



LUXEMBOURG

SELECTED ISSUES

June 2024

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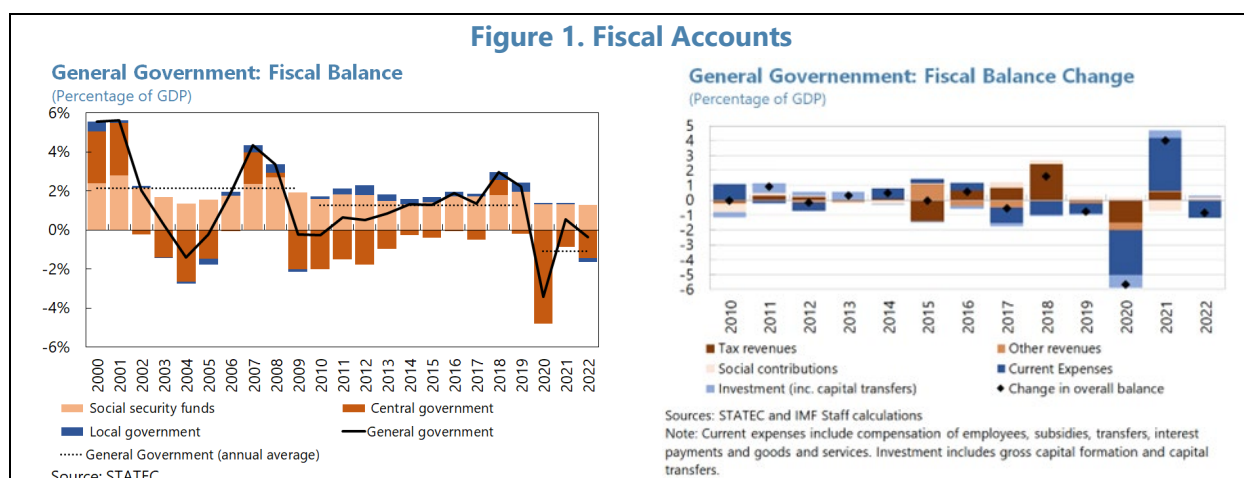
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FISCAL TRENDS AND RISKS: IMPLICATIONS FOR SAFEGUARDING FISCAL SPACE

Luxembourg has a track record of prudent fiscal policy that has helped it maintain public debt and financing costs at comfortable levels. Fiscal performance has, however, become less vigorous in recent years. Over the past couple of decades, revenues stayed broadly flat as a share of GDP, as the decline in income taxes paid by corporations as a share of GDP was offset by the increase in taxes paid by individuals. This has been partly due to favorable employment growth, but also due to infrequent tax bracket adjustments. At the same time, expenditures have increased as a share of GDP, especially since mid-2010s, driven by social benefits and compensation of employees. Looking forward, future liabilities due to ageing-related obligations, much needed investment for the green and digital transitions, and obligations to achieve NATO military spending goals will put upward pressures on expenditures. Accordingly, to preserve its ample fiscal buffers, which will support the government's commitment of keeping Luxembourg's AAA rating, a more prudent fiscal policy would be advisable. Recent revenue increases should not be taken as given, and additional tax reforms should be done in a budget-neutral manner. The growth of compensation of employees should be limited, social programs better targeted, and their efficiency increased. Early pension reform would also help limit spending pressures. Finally, a national framework could help anchor fiscal policy and maintain a credible commitment to prudent fiscal policies.

A. Introduction

1. While Luxembourg has a track record of prudent fiscal policy, fiscal performance has become less vigorous in recent years. Since the 2000s, the balance of the general government deteriorated from an average of 2.1 percent of GDP during 2000–09, to an average of 1.3 percent of GDP during 2010–19, and further to about $\frac{3}{4}$ percent of GDP during 2020–22 (accounting for discretionary measures related to the COVID and energy crises of 1.9 percent of GDP on average; (Figure 1, left chart)). The surpluses of the social security funds became less buoyant, with a slower growth of social contributions. Simultaneously, the deficits of the central government became more persistent, with a pick-up in public spending, notably current expenses. The fiscal response to the COVID-19 pandemic led to a notable deterioration of the fiscal balance, as revenues declined with economic activity and expenditure on health and social benefits increased (Figure 1, left chart). Even accounting for the COVID-related measures, current expenses have weighed on the change of the general government balance (Figure 1, right chart). The overall general government deficit has narrowed since the pandemic, but expenditures remain above pre-pandemic levels, in part reflecting the policies to help address the energy crisis.



2. In the face of structural spending pressures, including rising ageing costs, as well as fiscal risks, safeguarding ample fiscal space will be important. In addition to rising pension and healthcare costs, there will be increased spending needs related to investment in climate change, digital transition, and defense. It is essential to safeguard ample fiscal space to ensure sufficient resources for public spending are available, while maintaining prudent debt levels and preserving the triple-A sovereign rating.

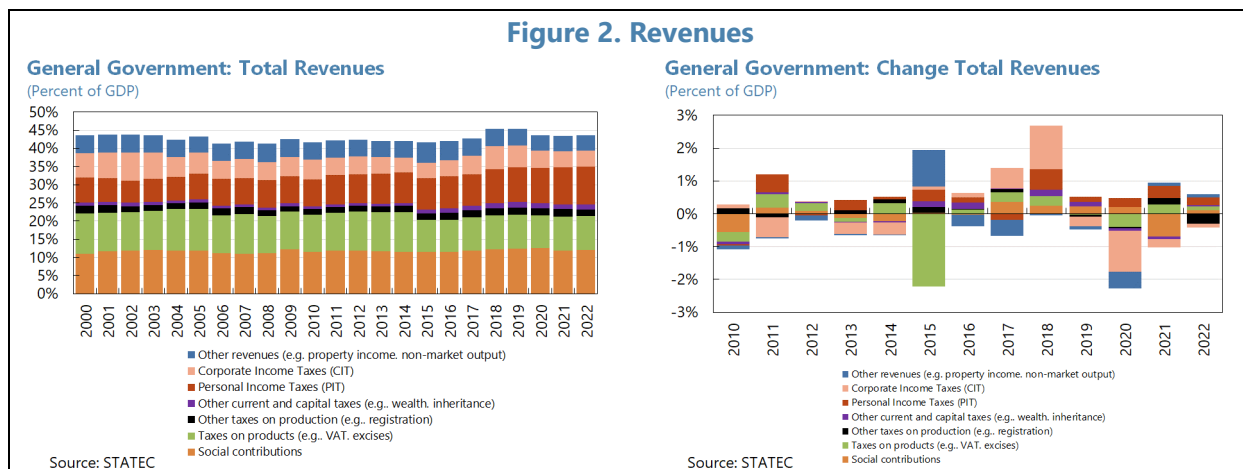
3. This note is organized as follows. First, the analysis discusses the main drivers of revenues and expenditures in recent years. Second, against the background of rising ageing costs, the analysis discusses the fiscal outlook, accounting for the announced government plans, as well as fiscal risks. Finally, the analysis offers options for helping to safeguard ample fiscal space, in view of the spending pressures and risks.

B. Drivers of Revenues and Expenditures

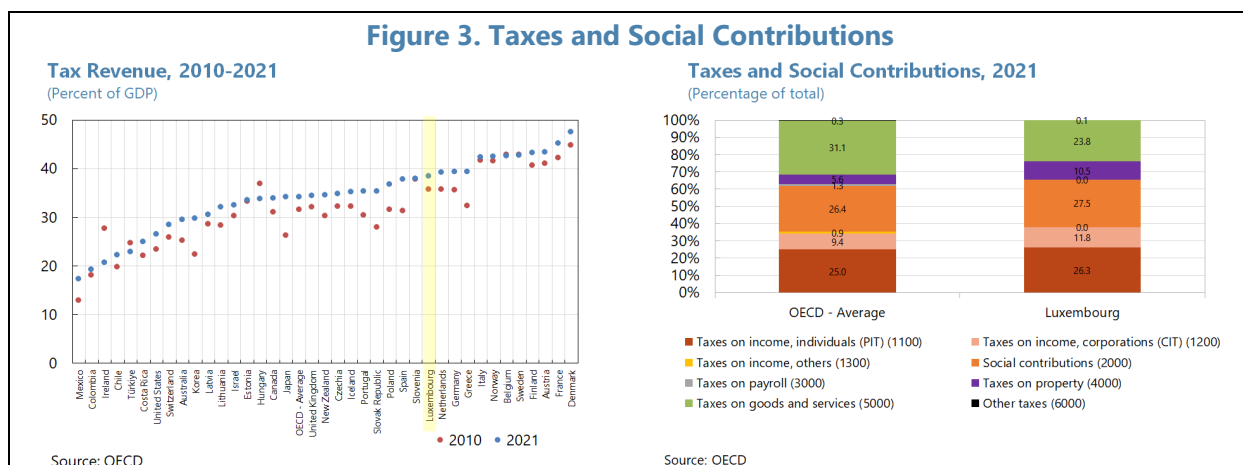
Revenues

Personal income tax (PIT) revenues rise, supported by strong employment and real wage growth and infrequent tax brackets adjustment, helped offset the decline in corporate income taxes (CIT) as percentage of GDP.

4. Fiscal revenues in the past decade have been bolstered by growth in tax revenues, especially personal income taxes. Revenues stood at 43.6 percent of GDP in 2022, about 2 percentage points (pps) of GDP higher than 2010 (Figure 2, left chart). Taxes accounted for the largest share of revenues at 27.4 percent of GDP in 2022 (+2 pps since 2010), followed by social contributions at 12 percent of GDP (+0.4 pps of GDP since 2010), and other revenues at 4.2 percent (-0.5 pps since 2010). PIT contributed the most to the increase in revenues (3 pps of GDP), reaching 10.4 percent of GDP by 2022, followed by other current taxes (including net wealth taxes), with +0.6 pps. of GDP (Figure 2, right chart). These efforts were partially offset by the decline in the weight of CIT and taxes on products (e.g., value-added tax (VAT) and excises) by 1 pps and 0.7 pps, respectively since 2010.



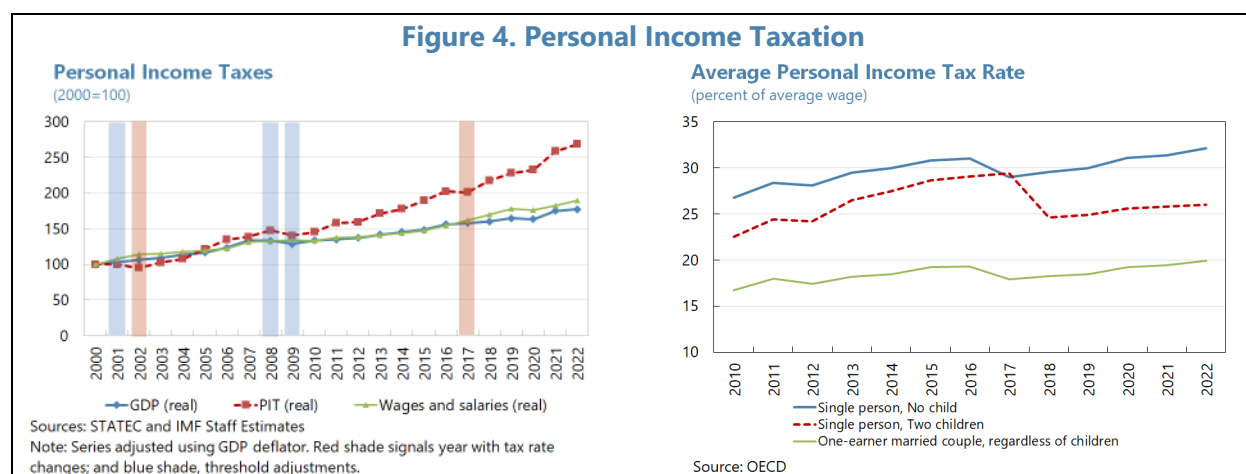
5. Luxembourg’s tax revenues as a share of GDP are below some of its EU peers and rely less on VAT. While tax revenues (as a share of GDP) in Luxembourg have increased since 2010, they remain at the lower end of its EU counterparts (Figure 3, left chart). Luxembourg also relies less on VAT than some of its EU peers, which is preferable, since VAT tends to be more regressive.¹ At 17 percent, VAT rates in Luxembourg are below the average of OECD countries of closer to 20 percent and the share in total revenues is smaller (Figure 3, right chart). There has also been a decline in VAT revenues in Luxembourg, due to changes in tax regulations concerning the trade cross-border electronics (CNFP, 2022). However, Luxembourg relies, more on property taxation than the OECD average. This includes net wealth and property taxes, inheritance taxes, and especially taxes levied on financial transactions, such as the sale of immovable property (e.g., registration tax). For 2021, about three-quarter of the taxes on property collected in Luxembourg related to recurrent taxes on net wealth and only a small fraction related to recurrent taxes on immovable property (e.g., land tax) (0.1 percent of GDP).² The reverse is true for the average of the OECD countries, for which recurrent taxes on immovable property represent about 60 percent of the taxes on property (1 percent of GDP).



¹ Regressivity is smaller if assessed in terms of lifetime income or consumption (IMF 2017).

² The current valuation method for assessing the taxation of land is based on figures from the 1940s. Reforming property taxation in line with past staff suggestions could help alleviate demand and supply imbalance on housing (IMF, 2022b). In Luxembourg, companies, not individuals, are subject to recurrent net wealth taxes.

6. While the robust performance of personal income tax revenue has been underpinned by strong employment and real wage growth, infrequent tax brackets adjustment also contributed. Policy changes lowered the tax rates in 2002, and then again in 2017, alongside an increase in tax credits. Despite these policy changes, growth of PIT revenues quickly rebounded, reflecting rises in employment and wage growth but also infrequent adjustments of income tax brackets (Figure 4, left chart). PIT thresholds were only adjusted in 2001, 2008 and 2009, when they were raised on average by 17 percent, 6 percent, and 9 percent, respectively. The partial compensation for wage growth through the period drove more taxpayers into higher tax brackets. Consequently, the average personal income tax rate has gradually increased, particularly since 2017, with the most significant impact on single taxpayers without children (Figure 4, right chart).



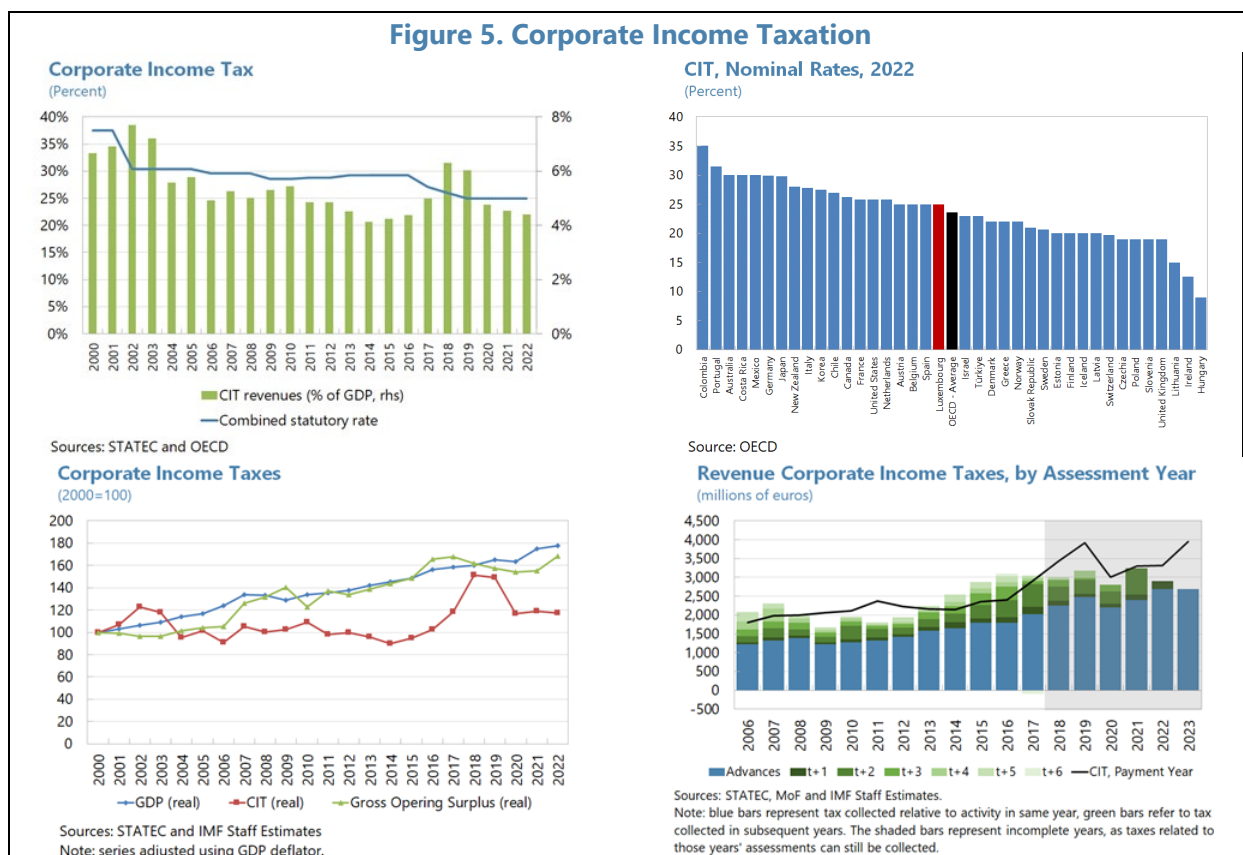
7. Revenues from corporate income taxes have been relatively less correlated with economic activity, and their GDP share has declined over the past couple of decades. Following the trends in the EU and the OECD, Luxembourg has steadily lowered the nominal combined corporate income tax rate from 37.45 percent in 2000 to 24.95 percent since 2019, just marginally above the average for the OECD at 23.6 percent (Figure 5, top right chart). At the same time, CIT revenues as a share of GDP have declined from around 8 percent of GDP in the early 2000s to around, on average, 4¾ percent in the recent years. However, effective tax rates paid by corporations are estimated to be lower than the nominal rate. Past staff analysis suggests that Luxembourg’s marginal effective tax rate (METR), which matters for new investments decisions was below the EU average, and the average effective tax rate (AETR), which measures the tax burden on the return of existing investments, was below the nominal rate.³ Thus, it appears that, in the past, revenue losses from lowering CIT rates on the existing base were not fully compensated by attracting new businesses to maintain CIT revenue levels as a share of GDP (Figure 5, top left chart).

8. CIT revenues have also shown considerable volatility, including due to collections of past taxes due.⁴ Over the past decades, while GDP and gross operating surplus showed an upward

³ See IMF Working Papers, 2020 (264).

⁴ Corporate income taxes include the corporation tax (*Impôt sur le revenu des collectivités*), the supplementary solidarity corporation tax (*Impôt de solidarité sur le revenu des collectivités*), the municipal business tax (*Impôt commercial communal*), and the real estate levy (*Prélèvement Immobilier*).

trend in real terms, the trend in revenues from CIT was relatively flat, although with some volatility (Figure 5, bottom row). The volatility stems in part from collections of previous years' tax assessments, due to timing differences between the filing of the corporate tax returns and the final assessment by the tax authorities. At times, there seems to be a lag of a couple of years between the evolution of gross operating profits and CIT. Therefore, CIT collection can be less tightly connected to economic events (see STATEC, 2021), which could impact the assessment of Luxembourg's fiscal stance and potential stabilization policy. Corporate income taxes payments based on estimated current year income as opposed to actual previous years' income can play a role as automatic stabilizers, by allowing tax collections to adjust to economic cycle more swiftly.⁵ CIT revenues are also very concentrated on the financial sector, representing about three-quarters of total revenues, and on few taxpayers (CES, 2022). This concentration can also contribute to the volatility in CIT revenues.



Expenditures

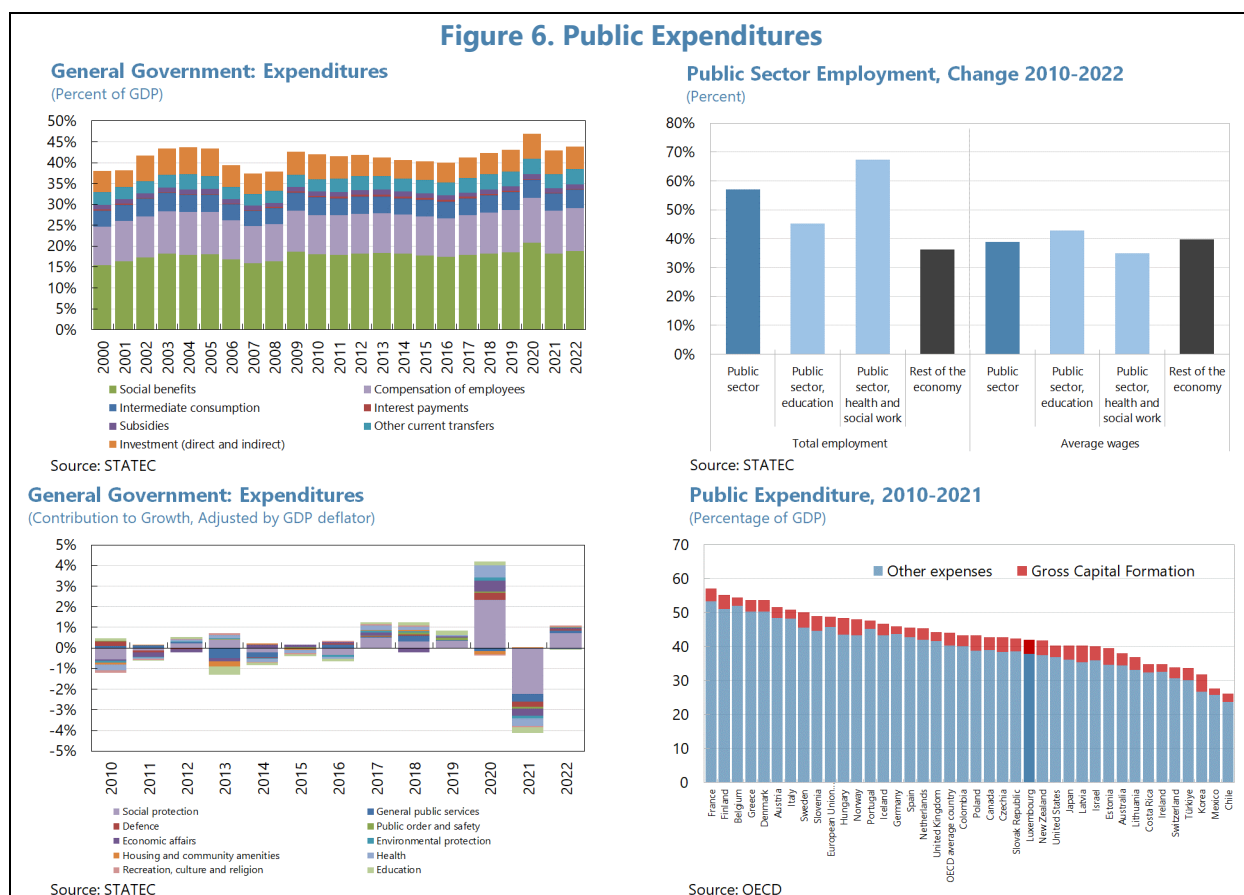
There has been a persistent growth in public expenditures since the mid-2010s driven by social benefits and compensation of employees. Spending on social protection accounts for the bulk of total spending.

9. Public spending as a share of GDP in Luxembourg is below the OECD average.

Regarding investment, Luxembourg has sustained spending in gross capital formation at 4.1 percent

⁵ See IMF Fiscal Monitor, 2015.

of GDP during 2010–21, above the OECD average of 3.6 percent for the same period (Figure 6, lower right chart). With regards to current spending, Luxembourg spends slightly less than the average of the OECD countries on compensation of employees, but relatively more on social benefits.



10. Public expenditures, however, have exhibited an upward trend since mid-2010s, driven mostly by the growth in benefits and compensation of public employees. Public expenditures had been trending upwards, even prior to the pandemic, reaching 43.9 percent of GDP in 2022, from an average of around 41 percent of GDP during 2010–15 (Figure 6, top left chart). Social benefits are the largest expenditure item at 18.8 percent of GDP in 2022, followed by compensation of employees at 10.2 percent of GDP. These two items were also the main contributors to the growth of expenditures (by 0.8 pps of GDP each) between 2010 and 2022. The growth in compensation of employees has been mainly driven by an increase in public sector employees, especially in the health and social work sector (even before the additional pressures from the pandemic), outpacing growth of private sector employees. Wage growth in the public sector remained largely in line with the private sector. These spending pressures were offset to a lesser extent by declining interest payments and investments (direct and indirect) by 0.3 pps and 0.5 pps of GDP, respectively, during the lower interest rate period in the 2010s–15s.

11. Social spending, notably social protection, accounts for the bulk of expenditures. Spending on social protection and healthcare (44 percent and 12 percent of total spending,

respectively) accounted for over ½ of public spending in 2022, followed by economic affairs (e.g., transportation, commercial and labor policies) at 12 percent of spending and education at 11 percent. The share of social protection, education, and health spending in total spending for Luxembourg was above the average of OECD countries (66 percent and 62 percent, respectively) during 2010–21. About half of all public spending is undertaken by the central government and around 40 percent through the social security. Mirroring the trends in public spending on benefits, spending on social protection was the main contributor to growth of expenditures (2 pps; Figure 6, lower left chart).

Social Protection

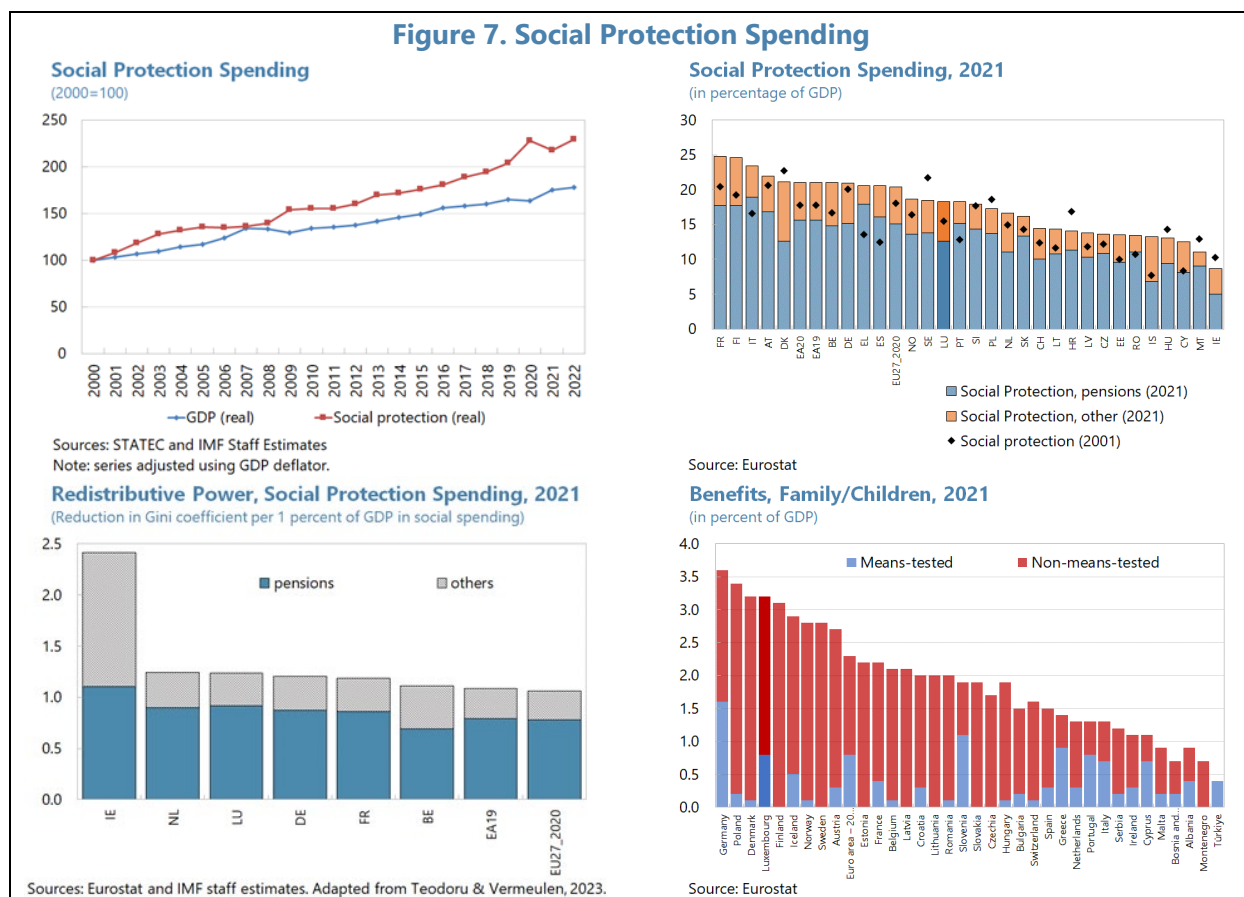
12. Luxembourg’s spending on social protection contributes to reduce inequality but remains largely untargeted. Since the global financial crisis, growth on social protection spending has outpaced growth of GDP (Figure 7, top left chart). While Luxembourg still spends less in social protection as percentage of GDP than the EU average, it is helped by a relatively lower dependency ratio (Figure 7, top right chart). Spending on social protection—social assistance and social insurance—can play an important role in helping address inequalities and increasing economic resilience (IMF, 2022a). In Luxembourg, the main social protection programs relate to pensions (old age and disability), followed by family and unemployment benefits. Social protection spending in Luxembourg has been relatively effective in terms of contributing to reducing income inequality, given the relative improvements in the Gini coefficient (Figure 7, bottom left chart). However, there seems to be scope to strengthen efficiency in spending by improving their design, for example, through better targeting.⁶

13. Family and unemployment benefits are relatively generous. Luxembourg is among the EU countries that spend the most on benefits for family support (Figure 7, bottom right chart), but program remains largely untargeted. Together, tax provision and family benefits can reduce the tax wedge on labor income for a married worker with children by as much as 20 pps compared to the average single worker (OECD 2023). With regards to unemployment benefits, even though requirements for activating are relatively strict in Luxembourg, the benefits are relatively generous.⁷ The OECD estimated the net unemployment replacement rate in Luxembourg 86 percent by the 12th month of unemployment for the average wage earner, against 36-45 percent for the OECD average.

⁶ While there can be administrative and political constraints to targeting transfers (e.g., weak administrative capacity, in some cases, or political support), there are also trade-offs between broader coverage, fiscal costs, and work incentives. Strong and progressive tax system also help to improve redistribution when benefits are not targeted (IMF, 2019a, 2019b).

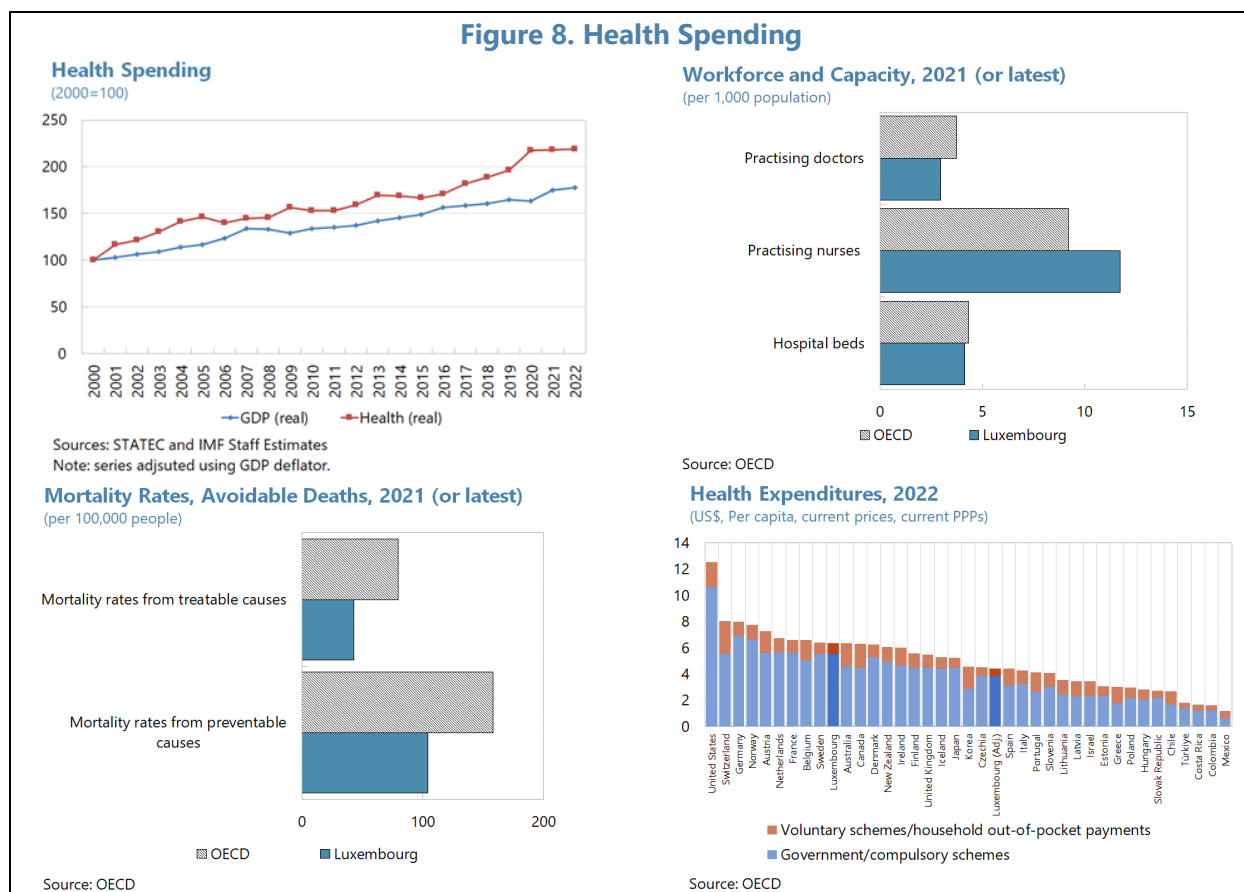
⁷ Regarding activating requirements, Luxembourg rates fourth in the OECD strictness score (ranging from 1 to 5 from least to most strict). The composite score assesses availability requirements, job search requirement, and sanctions related to participating in unemployment benefits.

Figure 7. Social Protection Spending



Health

14. Spending on health has been trending up, even accounting for the increase related to the COVID-19 pandemic. Spending by the National Health Fund (NHF) related to the *Assurance maladie-maternité (AMM)* reached 5.9 percent of GDP in 2020, up close to 1 pp of GDP from the previous year (*Caisse nationale de santé (CNS)*, 2023). Policy changes regarding health and family leave during the pandemic led to a rise in payments of cash benefits, representing two-thirds of the increase in spending in 2020. The exceptional leave policies related to COVID have since been all reversed, helping to bring down expenditures by the NHF to 5.1 percent of GDP in 2022, although still somewhat above pre-pandemic levels. Structural factors have also been driving health spending upwards (Figure 8, upper left chart). While administrative costs have remained contained, hospital care spending has grown at a faster pace since 2018 (CNS, 2023). Growth in spending in hospital care has been driven by higher fixed costs, notably personnel, reflecting collective labor agreements, and more staff allocated due to an increase of activity (IGSS, 2023). As a result, even as the number of non-urgent procedures were reduced during the COVID-19 pandemic, hospital care spending remained elevated.



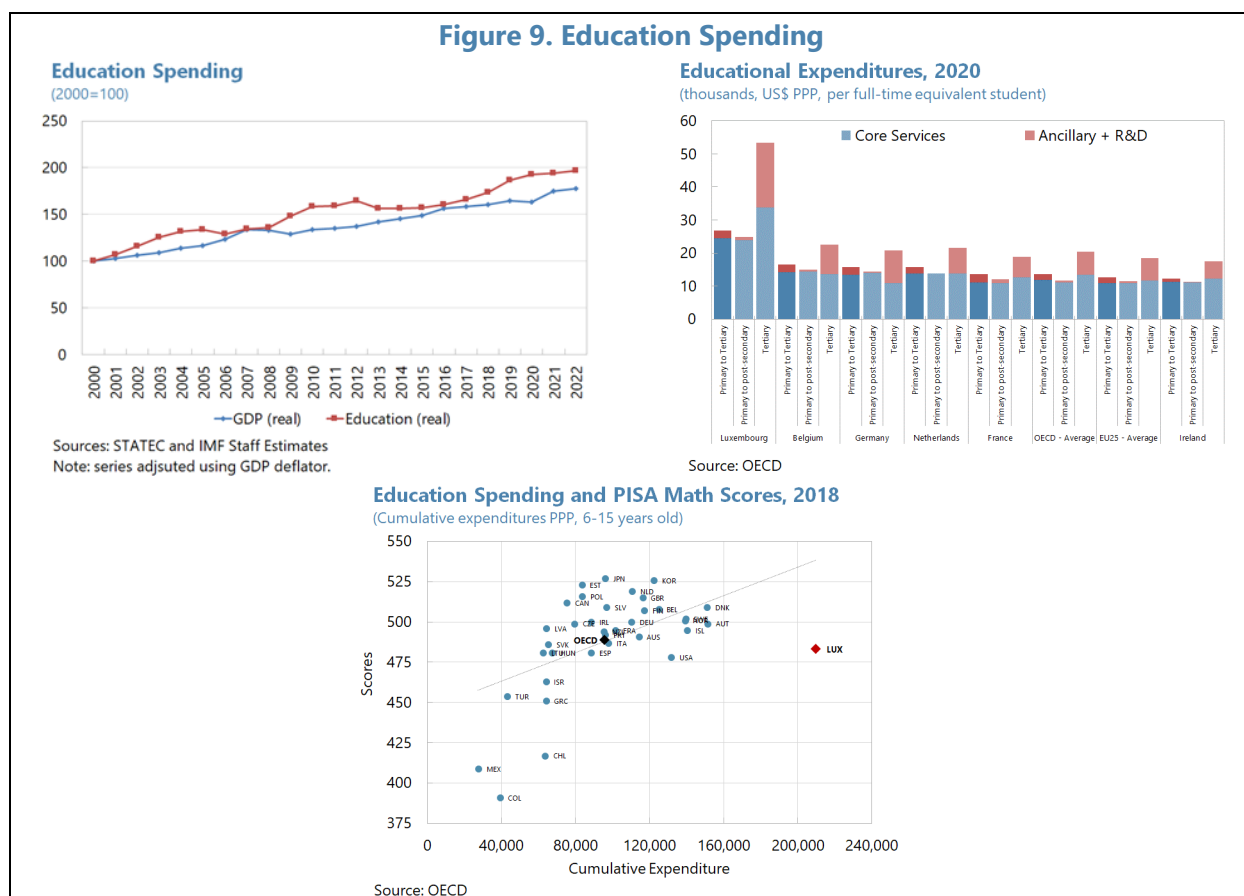
15. Covering residents and non-resident workers, the National Health Fund will be increasingly under pressure. According to the OECD, health services are relatively accessible, as measured by the low share of unmet health care needs, although with some waiting time, and out of pocket spending is limited. The number of beds is also in line with the OECD average (Figure 8, upper right chart). While the number of doctors per population is below the average, the number of practicing nurses is substantially above. Health outcomes also compare favorably, with life expectancy above the EU average and low mortality rates (Figure 8, lower left chart). While Luxembourg ranks above the median for OECD countries regarding healthcare expenditures per capita, it compares more favorably if the number of protected individuals is considered (over 900,000 in 2021, against a population of about 630,000) (Figure 8, lower right chart). However, an ageing population, with increased health needs, and the approaching retirement of health professionals will put upward pressure on health expenditures, as recruitment in the sector is expected to increase (5,000 professionals in the next six years)⁸.

Education

16. Although the returns on education are strong, costs per student are elevated. Growth of education spending has been outpacing growth of GDP since 2017 (Figure 9, upper left chart).

⁸ See National Health Plan (Government of Luxembourg, 2023).

There are considerable returns on education in Luxembourg. Those without a tertiary degree have relatively higher inactivity rates and represent a lower share of high-income earners, according to the OECD, than in the average member country. Looking at the costs related to education, however, Luxembourg appears to have the highest spending per capita among peers adjusted for purchasing power parity (PPP), especially for tertiary education, including costs for non-core services (Figure 9, upper right chart). All throughout, from pre-primary to tertiary education, the ratio of students to teachers is one of the lowest among OECD countries. The cumulative costs per student is substantially higher for Luxembourg than for other countries with similar educational achievements as measured by the PISA scores (Figure 9, lower chart).



C. Recent Fiscal Developments, Outlook, and Risks

The fiscal outlook is expected to weaken due to policies changes that will constrain revenues, while public spending is forecast to increase. The realization of fiscal risk, including the underperformance of revenues, would further deteriorate fiscal position.

17. The normalization of fiscal policy post-pandemic has been delayed to address the energy and cost of living crisis. In 2023, expenditures grew strongly, by 3.9 pps of GDP to 47.8 percent of GDP, reaching its highest level yet. This growth was largely fueled by a significant rise in compensation of employees and social benefits rose by about 1 pp, supported by the

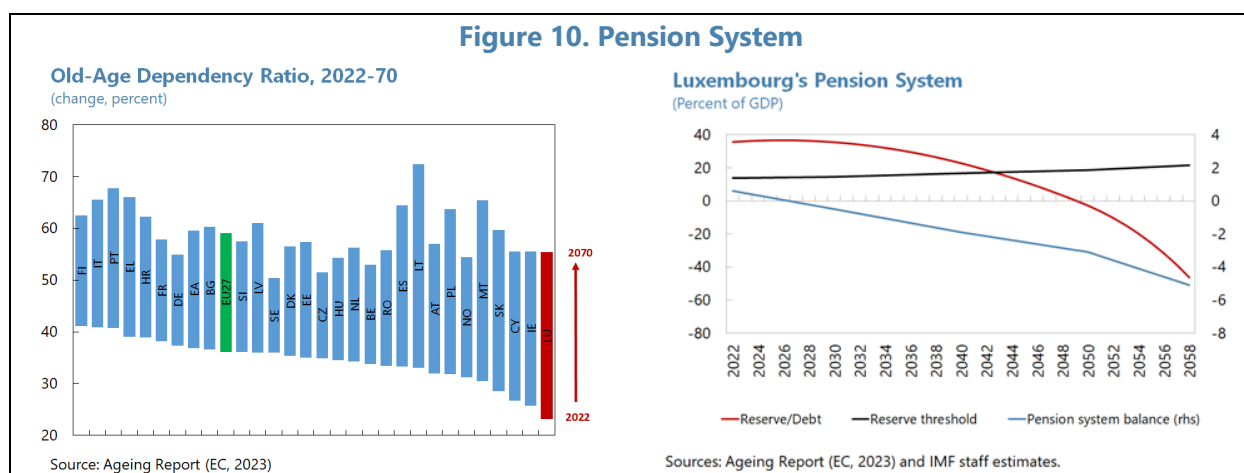
multiple rounds of wage indexation, as rising energy prices drove accelerating inflation. Measures aimed at mitigating the energy and cost of living crisis, including energy subsidies, amounted to about 0.7 pps of GDP. Cyclical factors are estimated to explain about 0.5 pps of GDP in expenditures in 2023. Remarkably, revenue collection also saw substantial growth in 2023, rising by 2.8 pps of GDP to 46.4 percent of GDP, despite the revenue losses from cost-of-living support initiatives. Foregone revenues from measures such as a temporary cut of the VAT rate by 1 pp and tax credits were estimated at about 1 pp of GDP in 2023 (an additional 0.5 pp from 2022). Helping offset those losses, PIT grew strongly by 1.2 pps of GDP reflecting wage growth, boosted by three rounds of indexation. At the same time, the CIT revenue increase of 0.6 pps of GDP is unlikely to be permanent, as it was mainly due to the exceptional banking sector profitability and collection related to previous fiscal years.

18. Going forward, the announced policy changes to support the economy's recovery and boost competitiveness will weigh on the fiscal accounts. Staff forecast public expenditures to rise to about 50 percent of GDP by 2029, driven by increases in spending in social benefits (+2 pps of GDP) and public investment (+0.5 pps of GDP), including on climate and digital transformation, and housing. After rising strongly in 2023, the government expects a more moderate growth of compensation of employees. Defense spending is expected to double in the next four years to 1.5 percent of GNI (1 percent of GDP). Revenues are forecasted to continue to rise to near 49 percent of GDP, driven by the increase in income tax revenues and, to a lesser extent, social contributions. However, revenue growth will be constrained by changes aimed at lightening the tax burden to support the economy's recovery and boost competitiveness. The forecast takes into account announced policy changes aimed at supporting the economic recovery and competitiveness. Some announced measures, such as the adjustment of the tax brackets for four wage indexations in 2024 (about 120 million euros each), will have a more permanent impact on revenues. Subsequent intended (not legislated yet) regular adjustments of income tax brackets, although desirable, together with increased tax credit for registration fees, deductibility of interest payments, and the reduction of CIT rate by 1 percent in 2025 (as a first step) will weigh on revenues.

19. Fiscal risks are skewed to the downside due to spending pressures and uncertainty related to revenues. A faster convergence towards the NATO objective of defense spending would worsen fiscal balance relative to the baseline. There is also uncertainty related to the performance of tax revenues, especially taxes paid by corporations, which have been more loosely correlated to economic activity. In particular, the combined impact of the lowering of CIT rates on the tax base in Luxembourg together with any upside potential from the implementation of Pillar II is unclear. Finally, further adjustments of the tax brackets to catch up with previous wage indexation (beyond the more regular adjustments already announced) could limit revenue buffers and contribute to worsening fiscal balances.

20. The ageing of the population will lead to rising pension costs. The general pension scheme's reserves are comfortable (about 32 percent of GDP), but its long-term sustainability is not guaranteed. The 2012 pension reform created some incentives to extend low elderly labor market participation and limited average duration of retirement. Even so, options for early retirement,

generous benefits, and adverse demographics will translate into rapidly increasing ageing costs over the longer term. Low old age dependency ratio supported the pension system's surpluses in past decades, but it is expected to catch up with the EU average over the long term, notwithstanding continued net migration flows (Figure 10, left chart). As a result, pension expenditures are projected to rise to about 18 percent of GDP by 2070, almost double the 2022 levels. Meanwhile, social contributions are expected to plateau, as net migration flows slow down. The existing institutional safeguards and stabilizers for the general scheme would be triggered by 2028, when annual contributions are forecasted to no longer cover annual pension expenditures (Figure 10, right chart). Even accounting for the modulation of the indexation, the pension system would remain in a deficit, with reserves forecasted to fall below the legal threshold of 1.5 the annual pension expenditure by 2042.⁹



21. Health spending is also expected to continue to trend upwards. The NHF is financed through contributions by employers and insured on a contributory income capped at 5 times the minimum wage and financing by the central government equivalent to 40 percent of all contributions. Expected increases in the number of personnel, wages, and number of procedures will put pressure on health expenditures, and the NHF is expected to run a small deficit in the short-term. The reserves could fall below the legal requirement of 10 percent of expenditures in the next two years. While a fixed allocation for hospital care should help keep expenditures under control, projections also assume a more limited increase in average costs (much lower than in the past two years). It also considers the direct financing of the central government of certain expenditures such as on-call doctors.

D. Options to Safeguard Luxembourg's Ample Fiscal Space

22. Measures to improve the efficiency of spending and carefully calibrated tax reforms, along with a highly credible fiscal framework, could help safeguard ample fiscal space. Under announced policies, staff project public debt to increase by 6–7 percentage points of GDP by 2029.

⁹ Projections of pension expenditures assume the mid-point of the law requirement for the adjustment of 0-50 percent.

In addition, some intended policies could lead to a worse outcome. Measures to safeguard fiscal space include:

- *Revenues.* More frequent adjustments of the tax brackets for inflation protect those in the bottom of the distribution, and should be carried out, although in a budget-neutral manner. Implementing retroactive changes to the tax schedule without compensatory measures would not be advisable. Similarly, previous tax reforms suggest that the intended reduction of the CIT rate could potentially result in lower CIT revenues as a share of GDP. CIT collection based on estimated taxable income and shorter delays for collecting taxes related to previous fiscal years could reduce volatility of CIT revenues. Property taxation reform that relies on updated land and property titles, with higher taxes to vacant properties, could help strengthen fiscal revenues and contribute to reducing imbalances in the housing market. Finally, streamlining tax expenditures would be important, as they can create equity issues and economic distortions (e.g., interest rate deductibility to incentivize real estate investments could impact housing affordability).
- *Expenditures.* The challenge will be to moderate the pace of growth in spending, while facing pressures stemming from rising ageing costs, defense requirements, and much-needed investment in the digital and climate transition. To contain spending pressures, including on compensation of employees, plans for increased recruitment would likely need to be reassessed. On education, teacher to student ratios are already high. On the health sector, personnel costs have risen substantially in recent years. While investments in social support, education and health may demonstrate a societal commitment to these sectors, strategically allocating resources will be important to safeguard fiscal space and support long-term fiscal sustainability. Additional efforts within the health sector could combine macro-level actions such as implementing caps in spending, and micro-level strategies, such as assessing priorities and incentives in the sector (e.g., hospital visits for non-urgent care).¹⁰ Increasing contribution rates or the cap on contributory income could also be envisaged. Social benefits, the main spending item, could be made more efficient, by improving targeting and reassessing benefits, while considering potential impacts on labor supply. Financing of public spending including social benefits has increasingly relied on the taxation of personal income, with an elevated tax wedge for single workers, highlighting the potential policy tradeoffs. Relatedly, early pension reform would ensure long-term sustainability and intergenerational equity. Reform options include increasing the contribution rate, reducing replacement rates, or increasing the retirement age.¹¹
- *Fiscal framework.* A national fiscal framework could help anchor fiscal policy and maintain a credible commitment to highly prudent fiscal policies, especially in the face of fiscal risks. The plans for complementing the EU Economic Governance Framework with a national medium-term objective go in that direction. This could be complemented with an expenditure rule as an operating target and strengthened role for the fiscal council.

¹⁰ See IMF Technical Notes and Manuals (Soto et al., 2023)

¹¹ IMF (2019c).

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