International

The Impact of the Global Minimum Tax on Tax Competition

Michael Devereux and John Vella*

23 March 2023 – Please do not cite without permission

This article examines the impact of the Pillar Two Global Anti-Base Erosion (GloBE) Rules on tax competition. It discusses the tension between Pillar Two's objectives: addressing both profit shifting and tax competition, and shows that the tax competition objective's meaning changed over time. The article then sets out and explores three main conclusions on the GloBE Rules' impact on tax competition. First, the GloBE Rules set a floor on tax paid on profit by multinationals equal to 15% of "Excess Profit". They also set a floor on competition among "source" countries. The floor is set at zero corporation tax liabilities and a tax of 15% of Excess Profit collected through a qualified domestic minimum top up tax (QDMTT). Second, the GloBE Rules may provide some countries with an incentive to raise revenues through a QDMTT rather than a corporation tax. Third, countries can compete below the floor identified above by offering grants and "Qualified Refundable Tax Credits". A number of factors are considered that may alter these conclusions, but, overall, it is argued that they should not do so in a fundamental way. In the final section, the article proposes an alternative design for the top-up tax calculation that may have been preferable. An appendix provides a formal algebraic analysis in support of the main conclusions.

Overall, the article concludes that the GloBE Rules should have an impact on tax competition, but the impact may be less straightforward and significant than may have been expected. It also creates incentives that are not clearly desirable from a policy perspective.

1. Introduction

Expectations for the Two-Pillar Solution agreed by 136 countries on 8 October 2021 are high. The "historic"[1] agreement has been hailed as a "a once-in-a-generation accomplishment for

* University of Oxford. The authors are grateful to Heydon Wardell-Burrus who made a substantial contribution to this article and was a co-author of the prior working paper. He subsequently took up a post working on international tax reform. The authors would also like to thank Tom Brennan, Richard Collier, Victor Fleischer, Michael Keen, Omri Marian, Victoria Perry, Alvin Warren and two anonymous referees for their helpful comments. The usual caveats apply.

1 The term used by then UK Chancellor of the Exchequer Rishi Sunak. *See* HM Treasury, *UK launches consultation on domestic implementation of global minimum tax for large multinational groups* (11 Jan. 2022), available at https://www.gov.uk/government/news/uk-launches-consultation-on-domestic-implementation-of-

economic diplomacy"[2] that is necessary to stabilise the eroding "nearly century-old consensus on how to manage the international tax architecture".[3] To a significant extent, these high expectations are based on the Pillar Two Global Anti-Base Erosion (GloBE) Rules' expected impact on tax competition. Tax competition among states over profit and real activity has driven down corporate income tax rates around the world and threatens the long-term viability of the existing system.[4] The GloBE Rules aim to address tax competition and, by doing so, help stabilize the existing system. This article examines the GloBE Rules' impact on tax competition by providing the first exposition of the incentives created by the GloBE Rules that are relevant to tax competition.[5] This article thus goes to the heart of whether this seminal reform of the international tax system will achieve its primary objectives.

For ease and clarity of exposition, this article employs the following distinctions. It distinguishes between three tax variables in relation to income arising in a particular country (the "source"[6] country, for ease of reference): (i) the "Total Tax paid by a multinational" on that income (including tax paid to the source country and elsewhere), (ii) the "Corporation Tax collected by the source country" on that income, and (iii) the "Total Tax (both corporation tax and qualified domestic minimum top up tax – QDMTT) collected by the source country" on that income.[7] The article also distinguishes between different measures of a multinational's effective tax rate (ETR) in a country. In particular, it distinguishes between a multinational's "Pre-GloBE ETR" and "Post-GloBE ETR". In the latter

---

global-minimum-tax-for-large-multinational-groups (accessed 19 August 2022).

2 J. Yellen, *Statement from Secretary of the Treasury Janet L. Yellen on the OECD Inclusive Framework Announcement* (8 Oct. 2021), available at *https://home.treasury.gov/news/press-releases/jy0394* (accessed 18 August 2022).

3 M. Herzfeld, *Does the OECD Deal Reset the International Economic Order?*, 173 Tax Notes Federal (2021). The reported comment is by Itai Grinberg (US Treasury deputy assistant secretary for multilateral negotiations).

4 M. Devereux et al., *Taxing Profit in a Global Economy* ch. 3 (Oxford University Press 2021).

5 This article builds on a short policy brief released by the authors in January 2022 in which the main incentives created by the GloBE Rules that are relevant to tax competition were first identified. M. Devereux, J. Vella & H. Wardell-Burrus, *Pillar 2: Rule Order, Incentives, and Tax Competition*, Oxford University Centre for Business Taxation Policy Brief (14 Jan. 2022), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4009002. This Policy Brief, in turn, built on a blog published on 23 December 2021: M. Devereux, J. Vella & H. Wardell-Burrus, *More on Pillar 2 and Tax Competition*, Oxford University centre for Business Taxation Blog, (23 Dec 2021), available at https://oxfordtax.sbs.ox.ac.uk/article/more-on-pillar-2-and-tax-competition..

6 The authors refer throughout this article to the jurisdiction where the profit is declared for both tax and accounting purposes as the "source country". The authors acknowledge that this is rather loose terminology. It is not a "source" country in a strict legal sense, since we are considering a subsidiary resident (or permanent establishment located) in that country (that is, a constituent entity of that jurisdiction under the GloBE Rules). It is closer to a broader understanding of the term "source", although there may, or may not, be real economic activity in the form of functions and activities taking place in that jurisdiction. On the confusion around the term source see Devereux et al, supra n. 4, pp. 90-92.

case, it further distinguishes between a multinational's Post-GloBE ETR with total tax paid as a percentage of "GloBE Income" (or "Profit" (P)) and as a percentage of "Excess Profit" (EP).

Countries clearly compete through taxes other than corporation tax. They also compete through non-tax channels such as financial, environmental, and labour regulation. The GloBE Rules may intensify competition through these different channels, but this article focuses on competition through the corporation tax.

This article is divided into seven sections. Section 1. is introductory. Section 2. discusses Pillar Two's main stated objectives: addressing profit shifting and tax competition (Pillar Two includes both the GloBE rules and the subject to tax rules – STTRs).[8] The latter objective constitutes a dramatic departure from the principles confirmed internationally only a few years earlier during the BEPS process, which partly explains why some countries were of the strong view that Pillar Two should only address profit shifting. Countries' disagreement on which of the two objectives should be pursued was eventually bridged through a compromise. By design, therefore, the GloBE Rules go beyond the pursuit of profit shifting but stop short of ending tax competition. This section also explains that two different meanings of tax competition can be elicited from Inclusive Framework documentation: ensuring that multinationals pay a minimum level of tax (i.e. setting a floor to the total tax paid by a multinational) and bringing a stop to the harmful race to the bottom (i.e. setting a floor to the total tax collected by source countries). A global minimum tax can be designed to address the former kind of tax competition, or both. Over time, Inclusive Framework documentation shifted to the first of the two meanings, but OECD officials and politicians around the world still framed Pillar Two in terms of the second meaning, and there are compelling policy arguments for Pillar Two to address both forms of tax competition. In section 4., the article examines whether the GloBE Rules are successful in setting a floor on tax competition, and if so, which of the two floors is set and at what point.

Section 3. briefly discusses the top-up tax calculation under the GloBE Rules, with a particular focus on the Substance Based Income Exclusion (SBIE) and the Qualified Domestic Minimum Top-up Tax (QDMTT). The SBIE excludes a fixed return on payroll and tangible assets from the operation of the GloBE Rules – it was part of the compromise reached by countries on the design of the GloBE Rules and allows for some competition over real activity. GloBE Income (P) less the SBIE is equal to EP. The QDMTT was only publicly introduced in the Model Rules released in December 2021, but it alters very significantly the GloBE Rules' impact on tax competition and its distributional consequences. This section also sets out some assumptions made in the article.

---

7 That is, references to corporation tax would not include any amounts of Qualified Domestic Minimum Top Up Tax (QDMTT) regardless of whether the QDMTT was administered through the corporation tax return or not. This point is discussed further in section 3.

8 On the subject to tax rules (STTR) *see* H. Wardell-Burrus, *Pillar Two and Developing Countries: The STTR and GloBE Implementation*, Oxford University Centre for Business Taxation Working Paper, WP 22/13 (2022).

Section 4. is the article's main substantive section and makes several novel contributions. Its principal objective is to determine whether the GloBE Rules are successful in creating a floor on tax competition, and, if so, what type of floor and the level at which it is set. It also aims to show how the different elements of the top-up tax calculation, in particular the SBIE and the QDMTT, contribute to the floor. The analysis in this section does not take Controlled Foreign Company ('CFC') rules into account. This section reaches three main conclusions on the GloBE Rules' impact on tax competition. First, the GloBE Rules do set a floor on total tax paid by multinationals equal to 15% of EP. It also sets an effective floor on total tax collected by source countries. The floor is set at zero corporation tax liabilities and a tax of 15% of EP collected through a QDMTT. Therefore, the GloBE Rules ensure that multinationals pay a minimum amount of tax and put a floor to tax competition among source countries. Interestingly, the latter would not have been achieved had the QDMTT not been introduced. Second, the GloBE Rules may provide some countries with an incentive to raise revenues through a QDMTT rather than a corporation tax. That is, the GloBE Rules may strengthen the incentive for some countries to compete on corporation tax, but they can recover the corporation tax revenues foregone through the QDMTT. Third, countries can compete *below* the floor identified above by offering grants and Qualified Refundable Tax Credits (QRTC's). In other words, multinationals can reduce their Post-GloBE ETR below 15% of EP.

Section 5 considers whether a number of factors alter the conclusions reached in Section 4. Three possible factors are considered: first, the interaction of CFC and GloBE rules; second, the QDMTT potentially being afforded less favourable treatment than the corporation tax under the tax systems of other states and under aspects of the GloBE Rules; and, third, countries potentially not being permitted to lower the corporation tax just for businesses that are within the scope of the GloBE Rules. It is argued that, overall, these factors should not alter the conclusions in Section 4 fundamentally.

Section 6. considers an alternative design for the top-up tax calculation that may have been preferable to that adopted in the Model Rules. This design achieves the same results achieved by the current design, but it does so in a more straightforward and conceptually neat fashion. Section 7. concludes. An Appendix provides a formal algebraic analysis in support of the main conclusions reached in the article.

2. Pillar Two's Objectives and the Meaning of Tax Competition

2.1. Profit shifting or tax competition?

Inclusive Framework (IF) member countries disagreed on Pillar Two. There was disagreement even among countries that favoured the introduction of Pillar Two about its policy objectives. Broadly, some countries favoured a measure addressed at profit shifting (profit shifting objective), while others favoured a broader measure that addressed tax

competition over real activity (tax competition objective).[9] Disagreement on this fundamental issue was particularly problematic because the IF was working towards a "consensus-based solution"[10] and because it was well understood that Pillar Two had to be implemented by a critical mass[11] of countries to work as planned.[12]

A single country can introduce a minimum tax; indeed, the United States introduced the Global Intangible Low-Taxed Income regime (GILTI) in 2017. However, this would potentially place multinationals headquartered in such a country at a competitive disadvantage relative to multinationals headquartered in a country that did not operate a minimum tax. In turn, this would create an incentive for multinationals to headquarter in countries that did not impose a minimum tax. These concerns subside if a minimum tax is adopted by a critical mass of countries and defensive measures are taken, thus explaining why the Biden administration included a *global* minimum tax as a central pillar of its Made in America plan.[13] This article assumes that Pillar Two will be implemented by a critical mass of countries.

By pursuing the profit shifting objective Pillar Two would pick up where the OECD/G20's Base Erosion and Profit Shifting (BEPS) Project left off. It would adopt BEPS's guiding principle that "profits are taxed where economic activities generating the profits are performed and where value is created".[14] Two of the present authors have previously argued that this principle is unpersuasive both on positive and normative grounds, but the authors set that to one side for current purposes.[15] If this were the sole objective, Pillar Two would target "undertaxed" profit only when it is shifted away from countries where the

9 *See* for example, OECD, *Statement by the OECD/G20 Inclusive Framework on BEPS on the Two-Pillar Approach to Address the Tax Challenges Arising from the Digitalisation of the Economy – January 2020,* OECD/G20 Inclusive Framework on BEPS, (OECD 2020) [hereinafter OECD January 2020 Statement].

10 See for example, OECD, *Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalisation of the Economy,* OECD/G20 Inclusive Framework on BEPS (OECD 2019) [hereinafter OECD 2019 Programme of Work].

11 *See* D. Connolly, *Global minimum tax will work, if implemented, OECD's Saint-Amans says*, MNE Tax (4 November 2021): "What about the countries that are still outside of the deal? "We don't care, actually", Saint-Amans said. "We don't need them." He explained that what the deal needed to succeed was the big countries, and they got agreement from the "critical mass" of such countries".

12 *See* the discussion in: M. Devereux & J. Vella, *A historic global minimum tax has been agreed! But has it?,* Oxford University Centre for Business Taxation Blog (15 July 2021), available at https://oxfordtax.sbs.ox.ac.uk/article/historic-global-minimum-tax-has-been-agreed-has-it.– and M. Devereux, *International Tax Competition and Coordination with a Global Minimum Tax*, National Tax Journal (forthcoming). *See also* Wei Cui, *Strategic incentives for Pillar 2 adoption* (Working Paper, July 2022).

13 US Department of the Treasury, *Made in America Tax Plan* (April 2021). *See* the discussion in: M. Devereux *Made in America Tax Reform*, Oxford University Centre for Business Taxation Blog (4 May 2021), available at https://oxfordtax.sbs.ox.ac.uk/article/made-in-america..

14 OECD, *Explanatory Statement,* OECD/G20 Base Erosion and Profit Shifting Project, p.4 (OECD 2014).

economic activities generating it take place. It would thus be in line with the long-standing policy position – reaffirmed during the BEPS Project – that "no or low taxation is not per se a cause of concern, but it becomes so when it is associated with practices that artificially segregate taxable income from the activities that generate it".[16]

The tax competition objective goes beyond the profit shifting objective and implies that no or low taxation *is* per se a cause of concern, even if it is not associated with practices that artificially segregate taxable income from the activities that generate it. This objective reflects a remarkable departure from the long-standing policy that countries may compete over real economic activity (as opposed to "artificially" shifted profits) without objection. Following this objective, Pillar Two would target "undertaxed" profit even if it arises in countries where the economic activities that generate the profit take place.

This broad and fundamental policy disagreement culminated in a more specific disagreement over the SBIE. The substance-based carve-out would prevent top-up tax being applied with respect to the amount of excluded income. Countries favouring the profit shifting objective backed a generous substance-based carve-out, while countries favouring the tax competition objective were either opposed to a substance-based carve-out or were willing to tolerate a limited one. The tension between these sets of countries is evidenced clearly in the January 2020 Statement:

> Another focus of the work and a key design issue for Pillar Two is the question of carve-outs. Different options are under consideration. The [Programme of Work] noted that carve-outs for regimes compliant with the standards of BEPS Action 5 on harmful tax practices and other substance based carve-outs *would undermine the policy intent and effectiveness of the GloBE proposal*. However, some jurisdictions have stressed the importance of including substance carve-outs because, in their view, *such carve-outs are necessary to ensure that the focus of Pillar Two is on remaining BEPS issues.*[17]

---

15 *See* M. Devereux & J. Vella, *Value Creation as the Fundamental Principle of the International Corporate Tax System*, European Tax Policy Forum (31 July 2018); M.P. Devereux and J. Vella, *Are we heading towards a corporate tax system fit for the 21st century?*, 35 Fiscal Studies 4, p. 449 (2014), *see*, in particular, pp. 463-468*;* M. Devereux and J. Vella, *Taxing the Digital Economy: Targeted or System-Wide Reform*, British Tax Review 4, p. 387 (2018). On value creation *see also* the contributions in W. Haslehner & M. Lamensch (eds), *Taxation and Value Creation* (IBFD 2021).

16 OECD, *Action Plan on Base Erosion and Profit Shifting*, p. 10 (OECD 2013).

17 OECD January 2020 Statement, *supra* n 9, at para. 12. This followed discussions on how the rules ought to treat "substance". See further OECD, *Addressing the Challenges of the Digitalisation of the Economy – Public Consultation Document*, para 95 (OECD 2019) [hereinafter February 2019 Consultation Document], and whether a carve-out should be allowed for BEPS Action 5 compliant regimes (OECD 2019 Programme of Work, *supra* n 10, at p. 29; OECD (2019)); OECD, *Public consultation document: Global Anti-Base Erosion (GloBE) Proposal - Pillar Two*, p.32 (OECD 2019) [hereinafter OECD November 2019 Consultation Document].

With this background in mind, it is unsurprising that there was a degree of uncertainty and a lack of clarity around the policy objectives set out in the several Pillar Two IF documents released during the negotiations. When the two pillars were first introduced in a Policy Note of January 2019,[18] Pillar Two was described as a measure "address[ing] remaining BEPS issues".[19] Addressing tax competition was not explicitly mentioned as an objective, although it may have been hinted at.[20] Both objectives were expressly set out in the Public Consultation Document of February 2019,[21] in the Programme of Work of May 2019,[22] and the Public Consultation Document (Pillar Two) of November 2019.[23] But express reference to the "harmful race to the bottom on corporate taxes" and the need to set "a floor for tax competition among jurisdictions" was dropped in the Statement of January 2020[24] and subsequent IF documentation[25] presumably because of the political sensitives caused by the

---

18 OECD, *Addressing the Tax Challenges of the Digitalisation of the Economy – Policy Note* (OECD 2019) [hereinafter OECD January 2019 Policy Note].

19 Id., at sec. 1.2.

20 "The proposal under this pillar does not change the fact that countries or jurisdictions remain free to set their own tax rates or not to have a corporate income tax system at all. Instead, the proposal considers that in the absence of multilateral action there is a risk of un-coordinated, unilateral action, both to attract more tax base and to protect the existing tax base, with adverse consequences for all countries, large and small, developed and developing." OECD January 2019 Policy Note, *supra* n. 16, at sec. 1.2.

21 OECD February 2019 Consultation Document, *supra* n. 17, for example, "global action is needed to stop a harmful race to the bottom".

22 OECD 2019 Programme of Work, *supra* n.10.

23 OECD November 2019 Consultation Document, *supra* n. 17.

24 OECD January 2020 Statement, *supra* n. 9.

25 OECD, *Tax Challenges Arising from Digitalisation - Report on Pillar Two Blueprint* (OECD 2020) [hereinafter Pillar Two Blueprint]; OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising From the Digitalisation of the Economy* (OECD 2021) [hereinafter July 2021 Inclusive Framework Statement]; OECD, *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy* (OECD 2021) [hereinafter October 2021 Inclusive Framework Statement]; OECD, *Tax Challenges Arising from the Digitalisation of the Economy Global Anti-Base Erosion Model Rules (Pillar Two)* (OECD 2021) [hereinafter GloBE Model Rules]; OECD , *Tax Challenges Arising from the Digitalisation of the Economy – Commentary to the Global Anti-Base Erosion Model Rules (Pillar Two)* (OECD 2022) [hereinafter Commentary

acknowledged discontent among some countries on this issue.[26] In this documentation the tax competition objective is formulated as ensuring "that large internationally operating businesses pay a minimum level of tax regardless of where they are headquartered or the jurisdictions they operate in".[27] Similarly, the Blueprint,[28] and other IF documentation, are less than clear on the actual rationale for the SBIE.[29]

Two general conclusions can be drawn on the objectives of Pillar Two as set out in IF documentation. First, no clear policy choice was made between the profit shifting and tax competition objectives. If Pillar Two solely pursued the profit shifting objective it would have carved-out BEPS Action 5 compliant regimes (i.e. those determined not to be harmful tax practices), and, more broadly, it would have not targeted "undertaxed" profit that arises in a country where the economic activities generating the profit take place. If Pillar Two pursued the tax competition objective fully, it would not have included the SBIE. Instead, both objectives were kept, and this seems to be reflected in the compromises made in Pillar Two's design. As a result, Pillar Two goes beyond the profit shifting objective but does not pursue the tax competition objective fully. It targets "undertaxed" profit in a particular country if it has been shifted from countries where the activities generating it are found, but also if the activities generating the undertaxed profit are found in said country (as determined under a transfer pricing analysis) and the profit exceeds an arbitrary return on those activities (measured as a fixed return over fixed assets and payroll costs). As explained in section 4. below, it also allows for some tax competition.

Taxes rarely follow textbook design when adopted in practice. It may thus be argued that the compromises in Pillar Two are just par for the course in tax reform and do not reflect weaknesses in a global minimum tax as a policy option. However, the extent to which reform options require global coordination varies. While reform options that are incentive

to the GloBE Model Rules].

26 "Some countries have suggested to improve further the policy design of Pillar Two to ensure its focus on remaining BEPS issues and take the view that a systematic solution designed to ensure that all internationally operating businesses pay a minimum level of tax would go beyond the policy objective of Pillar Two. These countries further suggested that exploration of improvements in the policy design would therefore be welcomed." OECD January 2020 Statement, *supra* n. 9, at appendix 2, para. 4.

27 Pillar Two Blueprint, *supra* n 25, at para. 8. *See also* GloBE Model Rules, *supra* n. 25, at p. 17 and Commentary to the GloBE Model Rules, *supra* n. 25, at p. 8. The authors note that this does not say that the GloBE rules will ensure that a minimum level of tax is paid *to* each jurisdiction in which they operate. The claim is only that a minimum level of tax will be paid with respect to the income arising in each jurisdiction.

28 *See* Pillar Two Blueprint, *supra* n. 25, at para. 312.

29 None of the July 2021 Inclusive Framework Statement, October 2021 Inclusive Framework Statement or GloBE Model Rules provide further insight into the policy rationale for the SBIE. However, the "Brochure" released by the OECD Secretariat to accompany the 8 October Statement contains a justification for the carve-out. It states: "A carve-out allows countries to continue to offer tax incentives to promote business activity with real substance, like building a hotel or investing in a factory". OECD, *Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy – Brochure*, p. 15 (OECD 2021) [hereinafter OECD October 2021 Brochure].

compatible[30] require little coordination, if at all, a global minimum tax requires agreement to be reached among a critical mass of countries, including countries with different policy preferences. In practice, therefore, it is unlikely that a meaningful global minimum tax can be implemented without compromises that undermine its ability to pursue clearly defined objectives.

The second conclusion that can be drawn on the objectives of Pillar Two as set out in IF documentation is that the tax competition objective changed over time. The next subsection turns to this point.

2.2. What Does the Tax Competition Objective Mean?

Over time the objective of bringing a stop to the "harmful race to the bottom" on corporate taxes was overtaken by that of ensuring that multinationals "pay a minimum level of tax".[31]

The concepts of a "harmful race to the bottom" and "paying a minimum level of tax" are directed at aspects of tax competition. They are related, but they are also different in an important way. This can be seen most easily by recalling the distinction made in the introduction between two tax variables in relation to income arising in a particular country: the total tax paid by a multinational on that income (including tax paid to the source country and elsewhere), and the total tax collected by the source country on that income. The objective of ensuring that multinationals "pay a minimum level of tax" directs our attention to the former variable. It thus aims at placing a floor on the total tax paid by a multinational globally. The objective of bringing a stop to the "harmful race to the bottom" on corporate taxes directs our attention to the latter. It thus aims at placing a floor on the total tax paid at source.[32]

---

30 On this *see* Devereux et al, *Taxing Profit in a Global Economy* (Oxford University Press 2021). One example is a destination based cash flow tax; another is a digital services tax.

31 The term "harmful race to the bottom" was used in the OECD February 2019 Public Consultation Document, *supra* n. 17, para. 90, the OECD 2019 Programme of Work, *supra* n. 10, at para. 54 and the OECD November 2019 Consultation Document, *supra* n. 17, at para. 7. This terminology did not appear in official OECD documents after 2019. The Cover Statement to the Pillar Two Blueprint, *supra* n. 25, at pp. 11-12 refers to businesses paying "at least a minimum level of tax". The Executive Summary of the GloBE Model Rules, *supra* n. 25, at p. 7 states that the rules ensure multinational enterprise (MNE) groups "pay a minimum level of tax on the income arising in each of the jurisdictions where they operate". Note that the OECD October 2021 Brochure does refer directly to tax competition: "Pillar Two puts a floor on tax competition on corporate income tax through the introduction of a global minimum corporate tax at a rate of 15% that countries can use to protect their tax bases (the GloBE rules). Pillar Two does not eliminate tax competition, but it does set multilaterally agreed limitations on it". However, the Brochure was published on behalf of the Secretary-General of the OECD and does not necessarily reflect the official views of OECD member countries or of Inclusive Framework (IF) members. OECD October 2021 Brochure, *supra* n. 29.

The difference between the objectives of creating a floor on the total tax paid by multinationals and creating a floor on the total tax paid at source is important. By achieving the latter one achieves the former, but the reverse does not hold (even if an IF document erroneously assumed that it did).[33] Sections 4. and 6., below, show that the GloBE Rules could have been designed to achieve *either* objective. This section uses a simple example to make the more general point that a floor to total tax paid by companies does not imply a floor to total tax paid at source.

Assume that Country A, a capital exporting country, imposes a 15% tax on the worldwide income of domestic resident companies. The tax is levied on an accruals basis, without a credit or deduction for tax paid at source. For the purpose of this example, we ignore the incentive the tax would create for multinationals to relocate. It is straightforward to see that this tax creates a floor on the total tax paid by resident companies on their global income but not a floor on the total tax paid at source. If Countries B and C are competing for investment by companies resident in A, they will still have an incentive to reduce their corporation tax rate, even all the way to zero. However, both objectives would be achieved if Country A were to introduce a full credit for the tax paid at source. The tax imposed by A would then ensure that companies resident in A pay a minimum level of total tax *and* it would effectively create a floor on competition over total tax between B and C.

A numerical example makes the point clearly. Assume Countries B and C both impose a 15% corporation tax, and Company X, resident in Country A, earns USD 100 in pre-tax income whether it invests in B or C. If A does not allow a credit for tax paid in B or C, A collects USD 15 in tax, and B or C also collect USD 15. Clearly, B and C have an incentive to reduce their tax rate to attract the investment from X, as the tax they impose will be levied in addition to that imposed by A. The benefit of reducing their tax rate is traded off against the loss of revenue from doing so. If C reduces its tax rate to 10%, its competitive position relative to B improves because each USD 1 in tax revenues forgone by C results in a tax benefit of USD 1 for Company X. However, if A allows a credit for the tax paid in B or C, an effective floor is placed on competition between B and C. They will not gain any competitive advantage by reducing their tax rate below 15%. If C were to reduce its tax rate to 10% Company X's total after-tax income remains unchanged.

---

32 In drawing the connection between a "*harmful* race to the bottom" and the minimum amount of tax paid in the source country, the authors are accepting that the concept of "harmful" takes into account the revenue interests of source countries themselves. That is, a "race to the bottom" which prevents source countries from raising revenue can be harmful to those countries. The concept of harm cannot be exclusively viewed from the perspective of jurisdictions which impose taxes above the minimum rate. It is only if harm is exclusively considered from the perspective of other high-tax countries that the amount of taxation raised by the source country is unimportant (as opposed to merely total tax on the relevant income).

33 "This Pillar seeks to comprehensively address remaining BEPS challenges by ensuring that the profits of internationally operating businesses are subject to a minimum rate of tax. A minimum tax rate on all income reduces the incentive for taxpayers to engage in profit shifting and establishes a floor for tax competition among jurisdictions." OECD November 2019 Consultation Document*, supra* n. 17.

Does this matter? Should the GloBE Rules be assessed against their ability to achieve one or both objectives?

The authors believe that the objective of creating a floor to competition among source countries is of significant relevance.[34] Even if it was overtaken as a stated objective in later IF documents, presumably due to political sensitivities, it was repeatedly set out as a Pillar Two objective in earlier documents, with emphasis being made on the benefit this would bring to developing countries.[35] Also, the OECD Secretariat[36] and leading political figures[37] have expressly hailed Pillar Two's ability to attain this objective. This objective is included in the preamble of the European Union's directive implementing GloBE [38] and in the UK Pillar Two Consultation.[39]

The objective of ensuring multinationals pay a minimum level of tax aligns more easily with the policy preferences of some countries than others. To simplify the analysis that follows, the authors distinguish between three types of countries (admittedly, the list is not exhaustive, and countries may have characteristics of more than one type). Type 1 countries are large, developed countries. They have high average tax rates and host the parent companies of large multinationals. These countries are primarily concerned about profit and real activity being shifted away from them to lower tax countries. Creating a floor on the total tax paid by multinationals aligns with the primary policy concerns of these countries.

34 Cf. J. Becker & J. Englisch, *GloBE Minimum Taxation: Calculating the Local ETR with Carve-outs*, Kluwer International Tax Blog (17 December 2021) available at http://kluwertaxblog.com/2021/12/17/globe-minimum-taxation-calculating-the-local-etr-with-carve-outs/. "GloBE proposal is about stabilizing the tax payments made by multinational firms, i.e. introducing a lower bound to the firm's total ETRs. Thus, in effect, its very purpose is to reduce the effectiveness of local tax rate cuts. Therefore, evaluating different models of ETR calculation with regard to their incentives to change local tax rates is of little relevance."

35 *See* for example OECD 2019 Programme of Work, *supra* n. 10, at para. 54.

36 OECD October 2021 Brochure, *supra* n 29. *See also* OECD, *Tax Co-Operation for the 21st Century - OECD Report for the G7 Finance Ministers and Central Bank Governors* p. 7 (OECD 2022).

37 *See* for example J. Yellen, *Statement from Secretary of the Treasury Janet L. Yellen at the Conclusion of the G20 Finance Ministers and Central Bank Governors Meetings* (10 July 2021) available at https://home.treasury.gov/news/press-releases/jy0268 (accessed 18 August 2022); and V. Dombrovskis, *Executive Vice-President of the European Commission and Commissioner EU Commissioner for Trade, EU Commission Press Release* (22 December 2021) available at https://taxation-customs.ec.europa.eu/news/commission-proposes-swift-transposition-international-agreement-minimum-taxation-multinationals-2021-12-22_en (accessed 18 August 2022).

38 The Directive was adopted by the Council of the EU on 15 December 2022. The text adopted is the version that was published by the Czech EU Presidency on 25 November 2022, available at https://data.consilium.europa.eu/doc/document/ST-8778-2022-INIT/en/pdf.

39 UK Government (HMT and HRMC) Consultation, *OECD Pillar 2 – Consultation on Implementation,* p. 53. (2022), [hereinafter UK Pillar Two Consultation], available at *https://www.gov.uk/government/consultations/oecd-pillar-2-consultation-on-implementation* (accessed 18 August 2022).

Type 2 and 3 countries are small, capital-importing countries. Type 2 seek to attract investment (real activity), Type 3 primarily seek to attract profit. Type 2 countries – and to a lesser extent Type 3 countries – also aim at raising tax revenues, and their preference is to attract real activity and profit while giving up as little tax revenue as possible. Here is the rub. Over time, tax competition compels them to give up more and more revenue to attract real activity and profit, beyond the point that they would optimally choose in the absence of competition. A tension thus arises in the policy preferences of such countries, at least in the long run. While they may wish to compete by reducing the tax due on corporate profit to attract real activity and profit, in the long run their ability to do so wanes. In the short and medium run some countries may readily sacrifice tax revenues for an improved competitive position, while others succumb to the pressures of tax competition more reluctantly. But they both must contend with the inevitable consequences of tax competition in the long run. Taking an extreme example to make a point, once the taxes on corporate profit imposed by competing countries falls to zero, they cannot use them to attract real activity or profit (without adopting a negative tax), and, at the same time, they do not raise revenue from the real activity or profit which they attract. Placing a floor on competition over total tax at source ensures that even if in the long run the ability to use taxes on corporate profit to attract real activity and profit wanes and comes to an end as countries hit the floor, these countries still collect some revenues.

Important benefits have been claimed to follow from the successful adoption of the GloBE Rules.[40] IF documentation[41] claims that Pillar Two will protect the taxation of capital and hence prevent the burden of taxation from falling more heavily on labour. The extent to which this claim is true may be questioned, but this has been central to the US Treasury's case for Pillar Two.[42] It has also been argued that Pillar Two, together with Pillar One, will lead to a stable international tax architecture.[43] Note, however, that these two benefits will not easily accrue to Type 2 and 3 countries if Pillar Two only ensures that multinationals pay a minimum level of total tax.

To sum up, ensuring that multinationals pay a minimum level of total tax is more easily aligned with the interests of large, developed countries with higher average tax rates where parent companies of large multinationals are located. Creating a floor on competition over total tax paid at source is more easily aligned with the interests of other countries, in

---

40 It has also been claimed that the GloBE Rules will lead to increased efficiency due to the decreased dispersion in tax rates (*see* J. Becker & J. Englisch, *International Effective Minimum Taxation – The GLOBE Proposal*, 11 World Tax Journal 483, p. 488 (2019), Journal Articles & Opinion Pieces IBFD.

41 February 2019 Public Consultation Document, *supra* n. 17, at para. 90.

42 "Fundamentally, we at Treasury see the agreement as essential to saving the corporate income tax, which in turn is fundamentally about making sure the income tax taxes capital and not just labor" Remarks by Assistant Secretary for Tax Policy Lily Batchelder at the New York State Bar Association's Annual Meeting January 25, 2022, available at https://home.treasury.gov/news/press-releases/jy0568.

43 Herzfeld, *supra* n. 3.

particular countries which seek to attract investment and real activity but eventually find themselves under competitive pressure to lower their rates below the point they would otherwise choose optimally. Beyond the preferences of particular types of countries, the availability of such beggar thy neighbour policies is an important element to consider when evaluating an international tax system, not least because of their impact on the distributional consequences of the system, as well as its perceived suitability and hence support by politicians and the public.

The lack of clarity on Pillar Two's objectives is unfortunate (even if it may have been necessary to achieve a political agreement). Section 4. addresses the question of whether Pillar Two simply ensures that multinationals pay a minimum level of tax, or whether it also brings to an end the race to the bottom among source countries.

3. The GloBE Top-Up Tax Calculation

Simplifying somewhat, the calculation of the top-up tax under the GloBE Rules involves two main steps.

1. Calculate the Effective Tax Rate (*ETR*) for the jurisdiction as:

2. Calculate the GloBE Rules top-up as:

Adjusted GloBE Income and Adjusted Covered Taxes are defined by detailed rules found in Chapters 3 and 4 of the Model Rules respectively. The former is based on financial accounting income, with agreed adjustments. Broadly, the latter includes income taxes but not taxes that are non-income based such as indirect taxes, payroll, and property taxes. It includes both current and, in some instances, deferred taxes accrued in a company's accounts.

The SBIE, will effectively exclude the application of the top-up tax to profit below a formulaic return on payroll and tangible assets.[44] The SBIE is the combined amount of the "payroll carve-out" and the "tangible asset carve-out". It is calculated separately for each

44 The original concept appears to be based upon a design element of the US Global Intangible Low-Taxed Income regime (GILTI) regime – Net Deemed Tangible Income Return. Under that mechanism, a 10% return on the value of tangible depreciable property in the relevant jurisdiction is effectively subject to a carve-out (and

jurisdiction, but investment entities are not included.[45] Once the rules are fully operational, the payroll and tangible asset carve-outs will be 5% of the eligible payroll costs and eligible tangible assets, respectively. However, there is an extensive transition period. The transition period will start in 2023 with a payroll carve-out of 10% and tangible asset carve-out of 8%. The rate will be reduced each year until 2033 when both will reach 5%.[46] A multinational may make an annual election not to apply the SBIE, thus making it optional.[47]

Up to the publication of the Model Rules in December 2021, there was uncertainty as to whether the SBIE would be deducted (from the denominator) in the first step as well as in the second step.[48] This would have made a significant difference to the impact of the GloBE Rules on tax competition, as we explain in Section 6. below. It is now clear that the SBIE will only be used in the second step when determining the EP, defined as adjusted GloBE income less SBIE.[49]

The QDMTT is a qualified domestic minimum top up-tax that countries may introduce in their domestic laws.[50] As seen in the second step of the top-up tax calculation, if the QDMTT is equal to the EP multiplied by the top-up rate (as it would be in most cases) it will cancel out the top-up tax entirely.[5152]

This is significant. By introducing a QDMTT a country collects the revenue that would otherwise have been collected by another country through the income inclusion rule (IIR) or

---

would not result in a GILTI top-up tax liability). *See* US: Internal Revenue Code **([year])**, Title 26**,** sec. 951A(b)

(2).

45 GloBE Model Rules, *supra* n. 25, at art. 5.3.2.

46 The rates commence at 10% of payroll expenses in 2023 and will be reduced by 0.2% per year until 2028, after which they will fall by 0.8% each year until hitting 5% in 2033. The rate for the tangible asset carve-out will commence at 8% and fall by 0.2% per year until 2028, after which it will fall by 0.4% per year until hitting 5% in 2033.

47 GloBE Model Rules, *supra* n. 25, at art. 5.3.1. The benefit of this option is essentially to avoid the relevant

compliance cost. The authors have not identified any circumstances in which this is beneficial to the MNE in terms of the required amount of top-up tax.

48 *See also*, M. Devereux et al., *What Is the Substance-Based Carve-Out under Pillar 2? And How Will It Affect Tax Competition?*, EconPol Policy Brief 39 (2021), available at https://www.econpol.eu/publications/policy_brief_39.

49 GloBE Model Rules, *supra* n. 25, at arts. 5.2 and 5.3.

50 GloBE Model Rules, *supra* n. 25, at art. 10.1.1.

the undertaxed profits rule (UTPR).[53] As the top-up tax would have been collected anyway, a country can adopt a QDMTT in the reasonable expectation that it would not impinge on its competitive position (where there is no CFC Tax applicable). Countries thus have a strong incentive to introduce a QDMTT and a number of countries have already intimated an intention to do so.[54] Indeed, even countries with headline corporation tax rates above 15% have an incentive to adopt a QDMTT as a top-up tax liability may be due on profit arising in such countries if the corporation tax base for any particular multinational is narrower than the GloBE base. Consistent with this view, in its Consultation Document on the implementation of the GloBE Rules, the UK government noted the "strong case"[55] for adopting a QDMTT, despite having a headline tax rate above 15%.

The QDMTT was added to the second step of the top-up tax calculation in the Model Rules released in December 2021. It was not discussed in any public document released before that point. Whether the QDMTT was discussed behind the scenes and agreed before agreement on the Two-Pillar Solution was announced on 8 October 2021 is not public knowledge. If it was discussed and agreed, it is odd that the QDMTT was not mentioned in the Statement accompanying the announcement, as this outlined the main features of the two pillars that were agreed. On the other hand, it would be worrying if agreement on the QDMTT was *not* reached before 8 October 2021. The addition of the QDMTT to the top-up

---

51 The authors acknowledge, but set to one side, that there are circumstances in which the amount of QDMTT may differ from the top-up tax liability which would apply in the absence of a QDMTT (for example, where the accounting rules applied under the QDMTT differ from that applicable under the GloBE Rules).

52 The authors assume that the QDMTT is the amount that would have been payable if the income inclusion rule (IIR) were applicable to all of the undertaxed profit in the jurisdiction (and there is no applicable CFC Tax). In other words, it requires the effective tax rate (ETR) for the jurisdiction to be calculated under the GloBE rules (excluding CFC Taxes from the ETR numerator), and then must apply the determined top-up tax percentage to the EP of the jurisdiction. Importantly, it is not simply a domestic minimum tax of 15% of EP. For an analysis on why the alternative view ought to be rejected, *see* H. Wardell-Burrus, *Should a Foreign Tax Credit be given for QDMTT?,* **106** Tax Notes International 13**,** p. 1650 (2022).

53 The IIR imposes the liability on a direct or indirect shareholder of the undertaxed constituent entities (generally the ultimate parent entity) while the undertaxed profits rule (UTPR) is a "back-up" rule which would allocate the top-up taxing rights to other constituent entities of the MNE group which are located in countries which have adopted the UTPR.

54 *See*, for example, Irish Ministry of Finance, *Public Consultation on Pillar 2 Minimum Tax Rate Implementation* (26 May 2022) [hereinafter Ireland Pillar Two Consultation], available at *https://www.gov.ie/en/consultation/c68e4-public-consultation-on-pillar-two-minimum-tax-rate-implementation/*.

55 UK Pillar Two Consultation, *supra* n. 39, at p. 53.

tax calculation significantly alters the incentives created by and the distributional consequences of the GloBE Rules. It would mean that countries agreed to the 8 October Statement before knowing the full consequences it would have.

Three clarifications are necessary before proceeding further.

First, Section 4 assumes that the QDMTT is the amount that would have been payable if the IIR were applicable to all the undertaxed profit in the jurisdiction in the absence of an applicable CFC Tax. In other words, it operates by calculating the ETR for the jurisdiction under the GloBE Rules, and then applying the determined top-up tax percentage to the EP of the jurisdiction.[56] Importantly, it is not simply a domestic minimum tax of 15% of EP.

Second, it is important to be clear about the relationship between a QDMTT and the "regular" corporation tax which is applicable within a country. A QDMTT is an alternative minimum tax which applies to corporate profit as determined under the GloBE base. In this sense, it is a tax on corporate profit and hence a "corporation tax". There are no restrictions within the GloBE rules on a country implementing a QDMTT "within" its regular corporation tax (that is, using the corporation tax infrastructure which is already in place). Some countries may adopt this method while others may seek to adopt a QDMTT as a separate tax.[57] This article refers to the QDMTT as a separate tax to the regular corporation tax. This is partly done for ease of exposition.[58] But it is also done to be clear that the QDMTT is likely to have a different base and rate to the regular corporation tax of a country, and that decisions on one are separate from those on the other, even if the two are clearly linked. These points remain true even if a QDMTT is implemented within the infrastructure of the regular corporation tax.

Third, countries that adopt a QDMTT may have a separate but related decision to make: how to set their corporation tax in the presence of the QDMTT. This question arises because – as shall be seen in Section 4. – the GloBE Rules create an incentive to cut (or not increase) corporation tax and rely on a QDMTT both if a country wants to compete aggressively (section 4.1.) but even – in some circumstances – if a country wishes to maintain its current

---

56 The Administrative Guidance of 2 February 2023 clarified that the QDMTT would be calculated without taking into account CFC Taxes (or head office taxes on foreign permanent establishments) in the ETR numerator. OECD, 'Tax Challenges Arising from the Digitalisation of the Economy – Administrative Guidance on the Global Anti-Base Erosion Model Rules (Pillar Two)' p.105-106 (OECD 2023) [hereinafter February 2023 Administrative Guidance]

57 The Irish Consultation paper raises this very question. Ireland Pillar Two Consultation, *supra* n. 54, at p. 14.

58 It is cumbersome to continually refer to "Corporation tax (excluding QDMTT)" as opposed to just "Corporation Tax".

competitive position (section 4.2.). A question then arises whether other countries' tax systems could weaken or even counter this incentive by affording the QDMTT less favourable treatment than the corporation tax, for example, through anti-avoidance CFC rules such as anti-hybrid mismatch rules. Pillar Two's own STTRs and its simplification procedure give rise to the same question. At a general level, affording the QDMTT less favourable treatment than the corporation tax appears to be in tension with the spirit of the agreement reached by IF countries on Pillar Two, if not the explicit wording of the Model Rules. Section 5.3. explores this issue further.

4. The GloBE Rules' Impact on Tax Competition

This section explores the incentives created by the GloBE Rules for countries, and hence the GloBE Rules' impact on tax competition. Throughout, it also isolates the contribution of the SBIE and the QDMTT to show their impact on the GloBE Rules.

As noted in Section 2., the tax competition objective was formulated in two ways in IF documentation: setting a floor on total tax paid by multinationals or on the total tax collected by source countries. Section 4.1. asks which of the two floors, if any, is set by the GloBE Rules, and where. It concludes that the GloBE Rules set both floors, even though the latter was not included as an objective in IF documentation since November 2019. The floor on total tax paid by multinationals is 15% of EP. The floor on total tax collected at source is 15% of EP collected through the QDMTT with corporation tax set at zero. Countries above this floor do not have an incentive to compete below it, and those below the floor wishing to do the bare minimum to meet the minimum under the GloBE Rules can stop at this point. In other words, this constitutes the most aggressive competitive position countries can adopt in the presence of the GloBE Rules Section 4.2. identifies what may be an unintended incentive created by the GloBE Rules. The GloBE Rules provide some countries with an incentive to raise revenues through a QDMTT rather than a corporation tax. Put more provocatively, the GloBE Rules strengthen the incentive for some countries to compete through the corporation tax, and to collect revenues through a QDMTT instead. Section 4.3. considers these incentives in the context of multinationals with different characteristics. Section 4.4. provides an important qualification to the conclusions in section 4.1. It shows that the floors identified in section 4.1. can be breached if countries offer grants and Qualified Refundable Tax Credits ('QRTC's). The analysis leading to these conclusions does not take CFC rules into account. Section 5.1 considers if, and, if so, how, the presence of CFC rules alters these conclusions.

4.1. The floor created by the GloBE Rules

4.1.1. The floor: What it is

The authors' starting point in thinking about tax competition over real activity is that the decision for a country about competition balances the marginal cost and marginal benefit of

a change in the domestic tax liability. The trade-off is between the marginal cost of expected reduced revenue and the direct and indirect benefits of expected additional investment.

Countries may also compete to attract profit arising elsewhere. If such countries' only objective is to collect revenue from shifted profit, then they do not face the trade-off identified above. Instead, they would simply search for the revenue maximizing tax rate. In practice, however, such countries may seek to attract profit arising elsewhere because of the investment it generates in the financial and professional service industries, as well as cognate industries. Consider Country H, which seeks to become a financial hub. Given this objective, when setting its tax rate it would not look for the revenue maximising rate, instead it would trade off the expected revenue loss generated by a reduction in its tax rate with the benefit brought by the increased investment (which is in turn caused by the increase in profit shifted towards it). The trade-off for countries competing for profit may thus be similar to that of countries competing more directly for investment in real activity. For ease of exposition and simplicity we here focus on the cost/benefit trade-off in the context of competition over real activity.

Without the GloBE Rules, a reduction in the domestic tax liability of USD 1 would have (i) a marginal cost of reducing the country's potential revenue by USD 1, and (ii) a marginal benefit to the multinational of reducing its tax liability by USD 1, which increases the probability that the multinational would choose to locate investment in that country, with the direct and indirect benefits that may bring. How do the GloBE Rules affect this trade-off?[59]

The GloBE Rules' impact on this trade-off is expressed algebraically in the Appendix. It is illustrated through a basic numerical example here. To keep the analysis in the example as simple as possible the authors adopt a few simplifications and assumptions. (i) In a first instance competition is considered through a reduction in the tax rate and not in the base. It is shown that the same results hold for a reduction in the tax base in a later part of this section. (ii) Although the domestic tax liability for the GloBE Rules purposes includes liability from all "covered" taxes, reference is narrowed to domestic corporation tax (i.e. there are no cross-jurisdictional taxes – such as CFCs - allocated under article 4.3.2 of the Model Rules). (iii) It is assumed that financial accounting profit is equal to GloBE Income. (iv) Circumstances where there is a mismatch between the allocation of income or taxes for domestic tax, accounting, or the GloBE Rules purposes are set to one side.

For greater precision the authors define variables as:

= total financial accounting profit

59 Note that the trade-off for a country for example, in reducing the tax liability by USD 1, is (i) a cost to a country of USD 1 in tax revenues forgone, compared to (ii) the expected benefits of attracting greater inward investment, taking into account both welfare benefits of that inward investment and the probability of receiving it. Reducing the multinational's tax liability does not affect the welfare benefit conditional on the investment taking place, but it does affect the probability that the multinational will choose to locate in that country.

covered taxes paid in “source” country

Suppose that Country X and Country Y compete to attract an investment from a multinational enterprise (MNE) resident in Country W. Currently, X and Y both levy a tax on corporate profit at 15% of financial accounting profit (P). Assuming the investment generates financial profit of USD 1000, X or Y would levy a tax of USD 150 on MNE if it chose to invest in either of them. No further tax liability would be due under the GloBE Rules as MNE’s ETR in either country would be 15% (USD 150/USD 1000). To explore the impact of the GloBE Rules on tax competition, this example considers the extent to which a reduction in X’s corporation tax rate improves its competitive position relative to Y. It is assumed thatof MNE’s USD 1000 in financial profit, USD 400 is covered by the SBIE, thus leaving USD 600 in EP. The size of the SBIE has not been selected randomly, but is based on empirical evidence summarised in section 4.1.3.

Table 1. shows MNE’s tax liability if it chooses to invest in X following a reduction in X’s corporation tax rate to 14% (columns 2, 3, and 4), and to zero (columns 5, 6, and 7). The tax liability is shown under three alternative designs of the GloBE Rules: without the SBIE or QDMTT (columns 2 and 5), with the SBIE but without the QDMTT (columns 3 and 6), and, finally, with the SBIE and the QDMTT (columns 4 and 7). As explained in section 3., above, the Model Rules adopt the third design. The first and the second are included in the analysis to identify how the addition of each of the SBIE and the QDMTT in the Model Rules alters countries’ incentives.

Table 1. Tax liabilities for the GloBE Rules without the SBIE, with the SBIE, and with the SBIE and the QDMTT

Domestic Tax Rate	**14%**			**0%**		
P2 Design	**No SBIE No QDMTT**	**SBIE No QDMTT**	**SBIE and QDMTT**	**No SBIE No QDMTT**	**SBIE No QDMTT**	**SBIE and QDMTT**
1. ETR						
Numerator	140	140	140	0	0	0
Denominator	1,000	1,000	1,000	1,000	1,000	1,000
ETR	14%	14%	14%	0%	0%	0%
2. Top-Up Rate	1%	1%	1%	15%	15%	15%

3. Top-Up Tax	1% of 1,000 =10	1% of 600 =6	0	15% of 1,000 =150	15% of 600 =90	0
QDMTT	/	/	6	/	/	90
Total Tax Paid by MNE	150	146	146	150	90	90
Tax in W (Parent's Residence)	10	6	0	150	90	0
Tax in X	140	140	146	0	0	90
X's trade-off in reducing its tax rate from 15%						
Total tax forgone by X	10	10	4	150	150	60
Total tax saved by MNE	0	4	4	0	60	60
Ratio	1:0	1:0.4	1:1	1:0	1:0.4	1:1

Note: The figures in the tables used in this article are in USD.

For each of the GloBE Rules designs start by considering the consequences that would follow if X reduced its corporation tax rate from 15% to 14%.

In the absence of the SBIE and QDMTT the GloBE Rules top-up is straightforward (column 2). The domestic corporation tax liability in X is reduced to USD 140, but the GloBE Rules top this up to 15% of P, implying a top-up tax of USD 10 to be paid to W under the IIR. Clearly, this design of the GloBE Rules entirely removes X's incentive to reduce its tax rate to 14%, because X forgoes USD 10 of revenues without providing any benefit to the MNE. In other words, this tax rate reduction does not improve X's competitive position relative to Y; MNE pays USD 150 in total tax whether it invests in X or Y. This analysis remains true as X reduces its domestic tax rate all the way to zero, as set out in column 5. With this design, the GloBE Rules effectively create a floor both on total tax paid by the MNE and also on tax competition over corporation tax in the source country.

If the GloBE Rules were adopted with the SBIE but without the QDMTT (column 3), MNE's ETR in X is still 14%. However, the top-up rate of 1% is applied only to the EP, i.e. profit net

of the SBIE (USD 600), yielding a top-up of only USD 6 to be paid to W. Therefore, under this GloBE Rules design, X gives up USD 10 of revenue (as it collects USD 140 rather than USD 150 in domestic tax from MNE) but only provides MNE with a tax benefit of USD 4 (as MNE also pays USD 6 in top-up tax to W). MNE pays USD 146 in total tax if it invests in X compared to USD 150 in total tax if it invests in Y. Clearly, the incentive for X to compete under this design is weaker than it would be in the absence of the GloBE Rules altogether, as USD 1 forgone by X in revenue benefits MNE (and therefore X's competitive position relative to Y improves) by only USD 0.4 (which is equal to the ratio of SBIE to P). In contrast, in the absence of the GloBE Rules, USD 1 forgone by X in revenue, benefits MNE by USD 1. Still there does remain some incentive to compete, even possibly all the way to zero, as seen in column 6. If X reduces its tax rate to zero, it forgoes USD 150 in revenue and provides USD 60 of benefit to MNE (which pays USD 90 in top-up tax to W). X's competitive position relative to Y is thus improved, as MNE pays USD 90 in total tax if it invests in X compared to USD 150 in total tax if it invests in Y. With this design, the GloBE Rules ensure that a multinational pays a minimum level of total tax (equal to 15% of EP), but it does *not* create a floor on tax competition over corporation tax in the source country.

The addition of the QDMTT to the GloBE Rules (column 4) does not alter the total tax paid by MNE relative to the design just considered (i.e. the GloBE Rules with the SBIE), but, crucially, it changes X's incentive to collect tax revenue, as X now has an incentive to collect tax revenue equivalent to 15% of EP through the QDMTT. If X reduces its corporation tax rate to 14% it collects USD 140 in corporation tax and USD 6 in QDMTT. It thus foregoes USD 4 in tax overall (USD 150 less USD 146) and provides USD 4 in benefit to MNE. The benefit to MNE and thus the improvement in X's competitive position relative to Y is the same as it would have been had the GloBE Rules been introduced with a SBIE but without a QDMTT. But the marginal cost of this change to X is lower as it now only forgoes USD 4 in revenues to provide MNE with a benefit of USD 4; this is a 1:1 relation, as in the absence of the GloBE Rules. This continues to be the case as X reduces its tax rate all the way down to zero, as seen in column 7. If X reduces its tax rate to zero, it provides a benefit of USD 60 to MNE, which pays USD 90 in tax overall. This improves X's competitive position relative to Y as MNE would pay USD 150 if it invested there. But crucially, under this design, despite reducing its corporation tax rate to zero it still collects USD 90 in QDMTT, representing a fall in total tax revenue of only USD 60. With this design, the GloBE Rules ensure that a multinational pays a minimum level of total tax (equal to 15% of EP). It does not create a floor on competition over corporation tax in the source country, but it effectively creates a floor on tax competition over total tax paid in the source country.

Table 2. ETR pre and post top up, in relation to P and EP

	Pre-Top Up	**Post-Top Up**
X reduces tax rate to 14%		
ETR in relation to P	14%	14.6%
ETR in relation to EP	23.33%	24.33%
X reduces tax rate to 0%		
ETR in relation to P	0%	9%
ETR in relation to EP	0%	15%

Table 2. shows that the post-GloBE ETR can be less than 15% of P (column 3, rows 3 and 6). However, it will be greater than or equal to 15% of EP (column 3, rows 4 and 7).

Figure 1. Revenue with different CIT rates

To illustrate these points further, Figure 1. extends the example above to show the position for a range of values of the corporation tax rate from zero to 20% (shown on the horizontal axis), and where all other values are as in the example above. At the far left of the figure, domestic corporation tax (CIT – shown by the dotted line) is zero. As a result, the QDMTT is the only tax paid by MNE. In this case, the QDMTT (shown by the continuous line) is USD 90. As we move to the right the corporation tax increases and therefore the QDMTT decreases up to the point where corporation tax is equal to 15% of P. At this point there is no QDMTT to pay. The total tax liability of MNE is the sum of these two elements of taxation (shown by the dashed line). Above a tax rate of 15%, the only tax liability is the corporation tax and so the dotted and dashed lines coincide.

The trade-off for Country X considering reducing its corporation tax rate in the presence of the GloBE Rules with respect to this company is also clearly seen in this Figure. In the absence of the GloBE Rules the dotted line (CIT) plots the marginal cost to Country X and marginal benefit to the MNE of reducing its corporate tax rate. If the GloBE Rules were adopted with a SBIE but without a QDMTT the dotted line would represent its marginal cost, but the marginal benefit to the MNE would be represented by the dashed line (showing the total liability of MNE). By moving from right to left Country X incurs a cost shown by the dotted line, but only provides the lower benefit to MNE shown by the dashed line. However, as the GloBE Rules have now been accepted with a SBIE and a QDMTT, the dashed line represents the marginal cost to Country X *and* the marginal benefit to the MNE of a reduction in the corporation tax rate. Of course, this is only with respect to a single company with a particular profit and SBIE profile.

4.1.1.1. Competition through the tax base

The same results apply to competition through the tax base. Assume now that X keeps a tax rate of 15% but it seeks to enhance its competitive position by offering MNE allowances that narrow the base and first lead to a reduction in its corporate tax liability of 10 and then to a reduction of 150. The results would be the same as those set out in columns 4 and 7 of Table 1. This is because GloBE liabilities depend only on the domestic tax liability – not separately on the domestic tax rate and tax base. Put differently, the tables have considered the effect of reduced tax rates, but the same outcomes can be achieved by increasing the deductions available for in-scope entities.

4.1.1.2. Summing up

The analysis in this section leads to the conclusion that the GloBE Rules design adopted in the Model Rules creates a floor on the total tax paid by multinationals. It does not create an effective floor on the corporation tax paid at source, but it does create an effective floor on the total tax paid at source. This is because the floor created by the GloBE Rules is set at

zero corporation tax and 15% of EP in tax collected through a QDMTT. Countries that are above this floor may compete down to it. It is the most aggressive competitive position they can take in the presence of the GloBE Rules(and the absence of an applicable CFC tax) . They have no incentive to go below this point. Countries that are below this floor have an incentive to increase the total tax they collect at source up to this point. Moving up to this floor does not worsen their competitive position.

This analysis also showed that the addition of the QDMTT to the top-up tax calculation altered the incentives created by the GloBE Rules in two important ways. On the one hand, it re-established the 1:1 trade-off when the tax liability in a source country fell between 15% of P and 15% of EP. With the SBIE but without the QDMTT, the source country could still compete by cutting its corporation tax all the way to zero but to do so it would have to give up revenue to an IIR or UTPR jurisdiction. In other words, with this design the GloBE Rules would have *weakened* the incentive for countries to reduce their tax liability when this fell between 15% of P and EP (the trade-off would be 1:SBIE/P rather than 1:1 – see Table 1. rows 11 and 12 of columns 3 and 6). But the addition of the QDMTT restores the incentive to its strength in the absence of the GloBE Rules. On the other hand, the addition of the QDMTT made a critical difference to the type of tax competition addressed. Without the QDMTT the GloBE Rules would have only created a floor on the Total Tax paid by multinationals, but with the QDMTT the GloBE Rules also create an effective floor on the Total Tax collected at source. The results are summarised in Tables 3. and 4.

Table 3.
Pass-through of benefit of a reduction in the domestic corporation tax liability of USD 1

ETR < 15*P	**Reduction in Revenue for X**	**MNE Benefit**	**MNE Parent Country Benefit**
No P2	- 1	+1	0
P2, no SBIE	- 1	0	+1
P2, with SBIE, no QDMTT	- 1	+SBIE/P	1 - SBIE/P
P2, with SBIE and QDMTT	- SBIE/P	+ SBIE/P	0

Table 4.
Floor created under different designs of the GloBE Rules

P2 Design	Floor on Total Tax Paid	Effective Floor on Corporation Tax at Source	Effective Floor on Total Tax Paid at Source
Without SBIE and QDMTT	Yes	Yes	Yes
With SBIE, without QDMTT	Yes	No	No
With SBIE and QDMTT	Yes	No	Yes

4.1.2. The floor: What it is not

The conclusion in section 4.1.1. above is that the effective floor created by the GloBE Rules is zero corporation tax and 15% of EP collected through the QDMTT. This subsection sets out what the floor is *not*.

The floor is not *15% of a corporation tax base*. Depending on circumstances, this may be below or above the floor set by the GloBE Rules. If a country with a headline corporation tax rate below 15% were to simply increase its rate to 15%, top-up taxes may still be due if the country's corporation tax base for any particular multinational is narrower than the GloBE base (GloBE income). On the other hand, if the corporation tax base is at least equal to GloBE income (P), the country would go above the floor when setting its corporation tax rate at 15% – as explained in the next point.

The floor is not *15% of financial accounting income (P)*. By adopting P as a corporation tax base with a tax rate of 15%, a country would ensure that no top-up tax liability will arise. But this is not the floor. Countries can compete below this point. A corporation tax of 15% of P would thus place a country at a competitive disadvantage relative to countries that impose ETRs that are lower than 15% of P. This is because the sum of the tax paid in such competitor countries and any top-up taxes paid to other countries through the IIR or the UTPR will be lower than 15% of P where the multinational has any SBIE. To see this, note that the total tax paid by MNE if X reduces its corporation tax rate to 14% or 0% is USD 146 (Table 1., column 4, row 7) and USD 90 (Table 1., column 7, row 7) respectively. This is less than 15% of P (USD 150). For the same reasons, a domestic top up tax that is not a QDMTT but which increases the total tax liability in a country to 15% of P would go above the floor set by the GloBE Rules.

The floor is not a *corporation tax of 15% of EP*. Setting corporation tax to 15% of EP is not equivalent to setting corporation tax to zero and adopting a QDMTT. This may be counterintuitive because in the absence of corporation tax, the QDMTT itself will be 15% of EP. However, this outcome follows from how the QDMTT must be calculated. It requires determining the ETR for the jurisdiction taking into account the corporation tax and then

applying the relevant top-up tax percentage only to the amount of EP.[60] A domestic minimum tax which was not accepted as a QDMTT but simply equalled 15% of EP would not achieve this outcome. The difference in outcome is most easily seen by returning to our example. If Country X maintained a 15% corporation tax rate, but narrowed its base to EP, MNE would pay USD 90 in corporation tax implying an ETR of 9% and therefore a top-up tax of USD 36 ((15%-9%)*USD 600). MNE's total tax paid would thus be USD 126, compared to USD 90 if Country X imposed no corporation tax and adopted a QDMTT.

4.1.3. The size of the SBIE and its impact on incentives

The size of the SBIE will be determinative of the impact of the GloBE Rules. Devereux et al (2023) use unconsolidated accounting data on European firms to estimate the size of the SBIE relative to total profit.[61] They find that, for the average firm in their sample, the SBIE would be around 57% of profit in the first year of the minimum tax, falling to 41% after 10 years due to the reduction in the percentages for the calculation of the SBIE. The share of *total* profits shielded is 37% in the first year and 23% after ten years.

It is straightforward to see that the size of the SBIE determines a multinational's top-up tax liability under the GloBE Rules. The higher the percentage of profit covered by the SBIE (in other words, the lower the EP) the lower the top-up liability. This sub-section spells out some of the consequences that follow.

If the SBIE is zero, the top-up tax liability will bring the total tax paid by the multinational up to 15% of P. In the example in section 4.1.1. above, Country X would not be able to improve its competitive position relative to Country Y by cutting its corporation tax rate if MNE has no SBIE in X. Indeed, the results would be the same as those set out in columns 2 and 5 of Table 1. On the other hand, if the SBIE is equal to P, then no top-up tax is due and the total tax paid by MNE is equal to the corporation tax paid in X. X can thus improve its competitive position by reducing its corporation tax rate, even all the way to zero. Foregoing USD 150 in revenue results in a benefit of USD 150 for the MNE and thus improves X's competitive

60 As noted in section 2., it is assumed that the QDMTT imposes the tax that would otherwise arise under the IIR in a wholly-owned group (assuming there was no applicable CFC tax).

61 M. P. Devereux, J. Paraknewitz & M. Simmler, *Empirical evidence on two issues for the Global Minimum Tax: What is a critical mass and how large is the Substance-Based Income Exclusion*, Fiscal Studies [volume 44, issue 1, pp. 9-21.], (2023).

position relative to Y, but note that X does not collect any revenues. The GloBE Rules' impact on a particular company thus depends on the size of its SBIE relative to P. This ratio will vary across companies and sectors. Indeed, the distribution of ratios among companies will vary from country to country.

Simplifying, EP arises in a particular country either if profit generated by real activity in another country is shifted to it, or if the real activities in that country generate a profit that is higher than the formulaic return allowed under the SBIE. Three conclusions may be drawn from this.

First, the GloBE Rules are likely to have a significant impact on pure profit shifting. Consider the extreme case, where there are no real activities in a country and, therefore, profit is equal to EP. The benefit of shifting profit to countries that impose a tax liability lower than 15% of P is capped, as a top up tax will be imposed to ensure that the total tax paid by a multinational is brought up to 15% of P. Indeed, countries offering these low tax rates have an incentive to collect the top up through a QDMTT. In this sense, the GloBE Rules appear to have gone some way to achieving their profit shifting objective.[62] It is also worth noting that for countries with limited SBIE that attract purely shifted profits, there will be very little difference between a QDMTT and a domestic minimum tax that equals 15% of EP or P, or indeed, a corporation tax with a 15% tax rate (if the base is reasonably close to that for GloBE Income)

Second, the floor on tax competition created by the GloBE Rules is clearly higher for more profitable activities (and, therefore, the impact of the GloBE Rules on competition over real activities with higher profitability is stronger). That is simply because EP is higher for more profitable projects, and so the proportion of total profit taken in the top-up tax will also be higher.

Table 5. extends the example in section 4.1.1. by considering real activities with different levels of profitability (here considering profitability as profit as a percentage of "substance" (payroll and tangible assets) in the country). X and Y each impose a corporation tax rate of 15%, but X seeks to improve its competitive position by going down to the floor created by the GloBE Rules (i.e. reducing its corporation tax rate to 0% and introducing a QDMTT). The table shows that going down to the floor created by the GloBE Rules produces different results for real activities with high profitability (20% in column 2) and low profitability (4% in column 3).

Table 5. Impact of the GloBE Rules varying with profitability

62 As the Appendix notes, there is another (smaller) effect of increasing *P.* That is, suppose that the domestic corporation tax base is *P-G*, where *G* is a deduction not permitted under GloBE rules. Then a rise in inward profit shifted will increase *P,* but not *G.* That tends to reduce the ETR, and hence further increase the size of the top-up tax.

Real Activities	High Profitability	Low Profitability
Profit **Payroll and Tangible Assets** **SBIE** **Profitability Ratio**	1,000 5,000 250 20%	200 5,000 250 4%
1. ETR Numerator Denominator ETR	 0 1,000 0%	 0 200 0%
2. Top-Up Rate	15%	15%
3. Top-Up Tax	0	0
QDMTT	112.5 (1000-250)*15%	0 (200-250)*15%
Total Tax Paid by MNE	112.5	0
Total Tax Forgone by X/Saved by MNE	37.5	150

Table 6. ETR pre and post top up, in relation to P and EP

	Pre-Top Up	Post-Top Up
High Profitability		
Total Tax/ P	0%	11.25%
Total Tax / EP	0%	15%
Low Profitability		
Total Tax / P	0%	0%
Total Tax / EP	0%	N/A*

*In this case there is no excess profit.

As this example shows, the GloBE Rules address tax competition over real activity with high but not with low profitability (for the time being we define profitability as low if it falls

below the 5%[63] fixed return used in the SBIE). Reducing the corporation tax to nil can only reduce the tax burden on the MNE to 112.5 for the high profitability business (Table 5., column 2, row 7). However, it will reduce the tax burden to nil for the low profitability business (Table 5., column 3, row 7). This, of course, may be the intended product of political compromise. As discussed in section 2., countries were divided on whether the GloBE Rules should address tax competition over real activity, and the SBIE reflects a compromise whereby countries are allowed to compete without constraint for profits equal to a standard return on substantive activities in the jurisdiction but not for any "excess" profits. Another possible explanation for this differential approach could be that large capital exporting countries (described as Type 1 countries in section 2.) may be primarily concerned about real activities with high profitability relocating to low tax countries. The GloBE Rules reduce but do not remove this incentive, as seen in section 4.1.1.

Third, the extent to which SBIE is a reasonable measure of the profit from real activity is also important. If the SBIE covers more than the full return earned on the real activity in a particular country, it will allow profit shifting to that country. For example, if the real activity of a company in country Z generates a 2% return on payroll and tangible asset, the company can shift profit equal to 3% of payroll and tangible assets to Z without suffering a top-up tax.

4.2. Stronger Incentive to compete on corporation tax

Following the introduction of the GloBE Rules, countries may have an incentive to collect tax revenues on corporate profit through a QDMTT rather than through the corporation tax. That is, countries may have an incentive to reduce their imposition of corporation tax (which recall we define not to include the QDMTT) and shift to a new tax base under the QDMTT. Countries with multinationals with local ETRs below 15% and some EP (i.e. with MNEs liable to a top-up tax) may have to reduce the corporation tax liability they impose on companies just to *retain* the same competitive position they currently enjoy relative to competitor countries. They can use the QDMTT to collect the revenues foregone by reducing the corporation tax.

A simple example illustrates this point. Suppose that an investment by MNE would generate USD 1200 in income in Country Y but only USD 1000 in income in Country X. Y taxes the income at 25% leaving MNE with USD 900 in after-tax income (column 2 of Table 7.). For X to compete for the investment, MNE would have to earn the same after-tax income if it invested in X, despite having a lower pre-tax return there. X pursues this policy and thus imposes a tax on the income at 10% prior to the introduction of the GloBE Rules. This allows MNE to earn an equivalent after-tax income (USD 900) (column 3).

In the presence of the GloBE Rules – and assuming SBIE of USD 500 for the investment – X has to offer a *lower* corporation tax rate (5%) to allow MNE to earn the *same* after-tax return (USD 900) (column 5). If X continues to offer a tax rate of 10% in the presence of the

63 This is the relevant return in the "final state" of the rules, after the transition period has expired.

GloBE Rules, MNE would earn lower after-tax income in X (USD 875) than it would in Y (column 4). The reduction in the corporation tax rate (from 10% to 5%) will come at no revenue cost for X, as X can offset the further reduction in corporation tax revenues with QDMTT revenues. In other words, to stay in the same competitive position, Country X must reduce its corporation tax by USD 50 and impose a QDMTT of USD 50. This requires a reduction in the corporation tax rate to 5%.

Table 7. Stronger incentive to compete through the corporation tax

	Country Y	Country X		
		No P2	P2	
Income	1200	1000	1000	1000
Excess Profit	/	/	500	500
Rate	25%	10%	10%	5%
Total Tax	300	100	125 (CT of 100 + QDMTT of 25)	100 (CT of 50 + QDMTT of 50)
After-Tax Income	900	900	875	900

Table 8. ETR pre and post top up, in relation to P and EP

	Pre-Top Up	Post-Top Up
X reduces tax rate to 10%		
Total Tax / P	10%	12.5%
Total Tax / EP	20%	25%
X reduces tax rate to 5%		
Total Tax / P	5%	9%
Total Tax / EP	10%	20%

Recall that if the GloBE Rules had been adopted without a SBIE, the incentive to reduce the corporation tax below 15% of P would have been eliminated. X, therefore, would not have been able to attract the investment by MNE from Y by lowering its corporation tax rate. The after-tax income in Y (USD 900) would have been higher than that in X (USD 850) even if X reduced its tax rate to zero. In the example, the inclusion of a SBIE in the GloBE Rules restores X's ability to use the corporation tax to ensure that MNE earns the same after-tax income it would earn in Y (thus allowing it to compete for the investment), but X must reduce its corporation tax further to do so. The addition of the QDMTT in the GloBE Rules does not alter this point, it simply allows X to recover the cost (USD 50) of reducing its corporation tax rate (from 10% to 5%). This implies that the addition of the QDMTT to the GloBE Rules results in an even stronger incentive to compete down the corporation tax rate

than would have resulted under the GloBE Rules with a SBIE but without a QDMTT. The result is that the corporation tax would be reduced but the total source tax (corporation tax plus QDMTT) would remain the same.

As the GloBE Rules strengthen the incentive for countries to compete through the corporation tax, it follows that there is an increased probability that some countries will compete down the corporation tax, perhaps even all the way to zero. The revenue costs to source countries of any such reductions will be at least partially offset by the adoption of a QDMTT (so long as states can adopt this approach only with respect to in-scope MNEs, see section 5.2.). Nevertheless, the intensification of competition over the corporation tax may not have been intended.

4.3. Incentives in presence of multinationals with different characteristics

As noted above, a starting point when thinking about tax competition is that countries trade off the costs with the benefits of a particular corporation tax rate. For a given rate, an increase reduces competitiveness and increases revenues, while a decrease in rate reduces revenues and increases competitiveness (assuming the country is on the left side of the Laffer curve). A country's choice of tax rate is difficult because the rate chosen applies to multinationals with different characteristics. It is a difficult decision even in a simple setting where Country X competes with Country Y for investment from two multinationals located in Country W. Optimally, X would set its tax rate such that each multinational earns the same after-tax income in X that it would earn in Y. But the tax rate that achieves this is different for MNE – which earns a higher pre-tax income in Y – and MNE* – which earns a higher pre-tax income in X. X thus must find a compromise between the lower rate it would optimally adopt for MNE and the higher rate it would optimally adopt for MNE*. Clearly, the decision required of countries in the real world is much more complex as it involves large numbers of multinationals with different characteristics. But ultimately compromises of this kind must be made.

Following the introduction of the GloBE Rules, the total tax liability imposed on multinationals (i.e. both corporation tax and QDMTT) becomes the decisive factor from a tax competition perspective – in other words both revenue and inward investment depend on the total tax. Given that countries cannot reduce the amount due under the QDMTT, the total tax liability will vary with the corporation tax rate. But setting the corporation tax rate optimally is difficult because a country's decision will – again – affect multinationals with different characteristics. As seen above, in the absence of the GloBE Rules this depends on the pre-tax income earned in a particular country and its competitors, as well as the different levels of profitability. In the presence of the GloBE Rules it also depends on the size of the SBIE. This can be seen by extending the example found in section 4.2. to consider competition over investment by multinationals with different SBIEs.

In this example X had to reduce its corporation tax rate to 5% to ensure that MNE earned the same after-tax income (USD 900) as it did in Y. Let's assume now that X is also competing with Y for investment from MNE* and MNE**, also resident in W. MNE* and MNE** also earn USD 1200 in pre-tax income in Y and 1000 in X – but MNE*'s SBIE is USD 400 (and therefore EP is USD 600) and MNE**'s SBIE is USD 800 (and therefore EP is USD 200). As can be seen in Table 9., X needs to reduce its corporation tax rate to 2.5% to ensure that MNE* can earn the same after-tax income it would earn in Y. But it would only have to reduce its corporation tax rate to 8.75% to achieve the same outcome for MNE** (Table 10.). Note also that if MNE* had an SBIE of USD 300 (and therefore EP was USD 700), X would be unable to compete for the investment, because the highest possible after-tax income it could earn in X (USD 895), given the minimum total tax charge there (USD 105), would be lower than that in Y (USD 900).

Table 9. MNE* (EP of 600)

	Country Y		**Country X**		
		No P2		**P2**	
Income	1200	1000	1000	1000	1000
Excess Profit	/	/	600	600	600
Rate	25%	10%	10%	5%	2.5%
Total Tax	300	100	130 (CT of 100 + QDMTT of 30)	110 (CT of 50 + QDMTT of 60)	100 (CT of 25 + QDMTT of 75)
After-Tax Income	900	900	870	890	900

Table 10. MNE (EP of 200)**

	Country Y		**Country X**		
		No P2		**P2**	
Income	1200	1000	1000	1000	1000
Excess Profit	/	/	200	200	200

Rate	25%	10%	10%	8.75%	5%
Total Tax	300	100	110 (CT of 100 + QDMTT of 10)	100 (CT of 87.5 + QDMTT of 12.5)	70 (CT of 50 + QDMTT of 20)
After-Tax Income	900	900	890	900	930

When setting its corporation tax rate X should find a compromise between the optimal rate for MNE, MNE* and MNE**, as they would under the existing system. Of course, this exercise is much harder in the real world, but the same type of considerations should be considered. A compromise must be made in aggregate between the benefits of higher tax revenue in total, and the benefits of higher expected welfare from greater investment. Overall, however, to maintain their competitive position, this analysis suggests that there will be an incentive for countries to reduce their corporation tax, and rely to a greater extent on the QDMTT.

4.4. Going below the floor

The conclusions reached in section 4.1. on the floor created by the GloBE Rules are qualified by the availability of three options that allow the floor to be breached:[64] Qualifiable Refundable Tax Credits (QRTCs), government grants,[65], and Qualified Flow Through tax benefits.[66] In other words, these options allow multinationals to pay less than and countries to compete below 15% of EP. This sub-section focuses on the first option.

64 This point was first presented by one of the authors at an online conference organized by the Oxford University Centre for Business Taxation (*Pillar 2, what will be the impact?)* on 4 April 2022. A recording of the event can be found here: https://oxfordtax.sbs.ox.ac.uk/event/pillar-2-what-will-be-the-impact

Clearly, despite the GloBE Rules, countries can continue to compete for real activity and investment through non-tax factors, such as regulation and infrastructure, and through taxes other than corporation tax, such as income tax, social security contributions and property tax. The pressure to compete through these channels may even increase as countries' ability to compete through the corporation tax is constrained by the GloBE Rules. The authors do not consider competition through these channels or the desirability of increasing pressure to compete through them. E.g. S. Soong Johnston, *Singapore May Use OECD Tax Deal Revenue to Stay Competitive*, **[volume no.?]** Tax Notes International **[issue no.?]** (2022). In this article, Soong Johnston cites Singapore Minister for Finance Lawrence Wong as stating: "if pillar 1 and pillar 2 combined yield us additional revenue, we will very likely have to reinvest that revenue back into ensuring we remain competitive and attract our fair share of investments".

4.4.1. Grants, QRTCs and non-QRTCs: Definition and GloBE Rules treatment

When calculating a multinational's ETR in a particular country for GloBE Rules purposes, government grants are added to the GloBE income (denominator) instead of reducing the amount of covered taxes (numerator). QRTCs are afforded the same treatment. For ease of exposition, the analysis in this section is restricted to QRTCs. To qualify as a QRTC, a credit must be "paid as cash or available as cash equivalents within four years from when a Constituent Entity satisfies the conditions for receiving the credit".[67] In contrast, other credits – Non-Qualified Refundable Tax Credits (non-QRTCs) – are treated like other reductions in the tax base – that is, as a reduction in covered taxes (numerator).[68] Very significant consequences follow from this difference in treatment of tax credits.[69]

Both types of credits reduce a multinational's post-GloBE ETR (i.e. the ETR after the GloBE Rules are applied). Non-QRTCs can reduce a multinational's post-GloBE ETR down *to* 15% of EP. In the extreme case where a non-QRTC is equal to the corporation tax liability, the ETR would be 0%, the top-up tax rate 15%, and hence the top-up tax (or QDMTT) would be 15% of EP. The results produced by such a non-QRTC are set out in column 7 of Table 1. QRTCs go beyond this, allowing a multinational to reduce its post-GloBE ETR *below* 15% of EP. This is illustrated in Table 11. which extends the example set out in section 4.1.1.

---

65 The Irish Ministry of Finance has released a Consultation Paper which would introduce a refundable R&D Tax Credit. *See* Irish Ministry of Finance, *Research & Development Tax Credit and the Knowledge Development Box – Public Consultation* (April 2022), available at *https://www.gov.ie/en/consultation/d12cb-public-consultation-on-the-research-development-tax-credit-and-the-knowledge-development-box-april-2022/*.

66 The Administrative Guidance released in Feburary 2023 includes are special rules which apply where a flow-through tax benefit is received by an in-scope MNE which accounts for the relevant investment under the equity method. *OECD (2023), Tax Challenges Arising from the Digitalisation of the Economy – Administrative Guidance on the Global Anti-Base Erosion Model Rules (Pillar Two), OECD/G20 Inclusive Framework on BEPS, OECD, Paris,* pp. 61-66 ('Administrative Guidance'). Available at www.oecd.org/tax/beps/administrative-guidance-global-anti-base-erosion-rules-pillar- two.pdf.

67 GloBE Model Rules, *supra* n. 25, at art. 10.1.1.

68 GloBE Model Rules, *supra* n. 25, at art. 4.1.3(b).

69 A formal analysis is provided in the Appendix.

Recall that in this example Countries X and Y both levy a 15% corporation tax, and the example examines whether X can improve its competitive position relative to Y in the hope of attracting an investment from MNE resident in W, by reducing its corporation tax rate to 14% or zero. GloBE income is USD 1000, and SBIE is USD 400. Table 11. extends this example by considering the effect of X providing an equivalent reduction in MNE's corporation tax liability by means of a QRTC (a grant would produce the same result) while maintaining a 15% Corporation Tax rate. As a 1% and 15% reduction in X's Corporation Tax rate has a value of USD 10 and USD 150, columns 2 and 3 set out the impact of a QRTC with a value of USD 10, and columns 4 and 5 set out the impact of a QRTC with a value of USD 150.

Table 11. Tax liabilities under the GloBE Rules if X offers a QRTC

P2 Design	**SBIE**	**SBIE and QDMTT**	**SBIE**	**SBIE and QDMTT**
Tax Rate QRTC	**15% 10**		**15% 150**	
1. ETR *Numerator* *Denominator*[70] *ETR*	 150 1,010 14.85%	 150 1,010 14.85%	 150 1,150 13.04%	 150 1,150 13.04%
2. Top-Up Rate	0.15%	0.15%	1.96%	1.96%
3. Top-Up Tax	0.15% of 610 =0.92	0	1.96% of 750 =14.7	0
QDMTT	/	0.92	/	14.7
Tax Paid				
Total Tax Paid by MNE (excl. credit)	150.92	150.92	164.7	164.7
Total Tax Paid by MNE (incl. credit)	140.92	140.92	14.7	14.7
Tax in W (Parent's Residence)	0.92	0	14.7	0
Tax in X (excl. credit)	150	150.92	150	164.7
Tax in X (incl. credit)	140	140.92	0	14.7

70 Note that the QRTC is added to the denominator.

Post-GloBE ETR				
Post-GloBE ETR as % of GloBE Income (incl. credit)	14.09%	14.09%	1.47%	1.47%
Post-GloBE ETR as % of Excess Profit (incl. credit)	23.49%	23.49%	2.45%	2.45%
X's trade-off in reducing its Corporation Tax liability (net of QRTC)				
Total tax forgone by X	10	9.09	150	135.3
Total tax saved by MNE	9.09	9.09	135.3	135.3
Ratio	1:0.91	1:1	1:0.91	1:1

*Numbers have been rounded to two decimal places.

By offering a QRTC, X can reduce MNE's post-GloBE ETR below 15% of EP. In the example, a credit equal to the corporation tax liability (USD 150) results in MNE paying tax equal to 2.45% of EP. Such a reduction cannot be achieved through a reduction in the corporation tax rate or a non-QRTC (or other narrowing of the base).[71] Countries that are willing to offer government grants and QRTCs can thus outcompete countries that are not.

4.4.2. The impact of the QDMTT

In the absence of the GloBE Rules, the ratio of tax forgone by source countries to the tax reduction enjoyed by multinationals is 1:1. Section 4.1.1. above showed that the GloBE Rules without the QDMTT alter this ratio in the context of a tax rate reduction, thus increasing countries' cost of competing. But the addition of the QDMTT restores the ratio to 1:1. The same analysis applies to non-QRTCs and QRTCs. Without the QDMTT, a USD 1 credit offered by X reduces the MNE's tax liability by USD 0.4 if the credit is a non-QRTC and USD 0.92 if the credit is a QRTC, with the difference being collected by W through the IIR. But again, the addition of the QDMTT restores the ratio to 1:1.

4.4.3. Multinational benefit from QRTCs vs non-QRTCs

71 For non-QRTCs (non-qualified refundable tax credits), the total ETR (taking into account the credit) would still need to be at least 15% of EP *at least insofar as the tax credit could not be used directly against the QDMTT*. It seems reasonable to argue that if a jurisdiction purported to allow a domestic tax credit to be used against a QDMTT liability, then the IIR jurisdiction would not have to treat the full amount of QDMTT as having been imposed (i.e. it would not have been a *qualifying* domestic minimum top-up tax). In such a case, a top-up tax obligation may still exist under the IIR. A jurisdiction could avoid this argument by making the tax credit refundable. However, this would generally make the tax credit a QRTC (and not a non-QRTC). We note that a further technical question could arise as to whether a jurisdiction could create a generally non-refundable tax credit that was only refundable to the extent of any QDMTT obligation. In such a case, there may be a strong argument in favour of claiming that such a rule would violate the requirement that a QDMTT not provide any "benefit" under the tax system.

In *most* cases, it will be in a multinational's interest for a tax credit to be a QRTC. This is because a QRTC will reduce the ETR (in step one of the GloBE calculation) for the jurisdiction by less than an equal non-QRTC (a reduction in the numerator will more significantly reduce the ETR than an equal addition to the denominator). This outcome is demonstrated in the example set out in Table 12. in which a multinational has GloBE income of USD 1000 in Country X where the Corporation Tax rate is 15%. In the base case (column 2), MNE has covered taxes of USD 150 and an ETR of 15%. Columns 3 and 4, set out the effect of the addition of a USD 100 tax credit – as a QRTC (column 3) and then as a non-QRTC (column 4). The SBIE in this example is USD 500. It is straightforward to see that MNE is better off with a QRTC than a non-QRTC because the latter results in a higher top-up tax liability.

Table 12. Multinational benefit from QRTCs vs non-QRTCs

	No Tax Credit	**QRTC**	**Non-QRTC**
GloBE Income	1000	1100 (1000 + 100)	1000
Covered Taxes	150	150	50 (150 - 100)
ETR	15%	13.6% (150 / 1100)	5% (50 / 1000)
Top-up Tax Percentage	0%	1.4%	10%
SBIE	/	500	500
Excess Profit	/	600 (1100 - 500)	500 (1000 - 500)
Total Top-up Tax	/	8.4 (1.4% * 600)	50 (10% * 500)

However, it will not *always* be in a multinational's interest for a tax credit to be a QRTC due to the interaction with the SBIE. Any QRTC will be added to the GloBE income and therefore, despite resulting in a higher ETR for the jurisdiction, it can result in a greater amount of total top-up tax if the SBIE "shelters" or covers a significant portion of the undertaxed income. This outcome is demonstrated by increasing the SBIE in the example set out above from USD 500 to USD 1000. The effect of this increase is shown in Table 13.

Table 13. Potential disadvantage to the multinational of QRTCs vs non-QRTCs

	No Tax Credit	**QRTC of $100**	**NQRTC of $100**
GloBE Income	1000	1100 (1000 + 100)	1000
Covered Taxes	150	150	50 (150 - 100)
ETR	15%	13.6% (150 / 1100)	5% (50 / 1000)
Top-up Tax Percentage	0%	1.4%	10%
SBIE	/	1000	1000
Excess Profit	/	100 (1100 - 1000)	0 (1000 - 1000)
Total Top-up Tax	/	1.4 (1.4% * 100)	0 (10% * 0)

With SBIE set at USD 1000, MNE is disadvantaged by having a tax credit treated as a QRTC rather than a non-QRTC. The QRTC produces a higher ETR for the jurisdiction (13.6% rather than 5%). However, this "benefit" is offset by the fact that there is now more EP under the QRTC treatment than there is for the non-QRTC (USD 100 rather than USD 0). On the whole, this outcome will only happen when there is a high SBIE as a percentage of profit (at least

85% but generally higher). The circumstances in which this requirement will be met are expressed algebraically in the Appendix. While this is an unexpected (and perhaps unintended) outcome, it is unlikely to produce a significant practical issue. A country could attempt to provide the "best of both worlds" by providing an option between a refundable and a non-refundable tax credit, but the circumstances in which this would benefit taxpayers are relatively limited. The additional complexity is unlikely to be justified to provide this narrow benefit.

4.4.4. Conclusion

Section 4.1.1. concluded that the GloBE Rules create a floor on the total tax paid by multinationals (15% of EP) and an effective floor to tax competition over total tax paid in source countries (zero corporation tax and 15% EP collected through a QDMTT). But countries wishing to compete aggressively can go (or stay) below these floors by offering grants and QRTCs. The question then arises whether there are constraints on the use of government grants and QRTCs. While the GloBE Rules do not appear to limit their provision to multinationals by governments,[72] the Commentary leaves open the possibility of "developing further conditions" for a QRTC and exploring "alternative rules" if there are unintended outcomes.[73]

For QRTCs, there are the limitations imposed by BEPS Action 5 on Harmful Tax Practices to consider. However, an Action 5 compatible regime only requires that there be a sufficient nexus between the regime and the jurisdiction. Of course, there may also be political constraints on the provision of credits, as well as legal constraints, such as State aid law in the EU and WTO law.

BIAC (business at OECD group) has argued that "there are myriad reasons why countries cannot move *en masse* towards refundable credit regimes, including the potentially significant fiscal cost of that in early years".[74] Clearly, fiscal cost is an important issue. The total cost of providing refundable credits is generally higher than that of providing non-refundable tax credits,[75] but while countries are required to make the tax credit refundable

---

72 While there are restrictions on when a particular tax credit will be considered a QRTC, these do not generally limit the purposes for which the credit can be given.

73 Commentary to GloBE Model Rules, *supra* n. 25, at art. 10, para. 138.

74 Business at OECD (BIAC), Letter to the Chairs & Members of Working Party 11 on Aggressive Tax Avoidance (WP11) (11 March 2022).

75 While at a high-level there is a 1:1 ratio in the value of QRTCs and non-QRTCs, in practice, certain companies entitled to non-refundable tax credits will not be able to use those credits immediately. The

to qualify as a QRTC, the credit may not actually be refunded in most cases. The Commentary requires that the credits be refundable "as a matter of substance, not merely form".[76] It also requires that the refund mechanism has "practical significance for those taxpayers entitled to the credit".[77] However, it notes that "a tax credit regime that is generally available to taxpayers will not cease to be a QRTC simply because all the taxpayers that take advantage of that credit happen to be profitable".[78] The Commentary offers an interesting option for countries, by providing that the ability to use the credit to discharge tax liabilities other than a covered tax liability would fall within the definition of refundable.[79] Given that countries that are so inclined can use QRTCs to compete aggressively post-GloBE Rules, the qualification of credits as QRTCs could be a hotly disputed issue among countries.

It is beyond the scope of this article to ask whether the creation of an incentive to switch from non-refundable to refundable credits is positive from a policy perspective. But there is no doubt that the GloBE Rules create this incentive, and that the pressure on countries to adopt QRTCs – whether they like it or not – will increase as competitors adopt them.[80] This is the type of competitive pressure that the GloBE Rules were meant to address.

---

inability to use some non-QRTCs immediately means that QRTCs are a higher cost to revenue than non-QRTCs.

76 Commentary to GloBE Model Rules, *supra* n. 25, at art. 10, para. 136.

77 Id.

78 Id.

79 Id., at art. 10, para. 135.

80 For further analysis regarding the use of QRTCs, *see* H. Wardell-Burrus, *State Strategic Responses to the GloBE Rules*, Oxford Centre for Business Taxation Working Paper (2022).

A question also arises about the interaction between two strategies available to the host country that could in principle be used to reduce the post-GloBE ETR[81] of multinationals: cutting the corporation tax and introducing a QDMTT, and using QRTCs/grants.[82]

In the Appendix the authors demonstrate that, putting to one side the limitations on "collateral benefits" for the QDMTT and "practical significance" for QRTCs, whatever the corporate tax rate in a country, it could reduce a multinational's post-GloBE ETR all the way to 0% by offering QRTCs/grants. Indeed, it could go beyond this point and provide net subsidies. In other words, the Appendix makes it clear that there are a number of combinations of the corporation tax liability and QRTCs/grants which could achieve a particular post-GloBE ETR.

An example is given in Figure 2. for the extreme case in which the country would like to generate a post-GloBE ETR of 0% (the net liability is zero leading to a Post-GloBE ETR of 0%). It is assumed that the country levies a corporation tax on a base equal to GloBE income, assumed to be USD 1,000. The company has an SBIE of USD 400. Setting the corporation tax rate to 15%, so that the corporation tax liability is USD 150, requires a QRTC/grant of USD 166.4. Adding the QRTC/grant to the denominator of the ETR calculation yields an ETR of 12.86% and a QDMTT charge of around USD 16.4, so that the *net* liability is zero. At the other end of the spectrum, setting the Corporation Tax rate to zero yields an ETR of zero, and so the QRTC/grant would need be equal to the QDMTT, at around USD 105.9.[83] The point here is that the line in Figure 2. traces out a set of combinations of the tax rate and the QRTC/grant that in this example result in a net liability of zero, and hence a post-GloBE ETR of 0%. It would clearly be possible to calculate combinations of these two parameters that result in other values of the *net* liability.

Figure 2. Combinations of QRTC and CIT rate for zero net revenue

This analysis suggests that – in principle at least – there are several options open to a country seeking to improve its competitive position relative to other countries. It could:

81 In the context of QRTCs and grants, the post-GloBE ETR would also take into account the value of the credit or grant received.

82 The authors are grateful to the anonymous reviewer who raised this issue and encouraged them to think it through.

83 It seems reasonable to assume that QRTCs can only be offered if a corporation tax regime is in place with a positive rate. Therefore, if countries go down to the floor of no corporation tax or a corporation tax with a rate of zero and a QDMTT, they would not be able to use QRTCs to lower multinationals post-GloBE ETRs below 15% of EP, but they would be able to use grants for this purpose.

(i) reduce its corporation tax rate and adopt a QDMTT – this could lower the total tax paid by MNE down to 15% of EP;
(ii) keep its corporation tax rate and offer QRTCs / grants – this could lower the total net liability of the MNE to zero, or even below zero; or
(iii) reduce its corporation tax rate, adopt a QDMTT, and offer QRTCs/grants – which could achieve the same result as (ii).

Various factors come into play when deciding which strategy to pursue. Some brief reflections are offered here.

First, as discussed above, the GloBE Rules aim to constrain countries' ability to use QRTCs and grants, especially to achieve the outcome of a lower net tax liability. There are two main mechanisms through which the GloBE Rules could police these outcomes. First, for a tax credit to achieve treatment as a QRTC under the GloBE Rules, the refund mechanism must have practical significance. If the relevant "credit" ensured that a net tax liability never arose, we should expect that it will not be treated as a QRTC. As also noted above, the Commentary leaves open the possibility of "developing further conditions" for a QRTC and exploring "alternative rules" if there are unintended outcomes.[84] Second, there is a policing mechanism in the requirement that a QDMTT cannot provide a "collateral benefit". If a country developed a system of grants to each MNE such that the grant roughly approximated the state's QDMTT liability, the peer review process may simply declare that the domestic minimum tax is not a QDMTT. An offsetting grant could be regarded as a relevant collateral benefit.

It is not yet clear where the line between permissible and impermissible country responses is, or will be, drawn by these and, possibly, further requirements. It is also not yet clear whether the peer-review process envisaged under the GloBE Rules would be able to practically enforce these requirements. But there may be benefits in combining the two strategies (i.e. option (iii)). For example, it seems plausible that to achieve high QRTCs/grants their design will have to push at the boundary of what is permissible more than the design of low QRTCs/grants. With this in mind, (iii) may have the benefit of requiring lower QRTCs and grants to reach a particular outcome than (ii).[85] Also, countries

84 Commentary to GloBE Model Rules, *supra* n. 25, at art. 10, para. 138.

85 Note that in the above example, if the country follows strategy (ii) (i.e. maintains a 15% corporation tax rate and relies exclusively on QRTCs/grants to lower the post-GloBE ETR to 0%), it must offer QRTCs/grants of USD 166.4. But if the country follows strategy (iii) (i.e. reduces the corporation tax rate to 0%, adopts a QDMTT, and offers a grant), it must offer a grant of only USD 150.9.

could attempt to obfuscate the low tax outcomes by combining the use different strategies: non-QRTCs and grants, as well as corporation tax cuts and the QDMTT.

Second, QRTCs and grants give rise to concerns over fraud. Countries aiming for a specific post-GloBE ETR may therefore want to choose strategy (iii) to minimize the reliance on QRTCs and grants. On the other hand, this may be less of a concern for the large MNEs that will be in-scope for the GloBE Rules.

5. Are There Factors That Alter the Conclusions Reached in Section 4?

Section 4 concluded that the GloBE Rules create an effective floor to tax competition over total tax paid in source countries (zero corporation tax and 15% EP collected through a QDMTT). Countries can improve their competitive position for investment by reducing the total tax they collect down to this point. It was also seen that countries can compete below this floor if they are willing to offer QRTCs and grants. The analysis leading to these conclusions set aside a few factors that, in principle, could qualify the conclusions reached. This section considers three possible factors: first, the interaction of CFC and GloBE rules; second, the QDMTT potentially being afforded less favourable treatment than the corporation tax under the tax systems of other states and under aspects of the GloBE Rules; and, third, countries potentially not being permitted to lower the corporation tax just for businesses that are within the scope of the GloBE Rules.

5.1. The Interaction between CFC Taxes and GloBE Rules

The Administrative Guidance on Pillar Two released in February 2023 (the 'Administrative Guidance')[86] provided an important clarification regarding the interaction between the QDMTT and CFC taxes. The QDMTT is to be calculated without taking into account the cross-border allocation of CFC taxes (or head office taxes with respect to a permanent establishment). This clarifies the priority ordering rule between the QDMTT and CFC taxes – the QDMTT goes 'first'. This outcome is justifiable from the perspective of a policy that gives priority to "source" countries, but it comes with additional complexity for the GloBE Rules. In effect, there is now a separate calculation of the ETR for a jurisdiction for the purposes of applying a QDMTT (excluding CFC taxes from the ETR numerator) and for applying the IIR or UTPR (including CFC taxes in the ETR numerator).[87]

86 OECD (2023), *Tax Challenges Arising from the Digitalisation of the Economy – Administrative Guidance on the Global Anti-Base Erosion Model Rules (Pillar Two)*, OECD/G20 Inclusive Framework on BEPS, OECD, Paris. www.oecd.org/tax/beps/administrative-guidance-global-anti-base-erosion-rules-pillar- two.pdf.

87 For example, assume an ultimate parent, P, in Country A owns subsidiaries in Countries B (S) and C (S*). A collects USD100 through its CFC regime on the profit earned by S Co in B. Assume also that A does not operate an IIR and that C operates a UTPR. If B does not operate a QDMTT the USD 100 in CFC tax paid to A is included in the numerator in calculating S Co's ETR to determine whether a UTPR charge arises in C. If B does operate a QDMTT, the same calculation is made to determine a possible UTPR liability. However, a second ETR calculation is necessary for QDMTT purposes. In this calculation the USD 100 in CFC tax is not added to the

While the Administrative Guidance applies with respect to all CFC taxes, it is particularly important in the context of the US GILTI regime because GILTI applies to 'active' income and because of the US's importance as a capital exporter. GILTI is complex, thus making its impact on other countries' incentives complicated. The Administrative Guidance also introduces a temporary allocation mechanism for 'Blended CFC Regimes' such as GILTI. This too can have an impact on countries' incentives, thus complicating the analysis further. A detailed analysis of the specific incentives created by GILTI – particularly during this transitional period - is beyond the scope of this article.[88] This subsection simply considers whether the incentives identified in Section 4, and hence its conclusions, are altered by the interaction between CFC and GloBE Rules generally, and, if so, in which direction. This is done by considering two simple CFC rules – one giving a full and the other a partial credit for the tax paid at source. Some brief additional comments on the specific incentives created by GILTI during this transitional period follow this general analysis.

As noted in Section 4.3., a country's decision on setting its corporation tax (rate and base) is complex because it competes against countries with different corporation taxes, over investment from countries also with different corporation taxes. Further complicating factors include that a country may compete for investments that earn higher and lower pre-tax incomes elsewhere. Optimally, a country would set its corporation tax so that each individual investment earns a marginally higher after-tax income than it would earn in the next best alternative jurisdiction. This is impossible to achieve through a single corporation tax regime. Consequently, when setting their corporation taxes countries generally make compromises based on broad considerations of the kind set out in this subsection.

As a first step, consider the impact CFC rules have on competition in the absence of GloBE Rules by returning to the example used in Section 4.1. In this example Country X competes with Country Y for investment from a multinational (MNE) resident in a third country. X and Y start off with a 15% corporation tax rate, and the investment generates pre-tax income of USD 1,000 in X or Y. X faces a trade-off. It is willing to forgo tax revenue (its cost) if it reduces the total tax paid by MNE, as this improves the probability that MNE chooses to invest in X (its benefit). The improvement in X's competitive position by a rate reduction thus depends on the reduction in MNE's total tax liability. If X competes with Y for investment from Country Z, which does not operate a CFC regime, X faces a 1:1 trade-off as it reduces its rate all the way to zero. For every USD 1 in tax forgone by X, MNE's total tax liability is reduced by USD 1. Do CFC rules affect this trade-off? In other words, in the presence of CFCs *if X foregoes USD 1 in tax by how much is MNE's total tax liability reduced?*

---

numerator in calculating S Co's ETR. In practice, it appears unlikely that an IIR or UTPR charge will be due in addition to the QDMTT charge in such cases.

88 These issues are addressed more substantively in Heydon Wardell-Burrus, '*GloBE Administrative Guidance – The QDMTT and GILTI Allocation | Oxford University Centre for Business Taxation*', 17 February 2023.

Consider competition over investment from Z*. Z* operates a CFC regime with a 12% rate, which covers both active and passive income, and includes a full credit for taxes paid at source.[89] As seen in Table 14 below, X can improve its competitive position by cutting its tax rate from 15% to 12% (a 1:1 trade-off) but it cannot improve its position by cutting its tax rate further (the trade-off becomes 1:0 after this point). For example, if X cuts its tax rate from 12% to 11% it forgoes USD 10 in revenues (USD 110 instead of USD 120) but MNE's total tax paid is unchanged (USD 120), and hence so is its competitive position. In this case, X's most aggressive competitive position is to set its corporation tax rate to equal Z*'s CFC rate (12%), it has no incentive to go beyond this point.

Table 14. GloBE not implemented; Z* operates a CFC regime with full credit

X's CIT Rate	14%	13%	12%	11%	1%	0%
CIT in X	140	130	120	110	10	0
CFC tax in Z*	0	0	0	10	110	120
Total Tax paid by MNE	140	130	120	120	120	120

Assume now that X and Y compete over investment from Z**. Z** operates the same CFC regime as Z* but only offers a credit for 90% of tax paid at source. X can improve its competitive position by reducing its corporation tax rate all the way to zero, but the trade-off is less favourable than 1:1 once CFC tax becomes due. From this point the trade-off is only 1:0.1 (0.1 is equivalent to 1 minus the credit) (Table 15). Once CFC tax becomes due, for every USD 1 forgone by X, its competitive position only improves by USD 0.1. For example, if X cuts its tax rate from 12% to 11% it forgoes USD 10 (USD 110 instead of USD 120) but MNE's total tax paid is only reduced by USD 1 (USD 131 instead of USD 132).

Table 15. GloBE not implemented; Z operates a CFC regime with a 90% credit**

X's CIT Rate	14%	13%	12%	11%	1%	0%
CIT in X	140	130	120	110	10	0
CFC tax in Z**	0	3[90]	12	21	111	120
Total Tax paid by MNE	140	133	132	131	121	120

89 To keep the example simple, we also assume that there is no substance based-carve out in the CFC regime.

90 The CFC calculation in Z* is USD 120 (CFC tax of 12% on USD 1,000 of profit) less a credit equal to 90% of corporation tax paid in X. If X's tax rate is 13% this is (USD 120 - USD 117).

If X competes for investment from Z, Z* and Z** it must strike a compromise, depending on their importance as capital exporters and other factors. Broadly, X can still improve its competitive position by reducing its corporation tax rate, but the adoption of CFC regimes by Z* and Z** weakens the benefit of reducing it to zero. Note, also, that by adopting CFC rules, Z* and Z** place their businesses at a competitive disadvantage relative to businesses in Z and X over investment in X.

How does the adoption of GloBE alter these trade-offs? Consider the example set out above with the following alterations. Z, Z* and Z** do not implement IIRs but Z* and Z** operate the same CFC regimes as above. MNE has a subsidiary, S, in Country W, which operates a UTPR. Of USD 1,000 pre-tax income earned in X or Y, USD 400 is covered by the SBIE. The analysis assumes that Z* and Z** give a credit for both corporation tax and QDMTT paid in X.

As seen in Section 4.1, X can improve its competitive position for investment from Z by reducing its corporation tax rate to zero and adopting a QDMTT.

If X competes for investment from Z* it has an incentive to introduce a QDMTT. By doing so it collects more revenue *and* improves its competitive position[91] for a given corporation tax rate.[92] If X does not adopt a QDMTT, it can improve its competitive position for investment from Z*, by cutting its corporation tax rate until it is equal to Z*'s CFC rate (the trade-off is 1:SBIE/P up to this point), but not if it cuts it further (the trade-off becomes 1:0 after this point), as seen in Table 16. However, if X adopts a QDMTT, it can improve its competitive position for investment from Z* by reducing its corporation tax rate even below Z*'s CFC rate. In this example, X improves its competitive position by reducing its corporation tax rate down to 7.5% (the trade-off is 1:1 up to this point if one includes both corporation tax and QDMTT), but not further (the trade-off becomes 1:0 from that point on). This is the point where the sum of corporation tax and QDMTT paid in X is equal to the CFC liability in Z*, and no further UTPR or CFC tax is due.

Table 16. GloBE implemented; Z* operates a CFC regime with a full credit; X does not implement QDMTT

X's Domestic Tax Rate	14%	13%	12%	11%	7%	0%
CIT in X	140	130	120	110	70	0
Tax collected by Z* through CFC	0	0	0	10	50	120
TOP UP TAX CALCULATION						

91 If Z sets its corporation tax rate at 7%, for example, it collects USD 118 if it adopts a QDMTT instead of USD 70, and MNE pays total tax of USD 120 instead of USD 138. See Table 16.

92 If X does not adopt a QDMTT, CFC tax is due once X's corporation tax rate falls below 12% - bringing the corporation tax and CFC tax up to USD 120 - and in addition UTPR is due on top. If X adopts a QDMTT, CFC tax is only due once the corporation tax and QDMTT add to less than USD 120. In this case, the CFC tax will top up the difference up to USD 120.

1. ETR (for IIR/UTPR) **Numerator**	140	130	120	120[93]	120	120
Denominator	1,000	1,000	1,000	1,000	1,000	1,000
ETR	14%	13%	12%	12%	12%	12%
2. Top-Up Rate	1%	2%	3%	3%	3%	3%
3. Top-Up Tax (UTPR)	6	12	18	18	18	18
Total Taxes						
Total tax collected by X	140	130	120	110	70	0
Tax collected by W through UTPR	6	12	18	18	18	18
Tax collected by Z* through CFC	0	0	0	10	50	120
Total tax paid by MNE	146	142	138	138	138	138

Table 17. GloBE implemented; Z* operates a CFC regime with a full credit; X adopts a QDMTT[94]

X's Domestic Tax Rate	**14%**	**13%**	**12%**	**11%**	**8%**	**7.5%**	**7%**	**6%**	**0%**
TOP UP TAX CALCULATION **1. ETR (for QDMTT)** **Numerator**	140	130	120	110[95]	80	75	70	60	0
Denominator	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
ETR	14%	13%	12%	11%	8%	7.5%	7%	6%	0%
2. Top-Up Rate	1%	2%	3%	4%	7%	7.5%	8%	9%	15%
3. Top-Up Tax	0	0	0	0	0	0	0	0	0

93 Recall that CFC taxes are included in the numerator for the purpose of calculating the top-up tax liability under the IIR and the UTPR. If X's corporation tax rate is 11%, S pays USD 110 in corporation tax to X. MNE pays USD 10 in CFC tax to Z*. The ETR calculation for the purposes of the UTPR liability then is (110+10)/1,000.

94 Technically, the ETR in X should be recalculated for IIR or UTPR purposes. As the IIR/UTPR liability is unlikely to be positive in the presence of a QDMTT, it is left out of the calculations in Table 17 and 19 for simplicity of exposition.

95 Recall that CFC taxes are not included in the numerator for the purpose of calculating the top-up tax liability under the QDMTT.

QDMTT	6	12	18	24	42	45	48	54	90
Total Taxes									
Total tax collected by X	146	142	138	134	122	120	118	114	90
Tax collected by W through UTPR	0	0	0	0	0	0	0	0	0
Tax collected by Z* through CFC	0	0	0	0	0	0	2	6	30
Total tax paid by MNE	146	142	138	134	122	120	120	120	120

Tables 18 and 19 show that X can improve its competitive position by reducing its corporation tax rate all the way to zero when competing for investment from Z**. But once CFC tax is due, for each USD 1 forgone by X, its competitive position is improved by less than USD 1 (it is reduced by (1-c)SBIE/P if X does not adopt a QDMTT, and by (1-c) if X adopts a QDMTT, where c is the credit). X still has an incentive to introduce a QDMTT in this case, as this increases the revenue it collects *and* improves its competitive position relative to not introducing a QDMTT.[96]

Table 18 GloBE implemented; Z operates a CFC regime with a 90% credit; X does not adopt a QDMTT**

X's Domestic Tax Rate	14%	13%	12%	11%	10%	7%	6%	1%	0%
CIT in X	140	130	120	110	100	70	60	10	0
Tax collected by Z* through CFC	0	3	12	21	30	57	66	111	120
TOP UP TAX CALCULATION **1. ETR** **Numerator**	140	133	132	131	130	127	126	121	120
Denominator	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
ETR	14%	13.3%	13.2%	13.1%	13%	12.7%	12.6%	12.1%	12%
2. Top-Up Rate	1%	1.7%	1.8%	1.9%	2%	2.3%	2.4%	2.9%	3%
3. Top-Up Tax	6	10.2	10.8	11.4	12	13.8	14.4	17.4	18
Total Taxes									
Total tax collected by X	140	130	120	110	100	70	60	10	0
Tax collected by W through UTPR	6	10.2	10.8	11.4	12	13.8	14.4	17.4	18
Tax collected by Z* through CFC	0	3	12	21	30	57	66	111	120
Total tax paid by MNE	146	143.2	142.8	142.4	142	140.8	140.4	138 .4	138

96 If X sets it corporate tax rate to zero, for example, it collects no tax if it does not introduce a QDMTT and USD 90 if it does. Also note that the total tax paid by MNE is USD 138 in the former case and USD 129 in the latter.

Table 19 GloBE implemented; Z operates a CFC regime with a 90% credit; X adopts a QDMTT**

X's Domestic Tax Rate	14%	13%	12%	11%	10%	8%	7%	6%	1%	0%
1. ETR										
Numerator	140	130	120	110	100	80	70	60	10	0
Denominator	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
QDMTT ETR	14%	13%	12%	11%	10%	8%	7%	6%	1%	0%
2. Top-Up Rate	1%	2%	3%	4%	5%	7%	8%	9%	14%	15%
QDMTT	6	12	18	24	30	42	48	54	84	90
Tax collected by Z* through CFC	0	0	0	0	3	10.2	13.8	17.4	35.4	39
Total Taxes										
Total tax collected by X	146	142	138	134	130	122	118	114	94	90
Tax collected by W through UTPR	0	0	0	0	0	0	0	0	0	0
Tax collected by Z* through CFC	0	0	0	0	3	10.2	13.8	17.4	35.4	39
Total tax paid by MNE	146	142	138	134	133	132.2	131.8	131.4	129.4	129

Table 20 summarizes X's trade-offs when competing for investment from Z, Z* and Z**. It sets out by how much MNE's total tax liability is reduced (and therefore by how much X's competitive position improves) when X reduces its total tax liability by USD 1. Overall, it suggests that the conclusions reached in Section 4.1 fundamentally hold but need qualification. X has an incentive to introduce a QDMTT whether it seeks to attract investment from Z, Z*, or Z**. It can improve its competitive position for investment from Z and Z** by reducing its corporation tax rate to zero, but the improvement is weaker for Z**. It can improve its competitive position for investment from Z* by reducing its corporation tax rate below Z*'s CFC rate but above zero. If X seeks to attract investment from all three countries, it has to reach a compromise, depending on factors such as the relative importance of the countries as capital exporters.

Table 20 Pass-through of benefit of reduction in domestic tax liability of $ 1

Abbreviations:
P = total financial accounting profit
SBIE = Substance Based Income Exclusion
T = corporation tax paid in X
Q = QDMTT paid in X
CFC = gross CFC tax liability in Z* or Z** (i.e. before credit)
C = proportion of X's tax credited against CFC tax in Z* or Z** a

	Z (no CFC regime)	Z* (CFC with full credit)	Z** (CFC with partial credit)
Pre-GloBE	**1**	**1** where T>CFC **0** where T<CFC	**1** where CT>CFC **1-C** where CT<CFC
Post-GloBE **X does not adopt QDMTT**	**SBIE/P**	**SBIE/P** where T>CFC **0** where T<CFC	**SBIE/P** where CT>CFC **(1-C) SBIE/P** where CT<CFC
Post-GloBE **X adopts QDMTT**	**1**	**1** where (T+Q)>CFC **0** where (T+Q)<CFC	**1** where C(T+Q)>CFC **1-C** where C(T+Q)<CFC

GILTI[97]

The analysis above applies to CFC regimes on a jurisdictional basis. It does not apply to CFC regimes on a blended basis, including GILTI, up till the end of 2025 because of the temporary rules introduced in the Administrative Guidance.

GILTI has a 20% 'haircut' for foreign taxes paid. Partial credits have been examined above. But the US foreign tax credit limitation rules can also produce outcomes whereby the taxpayer is unable to use a proportion of the foreign tax credits it has. When a taxpayer is in this 'excess foreign tax credit position' additional foreign taxes can increase its total amount of taxes dollar for dollar. A source state seeking to attract investments from such MNEs could adopt a more competitive position by not imposing corporation tax or a QDMTT.

Furthermore, the Administrative Guidance provided a temporary allocation mechanism for 'Blended CFC Regimes' such as GILTI. Under this allocation mechanism, there can be cases where CFC taxes which are paid under a blended regime as a result of foreign tax credit limitations are effectively allocated to low tax jurisdictions and reduce the IIR or UTPR which would otherwise be payable with respect to those jurisdictions. This allocation mechanism means that jurisdictions without a Corporation Tax or a QDMTT may nevertheless not be subject to the IIR or QDMTT due to the allocation of CFC Taxes (which could have arisen with respect to other jurisdictions under a Blended CFC Regime). Overall, therefore, these considerations could affect the competitive strategies of countries seeking to attract investment from these particular US multinationals during this transitional period.

---

97 For detailed analysis on these issues see Heydon Wardell-Burrus, '*GloBE Administrative Guidance – The QDMTT and GILTI Allocation | Oxford University Centre for Business Taxation*', 17 February 2023.

5.2. Treating a QDMTT less favourably than a corporation tax

Countries' incentives to reduce their corporation tax and to rely more on the QDMTT could be weakened by the GloBE simplification rules. There is widespread agreement on the need for administration simplification for the GloBE Rules, but the design of such rules raise difficult political and technical questions and at the time of writing they are yet to be finalized.[98] Depending on their final design, if agreed at all, simplification rules could make a significant difference for multinationals' compliance costs, thus increasing the attractiveness of countries that qualify for the simplified procedure as investment locations. Consequently, if having a corporation tax rate above a certain threshold is a factor that can "turn off" GloBE Rules, countries' incentive to reduce their corporation tax rate could be weakened. Countries could also have an increased incentive to adopt a QDMTT if this is included in the safe harbour (i.e. if a QDMTT in a jurisdiction meant that the top-up tax liability for that jurisdiction did not need to be calculated as part of the application of the IIR or UTPR). However, it is unclear whether this would provide a compliance saving to MNEs which would be required to calculate their QDMTT liability which would match the relevant IIR calculation. Even in such a case, the question as to whether countries have an incentive to rely on corporation tax instead of a QDMTT is somewhat separate.

There could be an incentive to retain a sufficient corporation tax rate if other countries have adopted conditional taxes (other than top-up taxes under the GloBE Rules) which will apply if insufficient corporation tax is paid in the jurisdiction or on a transaction. For example, Pillar Two's own STTR requires the recipient of a payment to be subject to a nominal tax rate of 9%. Similarly, anti-hybrid rules can impose additional tax on the payer of an amount if the recipient is not subject to tax on the receipt of that amount. Certain conditional withholding tax regimes also operate in this manner. In determining whether the minimum tax condition is met under these taxes, corporation tax is clearly a "relevant" tax which – if imposed above a certain threshold – is sufficient to "turn off" the conditional tax. It is unclear how such conditional taxes would treat a QDMTT (which is generally a matter for the domestic law of countries which have adopted such taxes). If QDMTTs are not deemed to be relevant taxes for these purposes, they may weaken the incentive for countries to reduce their corporation tax and rely on the QDMTT instead. By making payments to a country with insufficient corporation tax (despite an applicable QDMTT), related entities may be subject to further conditional taxes. This may discourage MNEs from locating relevant activities and assets in such a country.

Assume that Countries A and B both levy a corporation tax of 3%. Following the introduction of the GloBE Rules, A maintains the same corporation tax rate but introduces a QDMTT. B

98 While some information on 'safe harbours' was released in December 2022, this does not include a full description of the permanent safe harbours. See OECD (2022), 'Safe Harbours and Penalty Relief: Global Anti-Base Erosion Rules (Pillar Two)', 15 December 2022, OECD, Paris. *See further* C. Döllefelder al., *Tax Administrative Guidance: A Proposal for Simplifying Pillar Two,* 50 Intertax 3 (2022).

increases its corporation tax rate to 15%. Country C introduces a conditional withholding tax on certain payments to countries that impose a corporation tax liability below 12%. C does not recognise QDMTTs as "relevant" corporation taxes for these purposes. Therefore, A will be subject to the withholding tax, but B will not. From this perspective, A may have an incentive to increase its corporation tax rather than (or as well as) introduce a QDMTT. Note however that if Countries C and D both introduce a withholding tax of this kind, D would gain a competitive advantage over C if it affords B's QDMTT the same treatment as a corporation tax. In other words, C has an incentive to afford the QDMTT the same treatment as the corporation tax, because failing to do so would place it at a competitive disadvantage relative to D. This simple analysis shows that the incentives in such situations are not straightforward.

From a policy perspective it is unclear why the QDMTT should be afforded less favourable treatment than a corporation tax under conditional taxes or other anti-avoidance rules. The primary policy objective of these rules is to disincentive companies from earning income in countries that tax them below a certain threshold. The QDMTT is a tax on income that increases the total tax paid in a country, and it would be legalistic and artificial to ignore it. More generally, as seen, countries cooperated on the GloBE Rules to ensure that multinationals pay a minimum level of tax and to bring to an end the race to the bottom among source countries. The multilaterally agreed minimum is 15% of EP – and the rules allow that amount to be collected by source countries through a QDMTT. From a policy perspective it is unclear why residence countries would treat source countries as if they were failing to respect the compromise reached, when they are not.

5.3. Uniform vs differentiated regime

The incentives to rely on the QDMTT over a corporation tax would be weakened if countries are not permitted to reduce the corporation tax just for companies that are within the scope of the GloBE Rules. They would be weakened to the extent that countries would not otherwise wish to undertake such a change for out-of-scope business. This question arises within the broader context of whether countries have an incentive to operate a uniform or a differentiated corporation tax regime (with a different regime for different entities) post-GloBE. Countries may wish to operate a differentiated regime by introducing a more favourable or less favourable regime for out-of-scope businesses, or by excluding purely domestic or foreign headquartered businesses from the operation of the GloBE Rules. These options are considered in turn.

It may have been hoped that countries would respond to the GloBE Rules by altering their corporation tax regimes uniformly, for example by increasing their headline corporation tax rate. But countries may wish to adopt a differentiated response if this is feasible and compatible with existing hard and soft law. Assuming for now that it is, the GloBE Rules would leave the policy considerations that currently guide the design of a particular country's corporation tax regime largely unchanged for out-of-scope businesses. For such businesses, countries' incentives and ability to compete would be generally unchanged, and so would businesses' incentives and ability to shift real activity and profit. Therefore, some

countries could choose to leave the corporation tax regime unchanged, and simply adopt a QDMTT for in-scope businesses.

Countries could also choose to lower the corporation tax for in-scope but not for out-of-scope businesses. Section 4., above, concluded that the GloBE Rules create a strong incentive for countries to adopt a QDMTT, and may strengthen the pressure to compete through the corporation tax. Let us assume that following these incentives, a country reduces its corporation tax and adopts a QDMTT for in-scope businesses. As these incentives would not arise with respect to out-of-scope businesses, the country could choose to keep the existing system for these businesses unchanged as there is no clear incentive arising from the GloBE Rules to change the taxation regime for such out-of-scope businesses.

This analysis assumes that a differentiated regime is feasible and compatible with hard and soft law. Countries would need to consider the administrative cost of operating a differentiated regime. There is some administrative attractiveness in operating a uniform corporation tax regime, but countries have experience operating different regimes for businesses of different size.[99] Indeed, both Pillar One and Pillar Two assume differentiated regimes more generally. Compatibility with treaty obligations, EU law, and the Model Rules also must be considered. The authors limit themselves to a few comments here.

First, with respect to EU countries, the EU Commission appears to have given its blessing to a differentiated regime, at least where there is a more favourable regime for out-of-scope businesses. When announcing the government's intention to operate a different corporate tax rate for in-scope entities,[100] the Irish Finance Minister referred to Ireland having received assurances from the EU Commission that this bifurcation would not present any difficulties.[101]

Second, a question arises whether the Model Rules allow a country to reduce its corporation tax rate *only* for in-scope businesses and then rely upon the QDMTT to ensure that any top-up tax is paid to the same jurisdiction. The question arises because one of the conditions for

---

99 For example, under the UK Small Companies regime under Part 3 of the UK Corporation Tax Act 2010.

100 Irish Ministry of Finance, *Ireland joins OECD International Tax agreement* (7 October 2021) (updated 30 November 2021), available at https://www.gov.ie/en/press-release/59812-ireland-joins-oecd-international-tax-agreement/ (accessed 18 August 2022). The proposal is to retain a 12.5% tax rate for out-of-scope businesses, while applying a tax rate of 15% to in-scope businesses.

101 Irish Ministry of Finance, *Statement by Minister Donohoe on decision for Ireland to enter OECD International Tax agreement* (7 October 2021), available at https://www.gov.ie/en/speech/615f7-statement-by-minister-donohoe-on-decision-for-ireland-join-oecd-international-tax-agreement/ (accessed 18 August 2022).

a minimum tax to qualify as a QDMTT is that it "is implemented and administered in a way that is consistent with the outcomes provided for under the GloBE Rules and the Commentary, provided that such jurisdiction does not provide any benefits that are related to such rules" [102] The question thus arises whether, lowering the corporation tax rate for in-scope but not for out-of-scope entities when adopting a QDMTT constitutes a "benefit" which is related to the rules.

The Commentary does not answer this question directly. The explanation of the definition of QDMTT cross refers to the discussion on collateral or other benefits in the definition of a Qualified IIR.[103] That section states that the term "benefit" is drafted to "cover any kind of advantage … and the phrase "related to such rules" is intentionally drafted with broad language to take into account different mechanisms through which the benefit is provided".[104] Whether the benefit relates to the IIR (or QDMTT) will be determined based on the facts and circumstances of each case.[105] Critically, this process "*has* to take into account the underlying principle behind this condition, which is to provide a level playing field among all jurisdictions and to avoid inversions incentivized by differences in the implementation and application of the GloBE Rules" [emphasis added].[106] This gives rise to the question of what is the "level playing field among all jurisdictions", which ultimately depends on the objectives and desired outcomes of the GloBE Rules. The authors return to this issue below. Here it is simply noted that the fact that a differentiated regime may undermine the level playing field among in-scope and out-of-scope entities is not relevant for these purposes (although note that the total tax liability for in-scope entities may be higher than that for out-of-scope entities following a corporation tax rate cut and the introduction of a QDMTT for in-scope entities).[107] The relevant "level playing field" for these purposes is that among jurisdictions as agreed by Inclusive Framework members.

102 GloBE Model Rules, *supra* n. 25, at art. 10.1.

103 Commentary to GloBE Model Rules, *supra* n. 25, at article 10, para. 116.

104 Id., at article 10, para. 122.

105 Id., at article 10, para. 125.

106 Id. The principle behind this condition is also set out in para. 123: "This rule is intended to provide a level playing field in all the jurisdictions that have adopted these rules".

107 For example, if a country maintains a 12.5% corporation tax rate for out-of-scope businesses but lowers its corporation tax rate to 10% for in-scope businesses and adopts a QDMTT, the total tax due by in-scope businesses could be higher than that for out-of-scope businesses on the same income.

The Commentary, also states that "A tax benefit or grant provided to all taxpayers is not related to the GloBE Rules".[108] And that "whether the tax benefit or grant benefits only taxpayers subject to the GloBE rules' is a fact that is 'relevant but not decisive".[109]

Finally, the Commentary to the QDMTT definition also states:

> This limitation on collateral benefits is not intended to restrict the ability of a jurisdiction to make changes to the design of its corporate tax system in light of the new international tax architecture under the GloBE Rules. Such changes to the domestic corporate tax rules consequent on the introduction of a domestic minimum tax *should not be considered a benefit provided that they do not result in MNE Groups achieving overall tax outcomes that are inconsistent with the outcomes provided for under the GloBE Rules and their Commentary.* [Emphasis added.][110]

This makes clear that changing the corporate tax system in response to the adoption of a QDMTT would not *by itself* mean that there was a prohibited benefit. However, the question then is whether offering a lower (potentially nil) tax rate for in-scope businesses and relying on the QDMTT would achieve "overall tax outcomes that are inconsistent with the outcome provided for under the GloBE Rules and their Commentary".[111] This appears to be the same issue as that of determining the "level playing field among all jurisdictions".

The Administrative Guidance did not clarify this issue explicitly. It contains several references to the fact that the QDMTT is expected to 'increase the domestic tax liability' (paragraph 7) and to impose 'an incremental liability for Top-up Tax' (paragraph 10). With respect to clarifying the meaning of 'related benefits' it states:

> Finally, the definition of a QDMTT prohibits the jurisdiction from providing any benefits that are related to the QDMTT or the GloBE Rules. The assessment of whether such benefits have been provided should be in line with an equivalent assessment made in respect of a qualified IIR or UTPR and prevents a QDMTT from being refunded directly or indirectly to the MNE Group. Crediting ... The Inclusive

---

108 Commentary to GloBE Model Rules, *supra* n. 25, at article 10, para. 126.

109 Id.

110 Id., at article 10, para. 116.

111 Id.

Framework will consider providing further guidance in relation to the identification of benefits related to a QDMTT.[112]

Two possible interpretations of the relevant Model Rules as informed by the Commentary and the Administrative Guidance are offered here. One starts from Pillar Two's stated objective of addressing profit shifting and tax competition. As seen in section 2., countries had different views on Pillar Two's possible objectives and so a compromise agreement was reached to limit tax competition in the manner set out in the Model Rules. The Model Rules provide that in-scope entities must pay total tax of at least 15% of EP (subject to qualifications arising from the possible use of grants and QRTCs). Countries could have agreed rules that produced different outcomes. They could have agreed to limit competition for all entities and not just those above a certain threshold, that multinationals must pay 15% (or indeed a higher rate of tax) on total not – excess – profit, or that 15% of EP must be collected through a corporation tax, but they did not. The rules they agreed on ensure that in-scope multinationals pay total tax equivalent to at least 15% of EP – this is the outcome provided by the Model Rules. In other words, this is where countries agreed to set the floor on tax competition. Following this reasoning, lowering the corporation tax for in-scope entities but not out-of-scope entities does not undermine the level playing field among jurisdictions and is not inconsistent with the outcomes provided for under the GloBE Rules and their Commentary, as it does not impinge on in scope entities paying total tax of at least 15% of EP.

A second interpretation focuses on the GloBE Rules as a *top-up tax* to the standard corporation tax. On this interpretation, the GloBE Rules are designed to impose a tax liability in addition to the existing corporation tax. For a particular result to be consistent with "the outcomes provided for under the GloBE Rules", the GloBE tax must top-up the general tax on EP to 15%. If a country has no corporation tax, then this amount will simply be 15% of EP. However, if there is a general corporation tax, it would be inconsistent with the outcomes of the GloBE Rules to reduce the corporation tax to nil for in-scope entities only and rely on the QDMTT to impose only 15% of EP. To allow such an outcome would be to let the QDMTT operate as a *replacement* of the corporation tax rather than a top-up tax.

As noted above, the Administrative Guidance makes reference to a QDMTT imposing an 'incremental liability' as well as being expected to 'increase the domestic tax liability'. These references arguably point to an expectation that the QDMTT is in addition to the regular corporation tax. A further argument in favour of this interpretation is that if the Inclusive Framework merely wanted to set a baseline of 15% EP, they could have done so in a more straightforward manner by adopting EP as the denominator of the ETR calculation (as explained in section 6.2. below). The fact that they did not do so may be thought to suggest

112 Administrative Guidance, supra n. 67, para. [118.13].

that the GloBE Rules ought to operate as a top-up tax. If the GloBE Rules were designed to allow for countries to adopt a minimum tax of 15% EP, it is not clear why this should be achievable only if they were willing to remove their corporation tax base and rely solely on the GloBE tax base through a QDMTT. In other words, it is not clear why the Inclusive Framework would want to create this incentive rather than simply setting the minimum at 15% of EP which could be met using any tax base.

To reach this outcome under the GloBE Rules as drafted, the reduction in the corporation tax only for in-scope entities would have to be construed as a "benefit" related to the QDMTT. The state would not reduce its corporation tax to nil if it were not going to collect tax revenue from these MNEs under the QDMTT. The fact that the reduction in the corporation tax was only provided to in-scope MNEs which are subject to the QDMTT demonstrates the connection between the "benefit" (reduction in corporation tax) and the QDMTT. The Commentary makes clear that the restriction on related benefits has been deliberately drafted in broad language to allow for a variety of mechanisms of providing a benefit to be caught.

The Inclusive Framework appears to have left open this issue for the time being, particularly as it was not addressed in the Adminstrative Guidance and the document explicitly refers to the Inclusive Framework considering further guidance on the identification of benefits related to the QDMTT. Nevertheless, there are several arguments in favour of the former interpretation.

First, the fact that an outcome could have been achieved in a more straightforward manner does not mean it was not the intended outcome. Several features of the GloBE Rules could have been designed in a more straightforward manner. Furthermore, the fact that an interpretation leads to an odd incentive also should not be viewed as fatal to that interpretation. For example, there is no doubt that the GloBE Rules create an (odd) incentive for countries to offer QRTCS rather than non-QRTCs. Indeed, and critically for the purposes of this argument, there seems to be no question that countries are permitted to reduce their corporation tax for all entities to zero and adopt a QDMTT, even if that may be an odd incentive for the GloBE Rules to create as opposed to simply allowing countries to collect at least 15% of EP through the corporation tax.

Second, fundamentally this question turns on whether the GloBE Rules restrict what a country can do with respect to out-of-scope entities. There has been nothing in the Inclusive Framework process to suggest that countries have been willing to agree to restrictions on their taxation of out-of-scope entities. Indeed, the Commentary (at paragraph 3) explains that: "[t]hese scope rules ensure that smaller Groups and purely domestic Groups remain unaffected by the GloBE Rules".

Third, if reducing the corporation tax rate for in-scope entities only is not permitted it would lead to results that are difficult to justify from a policy perspective. It would mean that Country A would not be permitted to maintain a 15% corporation tax rate for out-of-scope entities while reducing its rate for in-scope entities to 10% and adopting a QDMTT. But Country A would be permitted to reduce its corporation tax for all entities to zero and adopt a QDMTT for in-scope entities. The latter is a much more aggressive competitive move, and

it is hard to think of a good policy reason from a Pillar Two perspective why it should be allowed but the less aggressive move should not. The broader point here is that from a policy perspective the case for a "variable" minimum tax – that tops up tax liabilities up to different levels – is unclear.

Fourth, it would be very difficult to prevent countries from achieving similar outcomes less obviously. In other words, countries are likely to be able to circumvent a prohibition against reducing the corporation tax only for in-scope entities, thus making it ineffective. For example, Country A could simply reduce its corporation tax rate for all entities to 10%, introduce a QDMTT for in-scope entities and a top-up profit tax charge for out-of-scope entities. A variety of other techniques could be used to lower the ETR for in-scope entities under the corporation tax (e.g. significant deductions for large MNEs). It would be difficult for the Inclusive Framework process to police the line at which increased deductions for large MNEs became a "related benefit". Countries are also unlikely to be willing to allow an Inclusive Framework process to intrude on their sovereignty with respect to setting corporation tax policy using the QDMTT qualification process as a policing tool.

A purposive interpretation of the Model Rules (as informed by the Commentary and Administrative Guidance), as well as policy and practical considerations support the conclusion that lowering the corporation tax rate for in-scope entities only should be permitted. There is also an institutional question as to how the issue will be decided in practice (that is, through what mechanism will the Inclusive Framework determine whether the bifurcation of a tax system is permitted or not). The issue boils down to whether a domestic minimum tax would be considered a QDMTT under the rules. The Commentary notes that the GloBE Implementation Framework will develop a process "to assist tax administrations in determining whether a minimum tax is considered as a QDMTT".[113] This suggests that it is intended that a multilateral process will be adopted to ensure consistent determination in whether a particular approach is permissible. The precise mechanism for reaching a decision is yet to be determined. This is a significant development. Countries are likely to require agreement as to whether their own laws will be considered consistent with the GloBE Rules requirements. While the mechanisms for the process are unknown, it is difficult to imagine that the process will be devoid of any political influences. It is also important that the process produces outcomes which are applied consistently. It would be very damaging to the rules if different countries took different views in applying their IIRs as to whether a particular country had adopted a QDMTT or not.

6. Alternative GloBE Rules Design

Prior to the release of the Model Rules there was uncertainty around the calculation of the top-up tax.[114] The calculation set out in the October 2020 Blueprint was susceptible to different interpretations. The key distinction was whether the SBIE would be deducted from

113

114 *See* Devereux et al, *supra* n. 48.

GloBE income in calculating the ETR of a multinational. Under one interpretation, the SBIE would not to be deducted from the GloBE income when calculating the ETR,[115] but it would be deducted from the GloBE income when calculating the top-up tax.[116] Under a second interpretation, the SBIE would be deducted from GloBE income both when calculating the ETR[117] and the top-up tax.[118] These two top-up tax calculations produced different results and hence different incentives for countries. The Model Rules adopted the calculation under the first interpretation. However, they also added the QDMTT. This addition altered the results and incentives produced by the calculation as explained in section 4., bringing them into line with those produced by the calculation under the second interpretation ("Alternative Calculation")[119] in one important respect although not others. Arguably, the Alternative Calculation provided a more attractive design option once broader considerations are taken into account.

To illustrate the two calculations, we can return to the example set out in Section 4.1.1.

Table 16. Alternative ETR Calculation

Domestic Tax Rate	**14%**		**0%**	
P2 Design	**Model Rules**	**Alternative Calculation**	**Model Rules**	**Alternative Calculation**
1. ETR				
Numerator	140	140	0	0
Denominator	1,000	600	1,000	600

115 I.e. ETR = covered taxes divided by GloBE income.

116 I.e. top-up tax = top-up rate multiplied by (GloBE income less SBIE).

117 I.e. ETR = covered taxes divided by (GloBE income less SBIE).

118 A third interpretation was possible – *see* Devereux et al, *supra* n. 48. This calculation involved higher administrative costs but produced the same incentives as the first interpretation. The authors do not consider this interpretation further in this article.

119 This was referred to as "Model A" in Devereux et al, *supra* n. 48 and Becker & Englisch, *supra* n. 34.

ETR	14%	23%	0%	0%
2. Top-Up Rate	1%	/	15%	15%
3. Top-Up Tax	0	/	0	90
QDMTT	6	/	90	/
Total Tax Paid by MNE	146	140	90	90
Tax in W (Parent's Residence)	0	0	0	90
Tax in X	146	140	90	0
X's trade-off in reducing its tax rate from 15%				
Total tax forgone by X	4	10	60	150
Total tax saved by MNE	4	10	60	60
Ratio	1:1	1:1	1:1	2.5:1

Both calculations effectively create a floor to tax competition in the source country equal to 15% of EP. Under the Model Rules (and subject to the provision of QRTCs as noted above), Country X cannot reduce the MNE's total tax burden beyond reducing its corporation tax to zero and collecting QDMTT equal to 15% of EP. Not collecting the QDMTT would not change X's competitive position. If it did not collect the QDMTT the top-up tax (USD 90) would be collected by Country W through the IIR.

Under the Alternative Calculation, X cannot improve its competitive position beyond reducing its tax rate to 9% and thus collecting revenue equal to 15% of EP (USD 90).[120] If it reduced its tax rate to 8%, MNE would pay USD 80 in corporation tax to X, and a top-up tax of USD 10 ((15-80/600)*600) to W. Therefore, both calculations effectively set a floor on competition over source country taxation at the same point by incentivising source countries to collect tax revenues at least equal to 15% of EP. But countries wanting to maximize their competitive position by moving down to the floor must do so through different means under the two calculations. Under the Model Rules, as seen, this would be achieved by reducing the corporation tax to zero and collecting a QDMTT equal to 15% of EP. Under the Model Rules, countries cannot reach the floor by setting their corporation tax to 15% of EP, as explained in section 4.1.3. This is possible, however, under the Alternative Calculation. Under the Alternate Calculation, X could also simply set an alternative minimum tax equal to 15% of EP.

120 The authors note that the threshold of 9% of accounting profit only applies because of the ratio of SBIE to accounting profit in this example. Country X could always achieve this outcome by setting its tax base to EP (by providing a full deduction for SBIE) and applying a 15% rate.

It may be thought that the Model Rules, unlike the Alternative Calculation, weakens competition when a multinational's ETR is below 15% of income but above 15% of EP. In the example above, when X reduces its corporation tax from 15% to 14%, a top-up tax is due under the Model Rules but not under the Alternative Calculation. This is misleading, because under both calculations, MNE benefits by USD 1 for every USD 1 foregone by X, just as it does in the absence of the GloBE Rules. Neither calculation weakens tax competition over total tax paid in source countries until the floor of 15% of EP is reached. The difference between the two calculations arises in their impact on tax competition over corporation tax (and not total tax) collected in the source country.

Section 4.2. showed that the introduction of the Model Rules leads to a stronger incentive to compete through the corporation tax. This is not true of the Alternative Calculation. To see this note that to pass on a benefit of USD 4 to MNE, Country X would have to reduce its corporation tax rate from 15% to 14% under the Model Rules, but it would only have to reduce it to 14.6% under the Alternative Calculation (as 0.4% of USD 1,000 is USD 4).

Countries wishing to compete may simply do so through the corporation tax under the Alternative Calculation, but they would have to do so through a combination of the corporation tax and the QDMTT under the Model Rules. Relying on the QDMTT raises some issues, including issues around the QDMTT's interaction with CFC rules described in section 5.6., and other points of interface with the existing system. For this reason, the Alternative Calculation may have been a preferable option to the calculation found in the Model Rules.

7. Conclusion

This article examines the GloBE Rules' impact on tax competition. It builds on a short policy brief in which the authors first identified the main incentives of relevance created by the GloBE Rules. Overall, the GloBE Rules should have a significant impact on tax competition, albeit not as significant as some may have hoped, and certainly not a straightforward impact. It also creates incentives that are not clearly desirable from a policy perspective.

If the GloBE Rules are implemented by a critical mass of countries there will be a floor on the total tax paid by in-scope multinationals and an effective floor on the total tax collected by source countries equal to 15% of the . To impose this minimum, a source country would need to impose a nil "regular" corporation tax and a QDMTT to collect the minimum. Of course, this is just a floor. It represents the most aggressive competitive position countries can adopt once the GloBE Rules are implemented. Countries that want to compete aggressively can compete down or increase their taxes up to this point. Various factors may lead countries not to position their tax system right at the floor. But this is the floor that has been agreed, and countries that want to compete aggressively may choose to move towards or to it by reducing their corporation tax liability and relying on a QDMTT instead. Furthermore, this article has shown that certain countries may have to shift from their corporation tax to the QDMTT as a tax base (that is, cutting their corporation tax rate while adopting a QDMTT) not to improve their current competitive position, but just to maintain it.

The above key conclusions are subject to important caveats. First, certain factors – such as the imposition of broad CFCs by capital exporting countries - could potentially alter these conclusions. However, the analysis in this article suggests, that such factors should generally not alter these conclusions in a fundamental way. For example, where a country seeks to compete for investment from a wide range of countries, including countries operating a broad CFC, it will generally have an incentive to introduce a QDMTT, although its most aggressive competitive position may be to have a corporation tax rate above zero.

Second, the "floor" of 15% EP can practically be breached through the offering of government grants and QRTCs. As grants and QRTCs are treated as additional income rather than a reduction in taxes, their use can allow for much lower "real" effective tax rates than 15% of EP. Countries may be expected to come under competitive pressure to introduce such QRTCs, and the pressure will increase with the number of countries that offer them.

The incentives created by the GloBE Rules to rely on the QDMTT over a corporation tax and to use QRTCs or government grants rather than non-QRTCs are not easily justifiable from a policy perspective. But these, and other features of the GloBE Rules, are a product of political compromise among many countries. Given that a global minimum tax requires a high degree of coordination among many countries with different priorities and preferences, it is unavoidable that political compromises produce questionable policy features of this kind. This should not detract from the fact that Pillar Two is a significant political and diplomatic achievement. It is a key milestone in the history if international taxation, although it is unlikely to have stabilised the system for years to come.

Appendix: A More Formal Analysis

1. Define the top-up tax

OECD (2021) sets out the procedure for calculating the GloBE Rules top-up in two stages.

1.1 Determine the effective tax rate

To keep the analysis straightforward, assume that there is only one constituent entity in the relevant jurisdiction. The effective tax rate in the jurisdiction is therefore

where
adjusted covered taxes
= net GloBE income

1.2 **Determine the top-up tax and QDMTT**

This is determined in three stages.[121]

1.2.1 Determine the top-up tax percentage, equal to the minimum rate (defined here as m, equal to 15%) less the effective tax rate (ETR).

1.2.2 Determine excess profit, equal to the net globe income (P) less the substance-based income exclusion (C).

Combining these determines the overall required top-up, in the event that :

1.2.3 Deduct Qualified Domestic Minimum Top-up Tax (QDMTT). This is defined as a top-up tax levied by the source country, with a tax base of . Applying a rate of q to this base, this is therefore:

In practice, it is likely that or .

The top-up tax levied by other jurisdictions is then[122]

Combining these expressions, the total tax liability of the multinational is

Combining these expressions, and substituting for *e,* the total tax liability of the MNE is:

121 The authors abstract from the "additional current top-up tax", *see* OECD (2021), at para 5.4.

122 With a limit that .

The *total tax liability* therefore consists of two components (in the case where):

- The minimum tax rate, , applied to excess profit ; and

- The effective tax rate, *e,* applied to the substance-based income exclusion, *C.*

2. Incentives for source country

We define the tax base for covered taxes as , where *G* represents a divergence in the definition of taxable profit for covered taxes from the GloBE tax base, and which can be positive or negative. Adjusted covered taxes are , where can (in this simplified case) be thought of as the statutory tax rate on business profit.

The tax revenue collected by the source country is

Note that the authors are considering the case in which and

The country is able to choose three tax parameters, , and , (or equivalently, and), conditional on these two constraints.

2.1 Choice of q

Note that the total tax liability of the multinational, , does not depend on *q*. That is because other countries give a full credit for the QDMTT. Assuming that the source country would prefer to receive tax revenue itself, then it should clearly choose:

This in effect gives the source country the revenue from the GloBE Rules top-up.

2.2 Choice of covered taxes, T

2.2.1. Marginal incentives

Note that the choice of makes a difference to the marginal incentive for the source country to compete on the corporation tax.

If then the total tax revenue of the source country is

Not surprisingly, this is exactly the same as the total tax liability of the multinational. Since the source country receives all of the top-up tax, then no other country receives any revenue.

In general, the source country may seek to trade-off higher revenue against any disincentive that is created for the multinational to invest in that country. Consider, for example, the case in which the country seeks to attract investment by cutting the covered tax, *T*, by USD 1 – either by a reduction in the tax rate or an increase in allowances, . This will reduce the overall tax liability of the multinational, and the net revenue of the source country, by USD *C/P*. In effect, there is a one-to-one trade-off for the country. Just as in a system without the minimum tax, any reduction in the multinational's tax liability is exactly borne by a reduction in the revenue from the covered tax of the country.

However, if , the source country does not collect the QDMTT. In this case, a USD 1 reduction in the covered tax reduces the country's revenue by USD 1. But there is only a reduction of USD *C/P* in the liability of the multinational, as another country will collect the top-up charge. This would change the balance of incentives for the source country, since giving up USD 1 of revenue would have a smaller effect on the incentive of the MNE to choose to locate there.

Especially with , then at the extreme, the country may choose to set This minimises the tax liability of the multinational and minimises the total revenue received by the country. However, through the top-up tax, the overall tax liability would not be zero: it would be equal to , the minimum tax rate applied to excess profit.

2.2.2 Location of real activity

Suppose countries X and Y compete for real inward investment from a multinational resident in country M. Suppose that pre-tax profit is higher in *Y,* and so in the absence of tax the MNE would choose to locate in Y. Suppose that profit in *Y* is taxed at a high enough rate so that the GloBE Rules are not applied to profit taxed there. Define the post-tax profit in *Y* as .

For simplicity, assume that the tax base in *X* is simply *P*, i.e. that . Pre-tax profit in *X* is therefore simply *P* and define post-tax profit in *X* as In order to attract the inward investment to *X,* then *X* must set its tax system to ensure that post-tax profit in *X* is at least as high as it would have been in *Y*, that is:

<u>No GloBE Rules:</u>

In the absence of the GloBE Rules, suppose *X*'s tax rate is . Then to attract the investment,

which implies that the maximum tax rate that *X* can set whilst attracting the investment is

The maximum revenue that *X* can achieve is therefore

which is the difference between the pre-tax profit in *X*, and the post-tax profit in *Y*.

With the GloBE Rules, including QDMTT:

Now introduce the GloBE Rules, with the QDMTT, and assume that and . Given that , the ETR is simply the statutory tax rate,

and the QDMTT in X is

This means that the total tax on profit earned in X is

The maximum business profits tax rate in the presence of the GloBE Rules, defined as , is defined as the tax rate where the post-tax profit in *X* and *Y* are equal:

Solving for the maximum tax rate:

In this case, total revenue is again the difference between the pre-tax profit in *X* and the post-tax profit in *Y*:

Note that in this case, though, we have assumed that . This maximum value of therefore only applies in this case if . If this does not hold, then *X* could set a tax rate in excess of the minimum rate (i.e.); in this case, we would revert to the case without the GloBE Rules, but *X* could still attract the inward investment.

Further, the tax rate cannot fall below zero. This implies that that this maximum value only applies if

If this condition does not hold, then there is no positive value of for which *X* can attract the inward investment.

Comparing the maximum tax rate in the absence and presence of the GloBE Rules,

Rearranging

Under the conditions set out above, it is straightforward to see that . This implies that, in order to attract this investment, the maximum statutory business tax rate must be lower when the GloBE top-up tax (or QDMTT) applies.

3 Profit Shifting

Consider the option for a multinational to shift USD 1 of profit from a high tax country – with a tax rate of *s* – to country X. This will save tax of USD *s* in the high tax country.

Shifting USD 1 represents a rise in *P* of USD 1. In the absence of the GloBE Rules, this would lead to higher tax of USD . The overall reduction in tax would therefore be

With the GloBE Rules, together with the QDMTT, and assuming that , the overall tax liability on income arising in X is

There are two effects of a marginal increase in *P.* First, these is tax applied to the increase at rate *m.* Second, the rise in *P* increases the denominator of the effective tax rate, reducing *e,* and raising any top-up or QDMTT due. The combination of these wo effects is given by differentiating the total tax liability, *Z,* with respect to *P:*

This expression in effect represents the marginal tax rate in the source country. Note that this is company-specific, since it depends on *P, C* and *G.*

The overall reduction in tax from shifting $1 is therefore

Assuming that is low, this reduction in tax is likely to be much smaller than in the absence of the GloBE Rules. For example, a source country that set before and

after the introduction of the GloBE Rules, would see a much reduced gain from USD 1 of inward profit shifting, with the gain being reduced from USD *s* to .

There are combinations of parameters under which the gain from profit shifting might be higher under the GloBE Rules. Defining the tax rate under the GloBE Rules to be , the gain would be higher only if

This is possible, but unlikely. Assuming that , this would require a large tax base, with .

4. QRTC

A domestic tax credit will either be treated as a Qualified Refundable Tax Credit (QRTC) or a Non-Qualified Refundable Tax Credit (non-QRTC). The key difference is that a QRTC must be refundable within four years. A QRTC does not reduce covered taxes but increases the amount of GloBE Income for the constituent entity. This is the same treatment as a government grant. A non-QRTC is treated as a reduction in covered taxes (but does not increase GloBE income). The total tax liability under these two possibilities is therefore as follows, where *H* is the value of the tax credit.

Non QRTC total tax =

where

QRTC total tax =

where

The difference between the two outcomes is therefore:

Substituting and rearranging, implies that

In general, this could be positive or negative. This depends on the value of the SBIE, relative to the size of the financial profit. Specifically, if

In the extreme case in which , then, with , for all cases in which . For higher values of , for even higher values of *C.* In the vast majority cases then, it is likely that the QTRC is treated more generously than the non-QRTC.

At the extreme, if , then

and

Clearly in this case, for any positive value of *T.* The case of the non-QTRC seems to be appropriate – in effect, no covered tax is paid, and so the minimum top-up tax is paid of 15% of excess profit. But for the QRTC, it is clear that a much smaller net tax can be paid, even after the top-up.

A further issue that arises is how the combination of the corporation tax liability and the QRTC can be chosen to generate a particular net outcome. Using the expressions above, we can write the total net payment by the MNE in the presence of a QRTC as:

Within the constraint of the ETR being between zero and 15%, then for given values of , and , a particular value of – say – can be achieved by a combination of values of and , denoted and . Rearranging, for example, the required value of is given by:

One possibility, for example, would be to aim for a net payment of zero, , with the corporation tax liability also being zero, . In this case, the QRTC would need to be:

In this case the QRTC would be equal to the QDMTT charge

Keeping the net payment at zero, , raising would require a higher , as shown in Figure 2 in the text.

Of course, the GloBE Rules are intended to prevent countries being able to undertake this type of policy making, by restricting what would be acceptable for a tax credit or grant to be considered as a QRTC. In particular, it is highly unlikely that countries could simply create a QRTC equal to the sum of the corporation tax and QDMTT levies for each MNE. However, it may be possible to design a system of tax credits or grants that, while not based directly on profitability, could have a broadly similar outcome on average across MNEs.

5. CFC

Finally, we consider how our analysis changes in the presence of a CFC regime levied in the country of the parent company. For simplicity, assume that the CFC is a tax on profit, , at a rate . A limited credit is given for a proportion of the source country tax (corporation tax and QDMTT). The CFC charge is therefore

Assuming that the source country has a QDMTT, then in the case where a positive CFC charge is levied, the total tax on the MNE is

In the special case of a full credit, , the total tax is simply .

For , it is straightforward to see that the source country can minimise the total tax of the MNE by setting . Total tax is then the gross CFC charge plus any uncredited QDMTT. For , the source country can ensure that its own tax extinguishes the CFC charge by setting its corporation tax rate equal to

For example, for , , , and , the minimum corporation tax for which is .

If the source country chooses not to use a QDMTT, and the parent country does not operate an IIR, then – taking account of source country corporation tax and the parent country CFC in the numerator of the ETR - there is a potential UTPR charge equal to

Where both the CFC charge and the UTPR charge are positive, the total tax of the MNE is equal to

Again, for , it is straightforward to see that the source country can minimise this total tax of the MNE by setting .