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SELECTED ISSUES

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November 20, 2023

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FISCAL CONSOLIDATION IN BELGIUM: HOW MUCH AND BY WHAT MEANS?

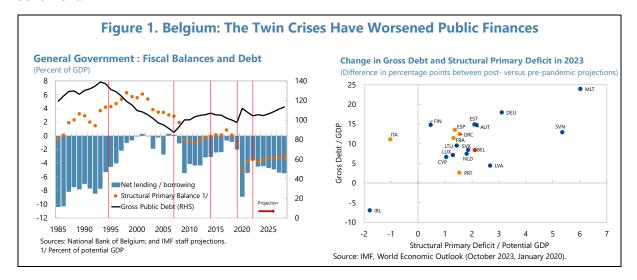
Belgium is facing higher structural deficits and rising debt after the pandemic and energy crisis. Fiscal consolidation is needed to lower inflation, rebuild buffers, reduce debt, and preserve Belgium's social contract. While designing an appropriate fiscal consolidation path involves trade-offs, an ideally front-loaded and significant adjustment to achieve a medium-term structural balance would reduce public debt towards the 60 percent debt threshold, significantly reducing vulnerabilities. Experiences in other countries and in the past in Belgium show that while ambitious, such an adjustment is achievable. Comparisons with peers show that rationalizing and increasing the efficiency of social benefits and the public wage bill would need to be at the core of the consolidation effort. All federal entities should share the burden of the adjustment, in a coordinated manner, with accountability at all levels of government, and within a credible and clear multi-year consolidation plan. Comprehensive spending reviews would help target budgetary saving. To mitigate the growth impact in the near term and boost potential growth, public investment should be preserved, and the adjustment should go together with structural reforms to increase labor force participation and productivity.

A. Introduction

- 1. Belgium is left with higher structural deficits and rising debt after the pandemic and energy crisis. When the pandemic hit the economy in early 2020, the debt-to-GDP ratio was on a downward path but still elevated at just below 100 percent in 2019. Timely and forceful fiscal measures mitigated the impact of the pandemic but widened the fiscal deficit and increased public debt significantly in 2020-21. Against limited fiscal buffers, the energy crisis triggered by Russia's war in Ukraine in February 2022 led to a further structural deterioration of public finances. A comparison of current projections for gross debt and structural primary deficits in 2023 with prepandemic projections made in January 2020 shows that among high-debt euro area countries (defined as debt-to-GDP ratio above 100 percent, Figure 1, orange dots), Belgium has experienced the largest increase in the structural primary deficit, by about 2 ppts as compared to a pre-pandemic counter-factual.
- 2. Absent adjustment, the fiscal position is expected to further deteriorate. Under staff's latest baseline projections assuming unchanged policies, the fiscal deficit (net lending/borrowing) is expected to remain elevated over the medium term, rising from 3.5 percent of GDP in 2022 to about 5½ percent of GDP in 2028. Wage and social benefit indexation, aging costs, and higher interest expenses are the key drivers pushing up current expenditure. Public debt will rise to about 115 percent of GDP in 2028, with a high probability that it will continue an upward trajectory beyond the medium term. The high and rising debt trajectory amplifies the impact of high interest rates on

¹ Prepared by Yu Ching Wong (EUR). The chapter benefited from valuable comments by Jean-Francois Dauphin, Mark Horton, Jean-Jacques Hallaert, and Stefan Van Parys and seminar participants at the National Bank of Belgium. The author thanks Xun Li for excellent research assistance.

debt service costs and makes financing requirements more vulnerable to adverse changes in market sentiment.



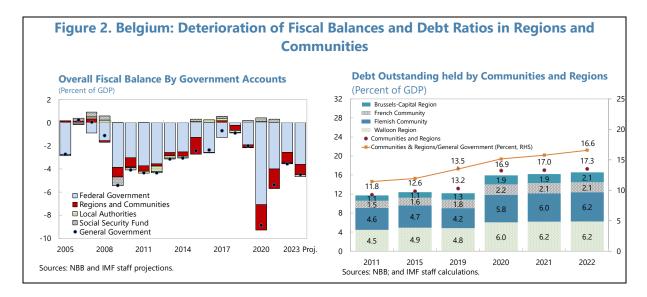
3. All Belgian federal entities face rising debt and deficit levels higher than pre-

pandemic. The fiscal deficit of the federal government narrowed to 2.6 percent of GDP in 2022 from 7.1 percent in 2020, but still above 1.9 percent in 2019. As a result, public debt of the federal government moderated to 86 percent of GDP in 2022 from 93 percent of GDP in 2020 but is still 3.7 ppts higher than the pre-pandemic ratio in 2019. Consecutive shocks from the pandemic and hike in energy prices have also worsened the fiscal positions of the regional and community governments. In Wallonia, floods in 2021 and subsequent reconstruction needs presented additional challenges. The overall deficit level of the communities and regions declined to 0.9 percent of GDP in 2022 from 2.2 percent of GDP in 2020 but still above 0.2 percent of GDP in 2019, accounting for one-quarter of general government overall deficits in 2022. Public debt of communities and regions (17.3 percent of GDP or €95.8 billion) which has been rising since the pandemic, rose to 16.6 percent of total public debt (104.3 percent of GDP or €578.1 billion) in 2022. In addition, due to heterogeneity in economic structure and performance among the communities and regions, the debt burden also varies substantially. Measured by the debt-to-total revenue ratio, the debt burden ranged from 50-60 percent in Flanders and French Communities to 205-210 percent in Wallonia and Brussels (Brussels-Capital Region) in 2022.

4. Belgium's federal structure and fiscal decentralization add challenges to improving the fiscal position. Fiscal decentralization progressed substantially in 2015-19, but devolution of expenditure responsibilities outpaced that of revenue authority. In addition, in Belgium's institutional setting, there is no hierarchy in the federal system (i.e., among the federal, regional, and community governments); governments at all levels are equal from a legal perspective, and they are granted specific powers and competencies. A 2013 Cooperative Agreement concluded between the federal and regional and community governments to ensure budgetary coordination was not implemented in practice.² The political and institutional context make budgetary efforts more

² See discussion in Wong (2023).

difficult, .and pose additional challenges to implementing fiscal consolidation to improve the fiscal position of Belgium as a whole.



5. Against this background, this paper focuses on key questions regarding implementing fiscal consolidation in Belgium. Section B discusses the need for fiscal consolidation; Section C discusses factors contribute to successful fiscal adjustment in other countries and Belgium's own experience; Section D examines how much fiscal adjustment is needed to restore fiscal space. Section E looks at where saving could be achieved by providing an analysis on spending reduction options by comparing Belgium's public expenditure pattern with pre-pandemic projections and with euro area peers. Finally, Section F provides strategic considerations on principles to follow to implement the adjustment.

B. Why is Fiscal Consolidation Needed?

- 6. Fiscal consolidation is needed to lower inflation, rebuild buffers, reduce debt, and preserve Belgium's social contract.
- Lower inflation. With euro area inflation still well above the 2 percent target and elevated core inflation remaining persistent, monetary policy should remain tight until inflation is unambiguously on a downward path. In Belgium, headline inflation has declined sharply this year (to 0.7 y/y in September 2023), but core inflation remains high (6.7 percent y/y in September 2023). A more ambitious fiscal consolidation would complement monetary policy in moderating demand, especially given automatic wage and benefits indexation in Belgium, helping avoid a vicious cycle of entrenched inflation requiring more forceful tightening that would push the economy into a recession, possibly leading to the government having to provide fiscal stimulus but with limited fiscal space. A tighter fiscal stance would also help meet the inflation target at lower policy rates, avoiding rising public debt services costs that would crowd out investment and social spending.

- **Rebuild buffers.** Belgium needs to urgently rebuild fiscal buffers that has been eroded by the pandemic and energy crisis, in order to address spending pressures from an aging population and to prepare for future shocks. This is critical in an environment where significant risks exist, including with respect to climate change and geopolitical fragmentation. At the same time, rebuilding fiscal space is increasingly difficult because of already-rising debt service costs (from 1.5 percent of GDP in 2022 to 1.8-2.7 percent of GDP in 2023-28), and aging costs (+0.3 ppt of GDP per year from 2022-70, based on projections by the Federal Planning Bureau (FPB) Study Committee on Aging). There are other rising spending demands, such as defense outlays and capital investment for the green transition.
- **Reduce debt**. A credible deficit and debt reduction strategy would help reduce risks and vulnerabilities from rising costs of debt financing. In a scenario with no policy change, Belgium's public gross financing needs are expected to increase to 21 percent of GDP in 2028 from 16 percent of GDP in 2022. This is driven by weaker fiscal balances and higher interest costs. Belgium's government bonds have one of the longest average residual maturity among euro area countries, 10.9 years in 2022, but as lower-cost debt matures over the medium term, now-favorable debt dynamics will dissipate. Higher borrowing costs will increasingly weigh on debt service, requiring an increasingly larger effort to stabilize debt over the medium term. ³
- **Preserve Belgium's social contract**. Securing adequate fiscal space for redistribution and maintaining the social safety net are indispensable, if Belgium is to preserve its social contract of providing a relatively high level of welfare, redistribution, and social protection. Belgium has a comprehensive social protection system and redistributive fiscal policy that deliver a comparatively low level of income and wealth inequality. This involves a high level of social spending channeled through social insurance systems co-governed by employees and employers. However, relatively low labor force participation and an aging population pose increasing challenges to the sustainability of the system; these are compounded by low productivity gains and potential growth. An expansion of spending needs in areas such as employment subsidies and childcare adds further difficulties to containing costs of the welfare system.⁴ Studies have pointed to continuous and incremental reforms of the welfare system over the past decades with mixed outcome.⁵ In this context, preserving and ensuring the sustainability of the current system would still be a pragmatic approach compared to a more drastic and possibly forced overhaul of the system given the complex political environment in

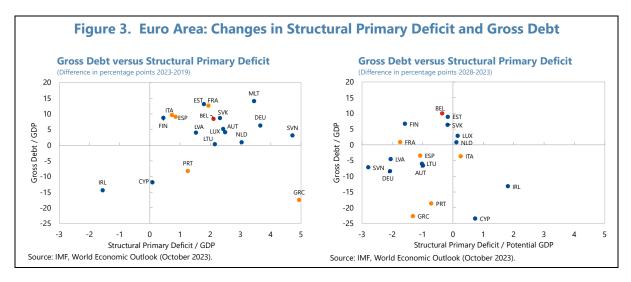
³ In addition, the reduction in net asset purchases of public debt by the ECB, including via active quantitative tightening, will also tighten sources of financing. See also IMF (2023b), Box 4 on medium-term debt stabilization risks in Europe.

⁴ Marx and Van Cant (2019).

⁵ For instance, Deschouwer (2016) and Marx and Van Cant (2019).

Belgium. Changes and reforms are needed to safeguard the core of the current system in the long run.⁶

7. A reduction of the elevated primary deficit is required to put debt on a downward path. Figure 3 (left chart) shows the change in gross debt in relation to the change in the structural primary deficit between 2019-23. Belgium is together with most euro area economies in the northeast quadrant with higher structural primary deficits and higher debt-to-GDP ratios. Compared to the pre-pandemic level in 2019, Belgium's structural primary deficit widened by 2 percentage points of GDP, contributing to an increase in public debt-to-GDP ratio of about 8 percentage points by 2023. However, WEO baseline projections for 2023-28 in Figure 3 (right chart) show that absent significant policy change, public debt in Belgium is expected to continue rising, due in part to insufficient reduction in the structural primary deficit from—3.1 percent of GDP in 2023 to 2.8 percent of GDP in 2028—over the medium term. In this context, an upward trend in public debt over the medium term against the background of persistently large deficits in comparison to peers exposes Belgium to a higher risk of rating downgrades and higher debt financing costs.



C. What Contributes to Successful Fiscal Adjustment?

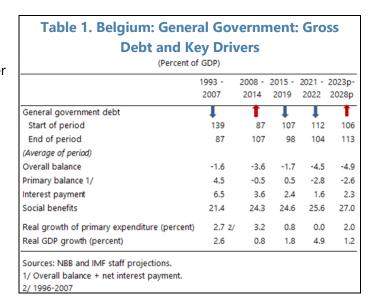
8. Based on lessons from other cases of large fiscal consolidation, Belgium appears to have many elements that can contribute to successful adjustment. A survey of consolidation cases by Balasundharam, et. al (2023) highlighted several factors that could increase the probability of success. In terms of underlying conditions, high income levels, a favorable global and domestic environment, a strong track record in fiscal management, and broad-based political support and good communications are important. In terms of the magnitude and duration of adjustment, improving the cyclically-adjusted primary balance by 1-2 percent of GDP per year for 3-4 years appears relatively common. Faster consolidations have been driven by larger and more urgent

⁶ Deschouwer (2016) noted that "this does not mean that changes to welfare policies are impossible, but that they are likely to be slow and that they require from the (political) parties a convincing story about adjustments in the short run being needed to safeguard the system in the longer run. This is easier in times of crisis."

needs for reform. The authors also noted that a credible medium-term fiscal framework supported by sound institutions helps, and transparency (realistic macro-forecasts and public debate) contributes by improving program design and accountability. On large consolidations, while Balasundharam, et. al (2023) point to generally requiring both revenue and expenditure measures, Blöchliger et al. (2012)'s case studies of large fiscal consolidation episodes suggest that successful consolidations were driven more by spending cuts and to a lesser extent by revenue increases. Lastly, on political economy, Blöchliger et al (2012) found that most consolidation episodes were implemented shortly after an election, more than half of the governments that had started consolidation were re-elected, and some even strengthened consolidation efforts. Overall, Belgium has many elements (e.g., high income level) that would contribute to successful fiscal consolidation—as measured by deficit reduction and debt stabilization or decline. However, it also faces hurdles that need to be overcome, including reaching broad-based political support.

9. Indeed, Belgium successfully achieved large fiscal consolidation in three key past episodes. According to the NBB (2015), three major fiscal consolidations took place in 1982-87, mainly through cutting primary expenditures; in 1993-98, by raising revenues and reducing the interest burden; and in 2011-17, by cutting expenditure and further reducing interest costs. The

1993-98 consolidation contributed to an impressive debt reduction through 2007. Public debt had peaked at close to 140 percent of GDP in 1993, and thereafter continuously declined over 14 years to 87 percent of GDP in 2007 (Table 1). This large reduction of the debt ratio by 52 ppts of GDP was largely driven by major national fiscal efforts to qualify for euro membership after ratifying the Maastricht Treaty in 1992.7 By 1999 when the euro was launched, public debt had been lowered to 115 percent of GDP. The downward trend in debt-to-GDP continued thereafter but was punctuated in 2008 by the onset of the GFC (Box 1).



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⁷ The Maastricht convergence criteria include improving public finances, such that the government deficit must not exceed 3 percent of GDP and the public debt must not exceed 60 percent of GDP, unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace.

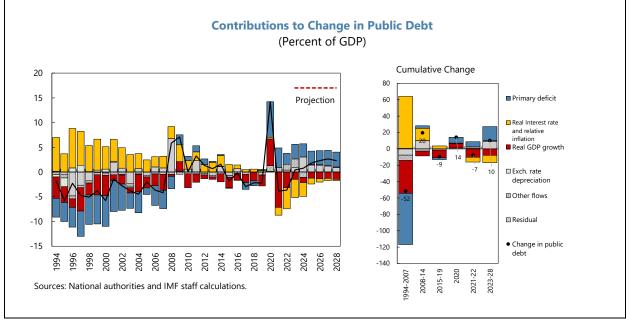
Box 1. Belgium: Evolution of Public Debt in Belgium

The fiscal consolidation needed over the medium term will take place under challenging conditions of weaker potential growth, tighter financing conditions, and stronger headwinds from spending pressures of population aging.

The drivers for past episodes of reduction in public debt in three previous periods were:

- 1994-2007: the debt GDP ratio declined impressively, with high primary surplus (4.5 percent of GDP) and real GDP growth (2.6 percent) being the key drivers, more than offsetting the impact of high real interest rates (positive r-g).
- 2015-19: the debt-GDP-ratio declined steadily, and real GDP growth (1.8 percent) remained a key driver in lowering debt. The contribution from an improvement in primary balance (0.5 percent of GDP) was much smaller than in the previous episode.
- 2021-22: following the pandemic, the rapid recovery in real GDP growth (4.9 percent) and low real interest rates (negative r-g) more than offset the impact of an elevated primary deficit (-2.8 percent of GDP) in lowering the debt-to-GDP ratio.

Going forward, under unchanged policy settings, the debt-to-GDP ratio is projected to increase in 2023-28, due largely to a high primary deficit (-2.6 percent of GDP). Real GDP growth, projected to slow to its potential of about 1.2 percent over the medium term, is only a minor debt-reducing driver. Stabilizing the debt ratio implies reducing primary deficits to near zero (i.e., the debt stabilizing primary balance is -0.4 percent of GDP in 2028).

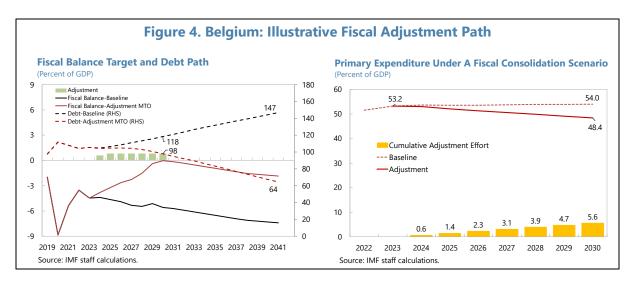


D. By How Much?

10. Designing an appropriate fiscal consolidation path involves trade-offs. As illustrated by the current discussions among EU member countries regarding the reform of the economic governance framework, ensuring fiscal sustainability for high-debt countries is a complex issue that can result in different paths and end targets. For instance, adjustment paths envisaged under the

EC's proposed 4- or 7-year horizons will require, among other criteria the fiscal deficit to remain or to be brought and maintained below 3 percent of GDP and debt at the end of the adjustment period to be lower and continue on a downward path or stay at prudent levels for another 10 years. For a high-debt country like Belgium, the resulting debt path would remain above a 60 percent of GDP threshold. This implies trade-offs. A smaller cumulative fiscal adjustment may have less immediate impacts on growth, but would entail a higher debt level and vulnerabilities to adverse market sentiment for longer, with higher debt-servicing costs that could crowd out investment with a longer-term impact on growth.

11. Consolidation targeting a reduction of debt-to-GDP towards 60 percent would significantly reduce vulnerabilities and rebuild buffers. Such an ambitious approach would require an adjustment of 0.6 percent of GDP in 2024 and 0.8 percent of GDP (or more) annually from 2025, to reach structural balance in 2030—Belgium's previous EU medium-term objective or MTO.8 The adjustment would translate into a cumulative reduction in the structural balance of about 5½ ppts of GDP in 2024-30. For simplicity, assuming no policy changes that lead to greater revenue mobilization, this would require a cumulative permanent primary expenditure reduction of 5½ ppts of GDP. This could be achieved by limiting nominal spending growth to an average of 1.3 percent annually in 2025-2030 (Figure 4).



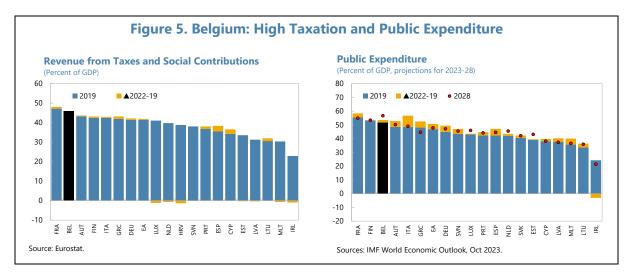
12. This approach is broadly consistent with the three-year adjustment path for 2024-26 as outlined in Belgium's 2023-26 Stability Program, with additional adjustment to reach structurally balance in 2030. The cumulative adjustment would be more than offsetting the estimated increase in aging outlays of 4 ppts of GDP (2022-41), with the debt-to-GDP ratio declining steadily towards 60 percent of GDP by the early 2040s. Additional savings would continue to be needed to facilitate higher investment spending to boost medium-term growth. This ambitious and upfront fiscal adjustment has the benefit of reducing the structural deficit and stabilizing the debt

⁸ Defined as the deviation of the change of the structural balance from its change under the baseline. See FPB (2023) for further discussion of the MTO.

path. Growth would be lower—about 0.2 ppt lower than in the baseline for a small open economy with relatively large automatic stabilizers—absent reforms to increase productivity.

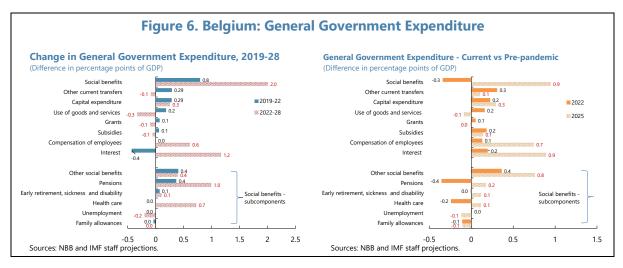
E. Where Can Savings Be Achieved?

13. The adjustment will need to rely mostly on reducing spending rather increasing revenues. Given the high level of taxation, room for mobilizing additional tax revenue appears limited, although efficiency-enhancing tax reforms should proceed. Conversely, the high level of spending offers opportunities for savings and increases in efficiency (Figure 5).

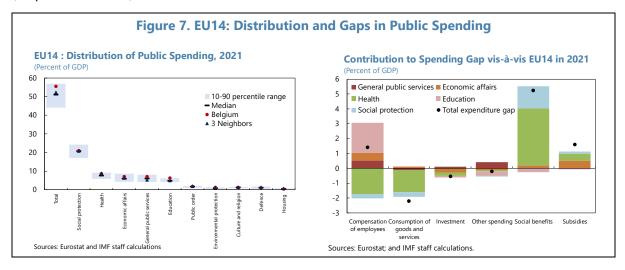


14. Consolidation would need to rein in the rise in general government expenditure above the pre-pandemic trend. General government spending is elevated—53 percent of GDP in 2022, particularly social outlays (25 percent of GDP), the wage bill (12 percent of GDP), and subsidies (4 percent of GDP). While most of the temporary measures introduced during the pandemic and the energy crisis have lapsed, primary expenditure in 2022 was higher by 1.7 percentage points of GDP compared to 2019, reflecting the impact on high inflation indexation on social benefits and public wages and permanent measures taken during COVID-19 (e.g., increases in health-sector public wages). With no policy changes, primary expenditure is expected to increase by another 2.3 ppt in 2023-28. Spending on social benefits is the largest driver, having increased by 0.8 ppt of GDP in 2019-22 and likely to increase by another 2.0 ppt in 2023-28 via increases in pensions and health spending (Figure 6, left chart). Compared to pre-pandemic projection (January 2020 WEO forecast), primary expenditure is about 1 ppt higher in 2022 and 2 ppt higher in 2025 (Figure 6, right chart). A large part of the increase in 2025 is coming from social benefits at 0.9 ppt higher than pre-pandemic projection.

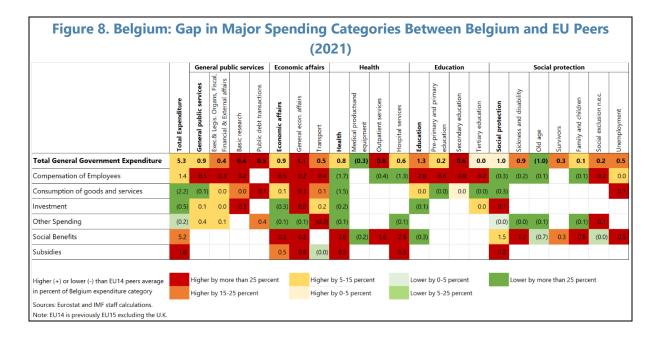
⁹ Analysis by the NBB (2023) indicates that the inflation surge structurally increases fiscal deficits by about 1.4 percent of GDP by 2025. Notably, about one half of primary expenditure items are automatically linked to the rise in the health index following CPI increase, which has risen more than the GDP deflator.



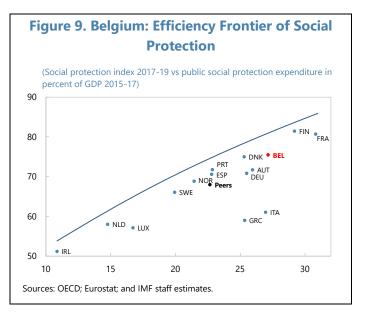
15. Belgium spends more than EU advanced economies on average on social benefits, compensation of employees, and subsidies. A comparison of spending patterns and developments with euro area peers offers indications of possible avenues for saving. Based on Eurostat expenditure-by-function data (available up to 2021), Belgium consistently spent more than the average of its EU-14 peers since 1996. 10 Comparing with the average of Belgium's three neighbors (France, Germany, The Netherlands) yields broadly similar results, although the spending gap with France has been negative. In 2021, Belgium's expenditures in the largest 5 functions social protection, health, economic affairs, general public services, and education—were all higher than the EU-14 median and its neighbors (except for health) (Figure 7, left chart). By spending type, Belgium spent more than peers in social benefits (driven notably by health and social protection), wages (largely on general public services), and subsidies, representing three key areas where saving could be sought (Figure 7, right chart). Further, the heatmap in Figure 8 illustrates that Belgium's social benefits spending was 5.2 ppt of GDP higher in 2021 than the average of EU advanced economies; this positive gap is equivalent to one-fifth of Belgium's current social benefits outlays (26 percent of GDP).



¹⁰ The EU-14 are those countries who were members of the EU prior to 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Republic of Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and Sweden.



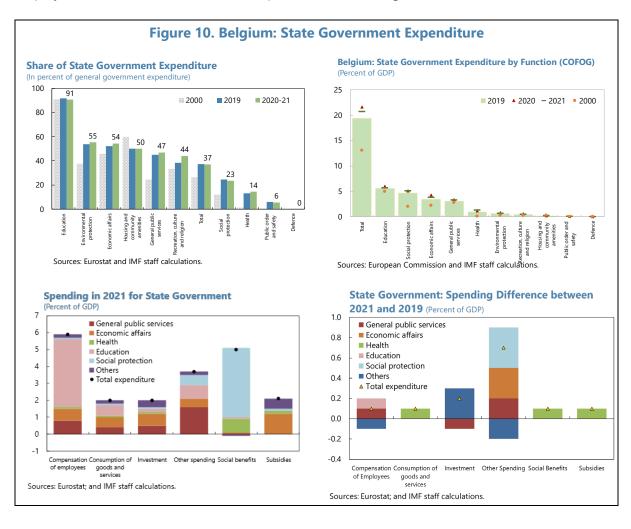
16. **Efficiency assessments further** point to opportunities for savings in **social spending.** Figure 9 shows the relationship between social protection efficiency scores and social protection spending and illustrates that there is scope for efficiency gains for Belgium by moving to the efficiency frontier with lower social spending. 11 Belgium spent more than most European peers, with social protection spending of 27 percent of GDP and a social protection efficiency score that is slightly above the peer average. This suggests that Belgium could reduce spending to about 24 percent of GDP while maintaining its current efficiency score.



17. Fiscal consolidation should seek savings mainly from social benefits and the public wage bill. The continuous expansion in social benefit spending suggests that the wide-reaching social-benefit system—notably, unemployment benefits of unlimited duration and generous disability support—should be made more efficient. For instance, the share of disability benefits recipients increased rapidly to about 5½ percent of the population in 2018 from slightly above

¹¹ See IMF (2023a) for estimates of spending efficiency.

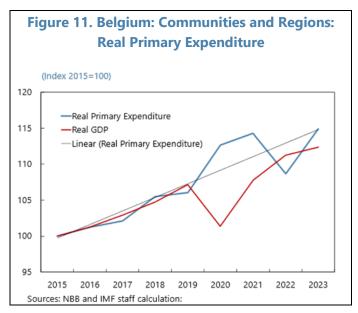
3 percent in 10 years. ¹² More targeted social spending to protect the most vulnerable segment of the population could be achieved through increased use of mean-tested programs. The share of total social protection spending that is means-tested was 16.7 percent in Belgium as of 2017, among the lowest in countries in Europe. This compares with the U.K. at 64.4 percent, Ireland at 62.5 percent, and the Netherlands at 59.5 percent. Many high-spending countries have increased their use of means testing over recent decades. ¹³ Saving on the public wage bill, including through a review of automatic wage indexation, functional reviews, comparisons of the number of public employees to other countries and to the private sector on wages, should also be considered.



¹² OECD (2022). See also Selected Issues Paper on the fiscal cost of aging – pensions and healthcare.

¹³ Coady et al. (2021).

18. Fiscal consolidation should also focus on controlling increases in wage and social benefit outlays at the regional level and on reducing federal**regional duplication**. A sizable share of public spending is implemented at the regional level. With further decentralization since 2015, spending by communities and regions now accounts for close to 40 percent of general government expenditure. Based on the devolution of competencies, 90 percent of spending in education and more than half of spending in environmental protection, economic affairs, and housing and



communities, respectively, are implemented at the level of communities, regions, and local authorities. By expenditure size, four functions—education, social protection, economic affairs, and general public services—made up close to 90 percent of spending by state (i.e., regional and community) governments (Figure 10). Spending is largely in public wages (mainly education), social benefits (mainly social protection), and other spending based on breakdown by COFOG function. During the pandemic, spending increased by 1.3 percent of GDP in 2019-21, of which 0.7 percent of GDP was in the other spending category (Figure 10). Overall, real primary expenditure grew by 1.7 percent during 2015-23, exceeding real GDP growth of 1.5 percent (Figure 11).

F. What Principles?

19. Deficit reduction plans should be underpinned by concrete adjustment efforts by all federal entities. The federal government's 2024 draft budget seeks to reduce the overall deficit to 4.2 percent of GDP for 2024. Belgium's 2023-26 stability program aims to reduce the deficit further to 3.3 percent and 2.9 percent of GDP in 2025 and 2026, respectively. However, the 2024 combined budget of regions and communities will deviate from the stability program with a planned deficit that is 0.4 ppt of GDP larger than the target of -1.1 percent of GDP (Table 2).

¹⁴ Note that spending on social protection accounts for one-third of general government expenditure, of which old age and sickness and disability accounted for one-half. The rapid increase in public expenditure during 2019-20 was largely in health and social protection, functions borne by the federal government and federal social security funds.

		(Percent	of GDP)					
	2019	2020	2021	2022	2023	2024	2023	2024
					SP	SP	DBP	DBP
General government								
Revenue	49.9	49.9	49.5	49.6	51.1	51.2	50.5	51.8
Expenditure	51.9	58.8	54.8	53.2	56.2	55.4	55.7	56.4
o/w Interest	2.0	1.9	1.7	1.5	1.7	2.0	1.9	2.1
Net Lending(+)/Borrowing (-)	-2.0	-8.9	-5.4	-3.5	-5.1	-4.2	-5.2	-4.6
Entity I	-1.7	-6.8	-3.7	-2.6	-3.5	-3.0	-3.5	-2.9
Federal government	-1.9	-7.1	-4.0	-2.6	-3.4	-3.0	-3.6	-3.0
Social Security Funds	0.2	0.3	0.3	0.0	-0.1	0.0	0.1	0.0
Entity II	-0.3	-2.1	-1.7	-0.9	-1.5	-1.2	-1.6	-1.6
Regions and Communities	-0.2	-2.2	-1.7	-0.9	-1.4	-1.1	-1.5	-1.5
Local government	0.0	0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.2
Structural balance	-2.9	-6.4	-5.2	-4.1	-4.6	-3.8	-4.8	-4.1
Consolidated Gross Debt	97.6	111.8	108.0	104.3	106.7	107.1	108.3	108.1

- **20.** Coordination, burden sharing, and accountability for all federal entities should be strengthened. For consolidation to be successful, a pragmatic approach that holds all levels of government accountable for the fiscal adjustment path outlined in the stability program or in the new EU fiscal framework will be required. Regions and communities should implement spending limits consistent with their deficits. While regional governments are targeting a return to balanced-budget positions over the medium term, this should be accompanied by concrete adjustment plans and a binding timeframe with obligations to make up adjustment slippages in subsequent years. Improving federal and regional coordination and burden sharing will require political agreement to work within the institutional setting of no hierarchy among the federal government, regions, and communities. This could involve reinvigoration and implementation of the 2013 Cooperative Agreement.
- 21. Adopting a credible, multi-year consolidation plan will be critical. This would help to avoid *ad hoc* adjustments year-by-year, which increase uncertainty, and to limit risks of adopting reduction measures that could be more costly over the long run. The difficulties in reaching agreement within the coalition government on adjustment efforts during the budget process in recent years also point to limitations, risks, and inefficiencies of a non-structured approach. Given the large size and long duration of the proposed fiscal adjustment, a carefully-designed and committed multi-year plan would provide a clear, transparent and accountable roadmap, helping secure buy-in of the population and markets. While Belgium responded well to external pressures during past fiscal adjustment episodes, an abrupt, disorderly expenditure-cutting response—possibly triggered by sharply-widening spreads—would be costly and should be avoided.
- **22. Comprehensive spending reviews can help target budgetary saving.** Spending reviews have been rolled out since 2019 at the federal and regional government levels. In this pilot phase,

reviews have been limited to 2-3 selected areas per year and narrow in scope.¹⁵ Building on these experiences, moving to comprehensive spending reviews covering a larger share of government spending would be beneficial at a time when urgency, focus, and resource limits need to be taken into consideration. Reviews should be designed to meet multiple objectives, including fiscal consolidation, by identifying savings measures that reduce the rate of growth or the level of public expenditure. Other objectives are the creation of fiscal space to accommodate new policy priorities or to address emerging fiscal pressures and identifying areas of inefficient or redundant spending for better value for money or free up resources for higher priorities.¹⁶

23. Public investment should be preserved, and better yet, scaled up to mitigate the growth impact of consolidation, boost potential growth, and facilitate the green transition.

There is scope to enhance public investment—mostly a regional government competence—as it remains relatively low at 2.7 percent of GDP in 2022, despite some increases in recent years. This limits gains in productivity and potential growth. A wide gap remains with the authorities' investment-spending target of 4 percent of GDP by 2030, notwithstanding Next Generation EU (NGEU) grants.

24. Similarly, fiscal consolidation needs to be complemented with structural reforms.

Belgium needs to intensify structural reform efforts to sustain the fiscal consolidation. Further reforms in social benefits, pensions, and health are indispensable for containing the rise of aging costs and for improving benefits targeting, an integral part of the consolidation.¹⁷ Advancing proposed tax reforms that would reduce the tax burden on labor and address work disincentives via changes to tax rates and brackets and better alignment with social benefits, along with labor market reform measures, would help lift the labor force participation rate. This is needed to reduce cost pressures from social benefits. Product-market reforms would also help increase productivity and boost potential growth, thereby increasing tax revenues and job opportunities.

¹⁵ Spending reviews were introduced in the federal budget process at end 2020. The pilot reviews conducted at the federal government in 2021 are the impact of generalized teleworking on the organization and expenditure of the federal government; the exemption from payment of withholding tax; and effective care. In 2022, the nuclear passive and BELSPO, and in 2023 court costs, and asylum and migration.

¹⁶ Doherty and Sayegh (2022).

¹⁷ See Selected Issues Paper on the fiscal cost of aging – pensions and healthcare.

References

- Balasundharam, V., Olivier Basdevant, Dalmacio Benicio, Andrew Ceber, Yujin Kim, Luca Mazzone, Hoda Selim, and Yongzheng Zhang, 2023. "Fiscal Consolidation: Taking Stock of Success Factors, Impact, and Design," *IMF Working Papers* 23/63, International Monetary Fund.
- Blöchliger, H., D.H. Song and D. Sutherland, 2012. "Case studies of large fiscal consolidation episodes," *OECD Economics Department Working Papers*, No.935.
- Coady, D., Samir Jahan, Baoping Shang, Riki Matsumoto, 2021. "Guaranteed Minimum Income Schemes in Europe: Landscape and Design," *IMF Working Papers* 21/179, International Monetary Fund.
- Deschouwer, Kris, 2016. The Reform-Resistant Belgian Welfare State, *The Low Countries*, No.24, pp.234-241.
- Doherty, Laura and Amanda Sayegh, 2022. "How to Design and Institutionalize Spending Reviews," How to Note, IMF Fiscal Affairs Department, Note 22/04.
- Federal Planning Bureau (FPB), 2023. New fiscal rules proposed by the European Commission: which path for Belgium's public finances? January.
- International Monetary Fund (IMF), 2023a. *France: Selected Issues Paper*, IMF Country Report No. 23/57
- International Monetary Fund (IMF), 2023b. Regional Economic Outlook: Europe, October 2023.
- Marx, Ive and Lien Van Cant, 2019. Belgium's welfare system-Still lagging after all these years," Routledge Handbook of European Welfare System.
- National Bank of Belgium (NBB), 2015. "Analysis of policies for restoring sound Belgian public finances," NBB Economic Review, June 2015.
- NBB, 2023. "The impact of high inflation on Belgian public finances: a simulation exercise," NBB Economic Review, July 2023.
- OECD, 2022. Economic Surveys: Belgium.
- Wong, Yu Ching, 2023. "Fiscal Federalism in Belgium: Challenges in Restoring Fiscal Sustainability," *IMF Selected Issues Paper*, IMF Country Report No 2023/016.

THE FISCAL COST OF AGING – PENSIONS AND HEALTHCARE

Belgium faces a fiscal consolidation challenge at a time when the fiscal cost of aging—primarily related to pension and health outlays—is mounting. Pension spending will increase relatively fast unless a combination of measures related to pension generosity and retirement eligibility are put in place. Potential efficiency gains are large in the health sector and could absorb part of the fiscal and reorganization costs related to an aging population.

- 1. Belgium faces a fiscal consolidation challenge, while the fiscal cost of aging is mounting.² This Selected Issues Paper documents the magnitude of the fiscal cost of aging in the coming decades focusing on pensions and healthcare. It discusses policies that would allow to contain the increase in the cost of aging, while preserving the adequacy of pension and the outcome of health spending.
- 2. Though this paper focuses on the direct fiscal cost of aging, fiscal costs may also be indirectly affected by the macroeconomic impact of aging. Though the net macroeconomic impact of aging is uncertain, the cost of aging (as a share of GDP) could increase further if growth is reduced due to reduced labor.³ Potential growth could be affected if aging results in reduced labor contribution and productivity growth. Because consumption changes over the life cycle, the structure of aggregate consumption is also likely to evolve. In the case of Belgium, Lefèbvre (2006) points to "increases in health, housing and leisure expenditures and decreases in equipment, clothing, and transport expenditures. These changes [...] will translate in sectoral shifts and most probably in changes in sectoral employment."⁴ The OECD (2023) estimates that, based on the 2021 Ageing Report baseline scenario (EC, 2021), the share of long-term care workers in total employment would increase by 1/3 of a percentage point (ppt) between 2023 and 2033 and by another 1/2 ppt between 2033 and 2043. This would affect economy-wide productivity growth as "labor productivity growth in the LTC sector is projected to be lower than in the overall economy." Moreover, growth may be affected if the rising fiscal cost of aging crowds out other and more

¹ Prepared by Jean-Jacques Hallaert (EUR). The author thanks Jean-François Dauphin, Mark Horton, and Yu Ching Wong for useful comments and staff and officials of the Belgium's Prime Minister Office, the Federal Planning Bureau, the Ministry of Health, the Belgian Health Care Knowledge Centre (KCE), Sciensano, the National Bank of Belgium, the SPF Santé Publique - FOD Volksgezondheid, the SPF Sécurité Sociale - FOD Sociale Zekerheid, INAMI-RIZIV, participants at a National Bank of Belgium Seminar, Johan Van Gompel (former President of the Study Committee on Aging), Anja Declercq, and Erik Shokkaert (both KU Leuven) for helpful discussions. Xun Li provided invaluable research assistance.

² See Selected Issues Paper "Fiscal Consolidation in Belgium: How Much and By What Means" by Yu Ching Wong.

³ For example, improvements in functional capacity in terms of mortality, disability, strength, and cognition wrought by healthy ageing could significantly affect the cost of aging notably its growth impact (Kotschy and Bloom, 2023).

⁴ The change in consumption structure may also affect tax revenue and its composition. Pensions and healthcare spending are likely to be increasingly financed by general revenue rather than payroll contribution due to the old age dependency increase.

productive public spending (Lindert, 2021). In a recent analysis, Kotschy and Bloom (2023) estimate that annual growth rate of Belgium could be reduced by 2050 by 1/10 to 2/3 ppt.

3. This paper is organized as follows. The first section documents the expected aging of the population of Belgium. The second section quantifies the expected cost of aging and its underlying drivers. The third section focuses on pensions, showing that the faster increase in pension costs than in peer countries is likely to continue if no measures are taken. It discusses various policy options to contain the rising cost of pensions. The last section turns to healthcare costs, arguing that health outcomes are comparatively good in Belgium but achieved at a higher cost than in peers. The section presents policies and reforms that could increase spending efficiency. Efficiency gains would help absorb part of the fiscal cost of aging related to healthcare. The section also emphasizes the need to reorganize the healthcare system to prepare for the needs of an aging population.

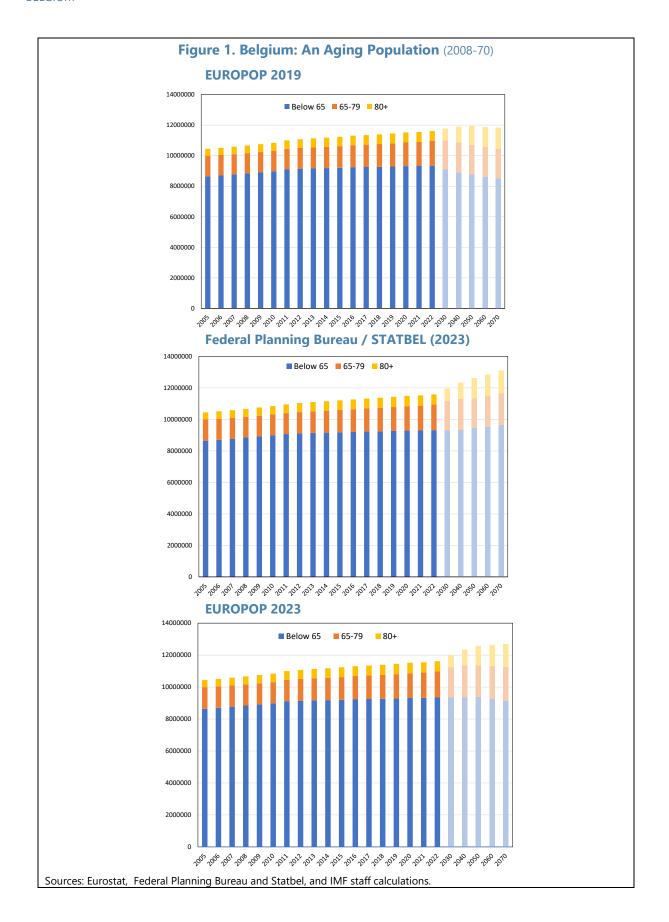
A. A Rapidly Aging Country

4. The population of Belgium is aging rapidly and expected to continue doing so. Over 2005-22, the number of Belgians 65 years and older increased almost three times faster than the population below 65 (+ 1.4 percent per year vs. + 0.5 percent per year). Moreover, aging has been

accelerating: while the population 65 and older grew less than the population 65 and younger during 2005-11, it grew nine times faster during 2016-22. As a result, almost one Belgian out of five is now 65 or older. The baby boom generation reaching retirement age partly explains the acceleration of the aging of the population. Although this impact will fade, the aging process is expected to continue (Table 1 and Figure 1).

	2005-2011	2016-2022	2005-2022
Total	0.9	0.4	0.6
<65	0.9	0.2	0.5
65+	0.8	1.6	1.4

5. However, the exact pace of aging is uncertain. Due to differences in assumptions, databases, starting points, and models, demographic projections differ significantly in the speed of aging although all concur that it will be rapid (Box 1 and Figure 1). According to Europop 2019, the population will start declining in 2048, due to a decline in the population below 65 years. The share of the population 65 and older is expected to increase by over 8 ppts to 28 percent in 2070, driven by a sharp increase in the population 80 and older (+ 6 ppts). A more recent exercise (Europop 2023) projects an increase in the total population throughout the projection period. The decline in the population below 65 is much smaller than previously projected, while the increase in the share of population 65 and over remains broadly unchanged. A third projection, recently conducted by Belgium's Federal Planning Bureau and Statbel projects a much faster increase in total population (+ 9.2 percent between 2022 and 2070 vs + 3.6 percent for Europop 2023). In contrast with Europop, the population younger than 65 would increase. The share of population 65 and over would increase less than projected in Europop 2023 (6½ ppts versus 8½ ppts).



Box 1. Belgium: Various Population Projections

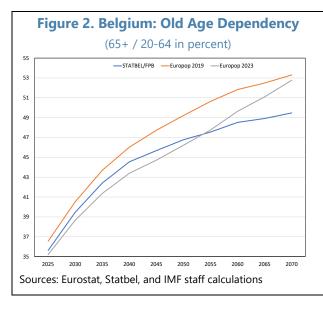
EUROPOP 2019. Population projections (size and structure) done in 2019 for the period 2019-2100 for all EU Members, Iceland, Liechstentein, Norway, and Switzerland. These projections underpin the 2021 Ageing Report, which covers the period 2019-70 (EC, 2021). Data, metadata, and methodology are available on the Eurostat website.

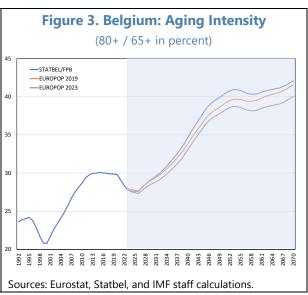
EUROPOP 2023. Population projections (size and structure) done in 2023 for the period 2022-2100 for all EU Members, Iceland, Norway, and Switzerland. These projections will underpin the forthcoming Ageing Report. Data and methodology are available on the <u>Eurostat website</u>.

Federal Planning Bureau / STATBEL. The Federal Planning Bureau, in collaboration with Statbel (the Belgian statistical office), publishes annually population projections for Belgium. In this paper, the latest publication (2023) is used. Projections are available for the period 2023-2071 (Statbel, 2023). These projections inform the annual report of the Study Committee on Aging (Bureau fédéral du Plan / Conseil Supérieur des Finances, 2023). Data and methodology are available on the <u>Statbel website</u>.

6. Despite uncertainty in the pace of aging, the various projections concur on important drivers of the fiscal cost of aging:

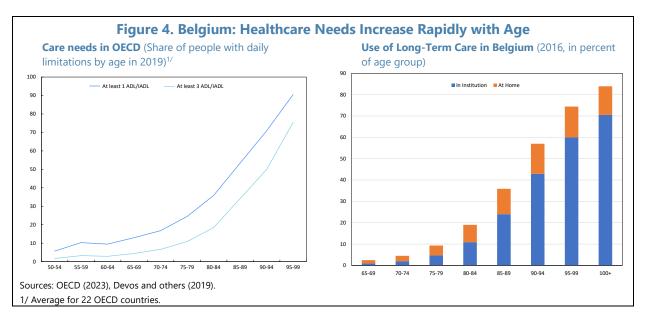
• Old age dependency will increase markedly. Europop projections and national projections result in an increase in old age dependency that is both sharp and broadly similar for the next 3 decades (Figure 2). This will have a strong impact on pension costs.





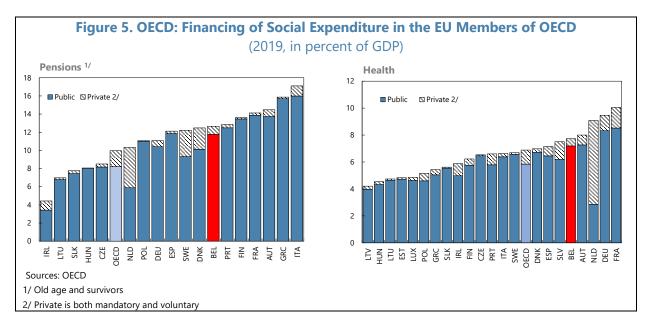
• The elderly population is aging. The share of population that is 80 years and older, which already increased from 3½ percent in 2000 to 5½ percent in 2022, is projected to double by 2070. The population 80 and older accounted for 21 percent of the population 65 and older in 2020, 28 percent in 2022, and is projected to account for 40-42 percent of the elderly population in 2070 (Figure 3). The increase in aging intensity will have strong impact on healthcare cost. Indeed, health needs grow more than proportionally with age (Figure 4). Kotschy and Bloom (2022) estimate that

the number of Belgian older than 65 with at least two limitations in activities of daily living (ADL) or instrumental activities of daily living (IADL) will increase from 3 percent of population to $4\frac{1}{2}$ percent of population between 2020 and 2040.⁵



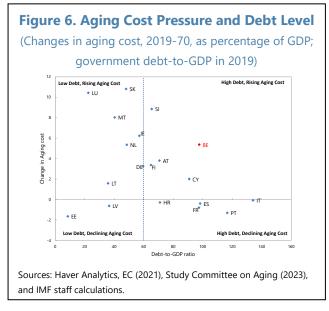
B. The Fiscal Cost of Aging

7. As health and pension spending is mostly financed publicly, the cost of aging is a fiscal challenge (Figure 5). This challenge is significant:



⁵ Care needs can be measured by the need to be (1) assisted with personal care (through help for activities of daily living, or ADL, such as eating, washing and dressing) and (2) assisted to live independently (through help for instrumental activities of daily living, or IADL, such as cooking, shopping, and managing finances).

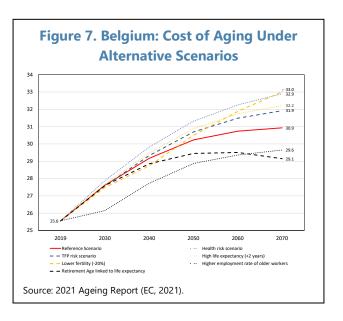
- Belgium is among the few EU Members facing both a high debt level and a significant projected increase in the cost of aging (Figure 6).⁶ In the 2022 fiscal sustainability report, the European Commission estimates that half the fiscal adjustment needed in 2023 to stabilize in the long run the debt-to-GDP ratio is related to the expected increase in aging cost (EC, 2022).
- Aging could increase fiscal spending by 5.4 percent of GDP annually between 2019 and 2070. Under the reference scenario of the 2021 Ageing Report and the 2023 report of Belgian Study Committee on Aging, about half of the increase would be due to pensions and the other half to healthcare (including long-term care). However, uncertainty is large: the Ageing Report's alternative scenarios suggest that the projected increase in the fiscal cost of healthcare cost vary by +/- 2 ppts (Figure 7).



• A large share of the fiscal cost of aging will take place in the current decade. Between 2/3 (Study Committee on Aging) and 2/5 (2021 Ageing Report) of the fiscal cost of aging for 2019-70 is expected to take place by 2030 (Figure 8). Therefore, the cost of aging will conflict with the need for

sustained fiscal consolidation in the coming years. The uncertainty in the estimated increase in spending by 2030 is not due to pensions but to healthcare. The Study Committee of Aging projects that healthcare cost would increase faster than both the Ageing Report's baseline scenario and adverse health risk scenario.⁷ According to the Study Committee of Aging, 1.2 ppt of the projected

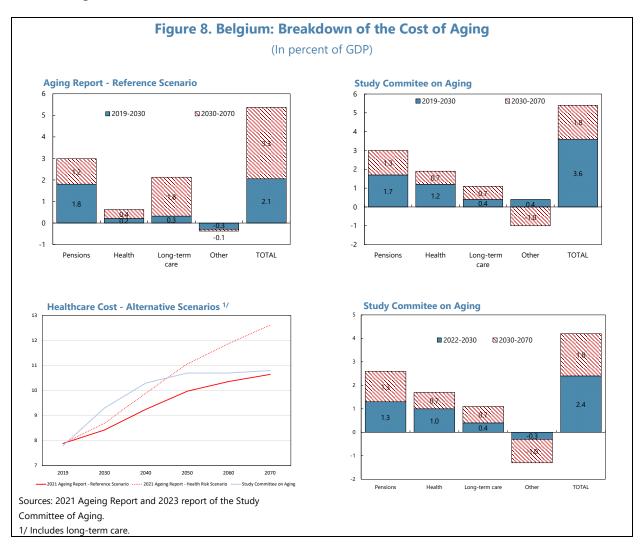
increase in the cost of aging between 2019-70 had already materialized by end 2022. Another important difference between the two projections is that the healthcare cost of aging is driven by long-term care according to the



⁶ The cost of aging as described below is due to the interaction of aging dynamics and design and features of social protection spending

⁷ The health risk scenario captures the impact of non-demographic factors on health and long-term care expenditure. Notably, this scenario assumes a partial continuation of upward healthcare expenditure trends (in part due to technological progress) and a stronger increase in the cost and coverage of long-term care.

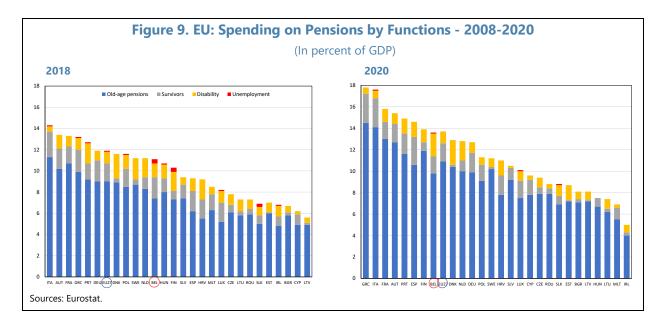
2021 Ageing Report while it is driven by acute care according to the Study Committee of Aging. This difference has large implications: (i) the reforms and policies needed to prepare the healthcare system for long-term versus acute care needs are different, and (ii) the fiscal burden falls on different federal entities, as regions are in charge of long-term care while acute care is financed by the federal government.



C. Containing the Cost of Pensions

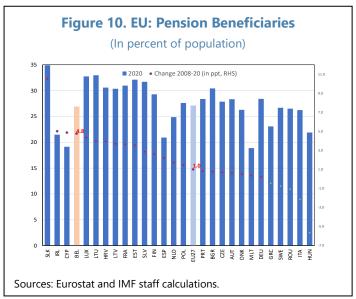
A Rapid Increase in Spending on Pensions

8. The cost of pensions has increased rapidly. From 2008 to 2020, the pension-to-GDP ratio increased by 23 percent. As this increase was more rapid than for EU peers, the spending on pensions rose from below EU level to the EU average of 13.6 percent of GDP (Figure 9).



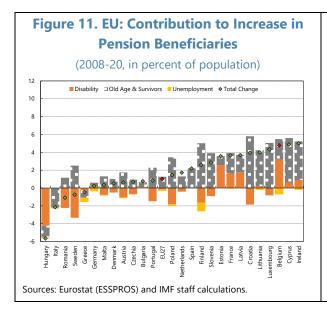
9. The stronger increase in spending on pensions results from a rapid increase in pension beneficiaries. The number of pension beneficiaries increased by 31 percent in Belgium between 2008 and 2020 while it increased by 4 percent in the EU as a whole. In other terms, in slightly over a decade, the share of pension beneficiaries in total population increased by almost 5 ppts while it increased by 1 ppt in the EU (Figure 10).

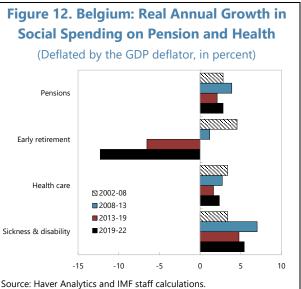
10. The increase in pension beneficiaries is primarily driven by the increase in pension disabilities. By design, aging leads to an increase in people receiving a pension for "old age and survivor." This type of pension is the primary driver of the increase in pension beneficiaries in the EU. In contrast, in Belgium, beneficiaries of old age and survivor pensions account for less than half the total increase in pensioners. The main driver is the increase in beneficiaries of disability pensions as defined by ESSPROS (Eurostat, 2019).8 This increase



⁸ ESSPROS defines disability pension as a "periodic payments intended to maintain or support the income of someone below the reference retirement age as established in the reference scheme who suffers from a disability which impairs his or her ability to work or earn beyond a minimum level laid down by legislation." "Disability pensions, in contrast to early retirement benefits due to reduced capacity to work, are not necessarily linked to a full retirement of the disabled person. The expression 'beyond a minimum level laid down by legislation, [...] implies significant differences among disability arrangements in the Member States." "For reasons of comparability, and in (continued)

is partly offset by a decline in pensions for labor market conditions (Figure 11). The policy measures taken in the 2010s (IMF, 2019; Deroose and others, 2023) to tighten eligibility to early retirement led to a sharp decline in early retirement spending (Figure 12). This tightening, as well as the increase in the labor force participation of older workers, contributed to the increase in real spending on sickness and disability (IMF, 2020; OECD IMF, 2020; OECD, 2022a).

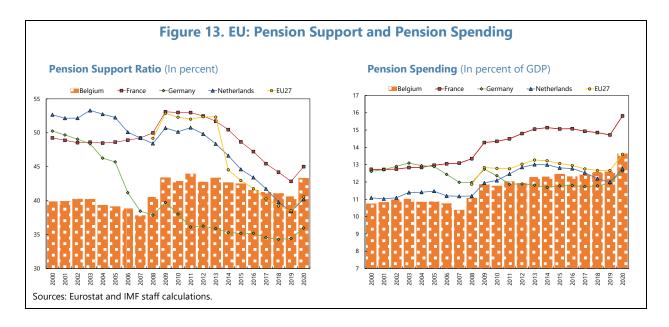




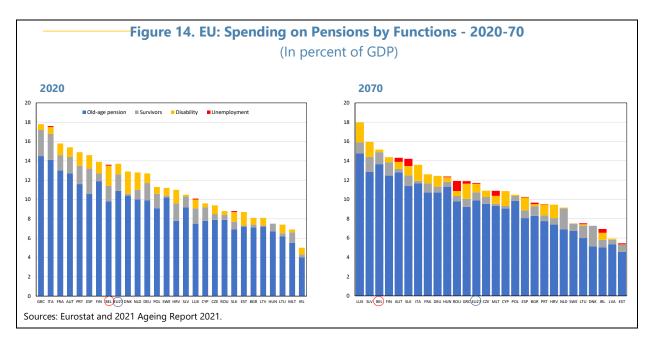
11. Another reason for the rapid increase in pension spending is that Belgium has not reduced the generosity of its pension system, in contrast to EU peers. Following Lindert (2021), generosity of the pension system is measured by the support ratio defined as pension benefit per person over 65 divided by GDP per person of working age (18-64). Due to aging, the decline in the support ratio needs to be large to result in a decline in pension-to-GDP spending. In the recent past, through pension reforms, all peers reduced their support ratio, more than offsetting the increase during the Global Financial crisis (GFC). Despite a rebound during the pandemic,⁹ their support ratios remain below their GFC peak. This allowed to contain pension spending and, in some cases, to reduce it. In contrast, Belgium has not implemented sufficient measures to reduce the generosity of pensions and, as a result, the support ratio, which was below all peers up to 2008, is now the highest among peers (except France) and the pension-to-GDP ratio has since grown steadily (Figure 13).

order to respect the principle of the functional classification of the ESSPROS, disability pensions paid to beneficiaries over the reference retirement age as established in the reference scheme must be recorded under the item old age pension. The reason for receiving a disability pension after the reference retirement age is connected to old age rather than to the impairment of his or her ability to work." (Eurostat, 2019).

⁹ The rebound is due to a denominator effect and in some countries increased pensions to support demand.



12. Looking ahead, the 2021 Ageing Report projects that pensions spending will continue to rise. Belgium's spending on pension is projected to continue increasing faster than for peers (Figure 14 and Table 2). For example, it is projected to increase by about 3 percent of GDP between 2019 and 2070 (Figure 8), while it would remain broadly stable for the EU (+0.1 percent of GDP). As a result, the pension-to-GDP ratio would increase from EU level in 2020 to the third highes in the EU in 2070.



13. Aging is a key determinant of the projected growth in pension spending. The sharp increase in the dependency ratio (Figure 2) would increase pension spending by about 7 percent of GDP (Table 2). This is comparatively large. However, the case of France highlights that policy measures have a role to play. France faces a similar increase in the dependency ratio as Belgium, but

its pension-to-GDP ratio is projected to decline thanks to stronger containment from the coverage and benefit ratios (Table 2).¹⁰

Table 2. EU: Contribution to the Projected Increase in Pension Spending (Change in ppts of GDP, 2019-70)

	Dependency (ratio	Coverage ratio	Benefit ratio	Labor Ir Market effect	nteraction Effect	Total
Belgium	7.2	-1.8	-1.8	-0.3	-0.2	3.0
EU	6.4	-1.5	-3.7	-0.8	-0.3	0.1
France	7.1	-2.0	-5.9	-1.0	-0.4	-2.2
Germany	4.9	-0.9	-1.4	-0.2	-0.3	2.1
Netherlands	4.3	-1.2	-0.3	-0.4	-0.1	2.3

Source: 2021 Ageing Report.

Policy Options

- 14. Containing the rise of pension spending is necessary to ensure the sustainability of the pension system, avoid crowding out productive investment, and support fiscal consolidation. The drivers of the projected increase in pension spending identify by the 2021 Ageing Report (Table 2) highlight policy levers that can be used:
- a) Increase labor force participation. The Ageing Report projects that the change in employment rate will account for only 1/3 of the small labor market effect reported in Table 2. Measures to increase the labor force participation of older workers and to work longer could have an important impact on spending by reducing the coverage ratio. According to the National Bank of Belgium (NBB), if the authorities meet their objective to increase the relatively low employment rate to 80 percent, pension cost will decrease rapidly and strongly (Table 3).
- **b)** Tighten the eligibility to pension. Measures to tighten the eligibility to pensions (for example eligibility to disability pensions) or further increasing the retirement age can increase the relatively high contribution of the coverage ratio to the containment role of pensions (Table 2).¹²

¹⁰ France implemented several pension reforms since 1993. Notably, reforms implemented in 1993, 2003, 2010, and 2014 rose both the pensionable age and the contribution period necessary to reach full pension and eliminated most early retirement schemes (Duc, 2015; Hallaert and Queyranne, 2016). The impact of the pension reform adopted in 2023 is not incorporated in Figure 13.

¹¹ The coverage ratio is the number of pensioners to the number of people 65 and older.

¹² The decision to replace the disability pension for civil servants with a system of allowances has been taken by the government. This will end the current system under which civil servants who are fully incapacitated receive a disability pension, calculated as an old-age pension. At time of writing the modalities of the measure were not yet decided and an adoption by Parliament was expected by end-2023.

The NBB estimates that reducing the coverage ratio in Belgium toward the euro area average would reduce the pension cost by 1.1 percent of GDP in 2030 (Table 3).

Table 3. Belgium: NBB Estimates of the Impact of Policy Scenarios on Pension Spending

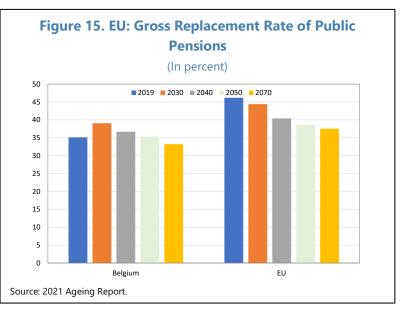
(Deviation from baseline, in percent of GDP) 1/

	by 2030	by 2050	by 2070
Coverage ratio towards euro area average	-1.1	-0.6	-0.5
Average pension towards euro area average	-0.3	-2.0	-2.1
Employment rate increases to 80 percent	-1.4	-1.6	-1.7
Higher productivity by 0.2 percentage point	-0.1	-0.7	-1.2

1/ The baseline scenario is the 2021 Ageing Report projections (EC, 2021). Source: Deroose and others (2023).

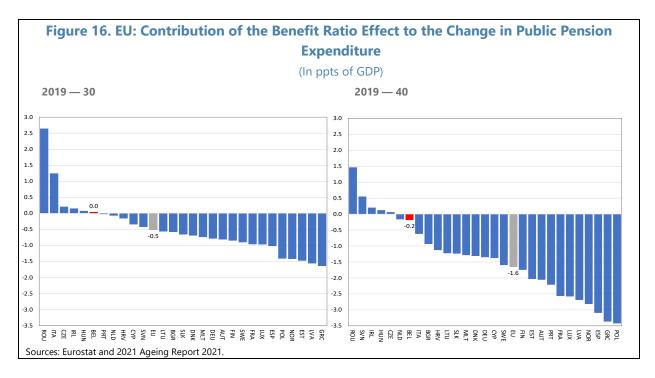
c) Avoid an increase in the generosity of pensions. The gross replacement rate is projected to increase in the current decade and to remain above its 2019 level until the early 2050s (Figure

15). 13 Avoiding such an increase would help rapidly contain pension spending especially if combined with other measures to accelerate the reduction in the benefit ratio that is projected to be backloaded (Figure 16). The decline of the benefit ratio will be smaller than projected by the Ageing report due to recent measures such as the increase in the minimum pension and the increase in the upper wage limit used to calculate pension entitlement (Deroose and others, 2023).14



¹³ The gross replacement rate is the average first pension as a share of the economy-wide average wage at retirement.

¹⁴ The benefit ratio is the average pension as a share of average compensation.



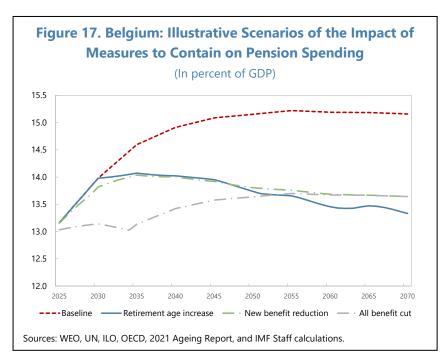
15. What would it take to stabilize the pension-to-GDP ratio by 2030 or by 2050?

Preventing an increase in pension spending in the short-term would help implement the needed fiscal consolidation. Table 4 presents the results of macro-simulations of measures that would stabilize the pension-to-GDP ratio at its (high) 2020 level. These results present alternative trade-offs between various policy measures and suggest that a combination of measures may be the simpler way to contain pension costs. The results should be seen as illustrative because the model, though calibrated for Belgium, is highly simplified and does not reflect all the benefit rules and parameters of the Belgian pension system.

	by 2030	by 2050	
crease retirement age ^{1/}	<1 year	2 years	٦
educe benefit	~7.0%	~11.5%	_ (1
crease retirement age & reduce benefit		2 years ~11.5% 1 year & 6½ percent	
crease in social contributions	~1.0%	~41/2%	(2
crease retirement age & social contributions		1 year & 2½%	7 ,
educe benefits & increase social contributions	1.0% & 0.8%	1 year & 2½% 4.0% & 3.0%	(3

16. Another set of staff macro-simulations illustrate how further increasing the retirement age and/or cutting benefits would contain spending over time. The first scenario simulates the impact of linking retirement age to life expectancy gains starting in 2030, i.e., when the current measure to increase progressively the retirement age for men and women from 65 to 67 is completed. This would allow to reverse the increase in pension spending starting in 2035. The pension-to-GDP ratio would come back close to its 2025 level by 2070 and be about 2 points lower

than in the baseline. This would require setting the retirement age in 2070 at 70.5 years. The second scenario simulates the impact of 10 percent reduction in benefits between 2025 and 2034 (1 percent each year) for all pensioners (no grandfathering) or only for new pensioners (grandfathering). The saving in the short-term is larger than under the retirement age scenario but, in the longterm, results in a lower saving (Figure 17).



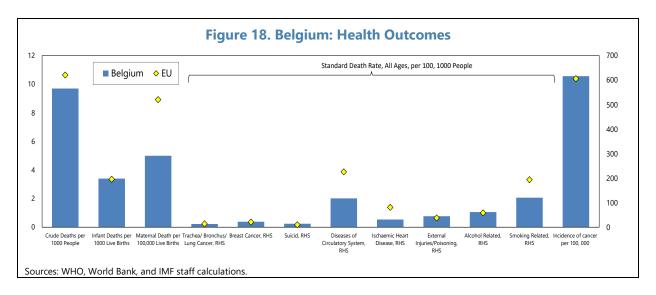
17. In sum, due to aging, Belgium spending on pensions will continue to increase significantly and rapidly, requiring additional policy measures. The projected increase in pension spending is larger than for EU peers. Moreover, the EC (2021 Ageing Report) and the national (2023 report of the Study Committee on Aging) projections concur that pension spending during the current decade will increase by 1¾ percent of GDP. Therefore, additional spending containment measures are needed to avoid that the increase in pension spending crowds out productive public spending and hampers fiscal consolidation. To ensure the sustainability of the pension system and its important role in the Belgian social model, an increase in social contributions could also be considered although it would risk running against the objective of reducing labor taxation.

¹⁵ This increase in incorporated in the baseline.

D. Increasing Spending Efficiency to Mitigate the Impact of Aging on Healthcare Costs

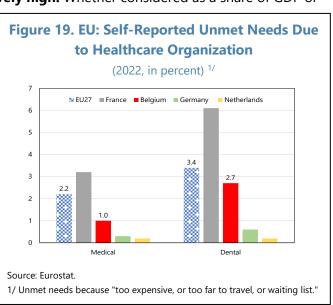
Good Health Outcomes, Achieved at a Relatively High Cost

18. Health outcomes are good in relation to peers. Against most metrics, health outcomes compare well to EU averages (Figure 18). Moreover, self-reported unmet needs are lower than for the EU as a whole although higher than in Germany and The Netherlands (Figure 19), and self-perception of health is, for all income quintiles, better than for the EU, France, Germany, or The Netherlands.

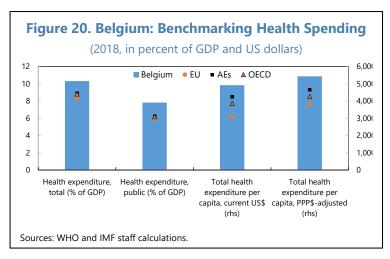


19. Health spending in Belgium is relatively high. Whether considered as a share of GDP or

per capita, Belgium public health spending is significantly larger than EU, OECD, or advanced economies averages. It is also larger than large neighboring EU countries except France (Figures 20 and 21). Since 2000, public health spending increased less then total health spending (by 2.3 percent of GDP vs. 3.0 percent of GDP). Notably, from the Global Financial Crisis to the COVID-19 pandemic, public health spending ratios (to GDP and to general government spending) have remained broadly constant and remained in line with EU peers (Figures 21 and 22).



20. Aging is putting health expenditure under pressure. The healthcare system already faces the impact of aging: people 65 years and over represent 1/5th of the population but account for half of healthcare expenses. Moreover, elderly people tend to suffer from multimorbidity, and people with chronic (multi)morbidity, who represent 29 percent of population, account for 65 percent of healthcare expenses (Van der Heyden, 2023).

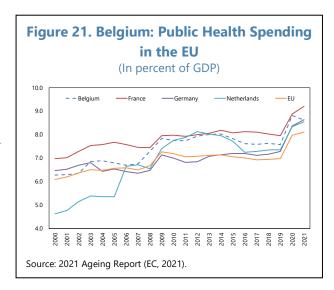


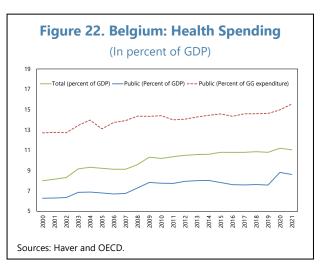
Efficiency Gains Could Free Resources to Absorb Part of the Expected Cost of Cging

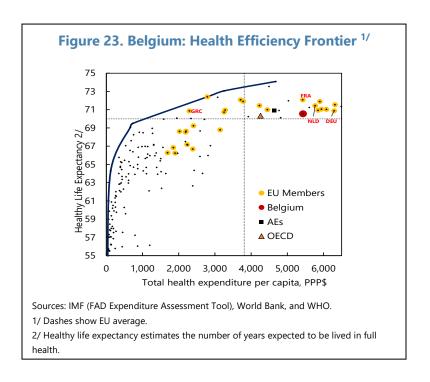
21. Potential efficiency gains appear large. Belgium achieves a healthy life expectancy that is only marginally higher than the EU or the OECD but at a substantially higher spending per capita (Figure 23). If Belgium's healthcare system was as efficient as in the EU and the OECD average, it could achieve the same outcome 20 to 30 percent more cheaply

(Table 5).

22. A combination of measures can help increase efficiency. Based on Belgian (KCE, INAMI-RIZIV, Sciensano) and international studies (EC, OECD, WHO) as well as academic literature, four types of measures are likely to have the largest impact on efficiency: (1) increasing prevention, (2) fostering a more adequate use of resources, (3) reducing the cost of pharmaceuticals, and (4) reducing reliance on hospitals. In some areas, policies are being implemented, but they need to be scaled up (Gerkens and Merkur, 2020).



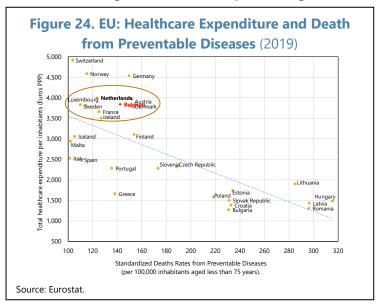




Prevention

23. Belgium's healthcare system is better at treating diseases than at preventing them. For

example, Belgium has a higher rate of preventable deaths than other EU countries with a similar level of health expenditure (Figure 24). Another illustration is the case of cancers, which is important in the context of aging as, for many cancer types, the risk of developing the disease rises with age. Illustrating the effectiveness of the healthcare system at curing diseases, Belgium has a relatively higher incidence of cancer than the EU average but a lower death rate from cancer (Figure 25).



24. Spending on prevention is

low. At 1.6 percent of all spending in 2019, spending on prevention is lower than the EU average of 2.9 percent. Only 61 euros PPP per capita is dedicated to prevention which is 40 percent lower than EU average of 102 euros PPP per capita (OECD / Observatory on Health System and Policies, 2021). Therefore INAMI-RIZIV (2022a) sees prevention as one of the "highly problematic areas" of the Belgian healthcare system, flagging "alarming indicators".

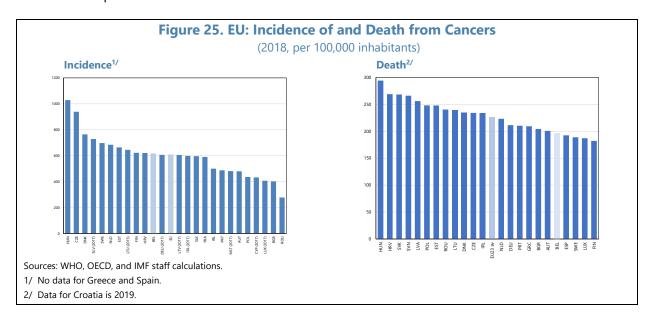
Table 5. Belgium: Saving from Efficiency Gains

(In percent of total health spending)

	Healthy Life Expectancy		Total health expenditure per capita, PPP\$		Efficiency gains
	Value	Year	Value	Year	
Belgium	70.6	2019	5434.4	2018	
EU OECD	70.0 70.3	2019 2019	3809.1 4259.1	2018 2018	-29% -21%

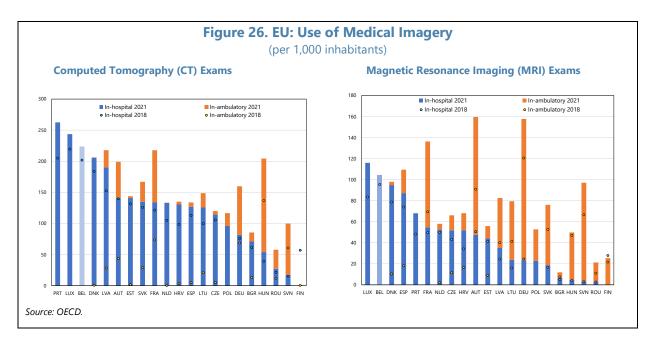
Sources: World Bank, WHO, and IMF staff calculations.

25. Increasing spending on prevention would not only improve the population well-being but would also be cost effective. For example, although the screening of breast cancer is more developed than the screening of other form of cancers (OECD / Observatory on Health System and Policies, 2021), INAMI-RIZIV (2022a) sees it as "sub-optimal" as the share of the population screened remains below the threshold needed to an acceptable cost/effectiveness ratio. Prevention should focus on risk factors that have a significant impact on health, such as obesity (De Pauw and others 2022; Gerkens and Merkur, 2020). The fight against overweight and obesity would be cost effective as average total healthcare expenses for people with overweight and obesity were significantly higher than those observed in the rest of the population, resulting in additional annual healthcare cost estimated by Gorasso and others (2022) at 0.6 percent of GDP. In addition, comorbidity related to obesity and overweight result in increased absenteeism that cost the Belgian economy an estimated 0.2 percent of GDP.



Appropriate Use of Resources

26. Numerous studies suggest that health resources are not optimally used in Belgium. For example, breast cancer screening is not yet sufficiently widespread to be cost effective, but age groups that are not part of the target group are overrepresented in the population screened (Devos et al., 2019; INAMI-RIZIV, 2022a). Reducing unjustified variations in medical practices (documented on the government website Healthybelgium.be) could also reduce healthcare cost without affecting health outcome. In some cases, it could even improve health outcomes. For example, studies make a case for reducing the overuse of antibiotics and psychotropics, and for correcting the inadequate prescription of antidepressants and anticholinergic drugs (Devos et al., 2019; Gerkens and Merkur, 2020 HealthyBelgium, 2022; INAMI-RIZIV, 2022a). ¹⁶ Also, medical imagery appears to be used more than in peers (Figure 26) and in some cases (e.g., scanner of lumbar spine) is sometimes medically unnecessary (INAMI-RIZIV, 2022a).



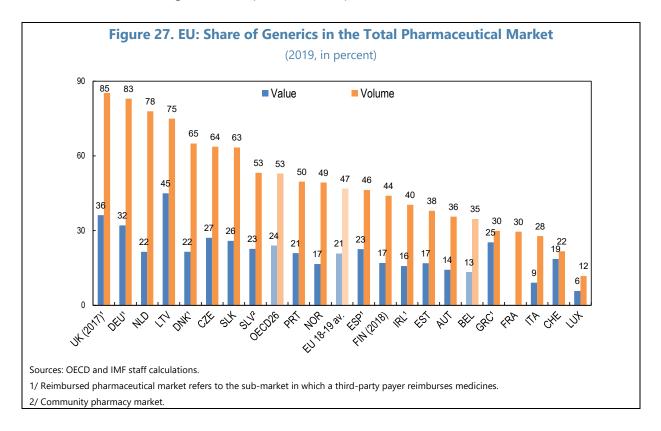
Pharmaceutical

27. **Promoting the use of generics could result in savings.** Despite policies put in place (e.g., incentives for physicians to prescribe a certain percentage/quota of low-cost medicine and the convention to stimulate the use of biosimilars - Gerkens and Merkur, 2020), the use of generics remains low, with a share both in volume and in value low when compared to other countries (Figure 27). The share of generics is particularly low in hospitals where it accounts for 3.5 percent in value and 17.5 percent in volume compared to 17.5 percent and 44.2 percent, respectively, in six other EU countries for which data are available. In this context, the conclusion of an official working

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¹⁶ The tendency of prescribing antidepressants for a duration shorter than the recommended minimum has been documented (INAMI-RIZIV, 2022a).

group that recently reviewed the "purchasing policy" for medicines in hospitals may lead to measures to ensure that generics are part of the hospital tenders.



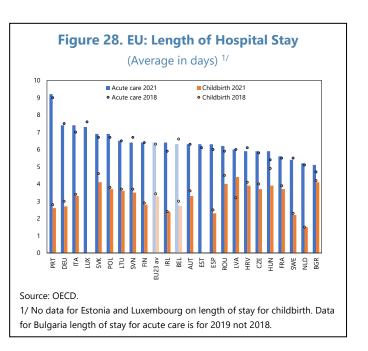
- 28. Increasing competition could also reduce the cost of pharmaceuticals. The cost of pharmaceuticals can be reduced by increasing competition in retail. Community and hospital pharmacies have a monopoly for distribution of pharmaceuticals (prescription and over the counter). As a result, pharmaceuticals are not available via supermarkets, and internet sale is only possible for registered over-the-counter pharmaceuticals if a pharmacy owns the website (Gerkens and Merkur, 2020). Reducing the cost of drugs through greater competition would improve access to healthcare as pharmaceuticals is an important share of out-of-pocket spending (OECD / Observatory on Health System and Policies, 2021).
- 29. A review of the price-setting mechanism and greater transparency are warranted. In some cases, the price of drugs can be negotiated bilaterally between the authorities and the pharmaceutical producer (managed entry agreements or MAEs). Most of the time, MAEs include financial compensation mechanisms that are confidential. The share of pharmaceuticals under MAEs increased from 13 percent of expenditure in 2014 to 31 percent in 2018, leading Gerkens and Merkur (2020) to conclude that they "have become the rule rather than the exception" and that "the exponential increase in the price of innovative treatments and the lack of transparency in confidential price agreements threaten the system."

Reliance on Hospital

30. Hospital services is an important reason why Belgium spends more than peers on healthcare. In 2019, the difference in public health spending between Belgium and the EU27 was entirely due to the difference in spending in hospital services. More than half of the increase in public healthcare spending during the pandemic was related to hospital services, compared to slightly over 35 percent in the EU and 27 percent in the EU14. As a result, in 2021, 49 percent of public health spending was on hospital services; 7 ppts more than in the EU27 and 3 ppts more than in the EU14 (Table 6).

Table 6. Belgium: Spending on Hospitals (In percent of GDP) ^{1/}									
	Public He	ealth Spe	ending	Hospital Services					
	Belgium	EU27	EU14	Belgium	EU27	EU14			
2019	7.6	7.0	6.9	3.6	3.0	3.3			
2021	8.6	8.1	7.8	4.2	3.4	3.6			
Sources: Eurostat, and IMF staff calculations. 1/ EU14 are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Republic of Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and Sweden.									

High usage of hospitals is partly 31. related to financial incentives and **hospital organization**. The reimbursement system provides patients incentives to use hospitals services. This contributes to a rate of avoidable hospital admissions that, though declining, remains higher than in many other EU countries. Avoidable hospitalization for some diseases, such as asthma or chronic obstructive pulmonary disease, is higher than EU average, highlighting that there is room to improve primary care to manage chronic diseases (OECD / Observatory on Health System and Policies, 2021).¹⁷ It also points to the importance of developing integrated care



¹⁷ In 2015, at least 632 hospital admissions per 100 000 inhabitants could have been avoided. This is less than in 2012 (660 per 100 000 inhabitants) but slightly over EU15 average of 621 per 100 000 inhabitants (Gerkens and Merkur).

and removing financial obstacles for hospital and patients (complex payment rules and lack of transparency) to day-hospitalization. These policies would also help continue reducing the average length of stay (Figure 28) and health costs, as all other things being equal, a shorter stay reduces the cost per discharge and shifts care from inpatient to less expensive post-acute settings.

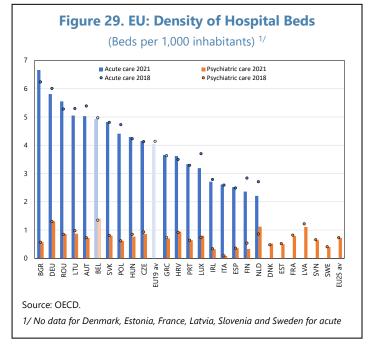
The Healthcare System Needs to Evolve to Prepare for the Challenges of Aging

32. Policies to increase efficiency will free resources that should be, at least partly, used to prepare the health system to the medical challenges related to aging patients. Because healthcare needs of elderly patients differ from the needs of younger patients, aging has large quantitative and qualitative implications that require reforms of the healthcare system. The main adjustments concern hospital organization, human resources, and long-term care needs.

Preparing Hospitals to the Challenges of Aging

- **33. Aging will increase demand for hospital services.** Elderly patients' use of hospital services is already high and expected to increase in the future. ¹⁸ Moreover, elderly patients are usually associated with a higher risk of admission through the emergency department and with a longer hospital stay (De Foor and others, 2020; Deschodt, and others, 2015; Van de Voorde and others, 2017; Vilpert and others, 2013).
- **34.** The expected increase in demand for hospital services requires a reorganization of hospitals to mitigate its cost. Belgium has a higher density of hospital beds than most EU countries (Figure 29), but they need to be reoriented toward geriatric units. Overall, the healthcare

system has a longstanding over-capacity in most types of beds but an undercapacity in geriatrics (Deschodt, and others, 2015; Van de Voorde and others, 2017). As a result, in 2011, more than a quarter of hospitalized patients older than 75 were in non-geriatric acute care units, and they accounted for 43 percent of all hospitalization days on acute nongeriatric units (Deschodt, and others, 2015). In the short term, given the decline in the projected need for traditional beds, reconverting some of the pediatric and maternity, surgical or internal medicine beds into geriatric beds would reduce the fiscal cost of increasing capacity for geriatric care (Van de Voorde



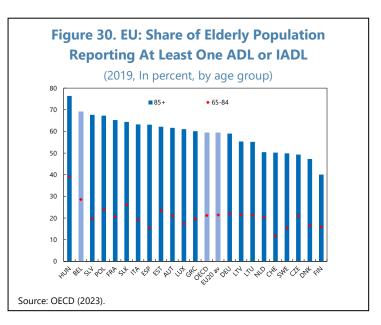
¹⁸ For example, patients 85 and older already represented 9.2 percent of hospital patients in 2011 and 16¼ of hospitalization (Deschodt, and others, 2015).

and others, 2017; Gerkens and Merkur, 2020). In the long run, however, the expected increase in need for geriatric beds is expected to grow too rapidly to be met by reconverting other facilities or policies to increase in care at home (both formal and informal care) so that additional fiscal costs seem unavoidable (HealthyBelgium, 2022).

35. The expected increase in demand for hospital services also requires a reorganization of medical processes, which may imply a fiscal cost, and increased cooperation. Van de Voorde and others (2017) recognize that a substantial share of elderly patients is not admitted in geriatric units due to capacity problems but also because elderly patients are often admitted for several medical reasons, some of them treated in non-geriatric units. As elderly patients suffer more from comorbidities than younger patients, their treatment is complex and will imply—in addition to a greater utilization and reorganization of hospital resources and medical processes—a need for efficient coordination. This coordination goes beyond hospitalization as patient stay in hospital can be prolonged if the discharge is delayed due to a lack of coordination with rehabilitation institutions or nursing homes (De Foor and others, 2018). This also highlights that, to reduce the aging pressure on hospitals, investment in long term care facilities is needed.

36. Prevention policies could mitigate the cost of aging.

Increasing spending on prevention could help mitigate the cost of aging if it allows the elderly to maintain healthier living for longer. Belgium has room for improvement as the share of elderly population in need of care is among the highest in Europe (Figure 30). In this context, it is important to note that the health status of an elderly at a certain age may be better in several decades than it is now, which could significantly lower the cost of aging (Kotschy and Bloom, 2023).

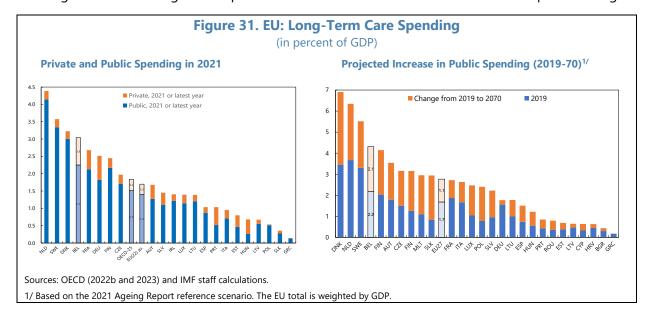


Ensuring an Adequate Geriatric-Support Workforce

37. The health need of an aging population will require different skills from physicians and nurses. Belgium already faces a shortage of physicians and nurses with geriatric skills and expertise in elderly care. This shortage will grow as the number of elderly patients increases and aging intensity rises (Figure 3). Therefore, although they imply a cost in the short-term, training policies need to be implemented rapidly so that the increase in geriatric demand is met and that the increased hospital capacity is staffed by a sufficient and qualified geriatric workforce (Van de Voorde and others, 2017).

Ensuring Adequate Long-Term Care

38. Public spending on long-term care is already comparatively high and projected to increase significantly. Despite more prevalent informal long-term care than in other OECD countries (OECD, 2017; Devos and others, 2019) and a long-standing policy to develop at-home care services (HealthyBelgium, 2022), which both tend to postpone institutionalization, public spending on long-term care is among the highest in Europe (Figure 31). Based on the reference scenario of the 2021 Ageing report, the OECD (2023) projects that the public spending on long-term care would increase by about 2 percent of GDP by 2070. Such an increase poses again the fiscal and operational challenge to increase long-term capacities both in terms of beds and in term of adequate staffing.



E. Conclusion

- **39. Belgium's rapid population aging constitutes an important fiscal challenge.** As all available projections point to a substantial increase in the cost of aging in the current decade, the sustained fiscal consolidation needed to reduce the debt level and rebuild buffers post-COVID will face significant headwinds.
- **40. Belgium spending on pension is increasing significantly and rapidly, requiring additional policy measures.** Pension spending is projected to increase faster than for EU peers. Notably, EC and national projections concur that pension spending during the current decade will increase by 13/4 percent of GDP. Therefore, additional spending containment measures (increase labor force participation, notably of older workers, tighten eligibility conditions, avoid an increase in the generosity of pensions) are needed now to allow a meaningful fiscal consolidation over the coming years. To ensure the sustainability of the pension system and its important role in the Belgian social model, an increase in social contributions could also be considered though it would run against the policy of reducing labor taxation.

41. Aging is a significant challenge for the healthcare system, but efficiency gains could help absorb part of the aging cost. Access to healthcare and health outcomes are comparatively good in Belgium. However, they are achieved at a relatively high cost, suggesting large potential efficiency gains. Realizing these efficiency gains will require significant reforms—more emphasis on prevention, reforming the organization and role of hospitals, promoting the use of generic drugs, and ensuring a more appropriate use of costly healthcare resources—that would free resources. These resources could help absorb part of the projected increase in fiscal spending on health (including long-term care) but also to prepare the health system to the medical challenges related to aging patients. Indeed, because healthcare needs of elderly patients differ from the needs of younger patients, aging has large implications that require costly reforms. The main reforms concern hospital organization and human resources, as well as preparing for the increased demand for long-term care.

References

- Bureau fédéral du Plan / Conseil Supérieur des Finances (2023). Comité d'étude sur le vieillissement Rapport annuel 2023, Brussels, 89 p., https://www.plan.be/publications/publication-2370-fr-comite_d_etude_sur_le_vieillissement_rapport_annuel_2023.
- De Foor, Julie, Christelle Senterre, Pol Leclercq, Dimitri Martins, and Magali Pirson (2020). "Profile of hospitalised elderly patients in Belgium—Analysis of factors affecting hospital costs," *The Journal of Economics of Ageing*, Vol. 15, 9 p.; https://doi.org/10.1016/j.jeoa.2019.100209.
- De Pauw, Robby, Manu Claessens, Vanessa Gorasso, Sabine Drieskens, Christel Faes, and Brecht Devleesschauwer (2022). "Past, present, and future trends of overweight and obesity in Belgium using Bayesian age-period-cohort models," *BMC Public Health*, 22, 1309, 14 p., https://doi.org/10.1186/s12889-022-13685-w.
- Deroose, Marjolein, Wim Melyn, Pierrick Stinglhamber, and Stefan Van Parys (2023). "Is public spending in Belgium sustainable? A comparison with other euro area countries," NBB Economic Review, 2023 No. 9, 30 p.,
 - https://www.nbb.be/doc/ts/publications/economicreview/2023/ecorevi2023_h09.pdf.
- Deschodt Mieke, Claes Veerle, Bastiaan Van Grootven, Koen Milisen, Benoît Boland, Johan Flamaing, Alain Denis, François Daue, Lut Mergaert, Carl Devos, Patriek Mistiaen, Koen Van den Heede (2015). Comprehensive Geriatric Care in Hospitals: The Role of Inpatient Geriatric Consultation Teams. Brussels: Belgian Health Care Knowledge Centre, KCE Report 245, 127 p., https://kce.fgov.be/sites/default/files/2021-12/KCE_245_geriatric_care_in_hospitals_Report_0.pdf
- Devos, Carl, Audrey Cordon, Mélanie Lefèvre, Caroline Obyn, Françoise Renard, Nicolas Bouckaert, Sophie Gerkens, Charline Maertens de Noordhout, Brecht Devleesschauwer, Margareta Haelterman, Christian Léonard, and Pascal Meeus (2019). *Performance of the Belgian Health System Report 2019*. Brussels: Belgian Health Care Knowledge Centre, KCE Report 313, 109 p., https://kce.fgov.be/node/1783.
- Duc, Cindy (2015), Les réformes des retraites depuis 1993 augmentent à terme l'âge moyen de départ de deux ans et demi, Paris : Direction de la Recherche, des Etudes, de l'Evaluation et des Statistiques, 6 p.
- European Commission (2021). The 2021 Ageing Report Economic and Budgetary Projections for the EU Member States (2019-2070), Luxembourg: Publications Office of the European Union, Institutional Paper 148, 375 p., https://economy-finance.ec.europa.eu/publications/2021-ageing-report-economic-and-budgetary-projections-eu-member-states-2019-2070_en.
- _____ (2022). *Fiscal Stability Report 2022*, Luxembourg: Publications Office of the European Union, Institutional Paper 171, 2 volumes.
- Eurostat (2019). European system of integrated social protection statistics ESSPROS Manual and user guidelines, Luxembourg: Publications Office of the European Union, 157 p., https://ec.europa.eu/eurostat/documents/3859598/10295301/KS-GQ-19-014-EN-N.pdf/e7c8c019-944c-1c71-aee5-1ffc8ce45200?t=1673940032376.
- Gorasso, Vanessa, Isabelle Moyersoen, Johan Van der Heyden, Karin De Ridder, Stefanie Vandevijvere, Stijn Vansteelandt, Delphine De Smedt, and Brecht Devleesschauwer (2022). "Health care costs and lost productivity costs related to excess weight in Belgium," *BMC Public Health*, 22, 1693, 112 p., https://doi.org/10.1186/s12889-022-14105-9.

- Gerkens, Sophie and Sherry Merkur (2020). *Belgium Health System Review,* Health Systems in Transition, vol. 22(5), 237 p.
- Hallaert, Jean-Jacques and Maximilien Queyranne (2016). From Containment to Rationalization: Increasing Public Expenditure Efficiency in France, Washington, D.C.: IMF, Working Paper 16/7, 65 p.
- HealthyBelgium (2022). *Care for the elderly*. Belgium.be Official information and services, https://www.healthybelgium.be/en/health-system-performance-assessment/specific-domains/care-for-the-elderly.
- IMF (2019). Belgium 2019 Article IV Consultation—Press Release; Staff Report; and Statement by the Executive Director for Belgium. Washington, D.C.: IMF, IMF Country Report 19/74, 64 p.
- ____ (2020). Belgium 2020 Article IV Consultation—Press Release; Staff Report; Staff Supplement; and Statement by the Executive Director for Belgium. Washington, D.C.: IMF, IMF Country Report 20/91, 68 p.
- INAMI-RIZIV (2022a). Vers un budget pluriannuel pour les soins de santé et des objectifs 'soins de santé'. Brussels: INAMI-RIZIV, Rapport du Comité scientifique budget pluriannuel, 122 p.
- Kotschy, Rainer and David E Bloom (2022). "A comparative perspective on long-term care systems," *International Social Security Review*, vol. 75(3-4), pp. 47–69, https://doi.org/10.1111/issr.12307.
- ______ (2023). Population Aging and Economic Growth: From Demographic Dividend to Demographic Drag?, Cambridge, MA: NBER, Working Paper 31585, 27 p.
- Lefèbvre, Mathieu (2006). *Population ageing and consumption demand in Belgium*, Liège: Université de Liège, Centre de Recherche en Economie Publique et de la Population (CREPP), Working Paper 0604, 20 p., https://www.researchgate.net/publication/24125196.
- Lindert, Peter H. (2021). *Pensions and the Curse of Long Life*. Chapter 12 in "Making Social Spending Work," Cambridge: Cambridge University Press, 422 p.
- OECD (2017). Health at a Glance 2017 OECD Indicators. Paris: OECD, 215 p.
- _____ (2022a). Economic Surveys: Belgium, Paris: OECD, 122 p.
- _____ (2002b) Health at a Glance: Europe 2022 State of Health In The EU Cycle. Paris: OECD, 222 p. _____ (2023). Beyond Applause Improving Working Conditions in Long-Term Care. Paris: OECD, 199 p.
- OECD / European Observatory on Health Systems and Policies (2021). *Belgium: Country Health Profile 2021, State of Health in the EU*, Paris: OECD, 23 p.
- Statbel (2023). *Perspectives démographiques 2022-2070*. Brussels: Statistics Belgium Federal Public Service Economy, SMEs, Self-employed and Energy; accessed September 11, 2023, https://statbel.fgov.be/fr/themes/population/perspectives-de-la-population.
- Van de Voorde, Carine, Koen Van den Heede, Claire Beguin, Nicolas Bouckaert, Cécile Camberlin, Piet de Bekker, Noémie Defourny, Harlinde De Schutter, Carl Devos, Sophie Gerkens, Cai Grau, Patrick Jeurissen, Florien Margareth Kruse, Mélanie Lefèvre, Yolande Lievens, Patriek Mistiaen, Aude Vaandering, Elisabeth Van Eycken, Ewout van Ginneken (2017). Required hospital capacity in 2025 and criteria for rationalisation of complex cancer surgery, radiotherapy and maternity services. Brussels: Belgian Health Care Knowledge Centre (KCE), KCE Report 289, 550 p., https://doi.org/10.57598/R289C.

Van der Heyden, Johan, Herman Van Oyen, Nicolas Berger, Dirk De Bacquer, and Koen Van Herck (2015). "Activity limitations predict health care expenditures in the general population in Belgium," BMC Public Health, 15, 267, 12 p., https://doi.org/10.1186/s12889-015-1607-7.

(2023). Evolution of Health Care Costs In Belgium Between 2013 and 2020 Across Different Socio-Economic Strata, Presentation to the IMF mission, 6 p.

Vilpert, Sarah, Hélène Jaccard Ruedin, Lionel Trueb, Stéfanie Monod-Zorzi, Bertrand Yersin, Christophe Büla (2013). "Emergency department use by oldest-old patients from 2005 to 2010 in a Swiss university hospital," BMC Health Service Research, 13, 344, 8 p.