Source: Demographic Strategy 2040.

1.4 Conclusions and recommendations

65. **Local governments in Poland depend heavily on funds administered by the central government and there is an increasing level of discretion in the allocation of these funds.** LGUs have limited tax autonomy and shared taxes represent a significant share of their revenue. Recent tax reforms have had a negative impact on shared tax revenue. This is due to a combination of tax rate cuts and a reduction in the tax base for both PIT and CIT. The latter is the result of the introduction of more tax preferences and exemptions, as well as allowing business taxpayers to opt for a lump sum tax that is not subject to distribution to local governments. In order to address the revenue shortfall and financing gap at the local government level, additional funding is provided through supplementary subventions and grants under government investment programs such as RFIL and PIS. However, the allocation of these funds is subject to a degree of discretion, partly because some of them come from off-budget sources.

66. **As the discretion in transfer allocation increases, funds are being shifted from city counties to municipalities, particularly those in rural and urban-rural areas.** This shift in the distribution of transfers, which favors rural and urban-rural municipalities, has resulted in a significant increase in the funds received by these LGUs, particularly for investment, compared to past trends. However, this raises concerns about how efficiently and effectively the funds are being and will be utilized. Additionally, many of the supplementary funds are going to regions experiencing significant population outflow and aging, which may result in maintenance costs that require central government financial support over the medium to long term. Meanwhile, city counties with lower capacities to generate operational surpluses are facing challenges related to the green and digital transformations. They are also facing delays in obtaining EU funds and less-favorable credit ratings due to tax reform.

67. **LGUs, especially city counties and urban gminas, have limited flexibility to respond to increasing expenditure pressures.** This stems from the fact that LGUs have limited control over their revenues and limited autonomy when it comes to key spending areas (such as teachers' salaries), about which decisions are made at the central level. In recent years, the share of the central budget financing of educational tasks has been declining. LGUs' expenditure on energy has also increased. Due to fiscal rules and rising financing costs, the use of debt financing is limited, and LGUs have been forced to adjust capital expenditure. This is especially true for city counties and urban gminas, which have restricted access to funds from government investment programs.

68. **LGUs generally achieve balanced budgets by complying with fiscal rules under the supervision of RIOs and as a result the subnational debt burden remains low.** Large shocks such as the global financial crisis and the eurozone crisis have tested the fiscal framework, but the public sector debt did not breach the debt ceiling. These shocks caused a significant increase in LGUs' debt, but remedial actions and swift economic recovery helped rebuild fiscal space. The pandemic and the war in Ukraine have not impacted local government debt significantly, partly due to the additional transfers received by LGUs from the central government.

69. **There are still unresolved issues that have been present for a long time, such as limited fiscal resources 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.** Predictability of the system has been affected by the numerous changes to the financing system, with a growing role of ad hoc financing in response to a deterioration in the financial situation of local governments. The system of compensating for revenue losses related to tax reform has proven to be inadequate. Spending efficiency can be impacted by the concentration of transfers to the LGUs

at the end of the year and the surge in investment funds allocated to small rural and urban-rural municipalities with limited implementation capacity. With a large number of projects and increased fragmentation, limited control, and inadequate tools for aggregating the procurement of goods and services, there is also a risk of higher inefficiency related to public procurement. The complexity of the LGUs' financial system has increased in recent years, due in part to (1) the complex system for compensating for lost PIT and CIT revenues; (2) the application of different allocation rules, depending on the type of supplementary funds granted to LGUs; and (3) the introduction of additional conditions for obtaining specific funds. Another challenge is the decline in the transparency of revenue streams (for example, the classification of a development subvention as PIT own resources) resulting from the failure of legal solutions to keep up with reality. The misclassification of revenues makes the fiscal data less informative and requires one-off adjustments in order to be able to analyze the situation and make informed decisions.

70. With the recent changes in the tax system, it has become crucial to implement a comprehensive reform of the financing system for LGUs. The reform should focus on key aspects such as

- **Reform of own income** – Improving the delivery of goods and services and ensuring accountability of elected officials depends on subnational governments' having sufficient revenue autonomy. One way to achieve this is by allowing elected authorities to set tax rates for a specific list of taxes outlined in national legislation. This approach would enable the wealthiest subnational governments, with sizeable tax bases, to finance most of their devolved expenditure responsibilities with their own revenues (UN-HABITAT 2015). In Poland, several policy options could increase LGU own-source revenues (World Bank 2019): (1) reforming the PIT to introduce a piggyback tax; (2) reforming the property tax rates and collections to align with market values of properties, especially in larger cities; and (3) a local business tax could be considered following good practice designs (such as a business value tax—BVT).
- **Intergovernmental transfers reform** – Good international practices in the design of equalization transfers use the “fiscal gap” approach, which considers the difference between separate estimates of spending needs and fiscal capacity of a given LGU. Poland could consider a shift from equalization based on fiscal capacity to equalization using fiscal capacity adjusted to spending needs (World Bank 2019). Redesigning the equalization system and introducing a comprehensive adjustment for spending needs would improve the equalization system for cities, which have been most affected by recent ad hoc adjustments to the LGUs' financing system.
- **Improvements in governance** – Governance is an important determinant of how efficiently costs of service delivery are shared, how service delivery is coordinated across local government boundaries, how easily local residents and businesses can access public services, how accountable local governments are to their citizens, and how responsive they are to their demands. Governance models typically align with the local and national context (UN-HABITAT 2015). Poland should consider enhancing the mechanisms pertaining to 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. The inefficiency in public investments, as indicated by IMF (2020), demands a revamping of public investment management. This could entail (1) the introduction of standard criteria for project selection and prioritization at the central level, (2) the creation of tools to better monitor local investment processes, (3) the enactment of a requirement to conduct ex-post reviews of major projects to inform future policies and procedures, and (4) the implementation of demand aggregation tools to negotiate better prices for procured capital goods and services.

Additionally, monitoring systems can play a significant role in enhancing the overall efficiency of LGUs. However, the current perception of monitoring as a tool for control rather than for improving decision-making and policy implementation needs to be addressed. To this end, LGUs should be encouraged to adopt monitoring as a management tool and be supported in developing appropriate monitoring tools.

71. **When considering the reform of the LGUs' financing system, it is essential to consider the large demographic shifts and the anticipated decrease in EU funds.** Population decline and outward migration particularly impact rural and rural-urban municipalities in the eastern and central parts of the country. The fact that young people and women are more likely to migrate exacerbates demographic challenges by leading to a rise in dependency ratios and a decline in birth rates. Moreover, the LGUs' revenue is expected to decline, given the erosion of the tax base. Meanwhile, expenses related to elderly care will go up and the shortage of labor could affect the provision of care services. In some regions the changing demographics will also lower the demand for education services, with implications for both spending and labor demand. With Poland's regions becoming wealthier and EU budget policy shifting, funds allocated solely to the country's regions are likely to decline once the current EU budget perspective ends. To tackle this, local governments should explore alternative financing methods, such as instruments that capture the increasing land value linked to capital infrastructure construction. Furthermore, to promote public-private partnerships, any hindrances to PPP development must be identified and eliminated.

Chapter 2 – Education Expenditure Structure and Effectiveness

2.1 Introduction

72. This chapter presents estimates of the association between cost-related factors affecting expenditure at the gmina level and factors potentially associated with differences in student achievement across gminas.⁴⁴ To give a broader perspective, it also provides data on the school system's overall efficiency, comparing GDP spending on education to student outcomes measured via large-scale international student assessments. It also presents stylized facts based on descriptive statistics using Central Statistics Office (CSO; Główny Urząd Statystyczny, GUS) and Examination Boards data.

73. Poland's public spending on school education constitutes around 8.5 percent of total spending. Nearly half of the expenditure is on primary schools, which are run by the lowest level of local government, the gmina, with most of the costs covered through the general subvention from the central budget. Nevertheless, around 30 percent of gminas' budgets is spent on education, and the share of what gminas spend on schools from their own resources is substantial.

74. The analysis focuses on two questions: (1) How does school expenditure vary across gminas and what factors explain these differences? (2) How is the variation in spending related to student outcomes? It uses expenditure and student results in primary schools in analyzing two distinct periods: 2001–16, when gminas were also running lower secondary schools and primary schools were covering grades 1 to 6, and 2019–21 when all gminas were running regular eighth-grade primary schools.

2.2 Organization, assessments, and evaluation in the school system in Poland

75. The school system in Poland is decentralized. Local governments own school buildings and finance their daily operations. Most of the funds come from the central budget and the Ministry of Education regulates teacher salaries, which are the main component of expenditures. The decentralization of education in Poland was gradually implemented over the 1990s. It was completed with the reform of 1999, which finally transferred ownership of schools to local governments and introduced a new financing scheme for transferring funds from the central budget to the budgets of local governments.⁴⁵ The reform devolved many responsibilities to schools and local governments, creating a complex relationship between local and central actors (table 2.1).

76. The reform of 1999 introduced monitoring tools that could be used for accountability purposes. First, it introduced national examinations that provide data on student outcomes. The first national examinations were launched in 2002, including the end-of-primary-school test in the sixth grade and the lower-secondary-school finishing exam. These exams are standardized within a wave but not between years. All students solve the same questions, so the results provide comparable student outcomes across students, schools, and local governments in a given subject and year. However, they do not provide a basis for comparisons across subjects or years. Recently, the exams are reported on the percentile scale, showing the position in the overall achievement distribution of

⁴⁴ The analysis in this chapter uses cross-section regressions and panel regression estimates on data pooled for nearly two decades, using fixed effects models that control for time-invariant gmina characteristics.

⁴⁵ See Levitas 2012 for details on the financing system and decentralization and Jakubowski 2021 for an overview of the education reforms.

the score of a student, school, or the local government average. School and local government results are publicly available. Thus, the comparisons are possible within a current year and subject and are reported without information on their statistical precision. This is a significant obstacle in monitoring student outcomes at the local level, with common overinterpretations of changes in the results.

Table 2.1 Governance and Key Responsibilities in the Polish School System

	The Central Government and its Agencies	Local Government	School
Regulating minimum and average salaries	X		
Payment of teacher salaries		X	
Local salary schemes (teacher bonuses, extra hours)		X	
School network	X	X	
School financial plan		X	
School building maintenance		X	
School equipment		X	
Decisions awarding professional levels to teachers	X	X	X
School principal selection	X	X	
School evaluation	X		
National examinations	X		
School organization plan (number of classes, general teaching plan)		X	
Textbooks	X		X
Teaching methods			X
Curriculum	X		

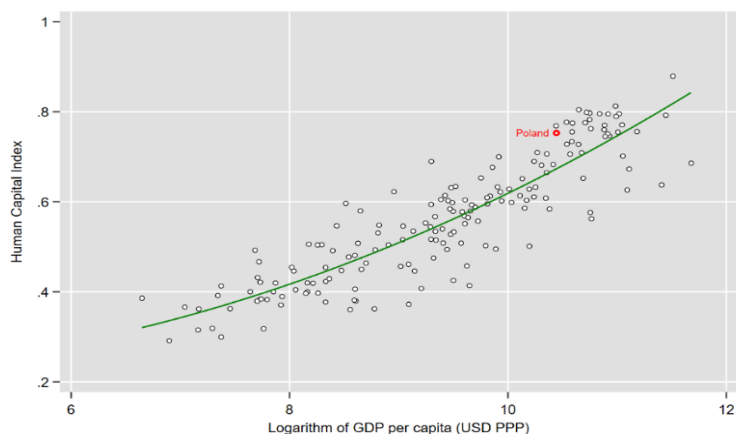
Source: Adapted and extended version of Table 2 from Herbst and Herczyński 2014.

77. **The most crucial responsibility of local governments is to select school principals.** A committee in which local government representatives play a significant role elects school principals. However, while principals are responsible for hiring new teachers, they have little impact on the contracts and remuneration of teachers already employed in schools. Structural changes introduced in 1999 and the core curriculum introduction in 2008 increased school autonomy, transferring responsibility for what happens in classrooms from the central government to schools and enhancing teachers' autonomy. The school evaluation system, also introduced around 2008, currently has a limited scope, focusing on selected schools and topics without providing information on the functioning of all schools in the country.

2.3 Cost-effectiveness of the school system in Poland

78. **Given its per capita GDP, Poland's human capital is above the expected level.** As in other advanced economies, the human capital level in Poland is higher than in most countries (figure 2.1). Poland ranks relatively high in terms of human capital, above countries with higher GDP per capita, mainly due to excellent learning outcomes in schools, but also to rather large enrollment in tertiary education.

FIGURE 2.1 Human Capital Index and GDP Per Capita, Poland and Comparator Countries



Source: World Bank Human Capital Index (2020, indicator HD.HCI.OVRL) and GDP per capita, PPP (current international \$, 2021, indicator NY.GDP.PCAP.PP.CD),. Retrieved March 2023, from <https://data.worldbank.org/>.

79. **Poland's human capital ranking is impressive, considering its spending on education as a share of GDP.** While other EU nations spent less on education than Poland in 2012–13, total spending has become comparable in recent years, and Poland is now close to the average (panel a of figure 2.2). This is primarily due to publicly funded tertiary education, which is more common in Poland than in many other EU countries. However, Poland's primary and secondary school spending remains consistently lower than the EU average (panel b of figure 2.2).

FIGURE 2.2 Total Expenditure on Education as Share of GDP, Poland and EU-27 Member States

Panel a

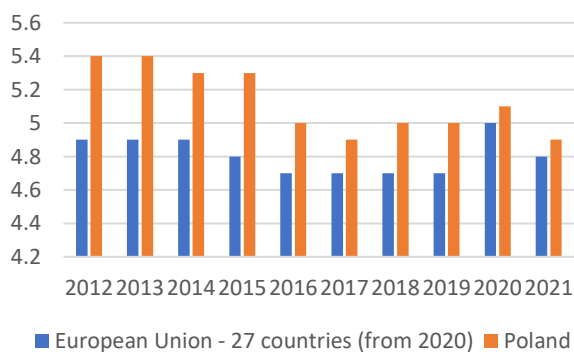
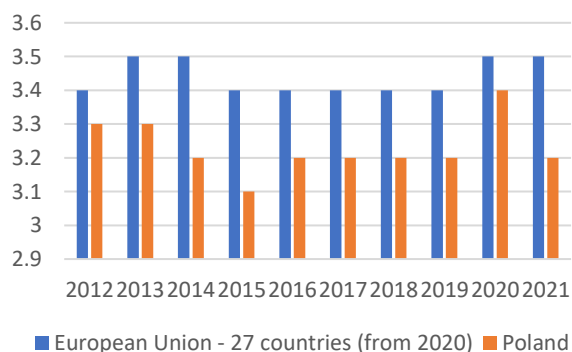


FIGURE 2.2. Total Expenditure on Preprimary, Primary, and Secondary Education as Share of GDP, Poland and EU-27 Member States

Panel b

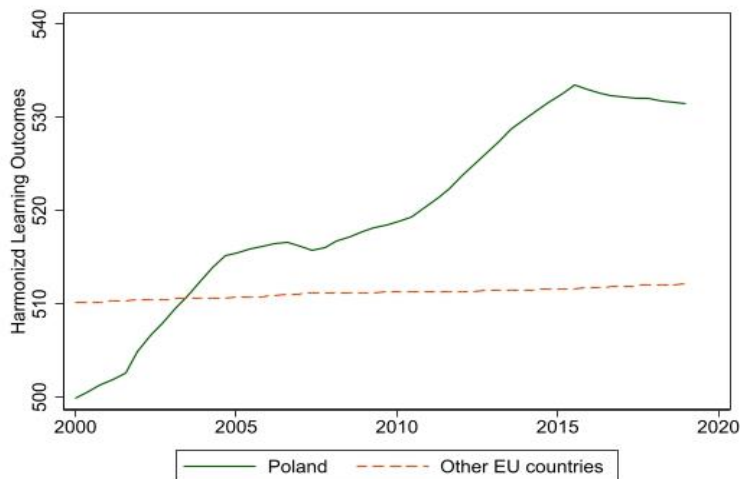


Source: Eurostat, GOV_10A_EXP.

Source: Eurostat, GOV_10A_EXP.

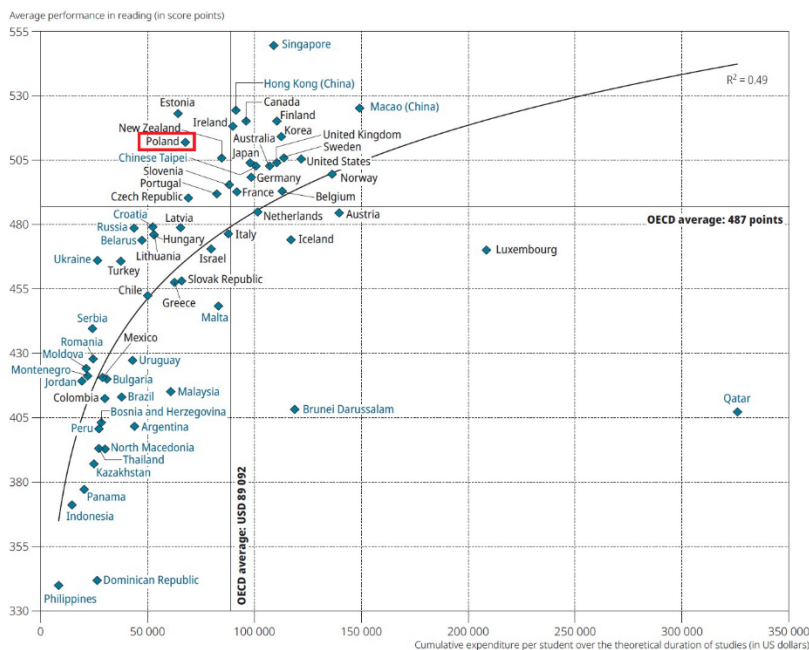
80. **Over the past two decades, Poland has made significant progress in improving learning outcomes.** According to the World Bank Harmonized Learning Outcomes (HLO) database, as well as data from recent international assessments, Polish students have demonstrated remarkable achievements. While the average achievement in EU countries has remained stagnant, Polish students have surpassed the OECD and EU averages and are now among the top achievers in the EU (figure 2.3).

FIGURE 2.3 Student Learning Outcomes, Poland and EU Average, 2000–2020



Source: World Bank HLO database.

FIGURE 2.4 Cumulative Expenditures and PISA Reading Scores among PISA 2018 Participating Countries



Source: OECD 2019, Figure I.4.4.

81. **Level of investment in education has a strong correlation with academic achievement, a finding that is driven particularly by countries with low academic performance that allocate minimal resources to education.** Most EU countries spend more on education than Poland, yet their academic outcomes are inferior. Poland for its part has a satisfactory education budget that ensures high-quality education and superior student outcomes, surpassing most countries in this regard (figure 2.4).

82. **In 1999, the Polish education system underwent a reform that focused on improving the foundational skills of the weakest students. Prior to the reform, these students would have likely been placed in basic vocational training** (Jakubowski et al. 2016). The reform decentralized school management to the gminas (for primary and lower-secondary levels) and to the newly established powiats (for upper secondary levels). It also introduced standardized national examinations, gave more autonomy to teachers in the selection of learning materials and the making of other pedagogical choices, and introduced a new system of professional qualifications for teachers, which were associated with salaries. The reform also introduced a new financing scheme for all schools, which relied on a transparent formula allocating most of the funds according to the number of students and their needs. The quality of the education provided by the Polish system was enhanced, including after the reforms of curricula and evaluations introduced around 2008.⁴⁶

83. **The reforms of the education system improved both student outcomes and the cost-effectiveness of the system.** Recent studies provide evidence that the reforms also improved labor market outcomes. Adults who were students after the reforms were instituted have higher earnings and a lower probability of being unemployed, improvements that have been linked to the 1999 reform (Drucker et al. 2022).

84. **The partial reversal of the 1999 reform implemented in 2016 and school closures during the COVID-19 pandemic negatively affected student achievements (Gajderowicz et al. 2023).** Secondary school students lost the equivalent of one year of education due to school closures during the pandemic. pandemic Students who went through the new system of eight-grade primary school instead of six grades in primary and three grades in lower secondary did not perform as well as those who were educated in the old system, who scored high on the PISA (until 2018). The results also show that the loss was much larger for low-achieving students and in science subjects that were eliminated from national examinations after primary school. Recent results of PIRLS 2021 confirm that the loss in learning is substantial, in this case for reading skills of fourth-grade students, though they do show that the scores of Polish students are still among the highest of students in EU countries. However, PIRLS results also 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 2023).

2.4 Gmina education expenditures

85. **In Poland, preschool and primary school education at the gmina level and secondary education at the powiat level are managed and owned by local governments.** The analysis presented in this chapter focuses on gminas, which currently oversee preprimary and primary education, as well as those that oversaw lower secondary schools until 2016. It also takes into consideration data from city powiats that managed lower- and upper-secondary education in the past and currently oversee

⁴⁶ Jakubowski 2021 provides an overview of all the reforms.

secondary education. Although our focus is on expenditures and outcomes in preprimary and primary education, we have included secondary school data for certain indicators.

86. Local governments utilize funds from the central budget to cover school expenditures as part of the general subvention for education. The amount of funding each local government receives is calculated based on a per-student formula. While local governments have the autonomy to decide how to allocate this money, most of the funding is typically allocated toward teacher salaries, which are centrally regulated. Any expenses beyond the general subvention must be financed using the LGUs' own funds or other sources. These additional expenditures reflect the local government's willingness and ability to supplement educational spending in their area, while also covering costs that are set by the central government.

87. Data at the gmina level are used to estimate the amount of money spent per student and how it correlates with educational funding. These data are specific to gminas and do not include city counties, as the larger urban gminas are also responsible for secondary schools. The expenditures and subvention are adjusted for inflation using CSO price level indicators, with the year 2000 as the baseline. To calculate per-student expenditures, the total spending on primary and lower secondary schools is divided by the number of students in those schools. Likewise, the educational portion of the general subvention is also divided by the number of students in primary and secondary schools.

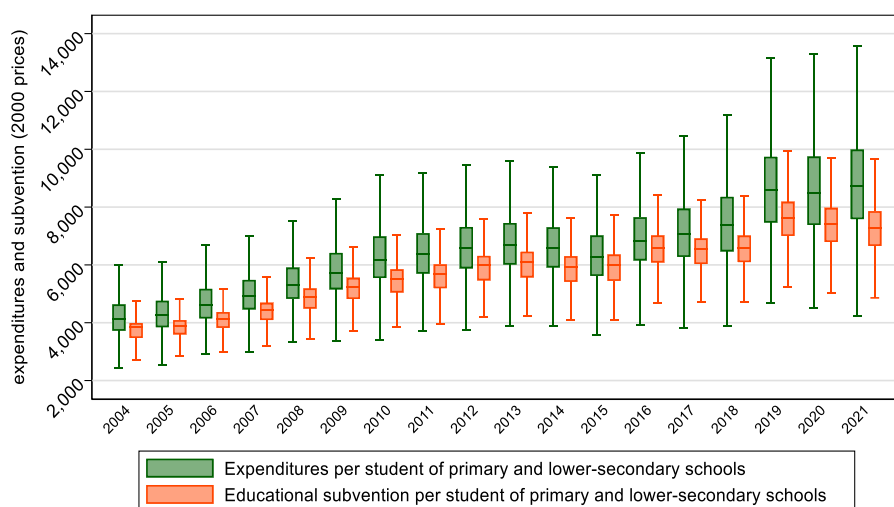
88. The subvention for education also specifies additional responsibilities for local governments, such as covering the expenses for the education of six-year-olds. However, the inclusion of these students and other tasks set forth in the subvention have varied over the years, and there is limited information available on the number of students. Therefore, it is challenging to track the per-student subvention over time. Nonetheless, primary and lower-secondary school expenses make up most of the educational expenditure covered by the subvention. These proxies provide a general idea of the connection between spending and the subvention in actual terms. It is worth noting that there is no clear definition in Poland's regulations of what the educational subvention should cover. This is a crucial factor to consider when examining the correlation between school expenses and the subvention. The responsibility for covering the educational costs of schools falls to the local governments. The original intention of the educational subvention was to provide financial assistance to the local governments so they could meet their school operation expenses. Furthermore, the local governments have other revenue streams that could be utilized for educational purposes.

89. Since 2004, there has been an increase in education spending by gmina (figure 2.5). There was a significant decrease in gmina expenditures per student adjusted for inflation in 2014 and 2015, but expenditures later increased substantially. Similarly, the educational subvention gradually increased until 2013, declined slightly in 2014 and 2015, rose again in 2016, and remained stable in 2017 and 2018. Although there was a substantial increase in educational subvention per student in 2019, it later declined until 2021. 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, which has affected children from disadvantaged backgrounds (NIK 2022). Unfortunately, data for 2022 at the local government level are not yet available. Total educational subvention did increase by 2.5 percent in 2022, while inflation rose to 14.4 percent. This means there might have been a substantial decline in per-student subvention in 2022 in real terms.

90. There is notable variation in gmina expenditure and subsidies per student, which can be attributed to unique characteristics. Certain local authorities allocate approximately PLN 8,000 per student on a yearly basis, whereas others invest nearly PLN 20,000. These widely different figures are a result of unique approaches to the provision of educational services. For instance, rural gminas with low population densities have school networks that are more spread out, which are characterized by

the high costs associated with relatively smaller schools. Nonetheless, some gminas utilize additional financial resources of their own to provide various services or smaller class sizes. Lastly, teachers vary in terms of qualifications and age across gminas, affecting their salaries. Gminas with young teachers and lower professional attainment levels have lower costs, while those with many older teachers at the top professional level have higher costs. These costs are reflected in the subvention value or the formula for allocating funds. Rural gminas receive more funds, including a bonus for a dispersed school network. Gminas providing special education services receive considerably more funds due to higher costs. However, the subvention's variation is smaller than the variation in per-student expenditures (figure 2.5).

FIGURE 2.5 Expenditure per Student in Primary and Lower-Secondary Schools and the Educational Subvention

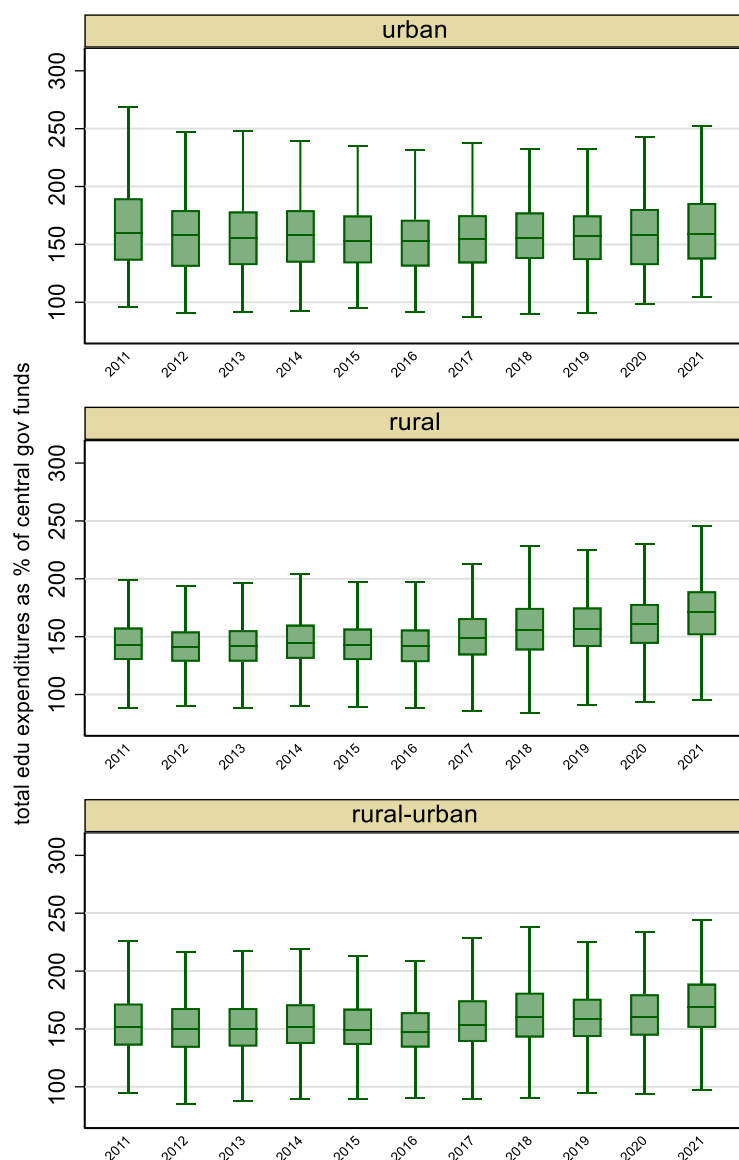


Source: World Bank analysis using CSO Local Bank Data.
 Note: Gminas without city counties; 2000 prices.

91. **It has been observed that only a small number of gminas invest an amount in education that is roughly equivalent to what they receive from the central government.** The statistics are considered separately for rural, rural-urban, and urban gminas, with the latter group including city counties and their expenditures on secondary education. The ratio of total expenditures to the educational subvention plus earmarked grants is used for comparison, with values above 100 indicating that more was spent than what was received from the central government and values below 100 indicating less was spent (as shown in figure 2.6).

92. **Many urban gminas supplement the funds they receive from the central government with funds from their own sources of income.** The median for urban gminas' education spending for the period 2011–21 was above 150 percent of the subvention (figure 2.6). Although there was a decline in this proportion from 2011 to 2016, it has been steadily increasing since then. However, there is still considerable variation in total spending and received funds across different gminas. Some urban gminas do not spend all of the subvention funding (and can use these resources for other purposes), while others spend twice the amount they receive from the central government. At the median, rural-urban gminas' expenditures were 150 percent of what they received from in the subvention, while rural gminas' expenditures were below 150 percent. However, after 2016 expenditures began to increase. At the median, urban gminas' expenditures were 159 percent of what they received in the subvention in 2021 For rural gminas, the median expenditures were at 171 percent and for rural-urban at 169 percent of what they received in the 2021 subvention.

FIGURE 2.6 Gmina Educational Expenditures as Percentage of the Central Government Education Subvention, 2011–21



Expenditures in real terms, in the year 2000 prices.
Central government funds include the educational part of the general subvention and earmarked grants

Source: World Bank analysis using CSO Local Bank Data.

Gminas' primary school education expenditures

93. **Various factors can contribute to differences in the expenditures of gminas for primary schools.** Some gminas may have more disposable income after covering their mandatory operational expenses, which could account for higher expenditures. Additionally, more affluent gminas may allocate more funds toward teachers by offering incentives or additional classes for students. However, it is important to note that most gminas follow centrally regulated teacher salary guidelines.

To mitigate costs, gminas can adjust two interconnected factors: the number of schools in their jurisdiction, which is reflected in the average school size, and the class size or the number of students per teacher.

94. **The recent inflow of Ukrainian students could also affect education system finances, especially in large cities, where most of the Ukrainian students have settled.** According to Ministry of Education data nearly 190,000 children from Ukraine were enrolled in schools and preschools in Poland as of spring of 2023, mostly in Mazowieckie, Śląskie, and Dolnośląskie (Association of Polish Cities 2022), although 55 percent of the displaced children from Ukraine are not in the Polish school system. The central government altered the algorithm for an education subvention to transfer funds for additional classes for Ukrainian students. However, large cities claim the costs induced by the inflow of refugees far exceeded the transfers, and that the accommodation of so many students in the system created additional demands on teachers and schools. For example, in Warsaw, as of 2023, around 17,000 Ukrainian students are enrolled in the education system. In Wrocław, around 20,000 Ukrainian children are in the 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. Also, other cities' expenditures on behalf of the incoming refugees limit the possibility of using their income for educational purposes, which could negatively affect the funding of schools in the coming years. In the future, supporting Ukrainian students will require additional efforts, especially if the war continues and most Ukrainian students who are currently learning online in the Ukrainian system move to Polish schools. These extra efforts will require changes in regulations and the funding mechanisms of public schools (Bochar et al. 2022).

95. **Gminas have adjusted the sizes of schools through the streamlining of school networks and the closures of smaller schools.** This trend began in the early 1990s, when the number of students decreased due to demographic factors, particularly in rural areas, where migration to cities further exacerbated the issue. Prior to the 1999 education reform, there were nearly 5 million students in primary schools. However, the primary school cycle was later reduced to six grades, and gminas were tasked with managing the new lower-secondary schools with three grades. As a result, gminas were now responsible for nine education grades instead of eight, leading to higher costs. By 2019, the total number of students in primary schools had decreased to 3 million after the lower-secondary schools were shut down following the 2016 reform, marking a significant decline from the 5 million students in 1999. This decrease resulted in many school closures, reducing the number of regular primary schools from over 18,000 to nearly 13,000 between 1998 and 2021. The number of primary schools in individual gminas varies greatly, ranging from 1 to more than 300, illustrating the diverse environments in which gminas operate.

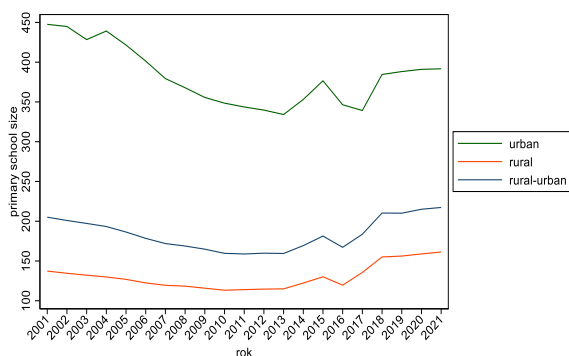
96. **Between 2001 and 2016, there was a decline in the average school size of regular six-grade primary schools.** The average size for this type of school, excluding schools for students with special needs or adults, declined from 193 to 159 students (figure 2.7). The only year where there was an increase in the average school size was in 2015, when six-year-olds started in the first grade. However, this reform was abandoned in 2016. Instead, six-grade primary schools were replaced by eight-grade schools after lower-secondary schools were abolished, resulting in an increase in the average school size to over 200 students.

97. **The average school size varies significantly depending on whether the school is in an urban, rural, or rural-urban gmina.** In urban areas, the average size of the student population of a regular primary school is around 400 students, which allows for greater flexibility in arranging students across eight grades and utilizing teacher time effectively, especially for subjects taught for a low number of

hours or selected grades only (figure 2.7). In contrast, in rural areas the average primary school size is around 160 students, which is the minimum size required to keep class size at around 20 students. However, this minimum size does not make possible full employment for teachers in subjects taught in some grades only, such as chemistry or civic knowledge. It is worth noting that there are considerable differences in school size between gminas and in school size within gminas. Approximately 25 percent of rural gminas have an average school size of 100 students or less. Although these schools are relatively costly, it is worth noting that an eight-grade primary school with 80 students has almost the exact costs as a school with 160 students, having similar infrastructure and the same number of classes and teachers.

98. **In the past decade, there have been notable changes in class size and teacher-to-student ratio across different gmina types.** Both indicators have decreased over time (figure 2.8). As of 2021, primary schools in cities had a median class size of about 21 students, while rural gminas had a median of 15, and the average class size across all gminas was approximately 16.1 according to data from the CSO. Per the OECD, the average class size for public primary schools in Poland in 2021 was 18.5 students, which was lower than the average of 21.5 in OECD countries (OECD, UIS, and Eurostat 2021, table D2.1).

FIGURE 2.7 Size of Primary Schools by Gmina Type, 2001–21



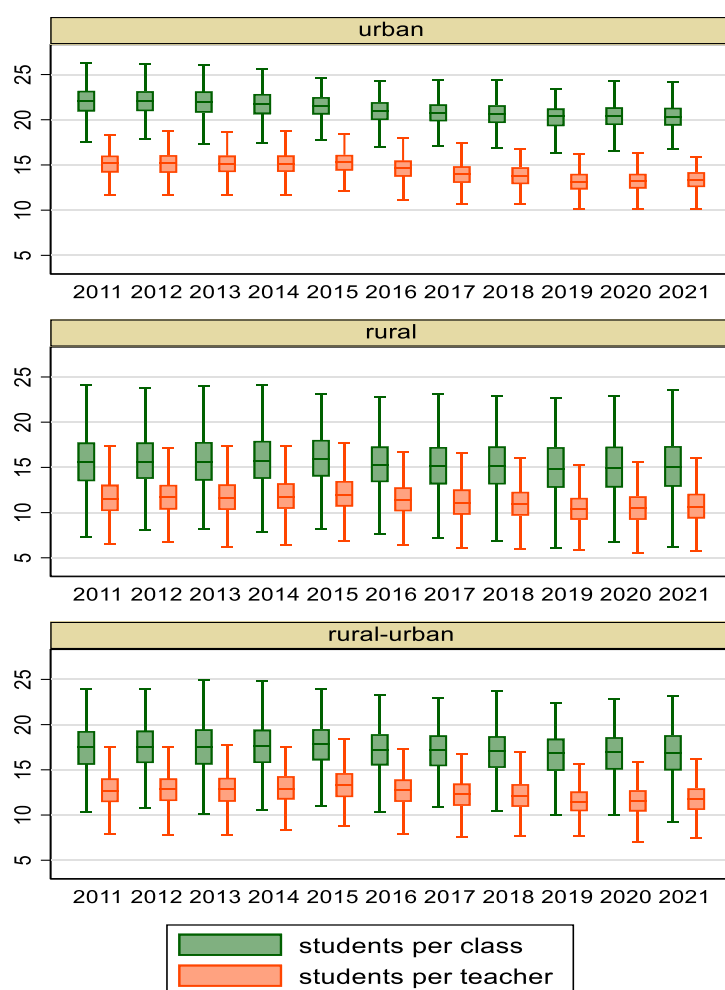
Source: World Bank analysis using CSO Local Bank Data.

99. **Over the past decade, while the student-to-teacher ratio in Poland has decreased considerably, it varies greatly across different gminas.** The ratio is calculated based on the typical teacher contract, so if a teacher works half the hours, that teacher counts as 0.5, and if a teacher works 20 percent more than usual, that teacher is counted as 1.2. Generally, there are very few students per teacher in Poland, with an average of 11 in recent years. However, the ratio is higher in cities, with over 13 students per teacher, and lower in rural gminas, with less than 11 students per teacher. The student-to-full-time-teacher ratio is 14.5 on average in OECD countries, but only 9.5 in Poland—this is one of the lowest ratios among OECD countries (OECD, UIS, and Eurostat 2021, table D2.2). There is also significant variation across different gminas, with approximately 25 percent of rural gminas having 9.4 students per teacher, while 25 percent of urban gminas have more than 14 students per teacher. These numbers reflect significant differences in the main driver of variation in education expenditures across gminas.

100. **Expenditures on primary school students in all types of gminas are positively correlated with spending on transportation per student, own income per inhabitant, and the amount received from the central government per student (annex 1).** However, expenditures are negatively associated with

school size, decreasing by approximately 1 PLN per additional student on average. Class size also has a negative effect, with an average decline of around 200 PLN per one student decrease in gmina average class size. These effects are weaker in urban gminas than in rural or rural-urban gminas, indicating that smaller school and class sizes yield greater benefits. Additionally, a higher percentage of children in preschool education and more students in schools run by gminas positively correlate with higher spending on primary schools. However, these correlations may simply reflect differences in gmina approaches toward educational spending, with gmina more interested in providing preschool and retaining ownership of schools, resulting in higher spending on primary schools.

FIGURE 2.8 Class Size and Student-to-Teacher Ratio in Regular Primary Schools by Gmina Type, 2011–21



Source: World Bank analysis using CSO Local Bank Data.

101. **Higher transportation costs result in increased expenses for rural gminas.** In these areas, a rise of 1 PLN in transportation costs leads to a 0.36 PLN increase in overall expenditures. This increase in costs may be due to efforts to optimize the school network by closing certain schools, which causes transportation expenses to go up. However, there is no significant correlation between changes in school size and expenses. While the impact is minor, changes in class size have a strong effect on expenses in rural and rural-urban gminas, resulting in a decrease of approximately 140–150 PLN per student with an increase in average class size by one.

102. **There is no correlation between changes in preschool enrollment and expenditures.** However, before controlling for gmina fixed effects, there is a positive correlation indicating that gminas that spend more on primary education also tend to spend more on preschool services. Additionally, reducing the number of students in gmina schools is associated with lower expenditures, but the effect is small. In rural gminas, a 1 percent decrease translates to lower spending of 22 PLN, while in rural-urban gminas the reduction is 11.5 PLN and in urban gminas it is negligible.

103. **Class size effect on expenditure tends to be larger.** Overall, the results for the period 2019–21 resemble those obtained for 2004–14. The main difference is that class size effect on expenditure tends to be larger, at around minus 300 PLN per student for each additional student beyond the average class size in the new organizational structure with eight-grade primary schools and without lower-secondary schools (annex 2 table A.4). It is not possible to estimate panel data models to analyze how expenditures have changed over time due to changes in time-varying factors in gminas, because the period is too short to provide variation across time.

2.5 Measuring educational effectiveness using student outcomes in primary schools

104. **Student learning results can be used to measure educational outcomes and capture differences in the effectiveness of local government spending.** National examinations provide reliable measures of student performance and primary school results have been available at the gmina level since 2002. The results, however, are not directly comparable across years and subjects, which the statistical model to measure the efficiency of local government spending needs must take into account. In addition, the content and structure of the national examinations have changed over time, changes that must also be considered in the analysis.

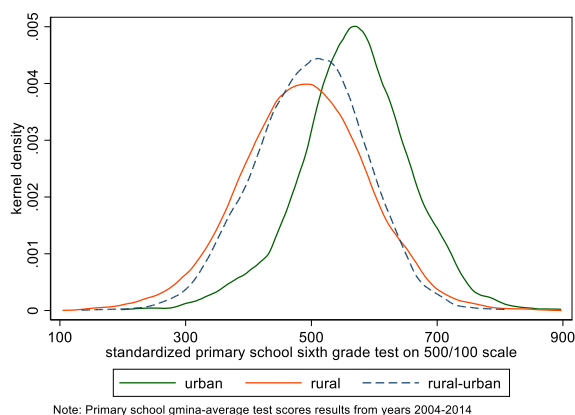
105. **One way to assess factors that contribute to the cost of education and its quality is by analyzing primary school exam results.** To facilitate comparisons across gminas and time, all test scores were standardized to have a mean of 500 and a standard deviation of 100 at the gmina level, across results for math, science, Polish language, and English language. A difference of 40 points equates to a 40 percent difference in achievement relative to the standard deviation between gminas.

106. **There is a significant disparity in human capital between rural and urban gminas, as well as within each type of gmina.** The average score for urban gminas is approximately 570 points, while rural gminas have an average score of around 490 and rural-urban gminas have an average score of 500. The difference between urban and rural gminas is around 80 percent of the standard deviation, and the difference between rural-urban and urban is around 70 percent of the standard deviation of gmina-average test scores (figure 2.9). It is also worth noting that there is significant variation in results within each type of gmina, with urban and rural-urban gminas having a variation of around 90 and rural gminas having a variation of over 100. These results demonstrate a significant disparity in human capital between rural and urban gminas, as well as within each type of gmina.

107. **There seems to be a weak correlation between expenditures and test scores.** Despite the statistically significant estimates found for rural-urban gminas, the coefficient is small and does not necessarily imply causation. This means that an additional 1000 PLN in expenditures only translates into 3.5 points on the 500/100 scale, which is equivalent to 3.5 percent of the standard deviation. Interestingly, educational subvention appears to have a negative impact on test results. This could be due to the fact that subvention per student is higher in rural areas, where students tend to score lower. Conversely, a gmina's own income per inhabitant is positively related to achievement, which could be attributed to the well-established correlation between socioeconomic status and academic

success. It is also worth noting that larger school and class sizes may be a result of higher enrollment in popular schools or bigger cities where students come from higher socioeconomic backgrounds.

FIGURE 2.9 Distribution of Primary School Sixth-Grade Test Scores across Gmina Types



Source: World Bank analysis using Central Examination Board gmina-average exam results.

108. **When analyzing changes in student achievement, it appears that factors such as expenditures, educational subvention, and class size do not have a significant impact when controlling for time-invariant gmina fixed effects.** However, for rural-urban gminas there is a significant correlation between class size and gmina own income per inhabitant (annex 2 table A.6). Overall, these findings suggest that student achievement is influenced by factors other than those related to school financing or organization. This is consistent with the international research literature, which highlights the difficulty in “buying” educational quality after basic financing standards have been met. It is important to note that the lack of relationship between gmina expenditures and achievement may be due to limited possibilities for gminas to shape education policy in their areas. Despite their efforts, teacher contracts, curricula, standards, and assessments are centrally provided and regulated, making it challenging for gminas to bring about meaningful changes in student achievement.

109. **The analysis of national examination scores of eighth-grade students reveals that only gmina own income and preschool participation consistently impact learning outcomes.** The analysis indicates a positive correlation between average test scores and own income per inhabitant in urban gminas, while a negative correlation exists between student-per-teacher ratio and scores in rural-urban gminas (annex 2 table A.7). Expenditures are negatively associated with outcomes in urban gminas, even when controlling for educational subvention and other factors. The second analysis reveals that none of the factors can explain the interquartile range of test scores within each gmina. Lastly, the analysis of the lowest-scoring students, those in the first decile, indicates that students in urban gminas with higher own income per inhabitant have higher scores. In rural and rural-urban gminas, the lowest achievers perform better in LGUs with more children attending preschool.

2.6 Conclusions and recommendations

110. **In Poland, the education system is decentralized, with local governments having a significant role in the managing and financing of primary education.** While education spending is at the EU average level, the larger portion of it is allocated to tertiary education. Consequently, primary

and secondary education expenditures as a percentage of GDP are lower compared to most EU countries.

111. **Poland's education system is highly efficient, with students' learning outcomes ranking among the top in the EU.** Recent international assessments such as PISA and PIRLS have revealed that Polish students achieve some of the best results of students in EU countries. This is noteworthy, considering that other EU countries spend more on education and have higher average family incomes.

112. **Recent findings indicate that the pandemic and the reduction in mandatory general education in 2016 have resulted in significant learning losses.** Furthermore, although Poland is still one of the top-performing countries in the EU when it comes to education, the latest PIRLS 2021 results show a noteworthy decline in achievement, and teacher job satisfaction is the lowest among the participating nations.

113. **There are significant differences in educational spending among the types of gminas.** About half of these differences can be attributed to factors such as whether the gmina is rural or urban, the size and organization of the school, and the amount of educational subvention per student. Moreover, the amount of money spent on education is influenced by the gmina's income, with more affluent gminas investing more in their schools. Based on regression analysis, these factors can help explain the disparities in educational expenditures. Recently, the integration of Ukrainian refugees has added to the costs, potentially leading to further variations in expenses across gminas.

114. **There appears to be no correlation between student learning outcomes and expenditures or cost-related factors, according to regression analyses conducted using cross-sectional and panel data.** The results consistently show no significant relationship between any of these factors and student outcomes, including average scores and measures of inequity.

115. **Gminas play a crucial role in the managing and financing of Poland's school system, but their responsibilities may require some reevaluation.** The amount of money each gmina spends per student varies significantly and is influenced by cost-related factors considered in the general subvention algorithm, as well as independent decisions made by individual gminas on how to organize school education in their area. However, studies show that the variation in gmina expenditures does not necessarily correspond with differences in learning outcomes. To address this issue, gminas could be given greater autonomy and a more significant role in shaping education in their jurisdiction. For instance, local gminas and schools could set a portion of the curricula, have more flexibility in managing teachers' employment, and be permitted to experiment with educational innovations and financing.

116. **The gminas have the potential to play a more active role in shaping expenditures, particularly in the realm of school education.** Poland's spending on education is comparatively low, as are teacher salaries and the student-to-teacher ratio. It is imperative that the central government rethink how to encourage gminas to optimize their school networks and improve spending efficiency. 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. The financing system should be evaluated to create incentives for improving the school network and teacher employment. Allowing certain gminas to experiment with more-flexible solutions could further enhance the efficiency of the current system.

117. **Gminas face challenges in improving student outcomes and making efficient use of financial resources.** One of these challenges is the limited capacity to plan educational improvements at the

local level, which requires centralized strategic support to develop effective policies for enhancing the quality of education. Additionally, the bulk of the gminas' budgets is allocated toward essential expenses, primarily the operational costs of schools. This means that creating opportunities for gminas to use funds to incentivize improvements requires a reevaluation of their role in the education system. For instance, gminas could be granted more resources and freedom to offer motivational bonuses to teachers, as well as school principals. The latter could also be granted more autonomy in shaping employment and curricula in local schools, in collaboration with gmina administrations.

Chapter 3 – Fiscal Transfers and Economic Convergence

3.1 Introduction

118. **Unequal economic conditions across regions can result in a range of social and economic issues and to combat regional inequality many countries utilize fiscal transfers.** Regional disparities can have an adverse impact on regional competitiveness, making it challenging for less-fortunate areas to generate employment opportunities and attract investments. Additionally, such differences can render certain regions more susceptible to economic shocks, exacerbating regional inequality. In certain instances, these disparities can even lead to separatist movements in both highly and poorly developed regions. As a result, numerous countries use fiscal transfers to allocate resources more effectively and address regional inequality. However, these transfers may not always achieve their intended objectives, as they may create dependence and discourage regions from improving their economies on their own.

119. **This chapter analyzes how fiscal transfers impact economic convergence in Poland.**⁴⁷ Although Poland has experienced significant GDP growth since transitioning from a centrally planned to a market-based economy in 1990, the growth has been uneven across regions. When Poland joined the EU in 2004, it gained new trade and foreign investment opportunities, resulting in sustained economic growth and Poland's outperforming other Central and Eastern European countries. Despite showing resilience during the global financial crisis in 2008, the eurozone debt crisis, and the COVID-19 pandemic, there are still regional economic disparities that need to be addressed. Therefore, fiscal interventions are necessary to tackle inequality in the different regional economies.

120. **Fiscal transfers can contribute to economic convergence through various channels.** Fiscal transfers are typically given to regions with lower levels of economic development and can be used for productive expenses. Increasing these transfers could potentially decrease economic disparities by boosting output growth in poorer regions. However, this transfer scheme could also discourage economic growth in richer regions, because higher growth would result in more negative transfers. Additionally, an increase in fiscal transfers may lead to higher distortions and lower labor mobility, which could negatively impact output growth in the recipient regions. Thus, the overall effect of fiscal transfers on regional economic convergence is not straightforward from a theoretical standpoint. To better understand its impact in Poland, we examined regional data on output and fiscal transfers.

121. **The analysis finds evidence of real income convergence among Polish regions.** The convergence, as measured by β -convergence, means that regions with lower initial per capita GDP experienced higher economic growth from 2000 to 2020.⁴⁸ The analysis looks at the impact of fiscal transfers and finds that, on average, they did not significantly affect economic growth in Nomenclature of Territorial Units for Statistics (NUTS) 2 regions. However, fiscal transfers did increase the speed of convergence among Polish regions. Additionally, when comparing the impact of transfers for different regions, the data suggest a positive effect of fiscal transfers on economic growth for net transfer receivers and a negative effect for net taxpayers, indicating a strong positive effect of fiscal transfers on regional economic convergence.

122. **Since 1990, economic growth in Poland has increased significantly but has been unevenly distributed across various regions.** There are different economic performances across Poland's

⁴⁷ This chapter was prepared based on the background paper produced by Morteza Ghomi.

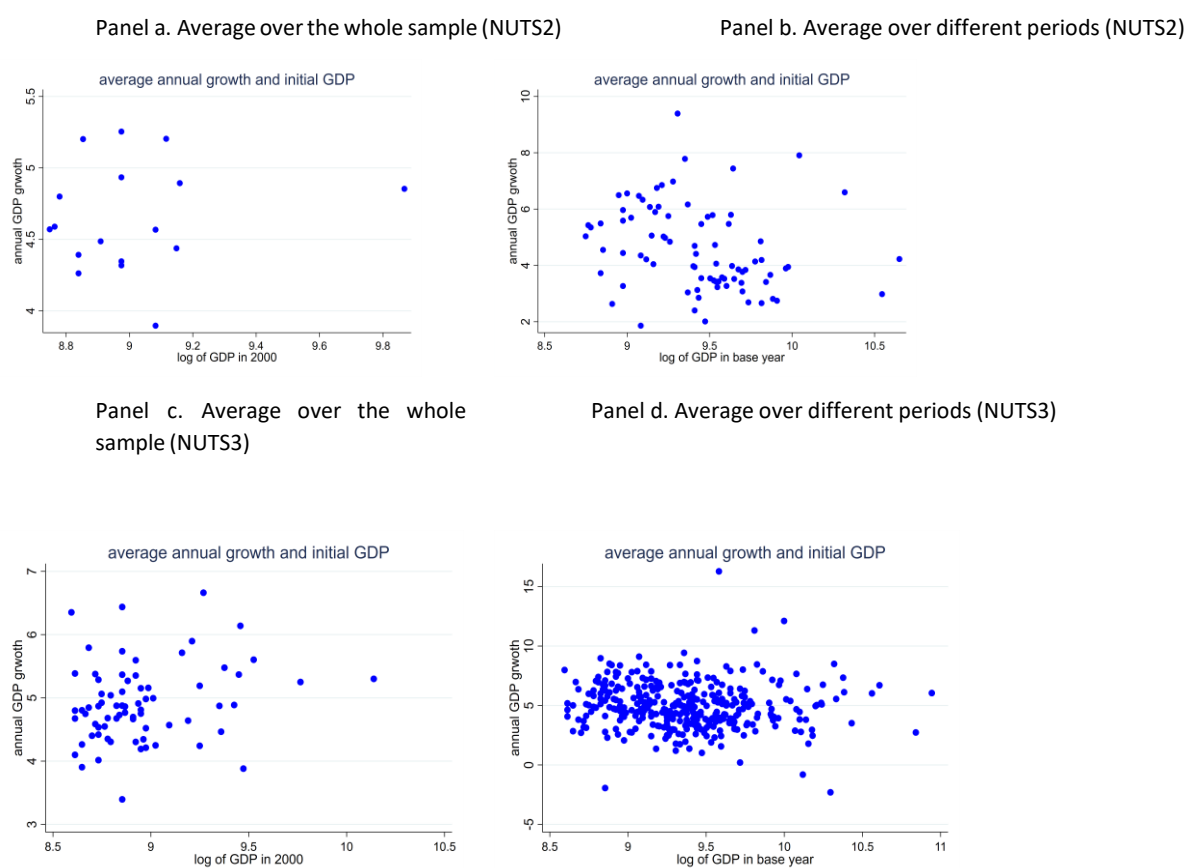
⁴⁸ Real convergence, often referred to as β -convergence, is based on the neoclassical growth model.

western and eastern subregions, leading to some regional polarization (Pietrzak and Balcerzak 2017). Despite the overall high level of economic growth, persistent regional inequality highlights the necessity for policy interventions aimed at reducing disparities in regional economies.

3.2 Economic convergence among Polish regions

123. **Real convergence is a concept that suggests nations or areas with lower per capita GDP experience faster economic growth compared to their wealthier counterparts.** The theory behind β -convergence is that economies starting with lower income levels have greater potential for expansion, because they can adopt technologies and policies from more-advanced economies, enabling them to catch up and converge eventually. Empirical studies have shown that the β -convergence coefficient has a negative sign, indicating a correlation between lower initial per capita GDP and higher economic growth.

FIGURE 3.1 β -Convergence across Polish Regions, 2000–2020



Source: Eurostat.

Note: Panels a and c plot the average annual growth rate and initial GDP per capita (PPS) for different regions in the period 2000 to 2020, while panels b and d, following Capella-Ramos et al. (2020) and Weddige-Haaf and Kool (2017), plot the average growth and initial values of GDP per capita for five distinct subsamples: (2000–2003, 2004–7, 2008–11, 2012–15, 2016–20) to address the issue of limited data availability and at the same time mitigate the effect of business cycles. NUTS3 level data are available up to 2019.

124. **There appears to be a negative correlation between economic growth and the initial economic conditions (β -convergence), with more-pronounced convergence observed among NUTS2 regions.** The analysis indicates that for the period of study, there is an unconditional β -

convergence present in Polish NUT2 and NUTS3 regions. This is demonstrated through bivariate regression of the average growth of GDP per capita on its initial values, which shows a pronounced negative correlation between the annual growth rate and the initial value of GDP per capita, particularly within Polish NUTS2 regions.⁴⁹

Table 3.1 Unconditional β -Convergences in Polish Regions

(NUTS2 Regions)			
	(1)	(2)	(3)
	Annual Growth	Average Growth (full sample)	Average Growth (subsamples)
L. GDP	-1.619*** (0.586)		
Initial GDP		0.197 (0.158)	- 1.007** (0.492)
Constant	19.90*** (5.465)	2.875* (1.436)	14.10** (4.579)
Observations	340	17	85
(NUTS3 Regions)			
L. GDP	- 0.796*** (0.245)		
Initial GDP		0.437 (0.243)	-0.432* (0.230)
Constant	12.29*** (2.289)	1.009 (2.087)	9.011** (2.155)
Observations	1387	73	365

Source: Author's estimations based on Eurostat data.

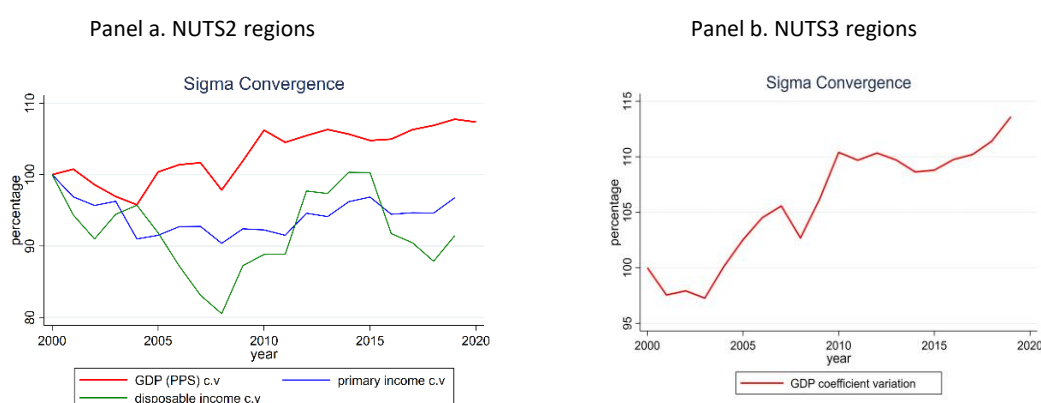
Note: Each column reports the estimation results of a simple bivariate linear regression: (1) regression of the annual growth rate of GDP per capita on its lagged per capita level (in log terms); (2) regression of the average annual growth rate of GDP per capita over the period 2000–2020 period on its initial per capita level in 2000 (in log terms); (3): regression of the average annual growth rate of GDP per capita in five equally divided time intervals on their initial per capita level (in log terms)—2000–2003, 2004–7, 2008–11, 2012–15, 2016–20 (2019 for NUTS3 data). The β -convergence coefficients are obtained using random effect panel regressions. Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

125. **Although the data suggest a long-run real economic convergence, GDP per capita dispersion increased slightly during the financial and sovereign debt crises, which indicates a lack of σ -convergence over that time.**⁵⁰ In their study of EU NUTS3 regions, Capella-Ramos et al. (2020) find a similar outcome. This trend has persisted since Poland's inclusion in the EU in 2004. However, after 2012 there was a significant decrease in the coefficient of variation for GDP. Additionally, the dynamic dispersion of regional income indicates that both primary and disposable incomes are less dispersed than GDP. The lower dispersion of income variables underscores the importance of labor and capital mobility, as well as government interventions in regional convergence. Table 3.2 presents the unconditional β -convergence for GDP and income indicators, with a significant negative value.

⁴⁹ However, the average growth data for the entire sample (column 2 in table 3.1) does not support this finding. The discrepancy may be attributed to an outlier, Warszawski Stoleczny, which had a very high initial GDP. A negative and statistically significant β -convergence coefficient is estimated by excluding this region.

⁵⁰ σ -convergence implies a decline in economic dispersion among countries or regions. It is assessed by analyzing the standard deviation or coefficient of variation of GDP per capita across countries or regions. A decrease in the standard deviation over time indicates a convergence in income levels among the units of interest.

FIGURE 3.2 σ -Convergences across Polish Regions, 2000–2020



Source: Author's calculations based on Eurostat data.

Note: Panel a plots the coefficient of variation (CV) for 17 NUTS2 regions from 2000 to 2020 and panel b for 73 NUTS3 regions from 2000 to 2019. Data on primary and disposable income are only available up to the NUTS2 level. All variables are in per capita level and all values are normalized to 100 in the initial year 2000.

Table 3.2 Unconditional β -Convergences for GDP and Income Variables in Polish Regions, 2000–2020

	GDP Growth		Primary Income Growth		Disposable Income Growth	
	(1)	(2)	(1)	(2)	(1)	(2)
Lagged Value	-0.938** (0.407)		-0.978** (0.262)		-0.932** (0.218)	
Initial Value		-1.007** (0.492)		-0.831*** (0.241)		-0.757*** (0.204)
Constant	13.67*** (3.806)	14.10*** (4.579)	13.69*** (2.361)	12.13*** (2.134)	13.10*** (1.987)	11.47*** (1.832)
Observations	323	85	323	85	323	85

Source: Author's estimations based on Eurostat data.

Note: Each column reports the estimation results of a simple bivariate linear regression: (1) regression of the annual growth rate of GDP per capita and primary and disposable income per capita on their lagged per capita level (in log terms); (2) regression of the average annual growth rate of GDP per capita and primary and disposable income per capita in five equally divided time intervals on their initial per capita level (in log terms)—2000–2003, 2004–7, 2008–11, 2012–15, 2016–20 (2019 for NUTS3 data). The β -convergence coefficients are obtained using random effect panel regressions. Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

3.3 The role of fiscal transfers in economic convergence

126. **Net fiscal transfers at the regional level, proxied by the ratio between disposable and primary incomes, capture the impact of distributional policy measures.** This ratio measures the impact of distributional policy measures, such as taxes and transfers, within countries. This net fiscal transfers measure was used to evaluate the distribution of resources among NUTS2 regions in Poland from 2000 to 2019. The ratio ranged from 70 to 109, with a mean of 97 and a median of 98. Warszawski Stołeczny had the lowest ratio of 75, Wielkopolskie a ratio of 93, and Warmińsko-Mazurskie and Świętokrzyskie had the highest average ratio of 102.

Table 3.3 Effect of Net Fiscal Transfers on GDP Per Capita Growth in Polish Regions

Panel a.				
	Annual GDP Growth			
	(1)	(2)	(3)	(4)
L.GDP	-2.753*** (0.294)	-3.266*** (0.235)	-26.13*** (7.131)	-25.46*** (6.968)
Net Fiscal Transfer	-0.139*** (0.0222)		-0.0374 (0.0786)	
L. Net Fiscal Transfer		-0.129*** (0.0165)		0.0245 (0.0807)
Constant	44.27*** (4.592)	48.03*** (3.633)	249.3*** (69.98)	237.2*** (69.03)
Observations	323	340	251	251
	(1)	Sub-samples (2)	Average (3)	Growth (4)
Panel b.				
Initial GDP	-3.056*** (0.289)	-2.388*** (0.249)	-20.13*** (2.677)	-19.82*** (2.850)
Net Fiscal Transfer	-0.160*** (0.0214)		-0.00974 (0.0567)	
Initial Fiscal Transfer		-0.113*** (0.0113)		0.0125 (0.0500)
Constant	48.93*** (4.383)	38.04*** (3.350)	193.9*** (27.02)	188.9*** (29.61)
Observations	85	85	64	64
Other Controls	NO	NO	YES	YES
Time Fixed Effect	NO	NO	YES	YES
Regional Fixed Effect	NO	NO	YES	YES

Source: Author's estimations based on Eurostat data.

Note: Panel a reports the estimation results using the annual growth rate of regional GDP per capita for regression of GDP per capita growth on its lagged value (in log terms) and net fiscal transfer (columns 1 and 3) and lag value of net fiscal transfer (columns 2 and 4); panel b reports the results for regression of the average annual growth rate of GDP per capita in five equally divided time intervals on their initial per capita level (in log terms) and average net fiscal transfers (columns 1 and 3) and initial value of net fiscal transfer in each subsample (columns 2 and 4)—2000–2003, 2004–7, 2008–11, 2012–15, 2016–20. Control variables include unemployment rate, agricultural share, investment rate, and labor mobility. Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

127. **When controlling for regional economic characteristics, net fiscal transfers have little impact on annual GDP growth.** However, if we look at annual data without considering other factors such as the unemployment rate, regional economic structure, investment rate, labor mobility, and specific regional and time-specific factors, an increase in the disposable to primary income ratio is associated with a decrease in economic growth. When we consider these factors, we find that net fiscal transfers do not have a statistically significant effect on economic growth.⁵¹ On average, net fiscal transfers have

⁵¹ The share of agriculture in the total compensation of employees is used as a proxy for regional economic structure, and the ratio of the number of a NUTS 2 region's residents working outside the region to the number of those working inside the region is used as a proxy for outward labor mobility in each region.

a negligible effect on annual GDP growth when we consider regional economic characteristics (table 3.3).⁵² It is important to note, though, that the impact of net fiscal transfers may vary across regions with different levels of economic development, which could affect economic convergence.

Table 3.4 Effect of Net Fiscal Transfers on the Speed of Economic Convergence

	Annual GDP Growth		Subsamples Average Growth	
	Current Value of Transfers	Initial Value of Transfers	Current Value of Transfers	Initial Value of Transfers
L. GDP	- 26.63*** (6.853)	- 26.84*** (6.718)		
Net Fiscal Transfer	1.984 (2.771)			
L. Net Fiscal Transfer		3.261 (2.253)		
Initial GDP			-3.193 (10.43)	2.845 (13.39)
Net Fiscal Transfer			2.024* (1.132)	
Initial Fiscal Transfer				2.641* (1.445)
Interaction	-0.223 (0.302)	-0.359 (0.249)	-0.213* (0.118)	-0.278* (0.153)
Constant	252.5*** (66.67)	248.3*** (65.70)	31.23 (101.6)	-27.45 (129.2)
Observations	251	251	64	64
Other Controls	YES	YES	YES	YES
Time Fixed Effect	YES	YES	YES	YES
Regional Fixed Effect	YES	YES	YES	YES

Source: Author's estimations based on Eurostat data.

Note: Columns 1 and 2 report the estimation results using the annual growth rate of regional GDP per capita for the regression of GDP per capita on its lagged value ((in log terms), current or lagged value of the net fiscal transfer, and the interaction of the two; columns 3 and 4 report the results for regression of the average annual growth rate of GDP per capita in five equally divided time intervals on their initial level (in log terms), the average or initial value of fiscal transfers, and the interaction of the two in each subsample for 2000–2003, 2004–7, 2008–11, 2012–15, 2016–20. Control variables include unemployment rate, agricultural share, investment rate, and labor mobility. Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

128. Higher net fiscal transfers increase the speed of economic convergence among Polish regions over longer time horizons. Higher net transfers correspond to a higher disposable income relative to primary income. To examine the impact of net fiscal transfers on economic convergence among Polish regions, an interaction term between fiscal transfers and the initial development stages of each region (initial GDP \times fiscal transfers) was introduced into the growth regressions. The results

⁵² Reverse causality and the endogenous nature of fiscal transfers are two important challenges when attempting to identify direct causal impact on GDP growth. In regressions (1) and (4) the lagged value (or initial value in each subsample) of net fiscal transfer is considered in estimations that condition on controlling for the initial GDP of each region and can mitigate the harm of reverse causality or endogeneity.

shown in table 3.4 indicate that the absolute value of the β coefficient increases as the fiscal transfer increases. However, this convergence is less significant in the short run (columns 1 and 2 of table 3.4) with net fiscal transfers having a more substantial impact on promoting convergence over longer time horizons, smoothing out the effects of short-term economic fluctuations. The fiscal transfers analyzed in this study only consider social transfers such as taxes and subsidies and do not consider capital transfers between regions. To overcome this limitation, the definition of fiscal transfers was expanded to include the ratio of total disposable income and capital transfers to primary income. The results of this extended analysis show a comparable impact on economic convergence, although the level of statistical significance is slightly lower.⁵³

129. **In the case of “receiving regions” there is evidence of a positive association between net fiscal transfers and output growth.** When comparing the effects of fiscal transfers on different subsamples, such as “receiving regions” and “heavily taxed regions,” it was found that higher fiscal transfers are associated with increased economic growth in receiving regions.⁵⁴ However, for heavily taxed regions, there was a negative impact on output growth, suggesting that net fiscal transfers may have had a detrimental effect on their growth. Additionally, the positive impact of net transfers on receiving regions was more robust and statistically significant, while the impact on taxed regions was weaker. As a result, it appears fiscal transfers have played a role in promoting economic convergence in the economy by directing transfers toward the receiver regions.

Table 3.5 Effect of Net Fiscal Transfers on GDP Per Capita Growth in Different Polish Regions

	(Subsamples Average GDP Growth) full sample	receivers	heavily taxed
Initial GDP	-24.44*** (5.187)	-17.07*** (2.602)	-29.39*** (3.267)
Net Fiscal Transfer	0.341 (0.355)	1.228*** (0.126)	-0.156* (0.0824)
Other Controls	YES	YES	YES
Time Fixed Effect	YES	YES	YES
Regional Fixed Effect	YES	YES	YES
Observations	256	144	112

Source: Author’s estimations based on Eurostat data.

Note: The table presents estimation results for a structural equation model with two equations: (1) the relationship between GDP per capita growth and the net fiscal transfer, controlling for the initial level of GDP per capita, labor mobility, investment rate, and agriculture share; and (2) the relationship between the net fiscal transfer and GDP per capita, while controlling for the unemployment rate. Both time and NUTS2-regional-level fixed effects are included in both regression estimations; the dependent variable is the average annual growth rate of GDP per capita in five equally divided time intervals—2000–2003, 2004–7, 2008–11, 2012–15, 2016–20. Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

⁵³ Data for capital transfer between regions are only available since 2009 and as a result this exercise is estimated with a relatively small number of observations.

⁵⁴ This definition is based on their average net fiscal transfers compared to the median value of 98 percent for the whole sample. Receiving regions, on average, had net fiscal transfers that exceeded the median value (Checherita et al. 2009; Capella-Ramos et al. 2020).

130. **When implementing a structural model, it was found that the net fiscal transfer did not have a significant effect on overall GDP growth. However, it did have a positive impact on regions that received the transfer and a statistically negative impact on heavily taxed regions.** These findings were consistent with those of Checherita-Westphal et al. (2009) and Capella-Ramos et al. (2020). To address concerns of endogeneity, an exogenous instrument was used for regional fiscal transfers. While finding a suitable instrument proved challenging, the main results remained consistent when the net fiscal transfer in each region was instrumented using the same measure across all other NUTS1 regions.

3.4 Conclusions

131. **This chapter examined the effects of fiscal transfers on economic convergence within Polish regions from 2000 to 2020.** The analysis suggests that regions with lower initial GDP per capita tend to experience higher economic growth, indicating β -convergence. This finding is consistent in both the short-run (annual growth) and the long-run (average growth) analysis. The dynamic of economic dispersion, however, indicates a stronger convergence for income variables, underscoring the importance of labor and capital mobility and government interventions. The estimated β -convergence persists even when controlling for these factors.

132. **In terms of the impact of fiscal transfers, the results indicate that, on average, they do not significantly affect economic growth in NUTS2 regions. Nevertheless, fiscal transfers increase the rate of convergence significantly among Polish regions.** An increase in net fiscal transfers leads to higher economic growth in poorer regions in Poland compared to their richer counterparts. Additionally, when the sample is divided into net transfer receivers and taxpayers, the analysis shows a strong positive effect on the receiver regions, implying that fiscal transfers positively impact regional economic convergence. Despite the challenges in identifying the causal impact of fiscal transfers, the results remain robust, even when considering potential reverse causality and endogeneity. The main implication of these findings for policy makers in Poland is that while fiscal transfers, on average, do not stimulate overall economic growth, directing them toward less-developed regions can have a positive impact on economic activities and contribute to economic convergence. Furthermore, suggests that targeted allocation of fiscal transfers to poorer regions can effectively promote economic development and reduce regional disparities. Future studies could focus on evaluating the impact of different types of transfers, such as EU structural funds, and assess their significance in driving regional economic convergence. Understanding the specific effects of various transfer mechanisms would provide policy makers with valuable insights for designing effective policies to foster regional economic development and convergence.

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Annex 1 – Main Spending Responsibilities by Sector and Local Government Level

Area/sector	Gminas	Poviats	Voivodships (regions)
General public services	<ul style="list-style-type: none"> • Internal administration • Real estate management • Civil registration status 		<ul style="list-style-type: none"> • Internal administration • Management of EU funds
Public order and safety	<ul style="list-style-type: none"> • Public order and security • Emergency response 	<ul style="list-style-type: none"> • Civil protection • Flood and fire protection 	<ul style="list-style-type: none"> • Defense • Public order
Economic affairs	<ul style="list-style-type: none"> • Local roads • Local public transport • Telecommunications 	<ul style="list-style-type: none"> • Job policy (employment offices) • County roads 	<ul style="list-style-type: none"> • Regional economic development • Employment and labor market policy • Regional roads • Public transport • Consumer rights protection
Environmental protection	<ul style="list-style-type: none"> • Zoning and local environmental protection • Waste management • Sewerage • Landfills 	<ul style="list-style-type: none"> • Environmental protection 	<ul style="list-style-type: none"> • Environmental protection
Housing and community amenities	<ul style="list-style-type: none"> • Spatial planning • Water supply • Public areas • Utilities • Housing 		<ul style="list-style-type: none"> • Spatial development • Water management • Land improvement • Modernization of rural areas
Health	<ul style="list-style-type: none"> • Health promotion • Primary health care services 	<ul style="list-style-type: none"> • Health promotion • County hospitals 	<ul style="list-style-type: none"> • Health promotion • Regional hospitals • Medical emergency and ambulance services
Culture and recreation	<ul style="list-style-type: none"> • Local cultural institutions (such as libraries) • Monument protection • Sport promotion 	<ul style="list-style-type: none"> • Support for cultural institutions • Sports and tourism 	<ul style="list-style-type: none"> • Regional cultural institutions
Education	<ul style="list-style-type: none"> • Preprimary and primary education 	<ul style="list-style-type: none"> • Secondary education 	<ul style="list-style-type: none"> • Some secondary schools and vocational schools • Postsecondary schools • Teacher training colleges
Social welfare	<ul style="list-style-type: none"> • Social services (through municipal social assistance centers) 	<ul style="list-style-type: none"> • Social welfare (beyond municipal boundaries) • Support for the disabled through county family centers 	<ul style="list-style-type: none"> • Regional social policy centers • Social welfare and family policy • Social exclusion • Disabled, child, and elderly care

Source: SNG-WOFI 2022.

Annex 2 – Education Spending Efficiency Regression Results

Table A.1 Regression Explaining Expenditures per Student in Primary Schools, 2004–14

Outcome: Expenditures on Primary Schools per Student	All Gmina	Urban	Rural	Rural-Urban
Transportation costs per student	0.39***	1.37***	0.34***	0.33***
Own income per inhabitant	0.33***	0.54***	0.32***	0.27***
Log of school size (students)	-1.07***	-1.08***	-1.46***	-0.98***
Log of class size (students)	-200.93***	-166.35***	-193.19***	-204.87***
% of three- to five-year-olds in preschool	2.33***	3.30*	2.03***	1.12
% of students in schools run by gmina	25.11***	16.38***	25.19***	29.34***
<i>Gmina Type (Rural as Baseline)</i>				
Urban	-336.02***			
Rural-Urban	-83.58*			
Year (baseline=2004)				
2005	92.23*	81.91	87.88	115.18
2006	364.30***	249.79**	369.57***	419.94***
2007	513.80***	332.07***	525.67***	591.48***
2008	821.08***	595.11***	858.91***	871.14***
2009	1182.06***	907.54***	1246.09***	1207.50***
2010	1603.13***	1183.95***	1705.72***	1597.19***
2011	1627.23***	1080.88***	1803.62***	1493.56***
2012	1720.69***	1020.75***	1900.49***	1649.57***
2013	1706.23***	1051.96***	1880.59***	1646.26***
2014	1419.72***	779.18***	1565.31***	1437.07***
Constant	5842.97***	5827.27***	5715.40***	5291.71***
r ²	0.47	0.49	0.41	0.49
N	26544	2652	17379	6513

Note: Data for all gmina except city counties, 2004–14. Expenditures and incomes in fixed year 2000 prices.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A.1 presents regression results explaining variation in expenditures on regular primary schools across gminas. Table A.2 presents similar results, but controls for educational subvention per student (total educational part of the general subvention divided by the total number of students in the gmina). These are regressions using pooled data at the gmina level for 2004–14, after the reform introducing lower-secondary schools and before their liquidation. All expenditures and incomes are expressed in real terms and calculated per capita. City counties, the largest cities, are excluded from the analyses. These regressions explain around half of the variation in gmina expenditures per student.

Table A.2 Regression Explaining Expenditures per Student in Primary Schools, Controlling for Educational Subvention per Student, 2004–14

Outcome: Expenditures on Primary Schools Per student	All gmina	Urban	Rural	Rural-Urban
Transportation costs per student	0.22***	1.22***	0.20***	0.08
Own income per inhabitant	0.34***	0.53***	0.34***	0.31***
Log of school size (students)	-0.65***	-0.92***	-1.02***	-0.35
Log of class size (students)	-186.04***	-132.53***	-185.24***	-180.63***
% of three- to five-year-olds in preschool	1.49**	5.22***	0.37	1.96*
% of students in schools run by gmina	22.98***	9.1	25.00***	23.63***
Educational subvention per student	0.38***	0.33***	0.44***	0.30***
Gmina Type (Rural as Baseline)				
Rural-urban	-170.62***			
Urban	237.20***			
Year (baseline=2004)				
2005	67.41	45.95	74.49	67.02
2006	260.27***	165.08	250.37***	319.06***
2007	306.66***	181.75	269.43***	424.87***
2008	459.99***	321.47***	409.32***	591.99***
2009	709.83***	566.16***	660.05***	837.28***
2010	1033.97***	772.19***	998.16***	1157.19***
2011	1010.28***	621.26***	1043.68***	1004.69***
2012	994.24***	481.79***	1009.02***	1071.58***
2013	944.82***	477.97***	949.19***	1035.47***
2014	705.28***	232.63	700.94***	840.22***
Constant	4295.59***	4680.79***	3862.03***	4266.86***
r2	0.49	0.52	0.43	0.52
N	26544	2652	17379	6513

Note: Data for all gmina except city counties, 2004–14. Expenditures in fixed year 2000 prices.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A.3 shows a similar specification as was presented in Tables 2 and 3 that uses panel data models with gmina and time fixed effects. These results show how changes in explanatory factors over time are associated with changes in expenditures, after controlling for time-invariant characteristics of each gmina.

Table A.3 Regression Explaining Expenditures per Student in Primary Schools, Controlling for Educational Subvention per Student and Time and Gmina Fixed Effects, 2004–14

Variable	All Gmina	Urban	Rural	Rural-Urban
Transportation costs per student	0.41***	1.88	0.36***	0.25
Own income per inhabitant	0.13*	0	0.28***	0.06
Log of school size (students)	-0.26	0.37	-1.2	-1.76**
Log of class size (students)	-148.96***	-57.89*	-149.64***	-137.46***
% of three- to five-year-olds in preschool	0.97	-1.29	0.55	-1.97
% of students in schools run by gmina	19.39***	-24.27	21.99***	11.50*
Educational subvention per student	0.58***	0.50***	0.61***	0.41***
Year (baseline=2004)				
2005	65.76***	113.13**	75.11**	51.67
2006	234.67***	325.62***	219.61***	304.92***
2007	254.59***	452.81***	199.42***	419.73***
2008	338.69***	658.43***	259.24***	586.61***
2009	533.75***	868.98***	464.29***	826.47***
2010	815.50***	1106.35***	755.43***	1133.25***
2011	767.54***	989.16***	767.22***	998.02***
2012	683.56***	807.98***	666.77***	1024.03***
2013	628.28***	842.00***	594.68***	999.52***
2014	431.88***	695.50**	374.90**	863.26***
Constant	3228.93***	5944.06*	2882.28***	4743.60***
Gmina fixed effects	Yes	Yes	Yes	Yes
r2 within	0.48	0.45	0.46	0.55
r2 between	0.46	0.36	0.35	0.4
Number of gmina	2410	241	1590	608
N	26509	2643	17353	6513

Note: Data for all gmina except city countries, 2004–14. All expenditures and costs in fixed year 2000 prices.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A.4 provides a similar cost analysis for the latest data covering years 2019–21.

Table A.4 Pooled Regression Explaining Expenditures on Eight-Grade Regular Primary Schools, 2019–21

Variable	All Gmina	Urban	Rural	Rural-Urban
Transportation costs per student	0.54***	2.24***	0.52***	0.57***
Own income per inhabitant	0.48***	0.78***	0.44***	0.44***
Log of school size (students)	-0.79**	0.23	-0.66	-2.05***
Log of class size (students)	-312.72***	-327.52***	-304.76***	-288.32***
% of three- to five-year-olds in preschool	-11.49***	-3.16	-13.91***	-7.36**
% of students in schools run by gmina	33.67***	48.74***	30.26***	41.40***
educational subvention per student	0.24***	0.29***	0.30***	0.13***
Gmina Type (Urban as Baseline)				
Rural	-125.09			
Rural-Urban	-411.11***			
Year (2019 as a baseline)				
2020	741.86***	449.61***	811.79***	704.44***
2021	1018.33***	497.69***	1149.45***	909.02***
Constant	8309.86***	5217.74***	8095.03***	7571.49***
r2	0.49	0.65	0.37	0.45
N	7233	708	4593	1932

Note: Data for all gmina except city counties, 2019–21. All expenditures and incomes in fixed year 2000 prices.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A.5 Regression Results Explaining Primary School Sixth-Grade Test Scores, 2004–14

Variable	All Gmina	Urban	Rural	Rural-Urban
Expenditures per student in regular primary school	1.73***	2.39	1.04	3.57***
Educational subvention per student	-12.43***	-12.62***	-9.46***	-16.26***
Own income per inhabitant	3.50***	15.52***	3.84***	-1.05
Log of school size	6.85**	19.16***	13.71***	-25.30***
Log of class size	-21.96***	83.25***	-36.97***	29.95*
% of three- to five-year-olds in preschool	1.26***	1.46***	1.13***	1.63***
% of students in schools run by gmina	-0.23*	-5.07***	0.12	0.1
Gmina Type (Urban as Baseline)				
Rural	-12.61***			
Rural-Urban	-24.41***			
Year fixed effects	Yes	Yes	Yes	Yes
Constant	569.14***	635.57***	522.08***	510.11***
r ²	0.10	0.20	0.05	0.10
N	26541	2652	17376	6513

Note: Data for all gmina except city countries, 2004–14. All expenditures in thousands of PLN per student in fixed year 2000 prices. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

The differences in test scores among gminas may be linked to both the costs and quality of education. The regression models that yield the results shown in table A.5 use similar data as those for explaining costs, but we use expenditures per student in primary schools to explain test results. To simplify the interpretation of coefficients, we express expenditures, subvention, and gmina own income in thousands of PLN per student, with school and class size measured as logarithms. This allows for a percentage change interpretation of the coefficients. The remaining variables are defined as previously.

Table A.6 Panel Regression Explaining Changes in Primary-School Sixth-Grade Test Scores over Time, 2004–14⁵⁵

Variable	All Gmina	Urban	Rural	Rural-Urban
Expenditures per student in regular primary school	0.14	-0.76	0.21	-0.19
Educational subvention per student	-1.58	-2.29	-3.43	2.07
Own income per inhabitant	-0.11	4.14*	4.27	-4.27***
Log of school size	-1.22	28.85	-3.55	-21.10*
Log of class size	-7.67	-5.26	-5.51	19.07
% of three- to five-year-olds in preschool	0.06	0.13	0.04	0.08
% of students in schools run by gmina	0.19	-0.34	0.19	0.44
Year fixed effects	Yes	Yes	Yes	Yes
Constant	509.76***	444.82**	510.63***	496.00***
r2 within	0	0.03	0	0
r2 between	0.04	0.08	0.02	0
Number of gminas	2408	241	1588	608
N	26487	2643	17331	6513

Note: All expenditures in PLN 1000 per student in fixed year 2000 prices. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

⁵⁵ The sixth-grade exam scores for gminas from 2002 to 2016 are available; the 2016 education system reform reestablished exams for eighth graders, which were first administered in 2019.

Table A.7 Regressions Explaining Average Eighth-Grade Results and Their Variation within Gmina

Variable	Average Scores			Interquartile Range			First Decile		
	Urban	Rural	Rural-Urban	Urban	Rural	Rural-Urban	Urban	Rural	Rural-Urban
Expenditures per student in regular primary school	-21.9**	-2.2	0.2	-17.0*	-2.0	-5.5	-14.1	-1.0	3.0
Log of student per teacher ratio	-12.9	-19.8	-82.2*	-13.4	-22.6	-16.1	44.6	-3.4	-47.4
Own income per inhabitant	63.4***	8.5**	5.5	12.2	4.9	2.3	52.2***	5.4	2.1
% of three- to five-year-olds in preschool	1.0*	2.7***	3.4***	0.1	1.0***	1.0***	0.8	2.1***	2.5***
% of students in schools run by gmina	-1.1	0.6*	0.4	-0.8	0.8**	0	-0.8	0.1	0.1
Educational subvention per student	8.9	-6.3*	2.6	-10.4	1	0.2	16.5*	-3.8	6.3
Constant	537.6	354.1	352.3	772.0	404.4	507.8	282.3	387.8	312.8
r ²	0.21	0.18	0.17	0.11	0.02	0.03	0.14	0.10	0.10
N	236	1537	638	236	1537	638	236	1537	638

Note: All expenditures in PLN 1000 per student in fixed year 2000 prices. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.