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BELGIUM

SELECTED ISSUES

September 2021

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SELECTED ISSUES

August 20, 2021

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European Department

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POST-PANDEMIC CORPORATE VULNERABILITY AND INSOLVENCY IN BELGIUM[1]

While policy support has cushioned income losses and liquidity needs, many Belgian firms continue to face liquidity and equity shortfalls, especially SMEs and those operating in hard-hit sectors. Large remaining liquidity needs increase risks of debt overhang and insolvency, if met through additional borrowing, pointing to the need for further solvency support to repair balance sheets of viable firms. New public funds set up to this end should leverage private sector expertise and funding, drawing on the experience of recapitalization programs in other countries. To avoid court congestion and excess liquidation if bankruptcies mount when broad pandemic support is unwound, efforts should be complemented by enhancing restructuring and insolvency frameworks.

A. Introduction

1. This paper analyzes the impact of the pandemic on corporate insolvency risks and policy options to address them. Section B presents estimates of liquidity and solvency pressures derived from cash-flow model simulations under a scenario that includes selected support measures and a counterfactual scenario without support to assess the effectiveness of the policy response. It contrasts the results with those produced by the National Bank of Belgium (NBB). Section C discusses the impact on bankruptcies, job and credit losses, linking estimates of insolvency risk by sector to bank exposures. Section D reviews the modalities of solvency support deployed and the design of recapitalization programs, followed by a discussion of Belgium's restructuring and insolvency frameworks, recent measures to strengthen these, and remaining gaps in Section E. The final section discusses policy implications.

B. Liquidity and Solvency Needs

2. The pandemic caused a large turnover shock, but public support has mitigated liquidity and solvency pressures. Firms incurred large revenue losses from forced closures, supply-chain disruptions, and declining demand, above those observed during the initial phase of the global financial crisis (GFC). Non-essential, contact-intensive sectors have been hit especially hard, with turnover still expected to be 10–40 percent below 2019 levels in 2022. The impact on firms' liquidity and solvency positions can be estimated using cash-flow simulations and firm-level income statements and balance sheet data.[2] Under a scenario without support but

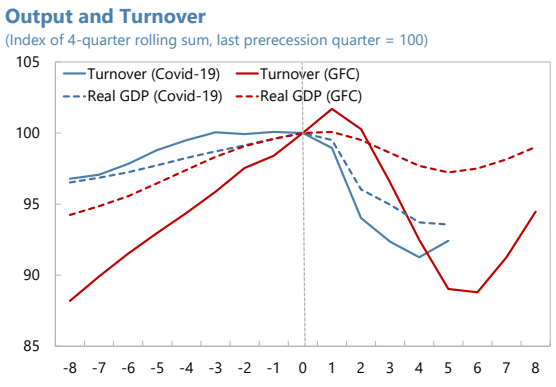
[1] Prepared by Ruud Vermeulen. This paper benefited from inputs by Manasa Patnam and Laura Valderrama, as well as Andreas Jobst and Chanda de Long. NBB simulations have been updated by Joris Tielens and colleagues.

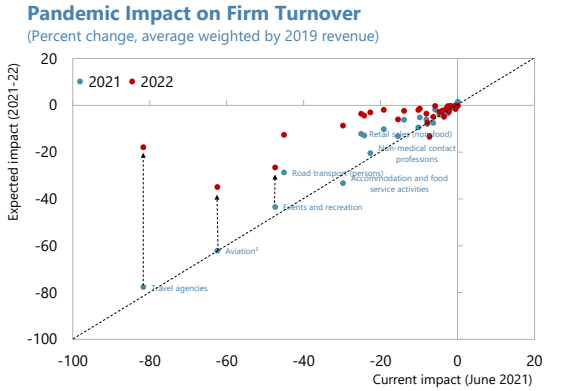
[2] These become available with a significant lag, with 2020 annual accounts not available for a significant share of firms until 2021Q4. Staff's simulation uses 2017–18 annual accounts data from the Orbis database, covering over 26,000 firms and about 80 percent of domestic turnover. The sample that the NBB uses in similar analysis

(continued)

with rollover of credit, staff estimates that 19 percent of firms would have become illiquid, similar to the Euro Area (EA) average, although 4 ppts below the NBB estimate. Some 12 percent of firms would have become insolvent, slightly above the averages for advanced economies (AE) and the euro area (EA). Policy measures[3] reduced the incidence of illiquid and insolvent firms by about 3 and 5 ppts; compared to EA averages of 15 and 5 ppts. The modest effect of measures on liquidity reflects the low take-up of guaranteed loans in Belgium relative to peers; full take-up would have lowered the share of illiquid firms by another 7 ppts—though still leaving a gap in part due to the smaller size of the guarantee envelope and grants. As residual liquidity needs are assumed to be closed through borrowing, subject to constraints[4], the gap between the share of insolvent firms in Belgium and the EA is nonetheless limited.

Figure 1. Belgium: Covid-19 Impact on Firm Turnover





3. Solvency needs seem modest overall, but remain sizeable for SMEs in hard-hit sectors. Though a larger share of firms is rendered insolvent in the simulation compared to peers (7 vs. 6 percent for the EA), estimated equity needs in Belgium are smaller (0.5 vs. 0.7 percent of GDP). This reflects a lower pre-pandemic incidence of insolvency and related needs, as well as a relatively effective policy response, with measures absorbing more than half of the additional equity needs, compared to a third for the EA—driven by the contribution of the short-term work

includes over 400,000 firms. The simulation assumes that firms can adjust their material costs in proportion to the reduction in sales, but continue to pay wages, fixed costs, and debt service (inventories are considered illiquid). A firm is considered illiquid when its liquid assets fall short of operational net cash outflows and debt repayments; and insolvent when debt exceeds assets (negative equity). The turnover shock varies across 70 sectors, calibrated on October 2020 IMF WEO growth forecasts. The NBB's simulation follows a similar logic but derives the turnover shock and cash outflows directly from monthly VAT filings for 2020. For a discussion of the simulations, see IMF (2020), Ebeke et al (2021a), Tielens et al (2021) and NBB (2021).

[3] Selected policy measures have been included in both IMF staff and NBB analyses: the short-time work (STW) scheme, business grants, and loan moratoria and guarantees. Tax measures differ, with broader coverage by the NBB, while staff analysis also includes monetary policy support through reduced borrowing costs. Staff analysis includes the *announced* size of measures, not the actual take-up, except in the case of Belgium for loan guarantees, given the low take-up rate (<2 percent). The latter distorts cross-country comparisons of the liquidity estimates and effectiveness of support.

[4] It is assumed that only firms that were solvent pre-pandemic have access to guaranteed loans and external finance and will access such financing in that order (total borrowing is capped by aggregate credit projections).

(STW) scheme and tax policies. These averages mask a wide dispersion across sectors, with the share of firms rendered insolvent reaching 44 percent in accommodation and food services. Similarly, small firms are more likely to face equity shortfalls, reflecting their overrepresentation in hard-hit sectors, financing constraints, and lower effectiveness of measures.[5] The equity gap estimates provide a lower bound of solvency needs: restoring capital of pre-crisis solvent firms to the minimum required for firms not to be considered "in difficulty" is estimated at close to 2 percent of GDP (close to the average for all countries in the sample).[6]

4. Large remaining liquidity needs increase risks of debt overhang and insolvency when met through additional borrowing. About one in five solvent firms that were solvent before the pandemic still face a liquidity gap after policy support, compared to an average of one in eight for AEs, again reflecting the low take-up of guaranteed loans and smaller effect of grants.[7] Firm leverage and insolvency could rise significantly were these gaps to be closed through additional borrowing. The NBB estimates that *additional* borrowing to close remaining liquidity gaps would render nearly 14 percent of firms insolvent, double staff's estimate. Not only will securing external funding for those firms be challenging[8], but the new debt is likely to weigh heavily on debt service burdens of firms that remain solvent, and thus on their investment and productivity.

C. Impact on Bankruptcies, Job and Credit Losses

5. Job losses and bankruptcies are set to increase, especially for SMEs in hard-hit sectors. Support so far prevented a "wave" of job losses and bankruptcies. Coupled with administrative measures (i.e., two bankruptcy moratoria during the first and second lockdowns; voluntary stay on government claims), bankruptcies even declined by a third in 2020 despite a much larger output shock than in previous crisis (e.g., GFC). This stands in sharp contrast with the increase in insolvent firms implied by the simulation results, ranging from 75 percent (NBB) to 110 percent (staff).[9] Likewise, while the unemployment rate increased only modestly in 2020 (from 5.2 to 5.4 percent), staff estimate jobs-at-risk due to the pandemic—i.e., the employment share of firms rendered insolvent—at 6.7 percent. The NBB estimates this at 10.5 percent, reaching 15 and 27 percent for firms with less than 5 FTE and in the hardest-hit sector. Unemployment and bankruptcy data for 2021 suggest that both are picking up.[10]

[5] Measures reduced the incidence of insolvency by about two-fifths for large firms against one quarter for small firms (to 7 and 14 percent). Tielens and others (2021) observe that for similar turnover reductions, small firms have been less successful in lowering costs and had smaller buffers going into the crisis.

[6] The EU defines "undertakings in difficulty" as those with cumulative losses above 50 percent of subscribed share capital (all firms) and a debt-to-equity ratio above 7.5 (large firms).

[7] The increase in the liquidity shortfall for all firms—not conditional on solvency—remains large at 3.9 percent of GDP (1.6 percent for the euro area), close to the NBB estimate of 4.2 percent.

[8] Using credit registry data, the NBB shows that banks have reduced their exposure to these firms between March and September 2020.

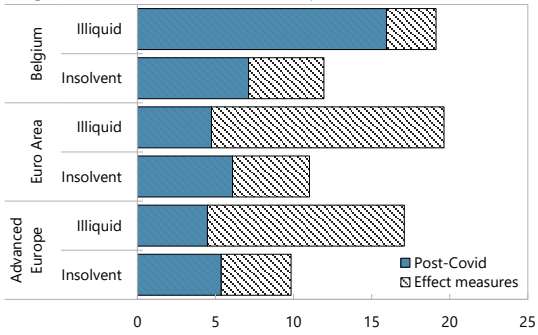
[9] Diez et al (2021) estimate the share of insolvent SMEs in advanced economies to increase by 6 ppts in 2020–21, similar in magnitude to firm exits seen in the five years after the GFC but over a much shorter period.

[10] The unemployment rate is tracking the GFC path more closely, albeit from a much lower base.

Figure 2. Belgium: Covid-19 Impact on Corporate Liquidity and Solvency

Firms Rendered Illiquid or Insolvent

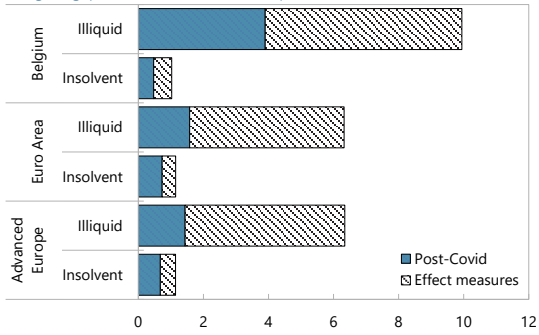
(Change in incidence due to Covid-19 shock in percent of all firms)



Source: IMF Staff estimates.

Liquidity and Solvency Gaps of Affected Firms

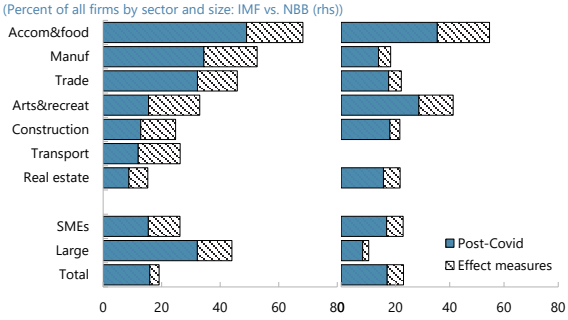
(Change in gaps due to Covid-19 shock in percent of GDP)



Source: IMF Staff estimates.

Firms Rendered Illiquid

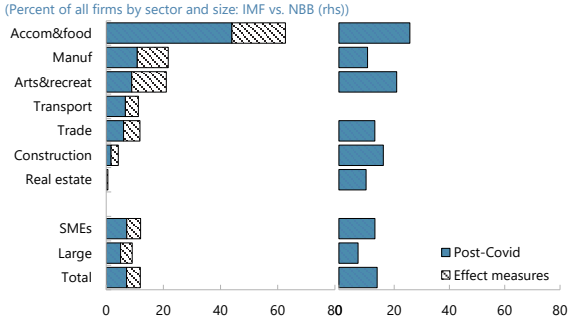
(Percent of all firms by sector and size: IMF vs. NBB (rhs))



Source: IMF Staff and NBB estimates.

Firms Rendered Insolvent

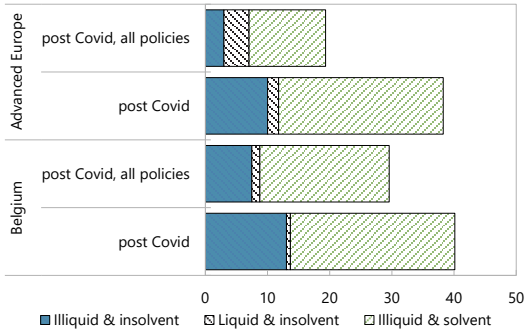
(Percent of all firms by sector and size: IMF vs. NBB (rhs))



Source: IMF Staff and NBB estimates.

Post-Covid Distribution of Pre-Covid Solvent Firms

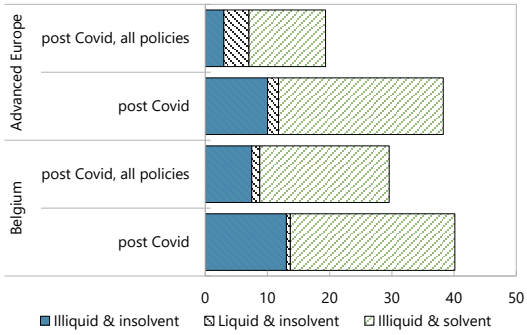
(Percent)



Source: IMF Staff estimates.

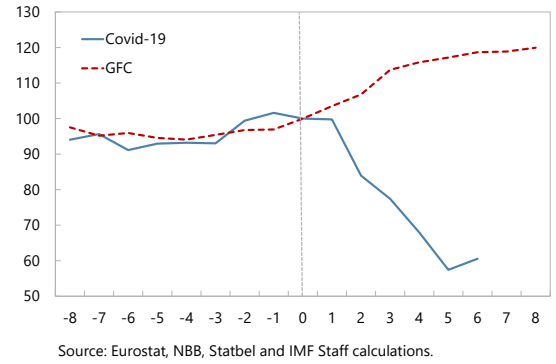
Post-Covid Distribution of Pre-Covid Healthy Firms

(Percent)

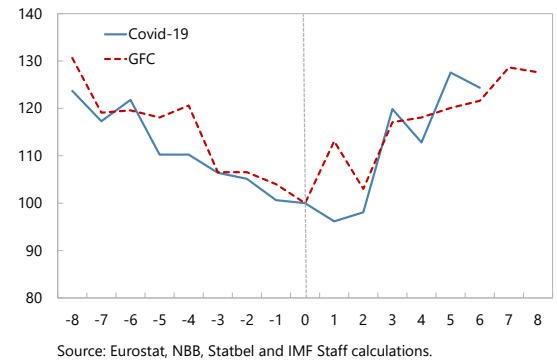


Source: IMF Staff estimates.

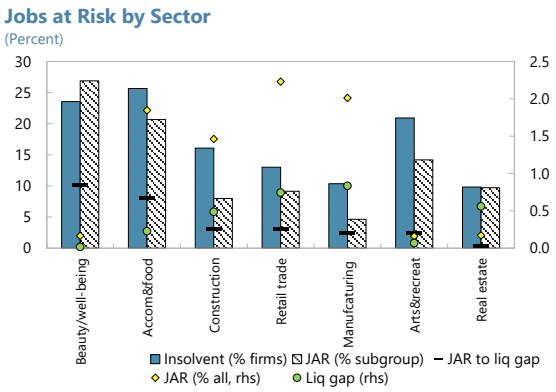
Figure 3. Belgium: Covid-19 Impact on Bankruptcy and Unemployment



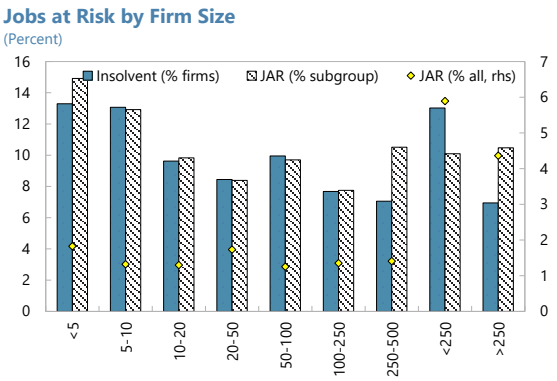
Source: Eurostat, NBB, Statbel and IMF Staff calculations.



Source: Eurostat, NBB, Statbel and IMF Staff calculations.



Source: NBB, updated estimates based on Tielens and others (2021).

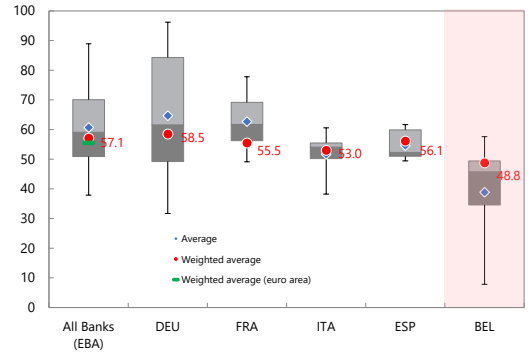


Source: NBB, updated estimates based on Tielens and others (2021).

6. Banks have sufficient buffers to absorb a rise in corporate defaults. Exposure of Belgian banks to hard-hit sectors is limited and well-below the EA average. With illiquidity and insolvency concentrated in those sectors and among SMEs, the share of debt-at-risk is also limited: simulation results imply that the share of debt of insolvent firms increased by 2.8 to 5.2 percent (below the average increase of 4.1 percent for AEs)—though it increased by 16 ppts for illiquid firms. Credit loss estimates using balance sheet and P&L data for 15 Belgian banks (EBA) and the share of jointly illiquid and insolvent firms derived from the simulation (11 percent) to inform default rates show that policy measures fully offset a capital impact of 3 ppts in the baseline scenario, with the baseline weighted average CET1 ratio remaining at 18.6 percent (Aiyar and others (2021)). Ample buffers keep CET1 ratios above the regulatory minimum and the MDA threshold—key for bank funding costs—for all banks, even without policy support. Though declining by about 1 ppt, this ratio would remain well-above prudential minima even in a downside scenario.

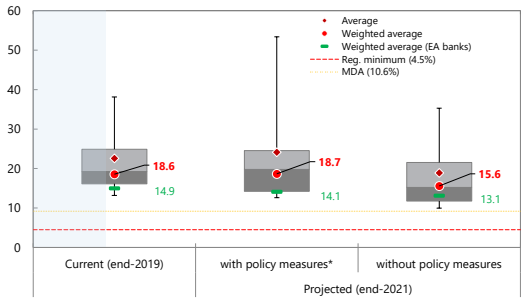
Figure 4. Belgium: Covid-19 Impact on Banks

European Banks—Share of Corporate Exposure to Highly-Affected Sectors 1/
(Percent, end-2019)



Sources: EBA; and IMF staff estimates.
Note: The grey shaded area of the boxplots shows the inter-quartile range (25th to 75th percentile), with whiskers at the 5th and 95th percentile of the distribution. 1/ Non-essential sectors include construction, wholesale/retail trade, transport and storage, accommodation and food services, real estate activities, arts/entertainment/recreation, and other services (NACE Codes F-I, L, R, and S).

Belgian Banks—Solvency Stress Test (Extended Coverage), Baseline Scenario
(CET1 Capital Ratio, Percent)



Sources: EBA; ECB; ESRB; FitchConnect; S&P Market Intelligence; and IMF staff estimates.
Note: CCB=capital conservation buffer, CET1=common equity Tier 1, MDA=maximum distributable amount (weighted average). The grey shaded area of the boxplots shows the inter-quartile range (25th to 75th percentile), with whiskers at the 5th and 95th percentile of the distribution. */ Debt repayment relief (moratoria) for businesses and households, public credit guarantees, deferred bankruptcy proceedings, and dividend restrictions (only in 2020); The analysis covers all three channels affecting the capital adequacy ratio under stress - profitability (net interest income and provisions), nominal assets (net lending and charge-offs after reserves), and risk exposure (changes in credit risk weights). The crisis-specific risk drivers of these channels are: (1) write-offs due to the projected insolvency of illiquid and insolvent firms (weighted by outstanding debt and mapped to the sector-by-sector corporate exposure of sample banks), (2) the profitability impact of policy measures (lower provisions for guaranteed loans to solvent corporates, loss forbearance on eligible loans under moratoria, and decline in interest income due to duration of debt moratoria), and (3) the increase in risk weights to the general increase of the default risk of mortgages and corporates. In addition, there is a general change in net operating income after general provisions and losses on other noninterest income due to lower GDP growth and higher unemployment rate, including impairment charges for non-corporate exposures.

D. Solvency Support and Recap Program Design

7. Solvency support aimed at rehabilitating corporate balance sheets has been largely channeled through tax measures. Federal tax measures allow firms to recoup pandemic-induced losses (carry-backward; recovery reserve) and incentivize retail investment in SMEs (tax shelter).[1] Regional governments expanded or introduced similar schemes to incentivize retail investment in SMEs through tax credits and partial guarantees: "*win-win loans*" and "*friends shares*" (subordinated loans and equity, respectively) in Flanders; "*prêt coup de pouce*" in Wallonia; and "*proxy loans*" in Brussels.[2] These schemes have met with various success in mobilizing funding: the expansion of "win-win loans" allowed some 6-7k Flemish SMEs to raise €160mn in subordinated loans in 2020, and another €170mn in the first half of 2021, while the "friends shares" did not attract meaningful investment. Direct (quasi-) equity support has been

[1] Firms could deduct expected losses incurred in 2020 from their 2019 tax liabilities (expired). They can recoup losses by rebuilding equity through a recovery reserve that exempts profits over 2021–23 from taxes up to €20mn, subject to conditions. A tax shelter for start-ups (≤4y) provides income tax deductions of 30 and 45 percent for equity investments in small and micro firms, respectively, up to €100k for retail investors (for all tax shelters combined) and €250k for each firm. For scale-ups (small firms ≥ 10 FTE; between 4–10y; at least 10 percent growth in either employment or turnover in the past two preceding years), the deduction is 25 percent, with a similar cap for investors, but a higher cap for firms (up to €500k). These shelters follow the Covid-19 tax shelter that was in place in 2020 (20 percent deduction for investments in firms with a turnover reduction of at least 30 percent during March 14–April 30, 2020 or November 2–December 31, 2020, capped at €100k and €250k for retail investors and firms).

[2] The schemes have been in place in Flanders and Wallonia since 2006 and 2016; Brussels introduced one in 2020. Flanders and Wallonia expanded their schemes, making them more attractive to SMEs and retail investors. For instance, the terms of the "win-win loan" were modified by replacing the fixed maturity of 8 years to a variable one from 5 to 10 years; raising ceilings to €75k per creditor and €300k per SME; raising tax credits to cover credit losses from 30 to 40 percent. The creditor enjoys an annual tax credit of 2.5 percent of the outstanding amount of the subordinated loan; the interest rate is capped at 1.75 percent.

limited to convertible loans issued to select companies (e.g., national airline carrier, luggage handling company) and capital injections for public investment companies (PICs) to expand their capacity to provide guarantees, bridge/recovery loans, subordinated debt, and equity injections. These PICs, in turn, have set up programs to provide (quasi-) equity support: initially through subordinated loan programs and more recently through new funds that are not yet operational (Table 1).

8. The design of further solvency support needs to address key challenges. These revolve around: (i) setting clear objectives; (ii) targeting; (iii) assessing viability; (iv) containing adverse selection, moral hazard, and governance issues; (v) ensuring timely exit; and (vi) calibrating the size and timing of support (Ebeke et al, 2021). The EU's Temporary State Aid Framework provides guidance on key parameters such as objectives, targeting, governance, and size and duration of support, but leaves issues of firm selection, viability assessments, instrument choice, and the role of the private sector to national authorities. Considerations should be largely guided by firm size, with more simplified targeting, viability assessments and reporting requirements for programs targeting SMEs. Hybrid instruments that avoid equity dilution would be more appropriate for such programs (and equity injections for large/listed firms), while a larger role for the private sector would be desirable.[3] This would not only leverage public funds or backstops in a context of limited fiscal space, but also facilitate assessing viability on a *forward-looking* basis—a key challenge for policymakers.[4] Adverse selection (e.g., triggered by costs or stigma tied to recap instruments) and moral hazard could be mitigated if private creditors have "skin in the game" while timely exit could be embedded in the terms of the instrument used (e.g., maturity, pricing, with step-up provisions).

9. Existing recap programs focus support on SMEs through subordinated loans, with a modest role for the private sector. Targeting SMEs seems appropriate given higher risk of bankruptcy and job losses, and more limited access to market financing.[5] Similarly, providing support through subordinated loans strikes a balance between the needs (amounts and number of eligible firms), fiscal space, and incentives (reluctance to accept equity dilution). Eligibility is conditional on losses and pre-crisis health, consistent with EU requirements, but less so on forward-looking viability (though firms need to present a viable business plan to qualify for the Brussels program). Private-sector participation is limited to banks co-financing and administering the program in Wallonia, and private-sector funding is envisaged to cover about a third of the

[3] This reflects preliminary take-aways from assessing 18 recap programs in Denmark, France, Germany, Hungary, Ireland, Italy, Latvia, Poland, Spain, and the United Kingdom. As in Belgium, regional governments in Spain also introduced solvency support programs, including through public-private partnerships. Ebeke et al (2021).

[4] Under the EU's Temporary State Aid Framework, *backward-looking* viability is a key criterion for government support. Firms—except micro and small firms—in difficulty on Dec 31, 2019, Feb 28, 2020, or at the time of application are thus ineligible. To avoid excluding new firms that are loss-making but viable, the loss criterion (≥50 percent of share capital) in the definition of "in difficulty" does not apply to firms younger than 3 years.

[5] Targeting hard-hit sectors would be justified on the same grounds, but caution is warranted given high labor intensity, a high share of zombie firms in some (e.g., hotel and restaurants, transport and storage), and a higher share of illiquid and insolvent firms in lower productivity deciles (Tielens and others (2021) and OECD (2019)).

capital of the program in Brussels. Size and conditions vary by firm and program (up to €2.8mn). Combined, support adds up to just over 0.1 percent of GDP.

10. New recap programs expand the scope and size of support, condition on forward-looking viability, and envisage a larger role for the private sector. As new funds set up by federal and regional investment companies are not yet operational, not all modalities of solvency support are known yet. However, support will not be limited to SMEs, will be conditioned on forward-looking viability, deploy a range of (mostly quasi-) equity instruments, and foresee more private sector co-financing—though there remains scope to enlarge the role of the private sector.[6] Size and conditions vary by firm and program (up to €50mn), with support totaling 0.4 percent of GDP—about half of which is expected to be provided by the private sector. Excluding the private sector, the budget envelope of all recap programs combined amounts to 0.3 percent of GDP, covering 16 percent of the estimated equity needed to restore pre-pandemic solvent firms to health and 70 percent of the negative equity gap.[7] This is in the middle of the range of "national" hybrid recap schemes (0.1 to 0.6 percent of GDP) in peer countries.

E. Restructuring and Insolvency Frameworks

11. Enhanced restructuring and insolvency frameworks complement solvency support and strengthen its efficacy. Banks have used supervisory flexibility to restructure loans, with the share of NFC loans benefiting from forbearance measures other than loan moratoria increasing from 1.2 percent in 2019Q4 to 2.7 percent in 2020Q4.[8] However, additional restructuring efforts are needed given insolvency risk estimates and likely deterioration in asset quality once support is phased out.[9] Expanding the use of out-of-court restructuring, especially for viable SMEs, would help avoid overburdening the judicial system, and potentially, excess liquidation. Though surveys among creditors (EBA, 2021) and bankruptcy practitioners (WB) suggest that the Belgian framework is relatively efficient, the judicial cost for SMEs is the highest in the Euro Area while the time to recovery is high compared to peers like Germany and the Netherlands. Moreover, based on 2016 data, the OECD finds that high personal costs for failed entrepreneurs, a lack of prevention and streamlining, and high barriers to restructuring make Belgium's regime among the least favorable to reallocation and productivity among OECD countries, mirrored in a high

[6] Innovative instruments can enhance the leverage ratio. For instance, under a French guaranteed subordinated loan program, banks provide subordinated loans backed by a public guarantee up to 30–35 percent and a similar guarantee to investors in assets securitized by these loans. Some €3bn in guarantees have been budgeted to mobilize €20bn in private sector funds.

[7] For the average country under review (see FN 14), public support amounts to 30 percent of the estimated equity needed by firms solvent pre-COVID-19 to avoid being "in difficulty" (Ebeke and others 2021), and 60 percent of the amount needed to bring equity to zero, but with a large heterogeneity across countries.

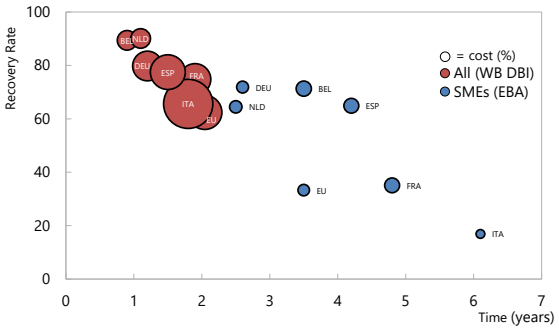
[8] It increased from 1.2 to 1.7 percent for household loans. Proactive restructuring is reflected in the fact that the increase is driven by performing loans (from about 0.5 to 1.6 percent), see NBB 2021 FSR.

[9] While the bulk of loans that benefited from moratoria remain performing, their asset quality has been deteriorating, with the NPL ratio for NFC loans increasing from 1.3 to 3 percent between October and March and the share classified as stage 2 reaching 35 percent (double the level for all NFC loans).

incidence of zombie firms.[10] While a May 2018 reform made resolving insolvencies easier, it left design flaws (e.g., only debtors can initiate restructuring; no special out-of-court procedures for SMEs, see OECD (2020)).

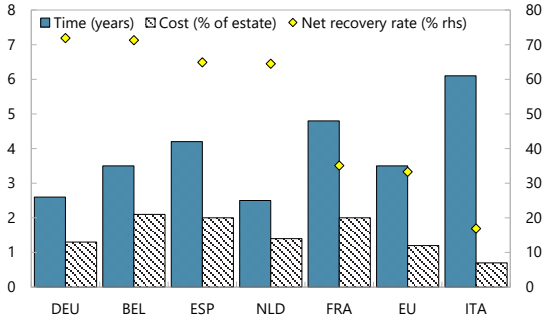
Figure 5. Belgium: Insolvency Framework Scores

Measures of Insolvency and Loan Enforcement Outcomes
(Percent)



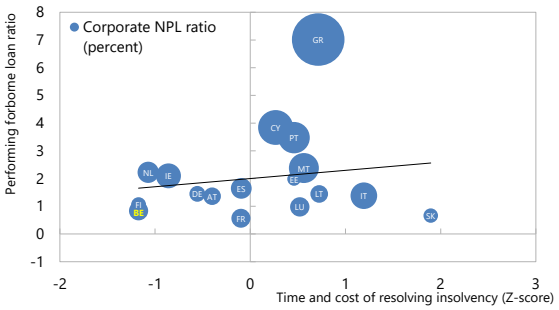
Sources: World Bank DBI Resolving Insolvency and EBA (2020), Report on the Benchmarking of National Loan Enforcement Frameworks.

Recovery Rate, Time, and Cost of SME Loan Enforcement
(Number of years; percent)



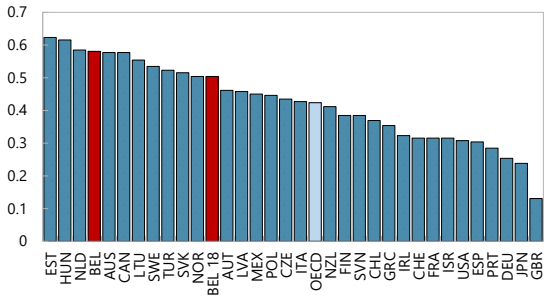
Source: EBA (2020), Report on the Benchmarking of National Loan Enforcement Frameworks.

Resolving Insolvency and Restructuring
(Z-score value and ratio in percent; 2019 and 2020Q4) 1/



Source: ECB 2021 Financial Stability Report.
1/ Average of time and cost of World Bank Doing Business indicators for resolving insolvency (after transfomring into z-scores).

Insolvency Regime Indicator
(Composite indicator ranging from 0 to 1, 2016) 1/



1/ Aggregates 13 design indicators; increasing in the extent to which the regime may delay the initiation and resolution of proceedings.
Source: Adalet Mc Gowan, M., D. Andrews and V. Millot (2017), OECD (2020).

12. A recent, further insolvency reform will facilitate restructuring, exit and reallocation. Temporary amendments to the insolvency law in March 2021 aimed to facilitate early restructuring by introducing a "pre-pack" procedure and ease access to judicial reorganization, especially for SMEs, by removing the inadmissibility of incomplete insolvency filings.[11] In parallel, tax exemptions on debt relief that creditors already enjoy under judicial

[10] OECD (2019) estimates this at about 5 percent in 2015, tying up 7 and 9 percent of employment and capital, respectively, and reaching 7–8 percent for large firms. The share of zombie firms and of employment and capital sunk in zombie firms in some sectors is much higher in Belgium than in other countries (e.g., textiles and apparel, wood and paper products, transportation and storage, hotels and restaurants, marketing and administrative services).

[11] The "pre-pack" procedure allows distressed debtors to initiate confidential negotiations with creditors at an early stage under the guidance of a judicial administrator with a view to conclude a judicial reorganization plan either by way of an "amicable agreement" with two or more creditors, or a "collective agreement" with a majority of creditors that is binding on the dissenting creditors. Key provisions include: debtor in possession with possible temporary relief (i.e., stay on claim enforcement, temporary payment terms/suspensions) during negotiations, subject to safeguards to creditors (i.e., judicial oversight, cap on interim measures of 4 months, and option to

(continued)

reorganization plans by court order have been extended to any type of insolvency procedure, which may incentivize restructuring. The confidential nature, limited court involvement, and shortened timelines of the pre-pack procedure, coupled with lower access barriers, are expected to save time and costs, reduce complexity and stigma effects, and may improve restructuring prospects while alleviating pressures on the court system. This, however, will largely depend on the cost and expertise of judicial administrators, case complexity, and capacity of courts to meet the shortened timelines. The amendments have been extended from end-June 2021 to July 2022 to bridge the period until the envisaged transposition of the EU Restructuring and Insolvency Directive.

13. Other reforms underway aim to close gaps and enhance capacity of the court system. This includes plans to strengthen early-warning mechanisms (including through a new business intelligence tool to detect distressed firms early), introduce a cross-class cram-down procedure (criteria governing the extension of an agreement adopted by one or more creditor classes to dissenting creditor classes so as to facilitate agreement), special out-of-court procedures for SMEs, and allow creditors to initiate procedures in the context of the transposition of the EU Directive next year—with options for implementation yet to be finalized.[12] In addition, resources will be boosted to alleviate staffing constraints and accelerate digitalization in the justice system. In the near term, however, risks of system congestion remain if bankruptcies mount once support is unwound.

F. Policy Implications

14. Measures should be increasingly targeted and focused on solvency support to mitigate risks of prolonged assistance and zombification. While leakage of support to firms that would have incurred cash drains or losses regardless of the pandemic seems limited—with initial estimates at 2-3 percent overall, it was substantially higher for some measures, suggesting scope for improving targeting on viability.[13] Furthermore, the simulation results show that a large share of firms that were healthy before the pandemic continue to face liquidity and/or solvency gaps, pointing to the need for further support that increasingly relies on (quasi-) equity instruments to prevent a possible wave of bankruptcies, excess liquidation, and indebtedness.

petition the court to lift these), and—critically—shortened timelines (1–3 months). On lowering access barriers, the amendments provide courts flexibility to initiate proceedings if debtors fail to submit all 11 required documents (these can be submitted at a later stage or not all if the debtor convinces the judge of the rationale).

[12] The EU Directive provides a complex set of options for implementation that present member states key tradeoffs with respect to (i) creditor versus debtor protection and (ii) flexibility and cost savings versus increased legal safeguards (Garrido et al (2021)).

[13] For instance, some 8 percent of regional grants were allocated to firms that did not experience a cash drain between March-September (Tielens et al, 2021). Regions, responsible for business support, initially provided grants that varied somewhat with firm size and length of closure but were unrelated to firms' fixed costs (especially lump-sum compensation during the first lockdown). This became more targeted over time. Separately, Graydon estimates that 5–10 percent of support has been misused. Analysis by newspaper De Tijd shows that some 44K firms became eligible for support after adding a new NACE code.

15. Recap programs should leverage private-sector resources and expertise and draw from experiences with different instruments elsewhere. Subordinated loan programs and new funds to support viable firms run by the federal and regional public investment companies would help narrow solvency gaps. However, private-sector participation should be enhanced to leverage public funding in the context of narrowing fiscal space as well as to facilitate targeting, viability assessment, selection and monitoring, provided that private partners retain sufficient skin in the game. The design of new funds could build on novel approaches deployed in peer countries.

16. These efforts should be complemented by further enhancing restructuring and insolvency frameworks. While recent insolvency reform is welcome, the risk of excess liquidation and court congestion remain if bankruptcies surge when support is unwound. To mitigate this risk, planned reforms in the context of the transposition of the EU Directive next year should be accelerated, where possible. In the short term, the government could incentivize restructuring through tax relief/haircuts on its claims.[14] Direct support to small firms to cover related costs and ensure timely initiation of proceedings could also be considered.[15]

[14] The stay on government claims expired on July 1.

[15] The Brussels regional government allocated about €1mn to cover up to 75 percent of the cost of judicial reorganization or mediation processes (€4–10k and €1–2.5k, resp.).

Table 1.Belgium: Modalities of Belgian Recapitalization Programs

	Firms Targeted[1]	Viability[2]		Governance[3]	Amount per firm	Envelope (% GDP)		Instrument		Private Sector		Approved
		Pre-crisis	Post-crisis			Public[5]	Private	Type[6]	Maturity7	Involved	Incentives	(as of)
Transformation Fund (FPIM/SFPI - Federal)[4]	All	✓	✓			0.11	0.11	Equity, hybrid, subordinated loan		Yes		2-Apr-21
Welfare Fund (PMV - Flanders)[4]	All (focus start/scale-ups)	✓	✓	Limits on profit distribution, activity restriction, structural/behavioral commitment	€1.25mn - €50mn (capped at 10% of fund's size)	0.05	0.05	Equity, hybrid, subordinated loan	4-7y	Yes	Tax incentives for both institutional and retail investors (TBD).	8-Jun-20
Subordinated loan program (PMV - Flanders)	SMEs	✓		Structural/behavioral commitments	€25k - €2.8mn; amounts > €1.8mn are capped by the largest of: (i) 100% wage costs in 2019 or last 12mo; (ii) 12.5% of turnover	0.05		Subordinated loan	3y (bullet payment start-/scale-ups; 2y grace for principal for SMEs/SE)	No		1-Apr-20
Solvency and Recovery Fund (SRIW/SOGEPA - Wallonia)[4]	SMEs and corporates	✓	✓	Behavioral commitments	€1mn - €12.5mn	0.05	0.03	Equity, hybrid, subordinated loan	ave 3y (equity); 7y (debt)	Yes	Co-financing, min contribution 50%	25-Feb-21
Subordinated loan program (Sowalfin - Wallonia)	SMEs	✓			Max €15k at 0%; €50k-€1mn at 2.5%	0.03		Subordinated loan	≤10y (6-24mo grace)	Yes	Co-financing; administrative cooperation	3-Jun-20
Subordinated loan program (finance&invest - Brussels)	All	✓	✓		€100k - €5mn	0.03	0.01	Subordinated loan		Yes		9-Mar-21

[1] Most programs exclude the financial sector but a few other sectoral restrictions may apply. * inidicate further exlcusions (based on firm charecteristics or affected sectors).

[2] Conditions noted while assessing viability (see excel file for details)

[3] Condtions applied on beneficiaries. Limits on profit distribution may include no distribution of reserves, buy-backs or repayment of shareholders' loans. Activity restrictions could include conditions such as no aggressive expansion, limits on equity acquisition of more than 10% of equity of competitors; no cross-subsidization of activities, no increase in remuneration or bonus, no dividends or buybacks except to the Fund. Structural/behavioral commitments may include measures to preserve effective competition and compliance with commitments on innovation, ecological transition, digitalization etc.

[4] Not yet operational; design and modalities under development. First close of €200mn for Welfare Fund and Solvency and Recovery Fund envisaged August-September 2021.

[5] Public refers to funding by public investment and financing funds (federal, regional, local).

[6] Hybrid instruments include a mix of repayable advances, grants, debt (e.g., subordinated loans) and equity (e.g., redeemable preference shares). In programs with several types, instruments are chosen on a case-by-case basis or based on certain firm charecteristics.
For hybrid instruments and convertible loans, conversion is typically to ordinary/preferred share triggered either at the Fund's discretion or after a conversion event (e.g. non-payment of coupon for 4 years). Some schemes carry a discount at conversion.

[7] Most programs include realy redemption incentives in the form of step-up mechanisms and triggers of restructuring plans. Step-up mechanism refers to a set increase of Funds' shareholdings if a certainamount of shares are not sold after a specific time period. Restructuring refers to stipulations for triggering

Table 2. Belgium: Modalities of Recapitalization Programs in Selected European Countries

	Firms Targeted[1]	Viability[2]			Governance[3]	Amount per firm	Budget envelope
		Pre-crisis healthy	*Floor on COVID-19 losses*	*Post-crisis prospects*			*(percent of GDP)*
Italy *Capital-strengthening*	SME	✓	✓		Investors must hold investment until 2023	Subsidy (20% of equity), tax credit (50% losses capped by 30% equity), sub loans (3*equity)	0.3
Italy *Patrimonio Rilancio*	Large	✓	✓	✓	Limits on profit distributiion	Max 20% outstanding shares (listed) and 25% (non-listed)	2.5
Ireland *Sustaining Enterprise Scheme*	SME	✓		✓		Maximum €800k (for small firms b/w €25k-€50k)	0.1
Ireland *Temporary Restructuing aid*	SME			✓	Limits on profit distributiion	Up to €10 million	0.1
Ireland *Pandemic Stabilization and Recovery Fund (PSRF)*[4]	Large	✓		✓		€10 million and above	0.6
France *FDES*	Micro/SME	✓		✓		€10k-€30k	0.04
France *Pret Participatif*	SME/Mid-caps	✓		✓		5-12% of turnover depending on firm	0.25
Hungary *Capital Funds*	All	✓		✓		Up to €800k	0.1
Hungary *Recapitalization Fund Scheme*	All	✓		✓	Activity restriction	Minium to stabilize firm and (up to 50% of share capital)	0.1
Germany *Wirtschaftsstabilisierungsfonds*	All	✓		✓	Activity restriction, structural/behavioral commitment	Minium to stabilize firm	2.9
Poland *Anti-crisis shield equity support*	All	✓	✓	✓	Activity restriction	Amount of Covid-19 financial loss (max €220 million)	0.3
Poland *Development Fund Financial Shield*	SME	✓	✓			b/w €16k-€72k (micro) and €420k-€800k (SME)	3
Latvia *Recapitalization Fund*	Large	✓		✓	Activity and operation restriction	Up to €10 million	0.3
Spain *Equity Fund*	All	✓		✓	Activity restriction, structural/behavioral commitment	Minimum amount to ensure viability (min €25 million)	0.8
Spain *Restructuring Fund*	All	✓		✓		Linked to guaranteed loans provided by ICO	0.2
Spain *Recapitalization Fund*	Mainly SMEs	✓		✓		Minimum amount to ensure viability	0.1
Denmark *Recapitalization Fund*	Large	✓	✓	✓	Activity restriction	Minimum to stablize firm	0.4
UK *Coronavirus Future Fund*	Mid-caps					£125k-£5 million	0.1

[1] Most programs exclude the financial sector but a few other sectoral restrictions may apply. * indicate further exlcusions (based on firm chareoteristics or affected sectors).
[2] Conditions noted while assessing viability (see excel file for details)
[3] Conditions applied on beneficiaries. Limits on profit distribution may include no distribution of reserves, buy-backs or repayment of shareholders' loans. Activity restrictions could include conditions such as no aggressive expansion, limits on equity acquisition of more than 10% of equity of competitors; no cross-subsidization of activities, no increase in remuneration or bonus, no dividends or buybacks except to the Fund. Structural/behavioral commitments may include measures to preserve effective competition and compliance with commitments on innovation, ecological transition, digitalization etc.
4 The PSRF was set up as a sub-portfolio within the Ireland Strategic Investment Fund (ISIF) with an allocation of up to €2 billion to invest on a commercial basis in large firms that were viable prior to the pandemic, and that can return to viability and contribute to the Irish economy. Investments need to yield a commercial and economic impact return in line with ISIF's requirements. Given that the new PSRF sub-portfolio was created to support the Irish economy during the COVID-19 pandemic it is included in this table.

Table 2. Belgium: Modalities of Recapitalization Programs in Selected European Countries (Concluded)

	Instrument			Private Sector		Approved
	Type[5]	*Grant element*	*Maturity*[6]	*Involved*	*Incentives*	*(as of)*
Italy *Capital-strengthening*	Sudsidy, tax credit (small/medium), subordinated loan (medium)	✓	3-6 y	Yes	Tax credit	31-Jul-20
Italy *Patrimonio Rilancio*	Equity, hybrid, subordinated loan		3-6 y	Optional		17-Sep-20
Ireland *Sustaining Enterprise Scheme*	Equity, hybrid	✓	5y	No		21-Apr-20
Ireland *Temporary Restructuing aid*	Equity		Undefined	Yes	Requirement for government intervention	18-Dec-20
Ireland *Pandemic Stabilization and Recovery Fund*	Equity, hybrid, subordinated loan		>3y	Yes	Co-investment	2-May-20
France *FDES*	Subordinated loan		7y (1y grace for principal)	No		25-Apr-20
France *Pret Participatif*	Guaranteed subordinated loan/bond		8y (4y grace for principal)	Yes	Guarantee on losses	4-Mar-21
Hungary *Capital Funds*	Equity, convertible loan		8-10y	No		22-Jun-20
Hungary *Recapitalization Fund Scheme*	Preferred (ordinary), convertible loan, subordinated loan		8-10y	No		23-Nov-20
Germany *Wirtschaftsstabilisierungsfonds*	Preferred (ordinary) shares, participation shares, silent participations, covertible bonds, subordinated loans		6y-perpetual	No		8-Jul-20
Poland *Anti-crisis shield equity support*	Ordinary (preferred) shares, convertible loan/bond		3y (general) 7y (maximum)	No		24-Jun-20
Poland *Development Fund Financial Shield*	Conversion of loan into grant	✓	2y (1y grace) for repayable advance	Yes	Administrative cooperation	24-Jun-20
Latvia *Recapitalization Fund*	Equity, convertible loan/bond		6-7y	Optional		6-Jul-20
Spain Equity *Fund*	Ordinary shares, participation loan, convertible loan, subordinated loan		7y	Optional	Relaxes governance restrictions	31-Jul-20
Spain *Restructuring Fund*	Debt restructuring, Debt-to-quasi equity, haircut on guaranteed loans		Not defined	Yes	Renegotiation with banks, clients (pari passu)	12-Mar-21
Spain *Recapitalization Fund*	Equity, quasi-equity, subordinated loan		7y	No		12-Mar-21
Denmark *Recapitalization Fund*	Preferred shares		Perpetual	Optional		20-Nov-20
UK *Coronavirus Future Fund*	Covertible loan		3y	Yes	Requirement for government intervention	18-May-20

[5] Hybrid instruments include a mix of repayable advances, grants, debt (e.g., subordinated loans) and equity (e.g., redeemable preference shares). In programs with several types, instruments are chosen on a case-by-case basis or based on certain firm characteristics. For hybrid instruments and convertible loans, conversion is typically to ordinary/preferred share triggered either at the Fund's discretion or after a conversion event (e.g. non-payment of coupon for 4 years). Some

[6] Most programs include realy redemption incentives in the form of step-up mechanisms and triggers of restructuring plans. Step-up mechanism refers to a set increase of Funds' shareholdings if a certainamount of shares are not sold after a specific time period. Restructuring refers to stipulations for triggering restructuring proceedings if recapitalization has not been redeemed, however it should be noted that the EC requires this feaure on most recapitalization programs under the state aid framework. Exit plan refers to other stipulations on how exit can be operationalized.

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COMPREHENSIVE TAX REFORM IN BELGIUM[1]

The September 2020 coalition agreement of the Belgian government included a mandate to prepare a comprehensive tax reform to modernize and simplify the tax system, while enhancing its fairness and neutrality. The agreement describes key aspirations of Belgium's government, including with respect to personal income taxation (PIT) and the impact that reforms would have on labor-market developments, employment, and growth. Significant efforts to design the reform are underway. This paper aims to contribute to this effort by analyzing Belgium's individual income tax regime, pinpointing shortcomings and bottlenecks, and by suggesting potential reform options to improve incentives to work and to reduce distortions and inefficiencies. Given Belgium's fiscal constraints, it also takes a high-level look across the entire tax system with a view to ensuring revenue-neutrality of the reform. The paper complements earlier IMF analyses that explored options to reduce the tax wedge in a budget-neutral way (IMF, 2020) and options for growth-enhancing corporate tax reforms (IMF, 2017).

A. Introduction

1. Belgium's tax mix—the distribution of total tax revenues by tax types—is consistent with its level of development (Figure 1). Still, an overreliance on labor taxes[2] and relative underutilization of consumption taxes are evident. While advanced economies (AEs), on average, drew about half of their tax revenues from labor taxes in 2019, Belgium's tax burden on labor income is heavier, exceeding comparator levels by more than 8 percentage points. The share of consumption taxes is lower than the unweighted AE average. This composition of revenues—and the evolution of underlying tax policies over the past two decades—exert increasing pressures on labor market efficiency and will do so in the future.

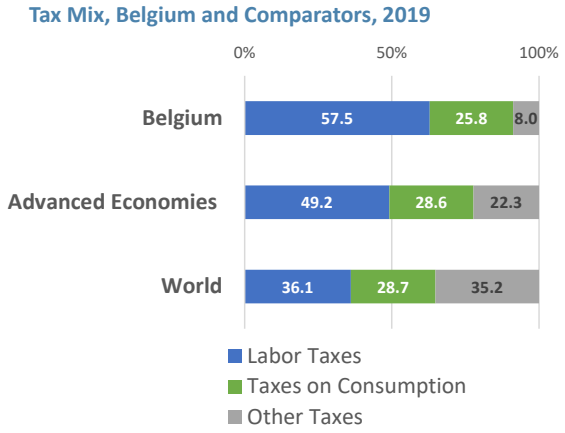
2. The composition of revenues from direct and indirect tax instruments has been relatively stable (Figure 1). The labor tax share of total revenues has declined by four percentage points in the last thirty years, a third of which following progressive implementation since 2016 of a "tax shift" reform that reduced the labor-tax burden, especially for taxpayers at the lower end of the income distribution.[3]

[1] Prepared by Nariné Nersesyan (FAD).

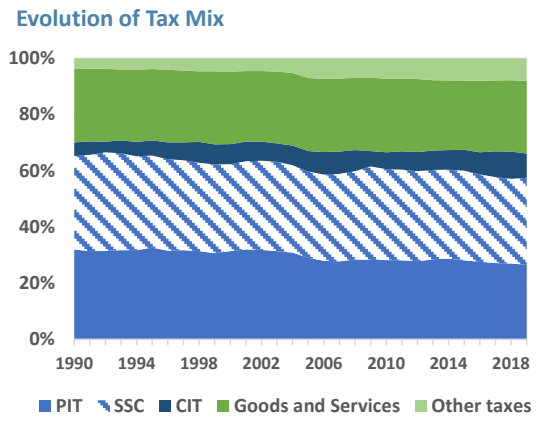
[2] In this paper, "labor taxes" combine PIT, payroll taxes, and social security contributions (SSCs), with an implicit assumption that social insurance benefits have little value to the economic decision-maker confronted with the tax wedge. In Belgium, the social benefit structure is not fully income-independent; however, the link between the insurance premium—SSCs—and the indemnity—social security allowance—is weak. Indeed, there is no link between risk and SSCs, and benefits are not fully contribution-linked in an actuarially fair manner (the present value of SSCs does not correspond to the present value of benefits). With that in mind, SSCs are treated as identical to other taxes on labor income.

[3] The "tax shift," a reform adopted in 2015 and phased in over 2016–2020, shifted taxes away from labor. The reform was targeted especially to low wage earners, and lowered both SSCs for employers and employees and PIT for employees. Partially-compensating measures included higher excise duties on alcohol, tobacco, diesel, and soft drinks; a higher VAT on electricity; and tax increases on non-labor income (IMF, 2019).

Figure 1. Belgium: Tax Mix



Sources: OECD Global Revenue Statistics Database; IMF World Revenue Longitudinal Data (WoRLD)



Source: OECD Global Revenue Statistics Database

3. While acknowledging the relatively heavy labor taxation and the desirability of rebalancing away from labor taxes, it is important to note that Belgium's share of labor taxes as a percentage of total revenue is not the highest among AEs. Belgium's take from labor taxes is at the high edge of the interquartile range for AEs, especially following the implementation of the tax shift (Figure 2). By 2019, Belgium was not in the top ten of AEs in terms of share of labor tax revenue (Table 1).

Table 1. Belgium: Labor Tax Revenue, 2019

(Percent of Total)

1	Switzerland	72.1
2	Germany	69.2
3	United States	66.8
4	Austria	64.3
5	Czech Republic	62.8
6	Italy	61.9
7	Japan	59.3
8	Netherlands	59.0
9	Denmark	58.3
10	Spain	58.2
11	Belgium	57.6

Source: OECD Global Revenue Statistics Database

4. Yet, over the last twenty years, Belgium consistently scored at the top of OECD rankings of labor-tax wedges, measured for a single person without children earning the average salary.[4,5] The difference with the OECD average has been shrinking lately, but at 51.5 percent in 2020, the tax wedge exceeds the unweighted average of OECD economies by 16 percentage points (Figure 2). While there are limitations in international tax wedge comparisons, with some weaknesses especially relevant for Belgium[6], and acknowledging the likely variation of *effective* tax

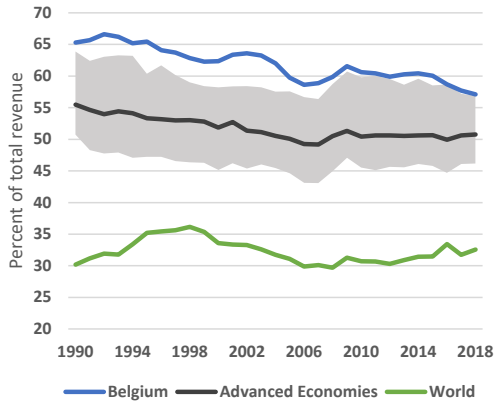
[4] The tax wedge is calculated "as the sum of the total personal income tax (PIT) and social security contributions (SSCs) paid by employees and employers, minus cash benefits received, as a proportion of the total labour costs for employers." (OECD, 2021)

[5] See OECD Taxing Wages database.

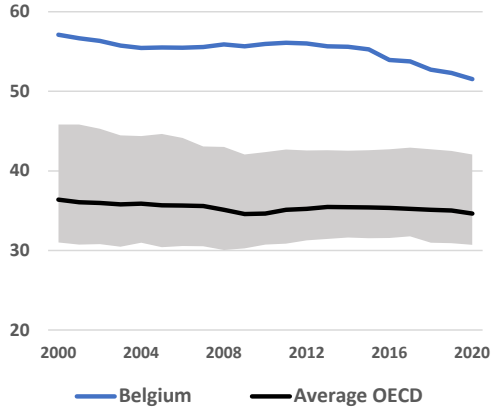
[6] Limitations reflect several issues (see, for example, OECD (2021), pp. 644–646). Two particularly relevant for Belgium are: (1) in international comparisons, it is difficult to capture the entire spectrum of government interventions into the economy, including, for example, through non-standard/sectoral, in-kind, or cash benefits; (2) significant country variations in the link between contribution payments and accrued benefits, which put into question a demarcation line between taxes and social insurance contributions.

wedges from the those estimated by standardized methodologies, the consistently-high ranking warrants attention. Indeed, economic-behavior distortions due to the high labor tax burden are not trivial, spilling into under- and unemployment and hampering growth.[7] The Federal Planning Bureau and National Bank of Belgium estimate that shrinking the tax wedge with the tax-shift implementation decreased work disincentives and led to creation of 45,000–65,000 additional jobs by 2021 (European Commission, 2019).

Figure 2. Belgium: Labor Tax Revenue and Labor Tax Wedge



Notes: Based on IMF classification of countries. Shaded area represents the interquartile range of advanced economies.
Sources: OECD Global Revenue Statistics Database; IMF World Revenue Longitudinal Data (WoRLD)



Notes: Shaded area represents the interquartile range of OECD members. Household type: single person at 100 percent of average earnings, no child.
Source: OECD Taxing Wages

B. Zooming in on Personal Income Taxation

5. A closer look at labor taxation yields several important observations. To understand what pushes Belgium's labor tax wedge to the high end of OECD comparisons, we first analyze the key elements of the PIT. Individuals in Belgium are taxable on their worldwide income with a tax that, to a large extent, takes into account their ability to pay. A progressive rate structure with individual and family-income exemptions, expense deductions, and allowances, is used to address redistributive objectives. Another important PIT element is a refundable tax credit—the "fiscal work bonus"—an *in-work* benefit applicable at the low end of the income distribution to stimulate labor force participation.[8] In a nod to dual-income tax principles, some types of investment income, including dividends, interest, and royalties, are taxed separately, at different rates.[9] Importantly, capital gains are not taxed. With a top marginal rate of 50 percent, Belgium shares the 6th position among OECD countries (Table 2). Although above the OECD average rate by about 9 percentage points, the top marginal rate alone does not fully explain the placement of Belgium at the top of the OECD labor tax wedge list.

[7] See, for example, Thomas (1998), Primož and Laporšek (2010).

[8] The work bonus represents a net transfer to the taxpayer when it is larger than the income-tax liability.

[9] Separate taxation is used unless aggregation with other income would be more beneficiary for a taxpayer.

Table 2. Belgium: OECD Countries with Highest Top Marginal Rate

		Personal Allowance €	Minimum rate percent	Top Rate percent
1	Finland	0	0	56.95
2	Denmark	0	12.11	56.5
3	Japan	3,698	5	55.97
4	Austria	0	0	55
5	Sweden	13,900	0	52.85
6	Belgium	8,890	25	50
7	Israel	0	10	50
8	Slovenia	3,500	16	50
9	Netherlands	0	9.7	49.5
10	Ireland	0	20	48
	OECD average			*41.22*

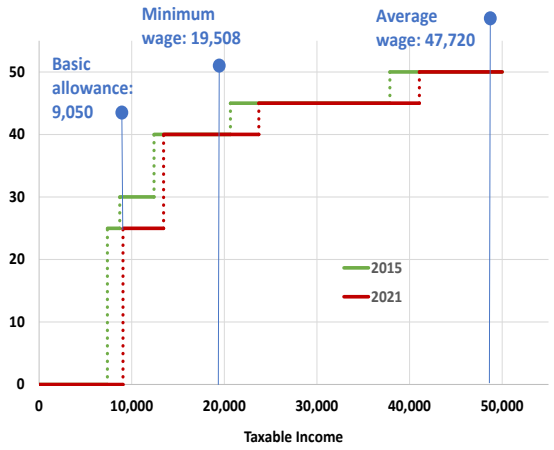
Note: OECD countries are sorted by the top marginal rate.
Sources: KPMG Individual Income Tax Rates Table; OECD Tax Database

6. On inspection, the PIT rate schedule offers an interesting find. The rate structure, particularly the tightness of income tax brackets is a key factor in the high tax wedge (Figure 3). The compressed PIT schedule results in incremental income around the minimum wage falling under the 40 percent marginal rate. With overly-narrow middle two brackets, the highest PIT rate, 50 percent, starts at a very low-income threshold; with that, taxation of marginal income around the average wage falls under the top marginal rate of 50 percent.[10] Figure 3 includes the pre-tax shift schedule (green) and shows important changes implemented with the reform, including elimination of a narrow intermediate bracket, broadening of income thresholds for the two other, and increase of the basic individual allowance. These changes—estimated by Decoster et al. (2019) to have resulted in an increase of household disposable income of 3.5 percent—were important policy changes in the right direction, albeit insufficient to fully address the compressed PIT schedule.

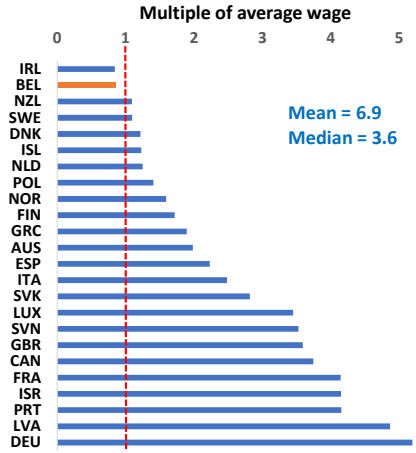
7. In designing labor income tax structures and rates, countries aim to incentivize work, while balancing revenue needs and distributional objectives. Optimal income tax theory, developed by Mirrlees-Saez, prescribes a U-shaped relationship of taxpayer income with marginal tax rates (Saez, 2001). The first leg of the U-shape is formed by a type of lump-sum grant, akin to Belgium's refundable tax credit (fiscal work bonus) that ensures a certain level of welfare but pushes marginal tax rates up in the phase-out range of the credit. With efficiency consideration in mind, the bottom part of the U-shape applies relatively low-to-moderate tax rates to the bulk of the taxpayer population in the middle of the income distribution to avoid discouraging labor effort. The final leg of the U-shape is formed by high marginal rates applied to top earners to ensure progressivity of taxation and greater revenue contribution by the high-income strata.

[10] It is important to note that the placement of minimum and average wages into the tax schedule overstate the applicable marginal tax rate since minimum and average wages are expressed in gross terms, while marginal rates apply to taxable income, net of applicable deductions, including deductions for social security contributions.

Figure 3. Belgium: Individual Income Schedule and Top Marginal Threshold



Note: Basic allowance is plotted as the first bracket.
Source: IBFD and IMF staff

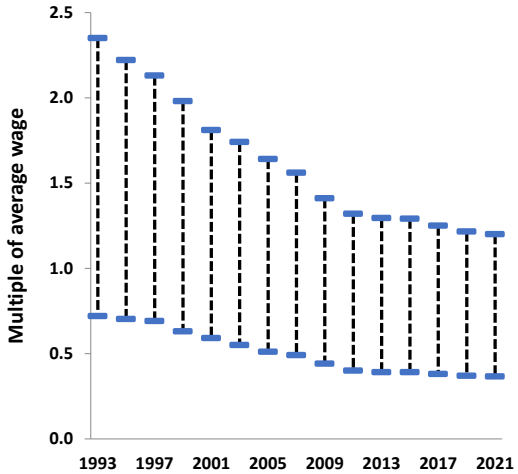


Note: To improve readability of the chart, the following higher threshold countries are not shown: LTU 6.35, CHL 7.15, JPN 7.71, TUR 8.03, USA 8.61, CHE 8.64, AUT 20.55, KOR 10.86, MEX 26.67, COL 68.85.
Sources: KPMG Individual Income Tax Rates Table; OECD Tax Database

8. With this optimal tax structure in mind, the tightness of Belgium's intermediate brackets, where the majority of taxpayers reside, as well as the income threshold at which the top marginal rate applies, become particularly important. With respect to the later, Belgium is an outlier among OECD countries, where the income threshold at which the top marginal rate applies is typically several times higher than the average wage, with the OECD median 3.6 times higher and the mean 6.9 times higher than the average wage (Figure 3).

9. This discussion is incomplete without an analysis of Belgium's social security system and the associated tax burden. Two *mandatory* contribution schemes are applicable—general social security contributions (SSC)—Pillar I, and a special SSCs. Both the employer and the employee are liable for general SSCs, at 25 and 13.07 percent, respectively, in 2021. The rates are applied on employee gross renumeration, including bonuses and benefits-in-kind, with no ceiling amount. Special SSCs apply to all taxpayers subject to general social security, with the base of contributions formed by total *household* earnings net of general SSC and work-related expenses. Special contributions are paid on a

Figure 4. Belgium: Shifting Burden of Special Social Security

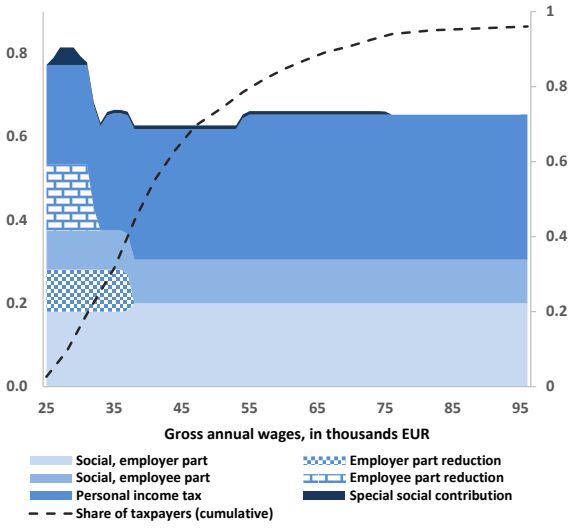


Sources: High Consul of Finance (2020), OECD Tax Database.

sliding scale, with income thresholds that are not indexed, and which have hardly been adjusted since introduction of the special scheme. As a result, the initial intention of this special scheme has been compromised. Both upper and lower taxation limits have been eroded with time (Figure 4). The upper limit initially intended to apply at around 2.5 times the average wage now applies to incomes 1.25 times the average wage, while the lower limit, intended at about 70 to 80 percent of average wage now burdens very low incomes, less than half of the average wage. Notably, the special SSC is not deductible for PIT purposes, unlike the general SSC.

10. Another important element of Belgian individual income taxation is in-work bonuses, applicable at the lowest end of the income distribution. A social bonus *('sociale werkbonus' or 'bonus à l'emploi fiscal'*) reduces general SSCs for both employers and employees. A fiscal work bonus *('fiscale werkbonus' or 'bonus à l'emploi fiscal')*, the refundable tax credit discussed above, applies to employees that are subject to the social bonus, and as of 2021, reduces the PIT at a rate of 33.14 percent of social bonus, capped at €830 per annum. Together, the in-work bonuses greatly improve the net earnings of the low-income employees and contribute to the formation of the first leg of the U-shaped optimal taxation (Figure 5).

Figure 5. Belgium: Effective Marginal Tax Rates

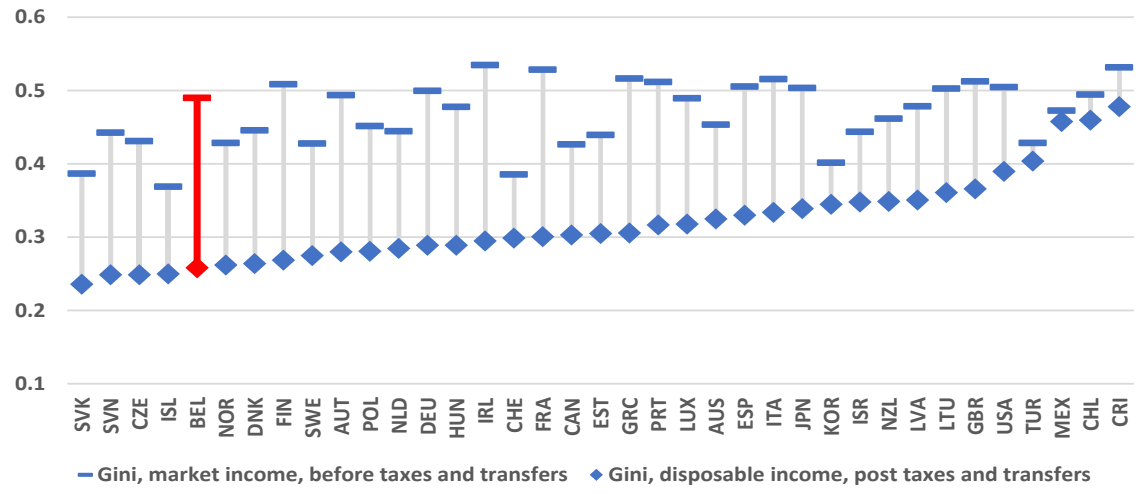


Notes: Analyzed tax parameters are for a single person without children employed full time. Does not include local surcharges.
Sources: IBFD, OECD Tax Database, Statbel (based on the Labor Force Survey), and IMF Staff.

11. Analysis of tax and parafiscal components that form the effective marginal rates of individual income taxation reveal a shortcoming of the tax system. What is not well formed in Belgium is the bottom part of the optimal U-shape, where low-to-mid-income taxpayers should land. The cumulative distribution of Belgian individual income taxpayers is added to Figure 5 to show that distortion-minimizing low marginal tax rates for middle-income earners—over 60 percent of the taxpaying population—are largely missing.

12. Having highlighted the high tax burden on individual income, including for low-and medium-income earners, the capacity of the Belgian tax and transfer system to redistribute income might come as a surprise. Yet, Belgium performs remarkably well. Figure 6 shows the redistributive impact of taxes and transfers of OECD countries by comparing inequality before and after taxes and transfers, with inequality measured by the Gini coefficient. Notably, the ability of Belgium's system to reduce income inequality through taxes and transfers is one of the best in the OECD, only slightly below Ireland and Finland.

Figure 6. Belgium: Redistribution Capacity of Tax and Benefit System



Note: Countries are sorted by level of Gini post taxes and transfers.
Source: OECD Income Distribution Database

13. A natural question is how Belgium achieves this redistribution. On the tax side, the size and coverage of tax expenditures, coupled with elaborate set of in-kind benefits—lightly taxed, if at all—provide an explanation. The Ministry of Finance (MOF) systematically estimates foregone revenues due to preferential regimes in the tax system, including exemptions, exclusions, reduced rates, allowances, tax credits, deductions, deferrals, and other differentiated treatments. The most recent evaluation, published in December 2020, provides an inventory of 2018 tax expenditures and estimates their cost—revenue forgone—at 6.2 percent of GDP (Table 3).[11] More than the third of revenue foregone is due to tax-favorable treatment under the PIT. VAT preferences are responsible for a larger share of foregone revenue—38 percent or 2.3 percent of GDP in 2018.

Table 3. Belgium: Tax Expenditures, 2018

In percent of GDP

	Social measures	Employment	Housing	Saving and credit	R&D	Sector specific	Other	**Total**	***Percent of total***
VAT	1.5	0.0	0.5	0.0	0.0	0.3	0.3	**2.3**	*38%*
PIT	1.0	0.4	0.5	0.2	0.0	0.0	0.1	**2.2**	*36%*
Other	0.4	0.4	0.0	0.0	0.4	0.3	0.4	**1.6**	*27%*
Total	**3.0**	**0.8**	**1.0**	**0.3**	**0.4**	**0.6**	**0.8**	**6.2**	

Source: Ministry of Finance (2020)

14. Another widely-used form of reducing the labor tax burden is "extra-wage benefits" or on-the-job compensation, including in-kind benefits. These come in large number and variety and include the company car regime, provision of accommodation, contributions to commuting expenses, subsidized loans, meal and culture vouchers, and provision of a computer. Most benefits

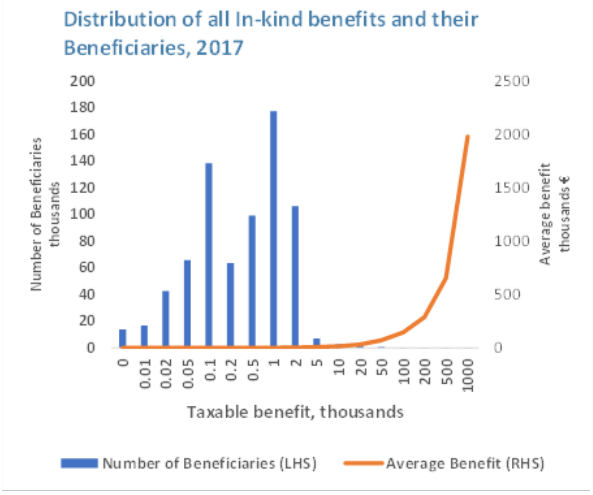
[11] Official tax expenditure estimates appear to be understated, reflecting data and methodological issues. Peeters and Schols (2021) note underreporting of tax expenditures under a supplementary pension scheme—Pillar II; Laine and Steenbergen (2017) explore tax expenditures under the company car regime.

are treated preferentially via reduced taxable income and non-application of SSCs to in-kind benefits. This represents a significant fiscal cost, some of which is hard to assess due to lack of detailed data and reporting.[12]

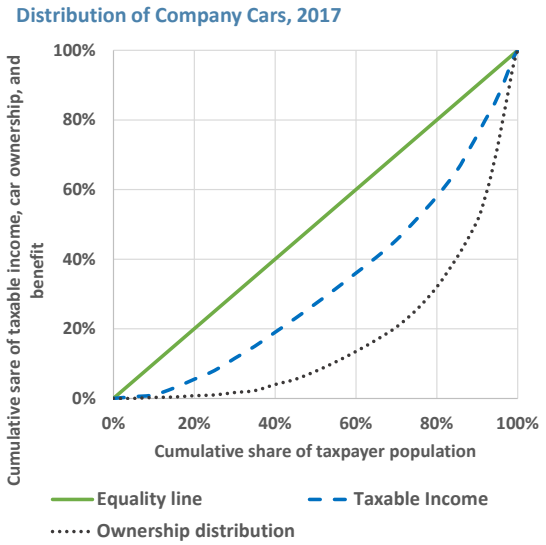
15. Importantly, in-kind benefits are unequally distributed. Figure 7 contrasts the distribution of all in-kind benefits—the orange line—with the distribution of the number of beneficiaries—the blue bars. The latter has a typical bell-shape, with the distribution expectedly skewed to the left. The allotment of benefits, on the other hand, is heavily concentrated in the upper end of the spectrum.

16. A prominent example of a regressive in-kind benefit is the company-car regime. Traversa and Valenduc (2020) estimate the Gini coefficient of company-car ownership at 0.848 and build Lorenz curves of taxpayers' car ownership vis-à-vis their taxable income (Figure 7). The car benefit distribution is very regressive with the concentration curve of the car ownership lying well below the taxable income curve. The budgetary cost of tax-favorable treatment of company cars was estimated at €3.75 billion in 2016, 0.9 percent of GDP (Princen, 2017). The forgone revenue is of two *main* parts, (1) the employee tax benefit, as the taxpayer is taxed on the *estimated* value of the private use of a company car, which is lower than the true market value, and (2) the employers' tax benefit, as SSCs—25 percent rate in 2021—are generally not payable on in-kind benefits.

Figure 7. Belgium: In-kind-Benefits



Source: AURORA and IMF Staff. Data sourced from the HCF (2020).



Source: Adapted from Traversa and Valenduc (2020).

[12] For example, in-kind benefits of individual taxpayers are reported to the tax administration in total. The tax codes that identify each in-kind benefit are also reported. However, while the *types* of in-kind benefits enjoyed by a taxpayer are known, the *amount* that pertains to an individual in-kind benefit, i.e. the share of each benefit in the reported total, is not.

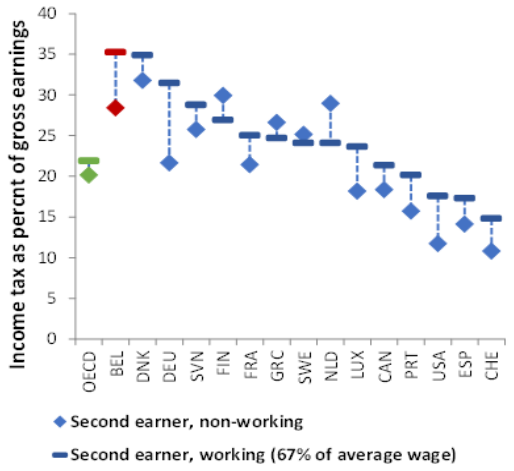
17. Further, there are likely significant welfare losses as the company-car scheme provides adverse mobility incentives.[13] The fiscal treatment of employer-provided cars incentivizes acquisition and use of bigger, more valuable vehicles, with environmental spillovers. Recently, a political agreement was reached to implement tax measures to "green" the company-car fleet, with full tax incentives to be retained only for zero-emission cars.[14] However, the "greening" of the company-car fleet, while an important step and welcome from an environmental viewpoint, does not fully address the regime's significant fiscal costs or the societal welfare losses (e.g., congestion).

C. Other Significant Issues Related to the PIT

18. The PIT features an elaborate system of allowances. There is a basic allowance (€9,050 in 2021) to which other allowances are added, all related to family situation. Different allowances apply depending on the number of children—one, two, three, four, or more are treated differently. There are also special allowances for other dependents, as well as handicapped spouses and single parents. Allowances are applied from the bottom up, with the lowest marginal bracket being depleted first. Even so, with narrow brackets in Belgium and with numerous and significant deductions, the allowances are more valuable to higher-income households, since the value of the tax break increases with the marginal tax rate. Conversion of allowances into tax credits at a fixed marginal tax rate would be progressivity-enhancing and fair, since the value would not depend on the taxpayer's tax rate, and the €-value of the tax preference would be equalized.

19. The family taxation system, with a marital quotient (income-splitting system) creates disadvantages for secondary earners, typically females. Married persons/legal cohabitants are taxed separately on their individually-sourced income. Unlike joint taxation, in its pure form, the individual-based taxation is neutral with respect to the decision to marry since individuals do not face different tax schedules based on their marital status. Marriage bonuses are not created when the income of the secondary earner is significantly lower than that of the primary earner, nor do marriage penalties exist for two earners with similar earnings. While Belgians are taxed under the individual tax system, the marital quotient allows transfer of part of the taxable income from the primary earner with higher income to the secondary earner, when the income of the latter does not exceed 30 percent of the

Figure 8. Belgium: Tax Disincentives for Second Earners, Select OECD Countries, 2018



Note: Married family with 2 children is shown, with the primary earner income at 100 percent of the average wage.
Source: OECD (2020)

[13] See, for example Laine and Steenbergen (2017) or Laine and Steenbergen (2016).

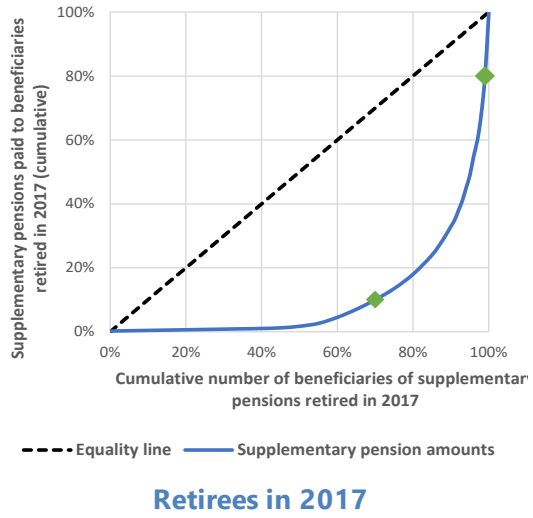
[14] The deductibility of zero-emission company cars is expected to gradually decrease to 67.5 percent of the costs, starting 2031. Importantly, the cost-deductibility of company cars operating on fossil fuels will be fully phased out between 2025 and 2028.

family's total earned income.[15] This significantly tax disadvantages secondary earners (Figure 8). Females, often being the secondary earners, have been shown empirically to be more sensitive to taxation, with female labor supply more elastic than for males (De Mooij, 2007). Thus, the marital quotient involves labor force participation disincentives, which may explain, at least in part, low employment for some groups of women in Belgium.

D. Briefly about Supplementary Pensions and Their Efficiency

20. As the population ages, the general social security system—Pillar I—is coming under increasing pressure. Accordingly, the government has looked to encourage retirement savings through supplementary pensions schemes, known as Pillar II and Pillar III. The government incentivizes participation in these voluntary schemes by offering fiscal advantages. Under Pillar II, employer contributions are considered tax-exempt and deductible for the employer up to 80 percent of the employee's last gross salary ("80-percent rule"). The same 80-percent limit applies to employee contributions, with tax reduction of 30 percent of the actual payment made.[16] The fiscal costs associated with supplementary pensions are significant and likely exceed tax expenditures reported by the MOF.[17]

Figure 9. Belgium: Distribution of Supplementary Pensions to Beneficiary



Source: Court of Audit (2020)

21. With such significant costs, the Court of Audit (2020) analyzed participation disparities in retirement savings. In 2017, 70 percent of beneficiaries received 10 percent of supplementary pensions, while 1 percent of retirees enjoyed 20 percent of supplementary pensions paid out that year (Figure 9). While the distribution of pension benefits is only indicative of the distribution of fiscal costs due to beneficiary fiscal treatment, conclusions can still be drawn with respect to large tax benefit enjoyed by a few, as well as inability of the majority of beneficiaries to build the supplementary savings.

22. Non-neutrality of taxation with respect to different forms of investment, income, or savings is well-known (see, for example, IMF (2017). At least partially, the lack of neutrality is due to the absence of personal tax on capital gains. Predictably, a non-neutral tax system becomes a

[15] The marital quotient is limited to €11,090 per annum, as of 2021.

[16] When the 80 percent limit is exceeded, the excess amount reduces first the deductibility of the employer contribution, after which the employee tax reduction is refused in proportion to the remaining over-80-percent "surplus".

[17] Peeters and Schols (2021) discuss underreporting of tax expenditures under Pillar II, due to data and methodological limitations. They estimate revenue foregone in 2018 at 3–3.5 billion (0.5–0.8 percent of 2018 GDP).

fertile ground for tax arbitrage, as economic agents convert heavily-taxed into lightly-taxed income. In particular, not much prevents professional-services employees to organize themselves as legal entities to be taxed at lower effective tax rates, leading also to possible organizational inefficiencies and misallocation of capital. Shareholders working in their own companies can retain corporate income within the firm rather than distribute dividends. When realizing the income at a later stage, and without capital gains tax, the distribution tax can be avoided. This is unfair and also inefficient as it "locks" capital into existing companies, hampering reallocation to investments in new enterprises.

23. Intergovernmental relations in Belgium add complexity to tax reform efforts. These include sharing of revenue responsibilities between the Federal level and Federated entities (Table 4). For the PIT, for example, federated entities have a say with respect to both tax rates and bases—not common elsewhere.

Table 4. Belgium: Tax Sharing Responsibility

	Personal income tax		Environmental taxes			Real-estate related taxation		
	Rate	Base	Transport-related	Industry-related	Buildings-related	Property taxes	Transactional taxes	Rental income
Federal	✓	✓	✓	✓	✓			✓
Federated entities	✓	✓	✓	✓	✓	✓	✓	

E. Options for Reform

24. Tax reforms are rarely easy, including due to political pressures and stakeholder interests. Successful reforms are often presented as a package of "give and take" to navigate the reform process, with benefits outweighing drawbacks for key taxpayer segments. A holistic package, communicated clearly upfront and throughout the process, is more likely to be successful than piecemeal adjustments, where the bigger picture and tradeoffs may be lost.

25. With fiscal constraints in mind, a comprehensive review of the tax system will be critical: all tax instruments should be included in the reform to support revenue-neutral rebalancing. This will also help to ensure consistency and coherence of the reform. Taken on its own, lightening the labor tax burden for a large cohort of a low- to mid-income taxpayers could be exceptionally costly. If, however, taxes are adjusted within a holistic framework, revenue losses could be compensated through other, including indirect, tax instruments.

26. As outlined in the Coalition Agreement and agreed by stakeholders, an overarching goal of any tax reform should be simplification of tax legislation. The Belgian tax system is complicated, even for experts with decades of experience. Often, tax system complexity is the price paid by mature tax systems for years of accumulated changes aiming to resolve specific issues. Pursuing greater simplicity as overarching objective in reforming specific tax instruments as well as the system as a whole would ease costs of taxpayer compliance and revenue administration.

Table 5. Belgium: VAT Efficiency and VAT Productivity, Belgium vs. Select OECD Comparators

Country	VAT C-Efficiency	VAT Productivity
Belgium	0.47	0.32
Austria	0.60	0.38
Denmark	0.62	0.38
Finland	0.57	0.38
France	0.52	0.36
Germany	0.57	0.37
Netherlands	0.56	0.34
New Zealand	0.98	0.65
Norway	0.58	0.35
Sweden	0.59	0.37
OECD	0.61	0.40

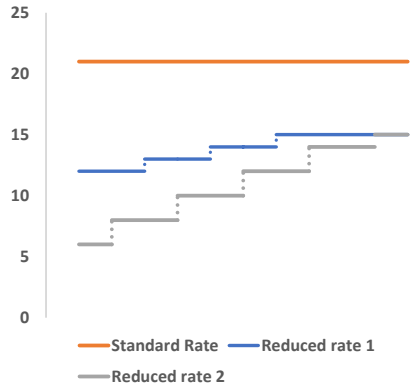
Note: VAT C-Efficiency = VAT Revenue/(Total Final Consumption net of VAT Revenue * VAT Rate)
VAT Productivity = VAT Revenue as percent of GDP/VAT Rate

Sources: IBFD, IMF World Revenue Longitudinal Data (WoRLD)

27. With these broader reform objectives in mind, more specific tax reform options could be further considered:

- A revenue neutral, growth-oriented reform could include a fairness-enhancing rebalancing of taxes, with some shift of the tax burden from labor taxes to less-distortive taxes, such as consumption or recurrent real estate taxes. Consideration could be given to raising the standard VAT rate but, given the relatively low productivity of the Belgian VAT (Table 5) and the size of VAT tax expenditures—2.3 percent of GDP in 2018—the focus could instead be on harmonizing reduced VAT rates and cutting back exemptions.[18] Efforts to improve Belgium's VAT C-efficiency should address VAT policy and compliance gaps. Undertaking VAT-gap analysis based on methodology of the IMF Fiscal Affairs Department to estimate policy and compliance gaps would be an important first step. In addressing reduced rates, a gradual, well communicated, and predictable process to converge rates (Figure 10) could help with buy-in, taking also into account the overall objective to reduce the labor tax burden (trade-off).

Figure 10. Belgium: VAT Reduced Rates Convergence Scenario



Source: IMF Staff

[18] Exemptions are largely aligned with the EU VAT Directive, mirroring the "common" base exclusions typical of "traditional" VATs. Indeed, when the VAT was first introduced in Europe, in the 1960s, it was thought to be a good vehicle to achieve social and distributional aims via exclusions and low rates. This is no longer the case. With the introduction of the VAT in New Zealand with a wide base, no reduced or zero-rated domestic supplies, and exemptions only for certain financial services and life insurance, the shift to modern VAT model commenced. A single positive rate (with a zero-rate applied only to exports and international transportation) and minimal exemptions are two important features of a modern VAT.

- Belgium's PIT features an overly-narrow range of middle tax brackets, with the highest PIT rate starting at a relatively-low income threshold. To provide relief to low-to-middle income employees, broadening of the two middle bands could be considered, with the top marginal tax rate threshold starting to apply at a higher income level. Determination of the optimal brackets and the threshold of the top marginal tax rate should follow a thorough analysis and calibration of the Mirrlees-Saez model to fit the income distribution in Belgium and derive an optimal schedule of marginal tax rates. Ultimately, the marginal-rate structure will also reflect the authorities' objectives for work-incentive improvements and fairness, as well as revenue constraints.
- Introduction of a capital-gains tax should be considered a priority to address non-neutrality and reduce tax arbitrage opportunities. More generally, in reforming the income tax system, consideration could be given to the "Nordic model" of dual income taxation, which, combines a relatively low, flat tax rate applied on all forms of capital income with progressive taxation applied to all forms of labor income. If well-implemented, the dual income tax system could restore horizontal equity and eliminate distortions. For example, applying the same schedules for taxable business income and salary income would eliminate differences in average tax burdens between entrepreneurship and salaried employment thus eliminating tax planning opportunities.
- Conversion of allowances and deductions into tax credits at a fixed marginal tax rate would be progressivity-enhancing and fair. Instead of reducing taxable income by a fixed amount for all taxpayers, a tax credit reduces tax liabilities by a fixed amount, ensuring that the €-value of a tax preference is constant and equalized across income levels and does not depend on the taxpayer's marginal tax rate.
- While preference could continue to be given to an income tax system based on individual income, consideration should be given to lowering the tax disadvantage for second earners by reforming (and ultimately eliminating) the marital quotient. Not only does it disproportionally reward upper-income taxpayers, the quotient disincentives employment of certain groups of women, contrary to the government's objective of increasing employment.
- Additional revenue needed to compensate the lowering of the labor burden may be generated from the PIT itself. Reduction and eventual elimination of tax expenditures, including sectoral preferential treatment (e.g., actors, athletes, flexi-jobs, hospitality), as well as tax advantages that benefit high-income earners and their employers (e.g., deductions for private-pension savings), have significant revenue potential. Further, the importance of "monetization" of in-kind benefits, with gradual conversion to equivalent cash benefits to be taxed within the standard tax system could not be overemphasized. Indeed, with reforms that reduce the labor tax burden—at significant fiscal cost—the existence of extra-wage benefits cannot be justified. The agreement to amend and "green" the company car regime is an important first step, the complete elimination of this benefit should remain a longer-term objective.
- Voluntary retirement saving is important for stability of personal and government finances, especially with an aging population. However, the tax advantages given to encourage savings under Pillar II act as tax shelter, unduly benefiting a select group of high-income taxpayers.

Consideration could be given to introducing a €-denominated limit on contribution amounts to constrain use of the tax advantage at the high end of the income distribution.

- With taxation limits eroded and a shift of the burden to lower-wage earners, the system of special SSCs could be eliminated.[19] Broadly speaking, social security contributions finance both earnings-linked and quasi-universal expenditures in Belgium, with the demarcation between taxes and the social-security system blurred. Thus, as a longer-term objective, the role and the weight of mandatory SSCs should be carefully analyzed. Consideration could be given to shifting the revenue-raising role of social contributions for quasi-universal outlays to other, less-distortive instruments, including a reformed and streamlined VAT.
- Belgium could make better use of recuring real estate taxes, which are significantly underutilized relative to their potential. Property values—the basis of real estate taxation—do not reflect current market prices, but are instead based on cadastral values not updated since 1975.
- Once fully implemented, the comprehensive rewrite of the corporate tax rules currently under way could be revenue-augmenting for Belgium. In this respect, estimations of revenue impact should be conducted once the last details of the international tax agreement are finalized at the Inclusive Framework on BEPS (IF) in the fall of 2021. Belgium should continue to remain active in IF discussions on implementation of the new framework, proactively adopting changes and bringing concerns, if any, to the forefront of the discussions.
- An all-important element of the upcoming comprehensive tax reform is environmental taxation. A separate Selected Issues Paper discusses climate-related issues and potential ways to reach desired climate objectives, including with respect to taxation.

[19] This appears to be an area of wide consensus among Belgium tax experts.

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REDUCING THE TAX COMPLIANCE GAP IN BELGIUM[1]

Economic activity in Belgium is characterized by significant informality, with adverse effects on tax revenues, social cohesion, and growth. Revenue losses associated with informal activity appear large in Belgium, compared with neighboring countries. A contributory factor to low "tax morale" is complex tax-system design and high compliance costs for taxpayers and for the authorities. Reducing substantially the tax gap will require comprehensive reforms, focused on Belgian-specific drivers, with multifaceted effort of all agencies involved. This paper reviews initiatives now underway and provides recommendations to strengthen the fight against tax fraud. These includes enhanced governance of the initiatives, enactment of a tax-procedure code, easing bank secrecy, establishment of a dedicated high-wealth-individuals (HWI) unit, and integration of tax and social security contribution (SSC) collections.

A. The Compliance Challenge

1. Economic activity in Belgium is characterized by significant informality, with adverse effects on tax revenues. While detailed estimates on the total tax gap are not available, a significant non-compliance challenge is evident by:

- a high value-added tax (VAT) compliance gap;
- repeated rounds of voluntary disclosure programs to encourage taxpayers to disclose past non-compliance; and,
- high-profile cases—'Lux Leaks', 'Swiss Leaks', 'Panama' and 'Paradise' papers—that provided a glimpse into tax avoidance and evasion efforts by companies and individuals.

Informality remains significant across Europe. A 2021 IMF study[2] concluded that the average size of the shadow economy in the European Union (EU) is 23 percent of the formal economy, and in the euro area (EA), close to 22 percent (Figure 1). Emerging economies tend to have larger shadow economies, around 33 percent on average.

2. Shadow activities and revenue losses appear large in Belgium compared to neighboring countries (Figure 2). The European Commission (EC) estimated the VAT gap in Belgium to be 10.4 percent of total VAT tax liability (VTTL) in 2018, higher than France, Germany, Luxembourg, the Netherlands, or the EU median (Table 1).[3] This suggests that even a small reduction of the VAT gap would have an important impact on revenue collections. Reducing the VAT gap—and other tax gaps—calls for comprehensive reforms, focused on Belgian-specific drivers, with multifaceted efforts of all agencies involved.

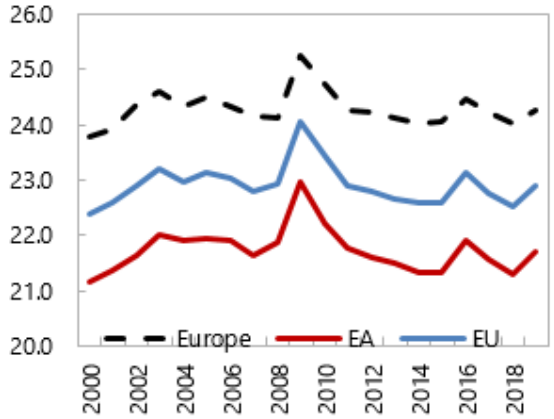
[1] Prepared by Patrick De Mets (FAD).

[2] See Chapter 2, "Europe's Shadow Economies: Estimating Size and Outlining Policy Options," of the IMF book "The Global Informal Workforce: Priorities for Inclusive Growth" (2021).

[3] See European Commission, Study and Reports on the VAT Gap in the EU-28 Member States, 2020 Final Report. The VAT gap is defined as the difference between the VTTL and the amount of VAT actually collected.

Figure 1. Belgium: Shadow Economy Estimates in Europe

Shadow Economy Estimates, 2000 – 2019 (in percent of GDP)



Source: IMF Staff calculations

Size of Shadow Economy in European Countries, 2019 (in percent of GDP)

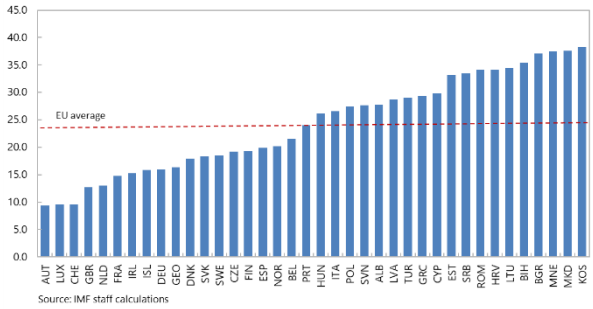


Table 1. Belgium: VAT Gap for Belgium and Neighboring Countries, 2018

	2018			
Country	**Revenues**	**VTTL**	**Gap**	**(%)**
BE	31,053	34,670	3,617	10.4
DE	235,130	257,207	22,077	8.6
FR	167,618	180,406	12,788	7.1
LU	3,729	3,928	199	5.1
NL	52,619	54,897	2,278	4.2
UK	168,674	192,126	23,452	12.2
Total EU-28	**1,131,912**	**1,271,953**	**140,042**	**11.0**
Median				**9.2**

Source: EC

3. Belgium has had voluntary disclosure programs for many years. To encourage disclosure of past non-compliance, taxpayers have been repeatedly given opportunities to come forward and correct inaccurate or incomplete information from previous filings, with limited penalties and without prosecution.[4] The current round started in 2016 and ends in 2023. Previous voluntary disclosure rounds, prior to 2016, did not involve substantial regularization of underlying

[4] Laws of 31.12.2003, 27.12.2005, 11.07.2013 and 21.07.2016 on voluntary disclosure programs.

capital—less than 10 percent—according to the Belgian Court of Auditors.[5] Provisions for regularization have changed for the current round.

4. Apart from the loss of tax revenues, informality undermines social cohesion and growth. Low confidence in the fairness and effectiveness of the tax system contributes to a cycle and culture of non-compliance and unfair competition for businesses in the formal economy. Tax system complexity and high compliance costs for taxpayers and revenue authorities add to this.

5. A risk assessment of the shadow economy should be conducted. Understanding the drivers and consequences of informality is important for development of risk-mitigation strategies. The assessment should assess the type of risks (by tax types, sectors, geographical variation, taxpayer groups) and rank them to prioritize actions. Strategies should be linked to each identified risk with clearly-described action plans covering resources, targets, timelines, responsibilities, and reporting requirements.

6. Tax gaps should be estimated, using the IMF Fiscal Affairs Department (FAD) Revenue Administration Gap Analysis (RA-GAP) program. RA-GAP currently includes gap analysis methodologies for VAT, corporate income tax, and excises; a methodology for personal income tax gap analysis will be issued shortly.[6] In addition to providing estimates of the size of tax gaps, the RA-GAP program has additional benefits, especially providing insights into drivers and behaviors behind tax gaps. From these, mitigation strategies may be devised, implemented, monitored, and reviewed.

B. Current Responses to Address the Tax Gap

7. A number of initiatives to fight against tax fraud are underway in Belgium. Two important initiatives are: (i) an action plan approved by the Council of Ministers in 2021 to implement a coordinated anti-fraud policy; and, (ii) a program to reduce the VAT GAP to the level of neighboring countries, with introduction of real-time monitoring of invoices and receipts.

8. The authorities see scope for ambitious yields from anti-fraud actions and enhanced compliance, up to €1 billion or 0.2 percent of GDP by 2024. A multi-agency anti-fraud action plan has been developed that seeks to enhance compliance, including through improved coordination and cooperation across agencies (tax, social security, employment, law enforcement). The plan is built around four clusters—collaboration, coordination, data exchange and compliance—and includes 29 action areas. The plan will be made more concrete going forward, including close monitoring of yields. Annual anti-fraud action plans will be developed each year to underpin yields targeted through 2024. Next year's action plan will focus on international issues.

9. The government's September 2020 coalition agreement includes the objective of reducing the VAT gap to the level of neighboring countries. This effort is at an early stage, and will be made more concrete in the coming months. It is being coordinated by the cabinet of the Minister of Finance. Seven working groups within Federal Public Service (FPS) have been established

[5] Belgian Court of Auditors, February 2021, Permanent Fiscal regularizations.

[6] These are covered by IMF Technical Notes available on IMF.ORG.

for this effort covering: (i) e-invoicing and e-reporting; (ii) training of VAT staff; (iii) VAT credits; (iv) Benelux VAT-gap colloquium; (v) exchange of information; (vi) harmonization of the 6-percent VAT rate; and, (vii) collaboration with the General Administration of Customs and Excise Duty.

10. A key initiative is introduction of real-time monitoring of invoices and receipts or "Transaction-Based Reporting" (TBR). This is led by the working group on introduction of an 'e-invoicing' and an 'e-reporting' system.[7] TBR has significant revenue-raising potential, particularly, but not only for VAT, that should be maximized by ensuring that the reform is well-planned and executed and that structures and systems are in place for monitoring and follow-up enforcement. The project is in an early stage, and the authorities should seek international consultations on project formulation and implementation, benefiting from the experience of other EU countries with similar systems (e.g. Slovenia). While focus in the short term is on practical implementation challenges for businesses and the revenue administration, it is important that the following broad principles guide the overall approach:

- ***TBR is not a standalone, 'magic-bullet' solution.*** International experience has shown that TBR can deliver a permanent increase in revenues only if it is part of a wider compliance-improvement strategy.[8]
- ***Monitoring and follow-up enforcement must be risk-driven.*** Risk-filtering systems need to be developed to ensure that large volumes of data on apparent irregularities, outliers, and invoice mismatches are reduced to manageable levels. Follow-up field audits should be limited to high-risk cases, taking account of other risk indicators. "Soft warnings" and office-based interventions will be appropriate in many cases.
- ***TBR is an opportunity to cultivate greater trust in the tax system***. While the primary objective is to increase revenues, the revenue administration should use the opportunity to emphasize benefits to business, including faster VAT-refunds, lower compliance costs in the long run under an e-invoice system, and a fairer system resulting from improved compliance.[9]

C. Key Elements of Effective Informal Economy Reduction Strategies

11. Tackling the informal economy is challenging. Transactions may be difficult to detect, especially given deliberate steps to conceal activity and lack of recordkeeping. Quantification are difficult and time-consuming, and in many individual cases, the amount of taxes involved is small. However, given large numbers of transactions, aggregate revenues at stake may be sizeable.

12. The sharp growth of e-commerce, electronic payment systems (EPS), and the 'sharing economy' provide increased opportunities to conceal transactions and incomes. Payments for goods and services may be made outside of the traditional banking system and may not be easily

[7] Already-existing 'electronic cash registers' will be integrated in TBR.

[8] See IMF Working Paper: *Electronic Fiscal Devices – An Empirical Study of Their Impact on Taxpayer Compliance and Administrative Efficiency*, (Casey and Castro), 2015.

[9] See World Bank Group Working Paper: *Can Electronic Tax Invoicing Improve Tax Compliance*, (Lee), March 2016.

visible to the revenue administration. However, EPS also create electronic records that may be a significant source of information.

13. Globally, tax administrations that have had success in tackling the informal economy have had several common core elements in their strategies (Box 1). In particular, they adopt a comprehensive, overarching set of strategies to address the many tax compliance issues presented by the informal economy. A compliance-risk management approach is used to prioritize risks and devise treatment strategies.

Box 1. Common Attributes of Success in Tackling the Informal Economy

Globally, common attributes of success of tax administrations in tackling the informal economy include:

- Management arrangements put in place across the tax administration for effective "whole-of-administration" leadership, co-ordination, and evaluation of the strategy, recognizing the cross-program nature of activities being carried out to improve overall compliance.
- Comprehensive research undertaken to assist risk-detection and assessment, to test treatments, and to monitor external perceptions and attitudes.
- Enhanced risk-detection processes, including use of third-party (financial) information and sophisticated risk-profiling techniques.
- A broad set of treatment strategies, typically including education, outreach and communication-based initiatives, specially-legislated tools to assist in deterring and detecting noncompliance, traditional enforcement programs, and specialist programs for serious evasion, including from illegal activities.
- Efforts to leverage improved compliance via intermediaries such as tax professionals, industry representatives, and primary business leaders.
- Effective mechanisms for systematic and periodic gathering, transmission, and processing of 'bulk' information with other government agencies and stakeholders, in particular for coordinating program efforts. This includes 'bulk' access to financial information.
- Use of the media and social media to communicate about the strategy and results being achieved.
- Evaluation of the impacts and outcomes of individual treatments and the overall strategy.

Source: IMF

D. Issues with Addressing High-risk Areas of Non-compliance

Implementing the Strategy

14. The Belgian tax administration, FPS Finance, will need to implement a significant number of reforms, alongside its day-to-day work. As such, resource allocation and governance

need careful attention. Timely, efficient, and effective implementation will require clear responsibilities and accountability, secured full-time resources, strong program management, and risk identification and mitigation. The multiple reform projects will take up considerable management time. Formal reform-program governance arrangements are needed to support the overall reform agenda.

15. Efforts are also needed to ensure overarching awareness of the impact, timing, sequencing, and interdependencies of the combined reforms within FPS Finance. Ongoing and proposed multi-year, cross-agency reform initiatives are substantial and sensitive, particularly when coupled with policy and legislation changes.

16. An overarching strategy to reduce compliance gaps stemming from tax fraud should be established. A dedicated project leader and team should be appointed to lead overall strategic direction and operational implementation of the strategy at the highest level within FPS Finance.[10]

Tax Procedure Code

17. The legal framework for taxation is dispersed across a series of tax laws, each with its own set of provisions for tax administration. These tax laws are supplemented and supported by various regulations, executive instructions, and decisions. Both the administration and taxpayers find it difficult to follow the multitude of laws, regulations, instructions, and decisions, complicating the fight against tax fraud.

18. Internationally, the advantages of systematizing general tax norms to administer the tax laws fairly, efficiently, and effectively are generally accepted. Rather than a series of tax laws by type, international good practice is to enact a tax code to incorporate all legal aspects of taxation into a comprehensive piece of legislation, along with legal principles for taxation.

19. Administrative provisions from each of the tax laws should be consolidated in a single, uniform tax procedures code (TPC). While the benefits of harmonization and recodification of tax legislation in a unified tax code may be acknowledged, it may not be feasible to do so. In such cases, international good practice is to extract the administrative provisions from each of the tax laws and consolidate them in a single, uniform tax procedures code (TPC), separate from the substantive pieces of tax legislation. A number of countries have implemented TPCs, and others are developing them.

20. A TPC enhances transparency, clarity, and consistency in the application of a country's tax laws. The TPC should include provisions for administration of all taxes, with including registration, filing and payment requirements, assessment and collections, penalties and interest, and other.

[10] Currently the work is being coordinated by the Cabinet of the Minister of Finance.

21. Early plans to develop a TPC in Belgium should be advanced. An important first step was enactment on January 1, 2020 of a new "Enforced Collection Code," a welcome harmonization of enforced-collection rules for most federal taxes.[11] In addition to recovery aspects, other aspects of tax law appear likely to undergo such harmonization in the coming years. This is welcome, and implementation should proceed, recognizing that harmonizing and bundling just one aspect of tax legislation into a new, separate legislation may lead to greater fragmentation and ambiguity. This would be avoided by including the new Enforced Collection Code in a new TPC once enacted.

Access to Financial Information

22. Belgium has recently taken important steps towards greater transparency of information. The common reporting standard for automatic exchange of tax information has been introduced, along with an ultimate-beneficial ownership registry established as part of the European Anti-Money Laundering-Directive, in line with OECD worldwide exchange of information principles. The registry is publicly accessible. Financial institutions are required to share information on their clients and their respective accounts once a year. This information is centralized in a database of the National Bank of Belgium (NBB).

23. Notwithstanding this progress, access to bank information remains constrained. The NBB is entrusted by law with maintaining a central point of contact (CPC) to which registrants must communicate a list of clients, identify bank accounts owned or co-owned, and list the types of contracts these clients have concluded with the registrants.[12] FPS Finance may contact the CPC for matters subject to taxation, only where there are indications of tax fraud, or where taxes must be recovered. This means that tax officials may not request information from financial institutions for tax purposes as a matter of routine. After the "Panama Papers" leaks, a special commission was established by the federal parliament to investigate how to tackle large-scale tax avoidance and tax fraud more efficiently. Inquiries performed by the commission made clear that bank secrecy hampers the fight against tax fraud. One recommendation was to use the centralized NBB database as a dynamic platform with accessible, real-time information.

24. The use of third-party financial data is one of the most effective tools for tax administrations to identify non-compliance. The tax code should include provisions to encourage voluntary compliance and to grant compliance and enforcement tools to the tax administration. One of the most important is a provision that requires banks and other financial institutions, contractors, and employers to regularly submit information to the tax administration for matching and compliance programs.

25. In many countries, there is systematic, periodic, and fully-automated "bulk" data provision of bank balance information to the tax authorities. This enables tax administrations to match third-party financial data of taxpayers to its master files to facilitate compliance inquiries for omissions and discrepancies (e.g. FICOBA program in France).

[11] Code of the amicable and enforced recovery of tax and non-tax claims, entered in force on January 1, 2020.

[12] Website 'National Bank of Belgium', central point of contact.

26. FPS Finance has open access only to banking information on behalf of other jurisdictions and not on behalf of the Belgian government, and it cannot make domestic use of information exchanged with other jurisdictions. This leads to an unusual situation in which the Belgian tax authority has more information on Belgian taxpayers with accounts abroad than on domestic account-holders. Reforms are needed in this area.

E. Implementing a High-Wealth Individual Compliance Program

27. Compliance risks of high-wealth individuals (HWI) are a concern in many countries. The need to focus on the HWI sector has been highlighted by the IMF and the OECD.[13] Failure to address compliance risks for this small but highly-visible group of taxpayers can lead to erosion of trust in the fairness of tax administration, which will tend to reduce compliance of the broader taxpayer population. HWIs present substantial compliance risks, stemming from the complexity of their financial affairs and use of tax-planning strategies. Understanding the international aspects of HWI affairs is an integral part of addressing HWI compliance risks.

28. Many revenue administrations have developed specialized programs to monitor HWIs and encourage compliance.[14] Examples are set out in Box 2.

Box 2. Examples of High-Wealth Individual Compliance Programs

- A dedicated HWI unit, often within a large taxpayers' office, with highly-skilled officers undertaking risk analysis, audit, and debt collection.
- Expanded information reporting covering entities and assets owned by HWIs, and mandatory disclosure of certain types of transactions.
- Measures to encourage voluntary compliance, such as pre-filing agreements, a rulings regime, and carefully-designed voluntary-disclosure schemes for past non-compliance.
- Comprehensive checks—risk reviews, audits, and prosecutions for the most egregious offenders—applied according to perceived risk level.
- Withholding taxes—e.g., on rental payments in India—have helped reach HWIs.
- Tightening laws, e.g., to prevent tax-free private use of company assets , use of companies and trusts to hold income at lower tax rates, and diversion of income to preferential beneficiaries.

Source: *Current Challenges in Revenue Administration: Improving Tax Compliance*, IMF, April 2015.

[13] Implementing a High-Wealth Individual Compliance Program, IMF, 2017; IMF, Fiscal Monitor 2021, A Fair Shot; Engaging with High Net Worth Individuals on Tax Compliance, OECD, 2009.

[14] The following countries reported having a HWI unit to the ISORA database in 2019: Australia, Cameroon, Chile, Cook Islands, Ghana, Hungary, India, Ireland, Jamaica, Kenya, Kiribati, Mexico, Netherlands, New Zealand, Norway, Portugal, Republic of North Macedonia, South Africa, Spain, Uganda, and United Kingdom. The U.S. and France have HWI compliance-improvement programs in place.

29. The experience of countries with HWI units suggests that firm action combined with sound compliance activity and good stakeholder services can significantly improve compliance.[15] Benefits can be substantial, as shown in Australia and the U.K.[16] [17].

30. The authorities should consider establishing a HWI unit within the large taxpayer office of the General Administration of Taxes. This would involve enhanced information on the HWI segment, processes in place to use this information effectively, an understanding of the particular needs of the segment, and actions that the tax administration can use to service those needs.[18] An integrated approach to deliver an HWI-compliance strategy is likely to yield better results than an audit-only policy.

31. A dedicated HWI unit would serve several functions:

- Sending a clear message to non-compliant HWIs of possible actions by the administration, which in turn may reduce aggressive tax-planning and improve voluntary compliance.
- Enabling the administration to developing awareness and skills and match the level of expertise and knowledge of HWI advisors.
- Allowing for a concentration of skills, targeted training, retention of knowledge, and an improvement over time of HWI understanding.

F. Integrating Collections of Personal Income Taxes and Social Security Contributions

32. In Belgium, personal income taxes (PIT) and social security contributions (SSC) are collected by two different agencies—for PIT, FPS Finance under the MOF, and for SSC, FPS Social Security under the Minister of Health and Social Affairs. Collaboration is mainly through cross checking of data obtained by the agencies operating independently of one another.

33. SSC collections may be organized in two fundamental ways. One is via parallel systems, as in Belgium, France, and Germany. The other is via integrated systems, as in Australia, Sweden, and the U.S.

[15] OECD, 2009, ibid.

[16] See ATO, Commissioner of Taxation, Annual Report 2014–15.

[17] See https://www.gov.uk/government/publications/issue-briefing-dealing-with-the-tax-affairs-of-wealthy-individuals/how-we-deal-with-wealthy-individuals.

[18] This unit should work in close collaboration with "Unit Private (International) fiscal constructions" included in the action plan for the fight against tax and social security fraud planned to be established within the General Tax inspection directorate. I

34. There has been a trend to integration of SSC collection into tax administrations. In some cases, this has meant transferring SSC collection responsibilities to the tax administration. In other cases, where functions have not been formally integrated, it has involved closer cooperation between the two departments while maintaining separate systems.[19] Table 2 lists examples of countries operating parallel and integrated collection systems and countries that are transitioning to a single system. There appear to be no cases of an integrated collection system converting to a dual collection system or of integration of PIT within the social security department.[20]

Table 2. Belgium: PIT and SSC Collection Models

Parallel Collection	Integrated Collection	Planned Transition
France	United States	China
Germany	Canada	Turkey
Japan	Hungary[1]	Slovak Republic
Austria	United Kingdom[1]	Indonesia
Belgium	Ireland[1]	Azerbaijan
Croatia	Sweden[1]	
Greece	Kazakhstan[1]	
India	Russia[1]	
Mongolia	Romania[1]	
South Korea	Kyrgyz Republic[1]	
Chili	Argentina[1]	
Mexico	Brazil[1]	

Source: IMF

1/ Transitioned from a parallel collection model

35. The argument for unifying PIT and SSC collections stems from the commonality of core processes involved. These include the need: (i) to identify and register contributors and taxpayers using a unique registration number; (ii) to have systems to collect information in the form of returns from employers and the self-employed (SE), usually based on similar definitions of income; (iii) for employers to withhold tax and contributions from payments to their employees and pay this to agencies (usually via the banking system); (iv) to have effective systems to follow up on employers who do not file, or who do not account for payments; and (v) to verify the accuracy of information shown on returns using modern, risk-based audit methods.

[19] Details of the nature and extent of collaboration between Tax and Social Security Agencies in a range of OECD and other countries are available in the biennial International Survey on Revenue Administration (ISORA).

[20] IMF Working Paper, 2004, Barrand et all, Integrating a Unified Revenue Administration for Tax and Social Contribution Collections: Experiences of Central and Eastern European Countries; IMF Technical Note, Tony Orhnial, Integrating the Collection of Social Insurance Contributions and Personal Income Taxes.

36. There are significant potential benefits from integration. These typically involve a requirement for a higher level of inter-agency cooperation and consultation, particularly over harmonization of policy or procedures, in the definition of income, including the treatment of difficult areas such as "in-kind" benefits; in the definition of employee/SE; and in filing intervals, payment dates, and penalties for non-compliance. These considerations impose constraints over design features, but are often beneficial in that they are driven by a need to maintain acceptable compliance costs for employers and administration costs for the government.

37. Integrating PIT and SSC collection may contribute to reduced administration costs:

- Fewer staff and economies of scale in human resource management and training, fewer numbers of managers, and common processes for filing and payment, enforcement, and data entry data and verification;
- Lower infrastructure costs in office accommodation, telecommunications networks, and related functions;
- Elimination of duplicated IT development costs and less risk in system development and maintenance.

38. Integrating PIT and SSC collection may reduce compliance costs for employers. This may reflect common record-keeping and forms and a common audit program covering VAT, income and payroll taxes, and SSC. This simplification may improve the accuracy of calculations made by employers, and therefore compliance levels, and facilitate the fight against tax and SSC fraud.

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TACKLING CLIMATE CHANGE IN BELGIUM: A SYNOPOSIS OF POLICY PRIORITIES[1]

In the years ahead, the long-term costs of climate change – in terms of impacts on health, infrastructure, economic activity, and ecosystems – will continue to mount for the Belgian economy. At the same time, polices in place fall short of reaching ambitious climate targets. Consequently, efforts will need to be strengthened, not only to meet international commitments but also to contain environmental as well as financial and economic damages. Against this background, this paper identifies areas where policy action might yield substantial rewards in terms of reducing Belgium's carbon footprint. In addition, it suggests potential ways to reach the desired climate objectives while limiting negative economic and social side effects.

A. Introduction

1. In the decades to come, the environmental and societal impact of climate change is expected to make itself felt keenly, entailing significant costs for the Belgian economy. While Kahn et al. (2019) find real output per capita losses by the year 2100 to be notably lower in Belgium than in other EU countries, adverse scenarios prepared by De Ridder et al. (2020) indicate substantial and wide-ranging negative implications for productive capital and activity from higher global temperatures that can only partly be compensated by benefits associated with a warmer climate (see Box 1).[2] Harm to human capital in the form of excess mortality, higher morbidity, or declining productivity appears particularly large, with damages to infrastructure, especially from flooding, a close second. Although quantifying the economic effects of climate change is highly sensitive to underlying assumptions and subject to substantial uncertainty, costs exceeding several percentage points of GDP per year are indicative of the magnitude of the challenges ahead, thereby underpinning a pressing need for policy action.

2. Greenhouse gas (GHG) emissions have dropped by about a fifth relative to the 1990 benchmark established by the Kyoto protocol but appear to have fallen short of EU targets.[3] Sectors administered under the EU's emissions trading system (ETS), such as power generation and

[1] Prepared by André Geis (EUR). The analysis benefitted from contributions as well as helpful comments and suggestions by Simon Black (FAD), Khamal Antonio Clayton (FAD), and Mark Horton (EUR).

[2] Both Kahn et al. (2019) and De Ridder et al. (2020) consider worst-case scenarios assuming no policy action and a continued, unmitigated increase in greenhouse gas emissions by 2100. Against this background, simulations by Kahn et al. (2019) report a 2.2 percent decline of real GDP per capital in 2100 when compared to a baseline where global temperatures keep rising at their 1960–2014 trend rate, putting Belgium at the lower end of the EU where losses range from 1.0 percent (Finland) to 13.2 percent (Bulgaria). De Ridder et al. (2020) exploit an extensive array of studies to analyze the socio-economic costs of climate change for the Belgian economy. Their literature-based approach, while comprehensive, may exclude some of the costs – or benefits – of climate change and may lack coherence in some places as it necessarily relies on the various underlying analytical strategies and assumptions of the material taken into consideration.

[3] Apart from CO_2, GHGs also include methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6), which are usually converted into CO_2 equivalents for the purpose of gauging developments in GHG emissions.

other energy-intensive industries, have lowered their GHG emissions by around a third since its launch in 2005. By contrast, the reduction in non-ETS GHG emissions called for under EU rules over 2005–2020 appears unlikely to have been met, as the decline of about a tenth achieved by 2018 suggests that the end-period objective of 15 percent may have been missed.[4]

Box 1. Estimated Costs of Climate Change

	Costs (EUR mn) per year by				Benefits (EUR mn) per year by	
	2050	2100	Unspecified		2050	2100
Health				Health		
Heat-related excess mortality	1,380-2,740	630-5,200		Cold-related mortality reductic	1,760-4,960	2,600-5,200
Heat-related morbidity			95-188			
Productivity				Productivity		
Heat-related productivity loss	170-3,510	610-9,000		Cold-related productivity gain	116-182	232-364
Infrastructure						
Fluvial flooding	134-290					
Coastal flooding	200-650	2,400-5,300				
Heat-related damage	153-766					
Energy				Energy		
Production costs	44			Heating demand	220	
Production loss	19					
Distribution effciency	91					
Cooling demand	88					
Agriculture				Agriculture		
Land loss and price changes	606			CO2 fertilization	45	
Forestry						
Yield loss	767					
Pests			64			
Fire	7	14				
Wind			2			
Ecosystem services						
Carbon storage	172					
Filter capacity	68					
Recreation and health	28-123					
Pollination	24					
Freshwater services	695					
Insurance	440					
Cross-border spillovers			1,000-2,200			
Total (EUR mn)	**5,086-11,100**	**3,654-19,514**	**1,161-2,454**	**Total (EUR mn)**	**2,141-5,407**	**2,832-5,564**
Total (% of 2020 GDP)	**1.1-2.3**	**0.8-4.1**	**0.2-0.5**	**Total (% of 2020 GDP)**	**0.5-1.1**	**0.6-1.2**

Sources: De Ridder et al. (2020) and IMF staff calculations.

3. With existing policies, Belgium is not on track to reach GHG emissions cuts required under current EU rules or the more ambitious targets foreseen by the EU Green Deal. By 2030, non-ETS GHG emissions should drop by 47 percent in comparison to 2005, up from 35 percent

[4] To complement the ETS, the EU sets GHG emission reduction targets for sectors not covered by the ETS, such as buildings or most forms of transport, to achieve its climate goals and its commitments under the Paris Agreement. To attain non-ETS emission targets, GHGs absorbed by land use, land use change and forestry (LULUCF) can generally not or only partially be taken into account. For more details about the governance of the EU GHG emission framework, see EU (2003), EU (2009) and EU (2013).

under present regulations.[5] However, the National Energy and Climate Plan (NECP) projects merely a small decline in non-ETS GHG emissions over 2020–2030 under a 'with-existing-measures (WEM)' scenario. At the same time, ETS emissions are expected to substantially increase in the coming years, also reflecting a shift in baseload provision from nuclear to gas-fired power plants from 2025, leaving overall (ETS and non-ETS) GHG emissions in 2030 more than a tenth higher than in 2020. Even 'with-additional-measures (WAM)', the pickup in ETS GHG emissions is anticipated to offset non-ETS GHG emissions reductions coming close to the 35 percent target.[6] IMF staff estimates in a business-as-usual (BAU) scenario largely corroborate this outlook, with the trend decline in the energy intensity of GDP compensated for by expanding output and the rising role of fossil fuel-based power generation.[7]

Box 2. Greenhous Gas Emissions – Targets, Outcomes and Projections

	Targets for Belgium			Outcomes and projections for Belgium				
	NECP	NECP (EC)	LTS	Outcome	Projection (WEM)		Projections (WAM)	
	2020	2030	2050	2018	2020	2030	2020	2030
ETS GHG emissions*				-33%	-36%	-12%	-37%	-11%
Non-ETS GHG emission*	-15%	-35% (-47%**)	-85% to -87%	-9%	-10%	-12%	-13%	-33%
Total GHG emissions*				-19%	-23%	-13%	-25%	-24%
Memorandum								
	EU targets			Outcomes and projections for the EU				
				Outcome	Projection (WEM)		Projections (WAM)	
	2020	2030	2050	2018	2020	2030	2020	2030
2030 Climate and Energy Framework								
ETS GHG emissions*	-20%	-43%		-29%	-31%	-36%		
Non-ETS GHG emission*	-7%	-30%		-11%	-13%	-20%		
Total GHG emissions***	-20%	min. -40%		-19%*	-21%*	-27%*		
Green Deal								
ETS GHG emissions*		-60% (-43%****)						
Non-ETS GHG emission*		-40%						
Total GHG emissions***		min. -55%	net zero					

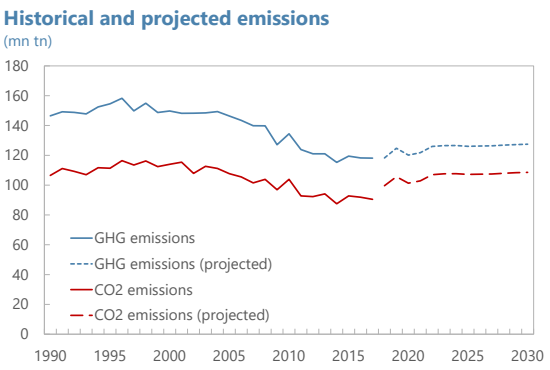
Sources: CONCERE-NCC (2019b), CONCERE-NCC (2020), EC (2020a), EC (2021), EEA, IMF (2020a), OECD (2021) and IMF staff calculations.
* against 2005 levels.
** proposal.
*** against 1990 levels.
**** new sectors subject to ETS (buildings, road transport).

[5] See EU (2018) and EC (2021).

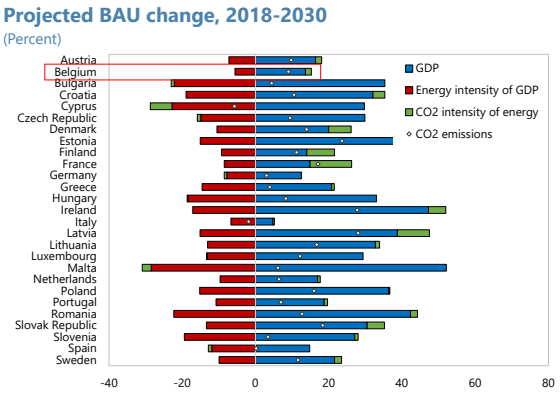
[6] See CONCERE-NCC (2019b).

[7] The BAU scenario assumes a freezing of current mitigation policies, i.e. a baseline where fuel mixes are largely unchanged going forward and energy efficiency improves at its historical rate.

Figure 1. Belgium: Greenhouse Gas Emissions in a Business-as-Usual (BAU) Scenario



Sources: IEA and IMF staff calculations.

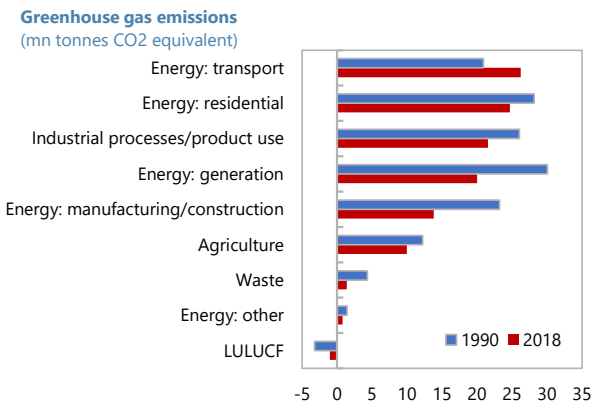


Sources: IMF staff calculations.

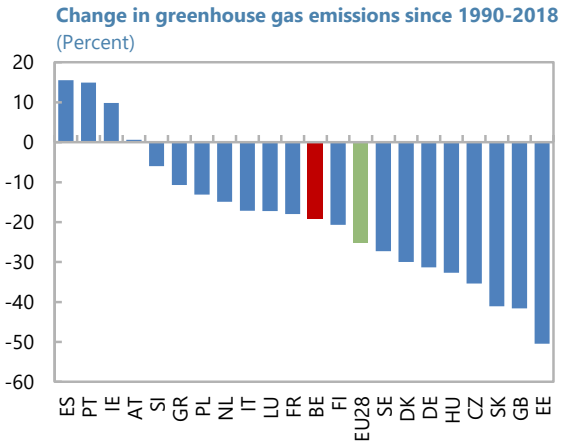
B. Belgium's Greenhouse Gas Emissions in Context

4. While Belgium has lowered GHG emissions, it has yet to catch up with the EU's better performers, as sectors not covered by the ETS have particularly lagged behind. GHG emissions originating from the energy use of residential buildings, industrial processes, and product use, as well as agriculture, have experienced rather modest declines since 1990, whereas transport has even seen an increase. Compared to other EU countries, Belgium's progress has been in line with economies such as France, Italy, or the Netherlands but has remained below the EU average as Denmark, Germany, and Sweden (and the U.K.) have managed more substantial reductions.

Figure 2. Belgium: Greenhouse Gas Emissions

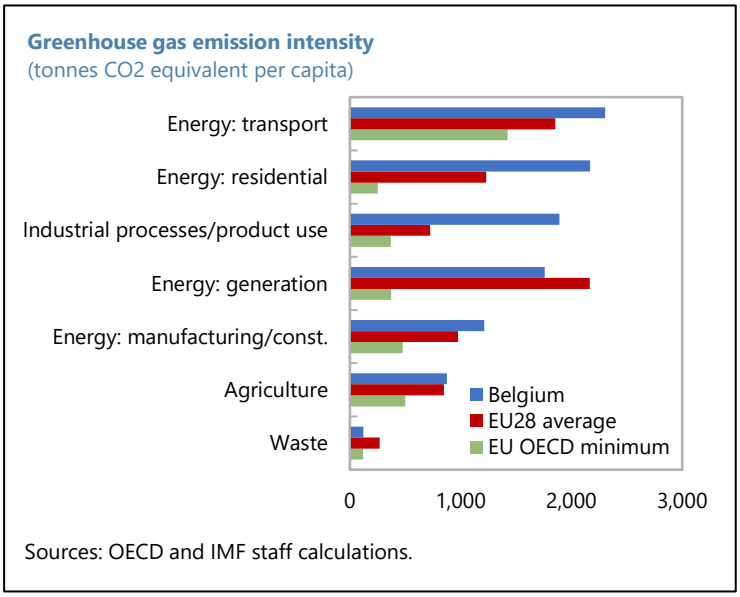


Sources: OECD and IMF staff calculations.



Sources: OECD and IMF staff calculations

5. Set against the EU average, GHG emission intensity in Belgium is relatively high in transport, housing, and industry, pointing towards scope for improvement. Although cross-country comparisons of per capita GHG emissions can be distorted by the sectoral composition of the economy (e.g., a large share of heavily-polluting industries) and historical dependence on fossil fuels, the distance to EU averages and, even more so, to the best-performing countries appears still suitable to pinpoint potential priorities for policy intervention. On this basis, GHG emissions emanating from energy use in transport and residential buildings, as well as from industry, seem to offer substantial room for efficiency gains. At the same time, these areas are also large emitters of GHGs, underscoring the role they will have to play for Belgium to meet its national climate goals and international commitments.



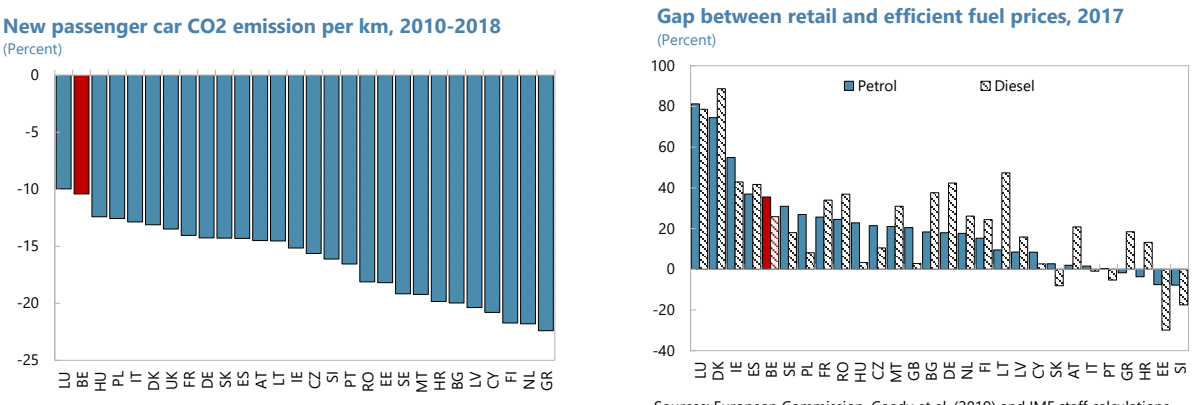
6. The emission efficiency of the transportation sector ranks among the lowest in the EU, reflecting rather favorable fossil-fuel pricing and advantageous company-car taxation. In 2018, new passenger cars emitted about a tenth less CO2 per distance covered than in 2010, contrasting with reductions of up to a fifth in other EU economies. Retail fuel priced substantially below efficient levels, and thus not adequately incorporating the negative externalities of automobile use, is likely a key contributing factor.[8] Besides, fuel duties on petrol have been eroded by inflation, registering a decline of close to 15 percent in real terms over 2011–2018, although levies on diesel have risen by nearly a third as a result of policies to align diesel with petrol taxes in recent years. In addition, Belgium's regime for taxing company cars has disincentivized considerations of fuel-efficiency. Provided as an in-kind benefit, comparatively light taxation on the side of the employee, in combination with tax deductibility of acquisition and operating costs by the firm, encourages procurement of more expensive, and therefore generally-more fuel-consuming vehicles.[9] However, recent efforts by the government to gradually phase out any tax advantages for emission-producing automobiles by 2026 will contribute to greening the car fleet even though it may still do too little to address other negative externalities of individual transportation, such as congestion. Taken together, subsidies benefitting the private and commercial transportation sector

[8] In addition to climate-related costs, efficient fuel prices take account of a broad range of other negative externalities, such as accidents or congestion. Monetizing these costs is challenging and subject to considerable uncertainty. For details about the estimation approach for the figures presented in the chart, see Coady et al. (2019).

[9] Estimates indicate company cars account for about an eighth of Belgium's car fleet. Although owned by companies, they are often used for private purposes, including for commuting.

had an estimated worth of about 1 percent of GDP in 2019, in large part constituting support for passenger vehicles and commercial road haulage.[10]

Figure 3. Belgium: Passenger Car Emissions and Fuel Prices



7. The efficiency of Belgium's building stock is low with high reliance on carbon-emitting fuels for space heating an important aggravating element. In line with other EU countries, structures falling short of advanced energy-performance standards are among the most common in Belgium, with residences falling into the bottom "D" and "E" or below categories accounting for a share of 76 percent in Wallonia and 65 percent in Flanders.[11] Space heating, which represents around three-quarters of energy consumption of Belgian households, is predominately based on solid fuels, such as coal, or on oil or gas, thereby exacerbating the environmental costs of an inefficient building stock. Residential GHG emissions are only modestly taxed in comparison to other EU economies. Specifically, extensive tax coverage is largely offset by the low price charged for each ton of CO2 released, while subsidies for fuel use, frequently motivated by social aspects, amounted to roughly 1 percent of GDP in 2019.[12]

[10] See FPS Finance (2021).

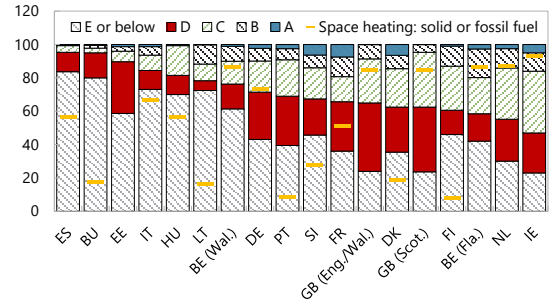
[11] Various EU Member States classify their building stock according to energy-performance certificates, ranking structures from A (most efficient) to G (least), as part of their efforts to implement the EU's Energy Performance of Buildings Directive and Energy Efficiency Directive.

[12] See FPS Finance (2021).

Figure 4. Belgium: Building Efficiency, Heating Sources and Residential Emission Pricing

Building efficieny and space heating

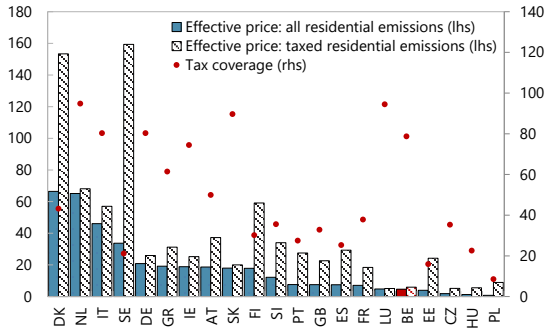
(Percent)



Sources: Building Performance Institute Europe, Central Statistics Office Ireland, European Environment Agency, Eurostat, EU Building Stock Observatory and IMF staff calculations.

Residential emissions: prices and tax coverage

(LHS: EUR per tonne CO2 equivalent; RHS: Percent)



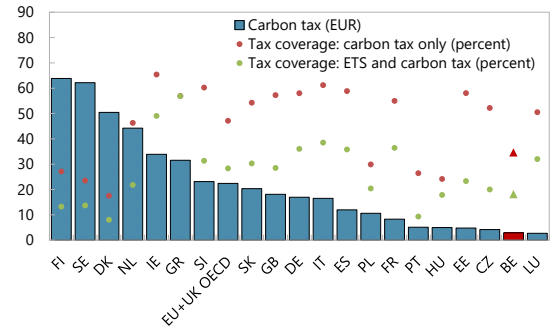
Sources: OECD and IMF staff calculations.

8. While industries subject to the ETS have substantially lessened their climate impact, the sector remains a large emitter overall, facilitated by favorable carbon taxation. GHG emissions from energy use in manufacturing and construction, largely covered by the ETS, have dropped by around 40 percent from their 1990 levels. By contrast, progress with containing the carbon footprint of industrial processes and product use has been more modest, registering a fall of less than a fifth, also reflecting the exclusion from the ETS to date of some emissions-intensive industries that are prominent in Belgium, such as chemicals production. At the same time, industry faces rather low carbon tax rates and more limited carbon tax coverage in comparison to other EU economies, possibly limiting more ambitious efforts by firms to contain their GHG emissions. In addition, electricity-price rebates for large industrial facilities appear generous, contributing to sectoral subsidies of about 0.7 percent of GDP in 2019.[13]

Figure 5. Belgium: Pricing of Industrial GHG Emissions

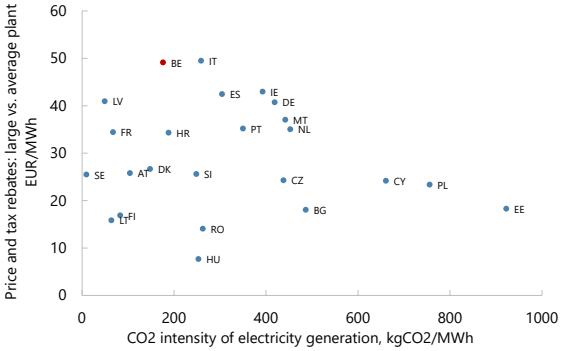
Industry carbon taxes on energy use and coverage, 2015

(EUR per tonne CO2 equivalent; Percent)



Sources: OECD (2018) and IMF staff calculations.

Electricity price rebates for large industrial plants, 2017



Sources: Eurostat and European Environment Agency.

[13] Ibid.

C. Converging Towards Belgium's Climate Targets

9. Belgium makes no use of explicit carbon taxation, and fossil-fuel consumption is encouraged by rather moderate taxation and widespread subsidies.[14] Different from some EU countries, such as Denmark or Finland, Belgium has not devised a national carbon-pricing scheme that goes beyond the reach of the ETS. At the same time, excises on road-vehicle fuels are above the median in EU economies, but duties on other major sources of emissions, like fossil fuels used in industry or the building sector are comparatively modest or even non-existent. Furthermore, support for fossil fuels, primarily taking the form of tax expenditures connected with, e.g., fuel cards or excise duty exemptions for intermediate fuel use and kerosene, is among the highest in the EU, with benefits mainly accruing to petroleum products and housing.[15] As a result, a phase-out of subsidies and a consideration of explicit carbon taxation, either by expanding the ETS or by adopting a national scheme, may go some way to lower the climate impact of Belgium's remaining high-emitting sectors.

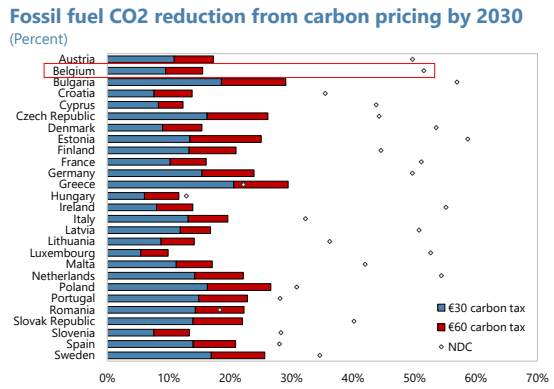
10. Reaching EU climate goals for 2030 implies steep rises in carbon taxation, calling for a multi-pronged approach, including to cushion negative economic and social effects. To achieve the EU's revised nationally-determined contribution (NDC) of cutting GHG emissions by 55 percent below 1990 levels by 2030 with the help of a carbon tax on fossil fuels, Belgium would need to charge a rate going substantially above €60 per ton of CO2, the midpoint estimate of carbon costs in 2020 and the low-end estimate for 2030. However, even such a conservative levy is likely to already imply significant economic losses. Simulating a linear phase-in of a carbon price of €60 per ton of CO over 2022–25 indicates notable declines in household-consumption spending with the relative impact skewed towards poorer segments of the population, due to the larger share of inelastic energy demand, e.g. for heating or transport, in their expenditure baskets.[16] Consequently, carbon taxation will potentially need to be accompanied by other polices to achieve the desired reductions in GHG emissions. In addition, measures will have to be taken to avoid the burden of climate mitigation falling disproportionately onto more vulnerable groups.

[14] Explicit carbon taxes link tax bills to the amount of carbon emitted, thereby discouraging the use of dirtier fuel sources for obtaining a specific amount of energy. Excise duties are usually levied at a rate that does not differentiate according to the carbon intensity of the energy source.

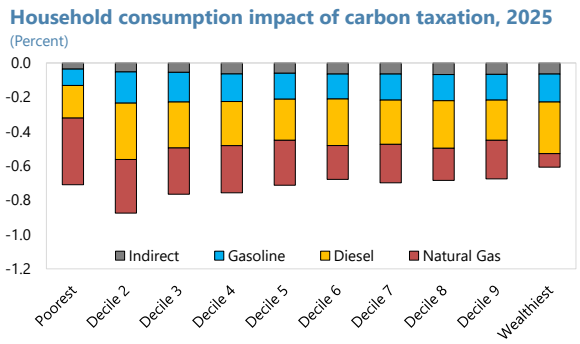
[15] FPS Finance (2021) values Belgium's fossil fuel subsidies at 2.8 percent of GDP in 2019, a substantially higher level than an estimate based on OECD figures (0.6 percent of GDP). Still, the chart shows OECD data to ensure comparability with other EU countries.

[16] The simulation abstracts from the distribution of carbon tax proceeds back to households, for instance in the form of cash transfers or lower labor taxation, and from using them for other purposes, such as public spending or investment. For details about the simulation approach, see IMF (2019). Burggraeve et al. (2020) obtain quantitatively similar results by employing a medium-sized neo-Keynesian model to simulate the economic impact of a carbon price of €50 per ton of CO2 that rises by 4 percent per year.

Figure 6. Belgium: Carbon Pricing Needs and Impact



Sources: IMF staff calculations.



Sources: IMF staff calculations based on the Carbon Pricing Assessment Tool.
Note: The chart shows the fall in household consumption across income deciles from the linear phase-in of a €60 carbon tax on non-ETS emissions over 2022-25.

D. Conclusions and Policy Recommendations

11. Despite notable GHG emission reductions in recent decades, stronger efforts will be needed to prevent the most damaging climate change effects and meet ambitious EU targets. Belgium will likely miss its climate goals under existing EU frameworks. Even-more-aspiring targets under forthcoming EU Green Deal legislation will only heighten the challenge. Under current mitigation policies, GHG emissions are on track to increase by 2030, largely driven by a rise in ETS emissions, also as a result of nuclear power phase-out in 2025, and an only gradual decline of non-ETS emissions. Thus, the government rightly sees the EU Green Deal as an opportunity to refocus and redouble efforts. This will involve revision and strengthening of policies laid out in CONCERE-NCC (2019a), which was found lacking by the European Commission[17] across multiple dimensions, in order to firmly put Belgium's GHG emissions onto the desired downward trajectory.

12. Polices to encourage a shift away from fossil fuel consumption in transport, building and industry will require a combination of carbon pricing, taxation, and regulation. In comparison to other EU economies, most fossil fuel use in Belgium appears rather lightly taxed and benefits from non-negligible subsidization. Therefore, the recent compilation of an inventory of fossil-fuel subsidies by the authorities is welcome and should be followed-up by the adoption of measures for their gradual phase-out by the end of 2021 as planned.[18] Likewise, taxation reform incentivizing procurement of emissions-neutral company cars is a promising start, as their sizable share of the vehicle fleet and generally-shorter replacement cycle offer scope for rapid progress.

13. Still, more, and accelerated, efforts are needed, calling for a policy mix to discourage carbon-emitting activities. With the federal government principally in favor of pricing GHG emissions in an effective and predictable manner, widening emissions trading to sectors not currently included in the ETS, as also proposed by the EU, should be contemplated, potentially by developing a national scheme, as recently done by Germany. Besides, devising and communicating a

[17] See EC (2020b).

[18] See FPS Finance (2021).

long-term trajectory for carbon taxation, in line with a range of EU countries, would steer firms and households towards more climate-friendly fuel sources. Lastly, feebates and regulations should accompany a ramp-up of carbon taxes, both to provide additional incentive mechanisms and to stay within the political limits of exclusively price-based signals.

14. Measures facilitating the transition and cushioning the impact on particularly-affected households and firms should accompany policies targeting fossil fuels. A sizable share of GHG emissions in Belgium are accounted for by sectors whose carbon footprint is costly to abate, requiring strategies to mitigate the socio-economic impact of most-expensive fossil fuels and helping the transition along. For instance, subsidies should be replaced with well-designed, means-tested support where warranted. Likewise, the switch to emissions-neutral vehicles calls for a build-up of associated infrastructure, such as clean energy supply or charging stations. At the same time, reliable and efficient alternative modes of transport, such as railways, should not be neglected—they require substantial investment, also to address other negative externalities of individual transportation, like congestion. Furthermore, retrofitting Belgium's building stock can yield large rewards but needs instruments to finance equally large investments and the alignment of owner, landlord, and tenant interests.[19] Finally, ways to compensate households and companies disproportionally burdened by higher carbon prices need to be found. In this context, carbon taxes provide an advantage as they create fiscal revenues that may be employed to reimburse sectors of the economy bearing an especially large share of the cost. SPF Santé Publique, Sécurité de la Chaine Alimentaire et Environnement (2018) highlights options that should be considered and pursued, including direct redistribution of carbon tax revenues to most affected groups, shifting taxation away from labor and electricity, and public investment in support of the transition to a low-carbon economy. Against this backdrop, government plans to reduce labor taxation in the context of broader fiscal reform should take the possibilities offered by carbon pricing into account.

15. Tackling climate change calls for a coordinated, coherent, and integrated policy approach to achieve the envisaged GHG emission reduction goals. As an illustrative example, a sizeable part of the GHG emission cuts achievable from upgrading Belgium's building stock can be attributed to the electrification of space heating, in addition to improving the energy efficiency of houses. Such gains will only materialize, however, if the de-carbonization of power generation continues apace. Likewise, issues of a national dimension, like energy or transport networks, require a high degree of policy coordination across various governmental bodies to maximize their environmental benefits and to minimize the associated costs for the budget and the wider economy. Since the new climate targets at the EU level will call for a substantial revision of existing national frameworks, associated efforts should also reflect on streamlining processes and decision making across federal and regional entities in Belgium. A first opportunity to be grasped is an agreement among the various layers of government to equitably distribute and share the burden of meeting more stringent GHG emissions goals. Furthermore, the intention of adopting a National Climate Law to improve the governance of climate policies, even if ambitious as it may require constitutional change, is commendable and should continue to be explored.

[19] Van Tendeloo et al. (2020) indicate the investment needs to arrive at a fully energy-efficient housing stock by 2050 at €110bn in Flanders, €28.8bn in Brussels and €63bn in Wallonia.

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