
NOTE No.1

MINIMIZING THE MINIMUM TAX? THE CRITICAL EFFECT OF SUBSTANCE CARVE-OUTS

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Summary

In July 2021, 132 countries agreed to a minimum tax rate of at least 15% on their multinationals' profits. However, the joint statement includes a provision that could substantially reduce the effectiveness of this policy. Specifically, the proposed agreement allows multinationals to reduce profits subject to the minimum tax by an amount equal to 5% of the value of their assets and payroll in each country. This carve-out would allow companies to escape taxation as long as they have sufficient operations (assets and employees) in tax havens.

In this note, we model how this carve-out would affect the revenues of a global minimum tax. We also discuss the economic issues raised by this type of exemption. We find that a carve-out would reduce tax revenues by 15% to 30% in the European Union relative to a minimum tax without carve-out (depending on the rate of the carve-out and the rate of the minimum tax). Moreover, this policy would exacerbate tax competition by giving firms incentives to move real activity to tax havens.

More precisely, in the European Union, a 5% carve-out would reduce revenues of a 25% minimum tax by 21% from €168 billion to €132 billion; it would reduce revenues of a 15% minimum tax by 15% from €48 billion to about €41 billion. A 7.5% carve-out (which is envisioned during the first 5 years of the international agreement) would reduce revenues by 31% for a 25% minimum tax, and by 23% for a 15% minimum tax.

Our analysis is based on the data sources and methodology used in the inaugural report of the EU Tax Observatory, "Collecting the Tax deficit of Multinational Companies: Simulations for the European Union" (Baraké et al., 2021). To estimate the cost of substance-based carve-outs, we additionally draw on the OECD's country-by-country data for the value of tangible assets and the number employees, and on data published by the International Labour Organization on monthly earnings.

Introduction

On July 1st 2021, 130 countries under the OECD and G20 Inclusive Framework on BEPS agreed to promote a minimum tax of at least 15% on their multinationals' profits. Having been joined by Peru and Saint Vincent and the Grenadines since then, 132 countries are now part of the joint statement. The [joint statement](#) includes a substance-based carve-out of 5% rate of return on the carrying value of tangible assets and payroll. In the first years of the implementation, the carve-out would be 7.5%.

Introducing carve-outs for substance raises two issues. First, it profoundly changes the nature and meaning of a global minimum tax and could exacerbate tax competition. Second, it would reduce the revenue potential from a minimum tax. In this note, we discuss the economic issues raised by this type of exemption and we model how carve-outs would affect the revenues of a global minimum tax.

Conceptually, a minimum tax with no substance carve-out means that some tax rates are considered too low by the international community. An agreement on such a minimum tax would be a landmark because it would be the first time that limits are put to international tax competition.

A minimum tax with carve-outs, by contrast, reflects a different perspective. With such a tax, a company that owns €1 billion in assets in a country with a 0% corporate tax rate, and makes €50 million in profit there, would still be subject to no tax at all. In other words, no tax rate is considered too low. Any tax rate (even 0%) is acceptable as long as firms book profits in the countries where they operate (i.e., where they own capital and employ workers).

Thus, a minimum tax with carve-outs for capital and employment does not address the race to the bottom in corporate taxation. Worse, it gives firms incentives to move capital and employment to places where tax rates are very low. The members of the OECD Inclusive Framework and the OECD need to be very clear: do they want to restrict tax competition? Or is any tax rate — even 0% — acceptable? Is the goal of the Inclusive

Framework to stop the race to the bottom? Or is it merely to limit profit shifting to countries where no real activity takes place?

We model the effect of formulaic substance-based carve-outs of different rates on revenue gains from a minimum tax under Pillar Two of the Inclusive Framework. From a revenue perspective, we find that carve-outs for substance would reduce tax revenues by 15% to 30% in the European Union relative to a minimum tax without carve-outs (depending on the rate of the carve-out and the rate of the minimum tax). More precisely, a 5% carve-out would reduce revenues of a 25% minimum tax from €168 billion to €132 billion, or by 21%; it would reduce revenues of a 15% minimum tax by 15%, from €48 billion to €41 billion. During the first 5 years of implementation, the joint statement envisions a carve-out of at least 7.5%. This would reduce revenues by 31% for a 25% minimum tax, and by 23% for a 15% minimum tax.

Carve-outs affect the tax base more substantially for profits booked domestically and in non-havens. On average, 23% of the profits booked by multinationals in foreign non-haven partner jurisdictions would be carved-out when deducting 5% of the value of payroll and tangible assets. This share is 33% for domestic profits and only 8% for profits booked in foreign tax havens. This heterogeneity across partner jurisdiction groups is consistent with multinationals' profit shifting behavior.

Methodology

Our analysis is based on the OECD's aggregate tabulations of country-by-country reports (CbCR) released in July 2020 and foreign affiliates statistics used in Tørsløv, Wier and Zucman (2018). For a comprehensive account of the datasets and data editing, see Baraké et al. (2021).

Additionally, to approximate the payroll component of substance-based carve-outs in each parent-partner jurisdiction, we multiply the "Number of Employees" published in the OECD's (2020) country-by-country-report data with data on the "Mean nominal monthly earnings of employees by sex and economic activity" from the International

Labour Organization (ILO, 2021). We first edit the ILO's average monthly earnings data. We obtain monthly earnings information for 91 unique countries, and we multiply all values by 12 to move from monthly to annual earnings. Further, we linearly interpolate earnings for the year 2016 if earnings for adjacent years are provided. Doing so, we cover 104 of the 173 unique partner jurisdictions listed in country-by-country-report data. These jurisdictions account for more than 75% of total pre-tax profits. In a last step, we impute missing values based on world region averages of the national average earnings. Using the national average earnings might underestimate labor earnings of employees of multinationals which in many cases employ highly skilled workers. We therefore upgrade our final payroll estimates by a 20% premium.

For the assets component of carve-outs, we use the full amount of "Tangible Assets other than Cash and Cash Equivalents" (from now tangible assets) provided in OECD country-by-country-report data. This is in line with the recent statement of the Inclusive Framework members. In the OECD's Economic Impact Assessment (Oct. 2020), carve-outs were based on tangible assets excluding inventories. In the recent statement, the exclusion of inventories was not specified. Thus, we estimate carve-outs using the full amount of tangible assets.

To compute the substance-based carve-out for each parent-partner jurisdiction pair, we sum 5% of the book value of tangible assets and 5% of the payroll proxy. We subtract this amount from the "Profit (Loss) before Income Tax" and set negative post-carve-out profits to zero. The resulting adjusted pretax profits serve as tax base for the global minimum tax and for the following revenue estimations.

All data sources report profits, assets and earnings in 2016 current USD which we uprate to 2021 EUR by applying the ECB's USD/EUR market exchange rates and by assuming that profits have grown at the same rate as global nominal GDP.

The joint statement of the Inclusive Framework does not provide indications on how substance-based carve-outs may or may not affect the computation of effective tax rates (ETRs). We make the same assumption as the OECD Secretariat (Oct. 2020) and compute ETRs before carving-out any amount from profits. An alternative methodology would consist in computing ETRs as the ratio of corporate income taxes

paid to remaining pre-tax profits after the carve-out is applied. The negative impact on Pillar Two revenue gains would be even larger for this method since carve-outs would inflate ETRs and less profit would fall in the scope of the global minimum tax.

In our June 2021 report, we complement the OECD's country-by-country data with data compiled by Tørsløv, Wier and Zucman (2018 & 2019) on profits booked by multinationals in tax havens and domestically. The latter data source is used to present Pillar Two revenue gain estimates for the EU countries absent from the OECD's country-by-country-report data, and to adjust the revenue gains that can be collected from tax havens.

Tørsløv, Wier and Zucman (2018, 2019) data does not provide information on the value of tangible assets, payroll or the number of employees which is crucial to determine the size of carve-outs. Thus, for those jurisdictions, we estimate the average effect of carve-outs on profits booked respectively in foreign tax havens, foreign non-havens and domestically based on the OECD's country-by-country data. We then apply the resulting reduction rates to the pretax profits from TWZ (2018, 2019). Carve-outs represent on average 8% of pre-tax profits in tax havens and we therefore reduce Tørsløv, Wier and Zucman (2019) tax-haven profits by 8%. Similarly, we downgrade Tørsløv, Wier and Zucman (2018) domestic profit estimates by 33%.

We integrate the resulting carve-outs into our benchmark computations laid out in Baraké et al (2021) to obtain estimates of potential revenue gains.

Detailed results

We start by presenting the revenue effects of a 5% substance-based carve-out which corresponds to a lower bound rate proposed in the joint agreement of the Inclusive Framework of July 2021.

Table 1 shows the revenues of a global minimum tax of 15% and 25% with and without the implementation of carve-outs for 23 EU countries and 15 non-EU countries (including the United States, Australia, Canada and India) in 2021. EU revenues from a 15% minimum tax would be reduced from €48 billion without carve-outs to €41 billion applying carve-outs. This corresponds to a reduction of about 15%. For a minimum tax of 25%, revenue gains decrease from about €168 billion to €132 billion or by about 21% of their initial level.

Table 1: Revenues of a global minimum tax of 15% and 25% in 2021 with and without carve-outs.

Headquarter country	Revenue gains at a 15% minimum tax in billion €		Revenue gains at a 25% minimum tax in billion €	
	Without carve-out	With carve-out of 5%	Without carve-out	With carve-out of 5%
Austria	3.0	2.2	7.0	5.1
Belgium	10.5	9.7	19.0	17.4
Cyprus	0.3	0.2	0.9	0.8
Czech Republic	0.1	0.1	1.1	0.7
Germany	5.7	4.8	29.1	22.0
Denmark	0.7	0.6	3.5	3.0
Estonia	0.1	0.1	0.4	0.2
Spain	0.7	0.6	12.4	8.6
Finland	1.7	1.5	4.7	4.0
France	4.3	3.8	26.1	20.7
Greece	0.1	0.1	1.6	1.1
Hungary	0.6	0.4	1.9	1.3
Ireland	7.2	6.5	14.0	12.6
Italy	2.7	2.4	11.1	9.1
Luxembourg	4.1	3.4	7.9	6.4
Latvia	0.1	0.1	0.5	0.3
Malta	0.1	0.1	0.3	0.2
Netherlands	0.9	0.7	9.3	6.6
Poland	3.7	2.5	11.0	7.4
Portugal	0.1	0.1	0.6	0.4
Sweden	1.5	1.3	5.3	4.2

Slovenia	0.0	0.0	0.1	0.0
Slovakia	0.0	0.0	0.0	0.0
EU total	48.3	40.9	167.7	132.3
Change in %		-15.2%		-21.1%
Australia	2.3	1.9	11.7	8.9
Bermuda	6.2	5.8	14.1	12.4
Brazil	0.9	0.8	7.4	5.7
Canada	16.0	11.6	34.7	24.9
Chile	0.2	0.1	1.2	0.7
China	4.5	3.5	30.2	13.1
Indonesia	0.1	0.0	0.9	0.5
India	0.5	0.4	1.4	1.2
Japan	6.0	5.1	28.7	23.2
Korea	0.0	0.0	6.2	3.8
Mexico	0.5	0.4	1.3	1.1
Norway	0.5	0.4	3.3	2.5
Singapore	0.6	0.6	1.9	1.7
United States	40.7	38.8	165.4	142.5
South Africa	0.6	0.4	3.0	2.3
CbC reporting countries	114.8	100.6	414.3	329.4
Change in %		-12.3%		-20.5%
Full sample	127.8	110.8	479.3	376.8
Change in %		-13.3%		-21.4%

Currently, a carve-out of at least 5% is discussed with at least 7.5% for the first years of implementation. However, a final decision on the rate is pending. The rate of the carve-out crucially influences the resulting revenue from a minimum tax. Table 2 presents the revenue of a 15% minimum tax without carve-out and with a carve-out of three different rates. While a carve-out of 5% reduces revenue by about 15% at a minimum rate of 15%, a carve-out of 10% implies a revenue decrease of almost 30%.

Table 2: Revenues of a global minimum tax of 15% in 2021 (in billion €) for different carve-out rates.

Headquarter Country	No carve-out	Carve-out at a rate of		
		5%	7.5%	10%
Austria	3.0	2.2	1.8	1.4
Belgium	10.5	9.7	9.3	8.9
Cyprus	0.3	0.2	0.2	0.2
Czech Republic	0.1	0.1	0.1	0.1
Germany	5.7	4.8	4.4	4.0
Denmark	0.7	0.6	0.6	0.5
Estonia	0.1	0.1	0.0	0.0
Spain	0.7	0.6	0.5	0.5
Finland	1.7	1.5	1.3	1.2
France	4.3	3.8	3.6	3.4
Greece	0.1	0.1	0.1	0.0
Hungary	0.6	0.4	0.3	0.3
Ireland	7.2	6.5	6.1	5.8
Italy	2.7	2.4	2.2	2.1
Luxembourg	4.1	3.4	3.0	2.7
Latvia	0.1	0.1	0.1	0.1
Malta	0.1	0.1	0.1	0.1
Netherlands	0.9	0.7	0.6	0.5
Poland	3.7	2.5	1.9	1.5
Portugal	0.1	0.1	0.1	0.0
Sweden	1.5	1.3	1.2	1.1
Slovenia	0.0	0.0	0.0	0.0
Slovakia	0.0	0.0	0.0	0.0
EU total	48.3	40.9	37.4	34.1
Impact in %		-15.2%	-22.6%	-29.3%
Australia	2.3	1.9	1.7	1.6
Bermuda	6.2	5.8	5.6	5.5
Brazil	0.9	0.8	0.8	0.7
Canada	16.0	11.6	9.3	7.6
Chile	0.2	0.1	0.1	0.0
China	4.5	3.5	3.1	2.6
Indonesia	0.1	0.0	0.0	0.0
India	0.5	0.4	0.4	0.4
Japan	6.0	5.1	4.7	4.3
Korea	0.0	0.0	0.0	0.0
Mexico	0.5	0.4	0.3	0.3
Norway	0.5	0.4	0.4	0.3
Singapore	0.6	0.6	0.5	0.5
United States	40.7	38.8	37.9	36.9
South Africa	0.6	0.4	0.3	0.3
CbC reporting countries	114.8	100.6	93.7	87.5
Change in %		-12.3%	-18.3%	-23.7%

Full sample	127.8	110.8	102.6	95.3
Change in %		-13.3%	-19.7%	-25.4%

Due to different levels of real economic activity, the impact of carve-outs differs for profits booked in headquarter countries, non-havens and tax havens. Due to the fact that only 27 countries currently report country-by-country statistics to the OECD with information on assets and payroll, all further results focus on this sample of countries.¹ For those countries, we find that:

- 33% of domestic pre-tax profits are carved-out;
- 23% of pre-tax profits booked in foreign non-haven partners are carved-out;
- And 8% of pre-tax profits booked in tax havens are carved-out.

In consequence, carve-outs might translate differently into revenue reductions depending on the predominant location of booked profits.² At a 15% minimum tax rate, the total collectible minimum tax revenue is reduced by roughly 12% for the country-by-country reporting countries. This number hides substantial heterogeneity across partner jurisdictions:

- Tax revenues from multinationals in their headquarter country are reduced by about 23%, from €21.3bn to €16.4bn for the CbC-reporting countries at a 15% minimum tax.
- The revenue gains from non-haven affiliates are reduced by slightly more than 16%, from €37.4bn to €31.4bn.
- The effect on tax-haven revenue gains is much more limited at about 6%, from €56.1bn to €52.8bn.

¹ Of the 27 CbC-reporting countries, Poland does not report a positive-profits sample and is, thus, excluded from our computations. We, further, exclude Sweden from the CbCR sample due to data limitations.

² The reduction in revenue is not proportional to the reduction in pretax profits (the tax base) due to differing effective tax rates in different partner jurisdictions.

For the full results, see Table A2 in the Appendix.

Further, we decompose the carve-out effect into its payroll and tangible-assets component. The payroll component represents only 11% of the carve-out, while the tangible assets component accounts for 89% of the reduction in pre-tax profits. This division could change depending on the final definition of the carve-out. For example, in the case that assets can only be carved-out to the extent of depreciation expenses, as modeled in the OECD's Impact Assessment (Oct. 2020), this would decrease the assets component and the total carve-out substantially.

Substance-based carve-outs have a larger impact at a 25% minimum tax than at a 15% minimum tax. More generally, the higher the minimum rate, the more substance-based carve-outs weigh on revenue gains (Table A3). The reason is intuitive: A 15% minimum tax draws a higher share of tax revenue from tax havens³ where multinationals artificially shift their profits without relocating their workforce or tangible assets. A 25% minimum tax draws more revenue from non-havens and from domestically booked profits – locations where multinationals usually locate more real economic activity. In consequence, the relative tax base cut from carve-outs is larger for a 25% global minimum tax than for a 15% global minimum tax.

Comparison with OECD estimates

In their *Economic Impact Assessment* (Oct. 2020), the OECD Secretariat released estimates of the impact of substance-based carve-outs on Pillar Two revenue gains. The OECD's estimates are built from the following sources:

- Bureau Van Dijk's ORBIS micro-database, the OECD's AMNE database and extrapolations based on turnover for the payroll component;

³ Among parent-parent-jurisdiction pairs with an effective tax rate below 15%, tax havens account for about 27% of partner jurisdictions. Among observations with an effective tax rate between 15% and 25%, this share is of less than 6%.

- The OECD's 2016 aggregated and anonymized country-by-country data, ORBIS database and extrapolations based on turnover for the assets component.

The OECD's simulated carve-outs differ in four ways from our estimates:

- Importantly, the OECD computes the assets component of carve-outs as a return on depreciation expenses while we base it on the full carrying value of tangible assets. Few data sources being available to estimate depreciation expenses, the OECD authors focus on the full value of tangible assets and assume a depreciation rate of 10%;
- The OECD uses data from the Bureau of Economic Analysis (BEA) on the activities of US multinationals to exclude inventories from tangible assets. For non-US multinationals, they apply an average downgrade factor of 24% to the tangible assets drawn from country-by-country data. In our study, we do not exclude inventories since the latest joint statement does not mention such an adjustment;
- The OECD assumes a carve-out rate of 10% while we based our estimations on a 5% rate;
- The OECD estimates revenue gains for a minimum effective tax rate of 12.5% while we use 15% and 25% rates as benchmark.

The OECD's Impact Assessment finds that carve-outs reduce Pillar Two revenue gains on average by 3%. When we reproduce the OECD's simulation for the CbC-reporting countries and align with the OECD's carve-out definition, we find that the total collectible tax deficit is reduced by slightly less than 4%. In this computation, the impact of the two carve-out components is more balanced, this time in favor of payroll: payroll and tangible assets depreciation respectively account for 61% and 39% of the reduction of the tax base.

References

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OECD (2020b): [Table I - Aggregate totals by jurisdiction](#).

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Thomas Tørsløv, Ludvig Wier, and Gabriel Zucman (2019): The Missing Profits of Nations. Estimates updated to 2016 update, [Tables](#).

Appendix

Table A1: Revenues of a global minimum tax of 25% in 2021 (in billion €) for different carve-out rates.

Headquarter Country	No carve-out	Carve-out at a rate of		
		5%	7.5%	10%
Austria	7.0	5.1	4.1	3.1
Belgium	19.0	17.4	16.6	15.8
Cyprus	0.9	0.8	0.7	0.6
Czech Republic	1.1	0.7	0.6	0.5
Germany	29.1	22.0	18.7	16.1
Denmark	3.5	3.0	2.8	2.6
Estonia	0.4	0.2	0.2	0.2
Spain	12.4	8.6	6.8	5.5
Finland	4.7	4.0	3.7	3.3
France	26.1	20.7	18.0	15.3
Greece	1.6	1.1	0.9	0.7
Hungary	1.9	1.3	1.0	0.8
Ireland	14.0	12.6	11.9	11.2
Italy	11.1	9.1	8.2	7.2
Luxembourg	7.9	6.4	5.6	5.0
Latvia	0.5	0.3	0.2	0.2
Malta	0.3	0.2	0.2	0.2
Netherlands	9.3	6.6	5.3	4.0
Poland	11.0	7.4	5.7	4.5
Portugal	0.6	0.4	0.3	0.3
Sweden	5.3	4.2	3.7	3.3
Slovenia	0.1	0.0	0.0	0.0
Slovakia	0.0	0.0	0.0	0.0
EU total	167.7	132.3	115.2	100.3
Change in %		-21.1%	-31.3%	-40.2%
Australia	11.7	8.9	7.5	6.2
Bermuda	14.1	12.4	11.7	10.9
Brazil	7.4	5.7	4.8	4.0
Canada	34.7	24.9	20.0	16.4
Chile	1.2	0.7	0.5	0.3
China	30.2	13.1	6.2	5.2
Indonesia	0.9	0.5	0.3	0.1
India	1.4	1.2	1.1	1.0
Japan	28.7	23.2	20.5	17.7
Korea	6.2	3.8	2.7	1.5
Mexico	1.3	1.1	1.0	0.9
Norway	3.3	2.5	2.1	1.7
Singapore	1.9	1.7	1.6	1.5
United States	165.4	142.5	131.0	119.6
South Africa	3.0	2.3	1.9	1.7

CbC reporting countries	414.3	329.4	289.1	256.2
Change in %		-20.5%	-30.2%	-38.2%
Full sample	479.3	376.8	328.1	289.0
Change in %		-21.4%	-31.5%	-39.7%

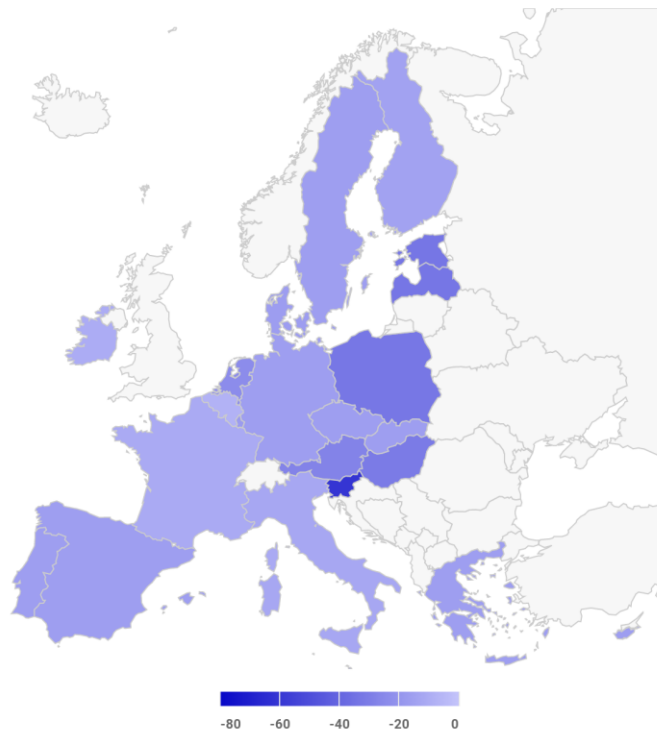
Table A2: Revenues from a 15% minimum tax in 2021 (in billion €) with and without a 5% carve-out for different partner jurisdictions.

Headquarter country	Global Revenue		Domestic revenue		Revenue from non-havens		Revenue from tax havens	
	Without carve-out	5% carve-out	Without carve-out	5% carve-out	Without carve-out	5% carve-out	Without carve-out	5% carve-out
Austria	3.0	2.2	2.1	1.5	0.9	0.7		
Belgium	10.5	9.7	2.1	1.5	1.1	1.0	7.3	7.2
Cyprus	0.3	0.2	0.0	0.0	0.2	0.1	0.1	0.1
Czech Republic	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Germany	5.7	4.8	0.0	0.0	3.8	3.0	2.0	1.8
Denmark	0.7	0.6	0.1	0.1	0.4	0.3	0.2	0.2
Estonia	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Spain	0.7	0.6	0.0	0.0	0.4	0.4	0.2	0.2
Finland	1.7	1.5	0.9	0.8	0.8	0.7		
France	4.3	3.8	0.0	0.0	0.7	0.5	3.6	3.3
Greece	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Hungary	0.6	0.4	0.5	0.3	0.1	0.0	0.0	0.0
Ireland	7.2	6.5	2.0	1.6	5.2	4.9		
Italy	2.7	2.4	0.0	0.0	2.2	1.8	0.6	0.5
Luxembourg	4.1	3.4	1.2	1.0	2.1	1.5	0.8	0.8
Latvia	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Malta	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Netherlands	0.9	0.7	0.9	0.7	0.0	0.0		
Poland	3.7	2.5	3.6	2.4	0.1	0.0	0.0	0.0
Portugal	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Sweden	1.5	1.3	0.0	0.0	1.0	0.8	0.5	0.5
Slovenia	0.0	0.0	0.0	0.0	0.0	0.0		
Slovakia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU Total	48.3	40.9	13.8	10.3	19.0	15.9	15.5	14.7

Change in %	-15.2%		-25.2%		-16.4%		-4.8%	
Australia	2.3	1.9	0.5	0.4	1.5	1.3	0.3	0.2
Bermuda	6.2	5.8	1.9	1.9	0.4	0.4	3.8	3.5
Brazil	0.9	0.8	0.0	0.0	0.3	0.3	0.6	0.5
Canada	16.0	11.6	9.2	6.7	5.8	4.0	0.9	0.9
Chile	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0
China	4.5	3.5	0.0	0.0	0.2	0.1	4.3	3.4
Indonesia	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	0.5	0.4	0.0	0.0	0.3	0.2	0.3	0.2
Japan	6.0	5.1	0.0	0.0	4.9	4.1	1.1	1.0
Korea	0.0	0.0	0.0	0.0	0.0	0.0		
Mexico	0.5	0.4	0.0	0.0	0.2	0.2	0.2	0.2
Norway	0.5	0.4	0.0	0.0	0.5	0.4		
Singapore	0.6	0.6			0.1	0.1	0.5	0.5
United States	40.7	38.8	0.0	0.0	9.4	8.8	31.3	30.1
South Africa	0.6	0.4	0.1	0.0	0.2	0.1	0.3	0.3
CbC reporting countries	114.8	100.6	21.3	16.4	37.4	31.4	56.1	52.8
Change in %	-12.3%		-22.7%		-16.1%		-5.9%	
Full sample	127.8	110.8	25.7	19.4	43.1	35.9	59.1	55.5
Change in %	-13.3%		-24.5%		-16.7%		-6.0%	

Figure A1: Per-country impact of substance-based carve-outs on the revenue gains of EU27 countries, for 15% and 25% minimum tax rates

Impact of substance-based carve-outs on revenue gains from a global minimum tax
Calculated at a 15% minimum tax rate, expressed in % of revenue gains without carve-outs



Impact of substance-based carve-outs on revenue gains from a global minimum tax
Calculated at a 25% minimum tax rate, expressed in % of revenue gains without carve-outs

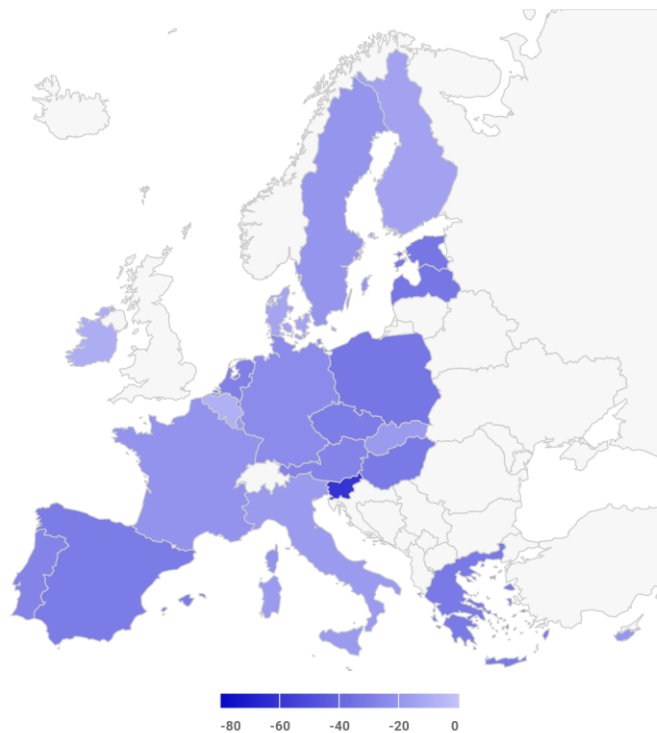


Table A3: Revenue changes from a 5% carve-out for different minimum tax rates.

Headquarter country	Revenue change due to carve-out at a minimum tax of ...			
	15%	21%	25%	30%
Austria	-27.5%	-27.5%	-27.5%	-27.4%
Belgium	-7.5%	-8.1%	-8.4%	-8.7%
Cyprus	-16.1%	-16.7%	-20.1%	-21.1%
Czech Republic	-16.1%	-26.5%	-30.1%	-30.6%
Germany	-16.1%	-13.0%	-24.3%	-27.2%
Denmark	-16.4%	-13.7%	-13.6%	-13.8%
Estonia	-33.3%	-33.3%	-33.3%	-33.3%
Spain	-16.1%	-30.3%	-30.8%	-30.9%
Finland	-14.6%	-14.5%	-14.5%	-14.5%
France	-10.9%	-19.6%	-20.9%	-21.5%
Greece	-16.1%	-30.6%	-31.3%	-31.5%
Hungary	-30.9%	-31.8%	-31.4%	-31.1%
Ireland	-10.1%	-10.0%	-10.0%	-10.0%
Italy	-12.5%	-17.0%	-18.0%	-18.6%
Luxembourg	-17.5%	-18.5%	-18.8%	-19.2%
Latvia	-33.3%	-33.3%	-33.3%	-33.3%
Malta	-27.2%	-27.5%	-26.3%	-25.7%
Netherlands	-23.8%	-27.6%	-28.7%	-29.2%
Poland	-32.9%	-33.1%	-33.0%	-32.9%
Portugal	-16.1%	-13.0%	-27.7%	-30.6%
Sweden	-16.1%	-13.0%	-20.0%	-22.8%
Slovenia	-60.6%	-61.0%	-61.2%	-61.2%
Slovakia	-16.1%	-13.0%	-17.9%	-30.5%
EU total	-15.2%	-18.4%	-21.1%	-23.0%
Australia	-17.1%	-23.2%	-23.9%	-24.5%
Bermuda	-6.5%	-10.0%	-12.0%	-13.4%
Brazil	-16.4%	-23.2%	-23.3%	-24.3%
Canada	-27.7%	-28.1%	-28.2%	-28.3%
Chile	-42.0%	-40.8%	-40.3%	-40.0%
China	-21.4%	-41.8%	-56.6%	-60.7%
Indonesia	-43.3%	-46.2%	-47.0%	-47.2%
India	-19.0%	-18.6%	-18.8%	-24.1%
Japan	-13.9%	-14.7%	-19.2%	-22.1%
Korea		-39.6%	-38.2%	-37.5%
Mexico	-16.9%	-16.9%	-17.5%	-22.1%
Norway	-19.6%	-23.0%	-24.3%	-24.8%
Singapore	-10.1%	-10.4%	-10.7%	-13.2%
United States	-4.6%	-11.6%	-13.8%	-15.1%
South Africa	-31.9%	-25.5%	-24.7%	-24.2%
CbC reporting countries	-12.3%	-17.0%	-20.5%	-22.5%
Full sample	-13.3%	-17.8%	-21.4%	-23.5%