The Use of Accounting Information in the Tax Base in the Pillar 2 Global Minimum Tax: A Discussion of the Rules, Potential Problems, and Possible Alternatives

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Abstract:

In this paper, I provide a high-level, non-technical review of how accounting information is used in Pillar 2 and what this means for the tax base. In addition, I discuss potential problems of using accounting data explicitly in a minimum tax and then, specifically, as the starting point for the computation of the income measures in Pillar 2. I then discuss several alternative solutions which may be simpler, or at least no more complex, and importantly, pose fewer problems in terms of the quality of financial accounting information and the information available to capital markets.

This paper is loosely based on my presentation entitled "The Use of Accounting Information in Pillar 2" presented at the Centre for Business Taxation Conference entitled "Further Investigation of the Global Minimum Tax" held at Oxford University, July 1, 2022. The paper is a commissioned paper for a forum in Fiscal Studies based on the conference. Parts of my thinking on this topic have been heavily influenced by prior papers I have worked on with Terry Shevlin and with Michelle Nessa. I reference those throughout this paper. I appreciate comments on earlier drafts of this paper from Michael Devereux and Michelle Nessa. All errors are my own.

1. Introduction

This paper examines at a high level some of the issues that arise from a global minimum tax that is based on financial accounting income. In particular, I discuss the use of financial accounting income in Pillar 2 of the Organization for Economic Cooperation and Development's (OECD) Two Pillar Proposal. The goal of Pillar 2 is to require companies to pay a minimum rate of tax in each jurisdiction of their company. In addition to discussing the rules and concerns of Pillar 2, I endeavour to consider whether there are viable alternatives to the proposed Pillar 2 global minimum tax. While there are many other potential issues with the minimum tax, I constrain my discussion (for the most part) to focus on the use of financial accounting information and alternatives to using financial accounting income.[1]

First, I provide a high-level, non-technical overview of the rules in Pillar 2. Indeed, I primarily focus on the computational steps where financial accounting income is used. Then I discuss some of the problems that arise when using accounting income as the starting basis for Pillar 2. It is important to recognize that financial accounting income and taxable income are computed with very different objectives. Financial accounting (book) income is computed in order to provide external stakeholders, for example, investors, potential investors, creditors, potential creditors, customers, suppliers, and employees, with information about firm performance. Managers prepare the financial accounting statements to report to these external parties the performance of the company so that these external stakeholders can make informed decisions about investing in the company, loaning money to the company, being a customer or supplier of

[1] To say there are other issues is an understatement. There are serious other issues including the interaction with treaties, the implications for foreign tax credits, the potential for double taxation, the ordering of the application of other rules—for example in the U.S. the Global Intangibles Low-Tax Income (GILTI) tax and the Corporate Alternative Minimum Tax (CAMT)—and many others.

the company, working for the company, and so on. In addition, accounting information is often a critical component for evaluating manager performance. Financial accounting income is computed using the accrual method of accounting.[2] Accrual accounting is a better metric for economic performance than taxable income or cash flows (Dechow (1994), Dechow, Kothari, and Watts (1998), Hanlon, LaPlante, and Shevlin (2005)). In part, accrual accounting is a better metric of economic performance because accrual accounting allows managers to incorporate and reveal their private information about the firm's performance. Financial accounting involves a lot of estimation – for expenses (e.g., how much will the company pay for warranties in the future on products sold today?) and for revenues (e.g., to what extent are the company's credit sales collectible?). For some assets and liabilities, financial accounting requires items to be recorded at, and continually adjusted to, fair market value (e.g., investments of less than 20% in the equity of another company and other financial instrument investments for which the company elects to mark items to fair value). On the other hand, taxable income is computed to raise revenue for governments and is often used to provide incentives or disincentives for certain behavior (e.g., investment). Thus, while it is very tempting for people outside of financial accounting to want to use financial accounting income as part of the tax base, a backstop to the tax base, or a common tax base across jurisdictions, rarely, if ever, will anyone who is a financial accountant think this is a good idea. The incomes are designed and computed for entirely different purposes in the vast majority of countries, especially those countries with strong, liquid, efficient capital markets. Explicitly linking them leads to many concerns, chief among them are 1) the complexity it creates in practice

[2] Taxable income is often more of a hybrid between cash basis accounting and accrual accounting. For example, for financial accounting, many expenses are estimated and expensed from income in advance of when paid and many revenues are not recorded until the duties to earn those revenues are completed.

for compliance, administration, and enforcement, and 2) that using financial accounting explicitly in the tax base will likely harm the quality of financial accounting and the capital markets.

Second, and closely related, I attempt to consider whether there is a better way. The train on Pillar 2 appears to have left the staton—the OECD reached consensus agreement with almost 140 countries in October of 2021, and as I am writing this, the EU has agreed to implement Pillar 2 in 2024. However, it is still important to consider viable alternatives in the event the agreement collapses, the details turn out to be unworkable, or changes are desired in the future. Before discussing some potential alternatives, I consider the problem(s) that the OECD is seemingly trying to solve with a global minimum tax.

2. Financial Accounting as the Starting Base for Pillar 2

2.1 Pillar 2 Mechanics – Brief Summary[3]

To compute income, Pillar 2 operates by starting with financial accounting income, making some adjustments to move the income measure closer to a concept of a cross-country agreed-upon notion of taxable income, and then aggregating the income measure across the company's entities in each jurisdiction. Then, a rate of tax is computed (abstracting from details for now) by taking a ratio of the income taxes in that jurisdiction and dividing by the income measure just described. If this 'effective' jurisdictional tax rate is below 15% then additional steps are required to compute what is known as the top-up tax.

This computation at first glance may not sound too difficult However, once one thinks through how this actually would need to be done, the complexity abounds (and there are many issues for Pillar 2 beyond these computations). To compute Pillar 2 income and taxes the company

[3] The summary below is necessarily brief and high level. For more details see Hanlon and Nessa (2023) and the references therein and the original sources from the OECD the Model Rules and the Commentary.

must first identify in-scope MNE groups and their underlying includable entities (called Constituent Entities). In terms of computations – where I focus this paper – the specific steps are as follows: 1) determine the Global Anti-Base Erosion (GloBE) Income by Constituent Entity and then aggregate by jurisdiction, 2) determine Adjusted Covered Taxes by Constituent Entity and then aggregate by jurisdiction, 3) compute the Jurisdictional Effective Tax Rate (ETR) by jurisdiction 4) determine the Top-up Tax % by jurisdiction, 5) compute Excess Profit by jurisdiction and 6) compute and impose the Top-up Tax on the applicable entities. See Appendix A for a schematic of the computations.

Before beginning any actual computations, companies have to determine whether they are subject to the tax (i.e., the 'in-scope' groups) and then which entities that are owned or partially owned by the company are to be included. The threshold stated in the OECD rules is annual *revenue* of €750 million or more in the parent company's Consolidated Financial Statements.[4]

The first computational step is determining the GloBE income.[5] The OECD desires a comparable income measure across countries to start with. Financial accounting income is likely more comparable across countries than taxable income; thus, at some level it may seem reasonable to start with financial accounting income. However, there are still many differences in both the rules (e.g., U.S. GAAP vs. IFRS vs. other standards some countries might use) and also application of the rules across countries and across companies within a country, because financial accounting allows for more judgment and discretion in the computation of income relative to the computation of taxable income. In addition, there are many differences between financial accounting and

[4] The consolidation rules are not the same for financial accounting and for tax purposes. Indeed, the consolidation rules are not even exactly same between U.S. Generally Accepted Accounting Principles (U.S. GAAP) and International Financial Reporting Standards (IFRS).

[5] There are many complications with this that others have written about (e.g., Hanlon and Nessa (2023) and many others). I will focus on only a few for this article.

taxable income. This leads to two issues and required 'fixes' in Pillar 2. First, the financial accounting income that the Pillar 2 computation starts with is adjusted by some items that are inconsistent with the notion of taxable income and in concept are common across many countries. These adjustments bring the measure closer to a notion of taxable income in terms of principles that are common across many countries (e.g., the manner in which equity gains and losses are treated, revaluations of some gains and losses). I will refer to these as GloBE Adjustments.[6] The details of each adjustment is beyond the scope of this paper. It is important to recognize that these adjustments do not yield an income measure that is an approximation of taxable income. The GloBE Adjustments do not include the majority of timing differences between financial accounting and taxable income. For example, depreciation is accelerated for taxable income purposes relative to the financial accounting computation in many countries. However, the difference between financial accounting and taxable income depreciation allowances is not an adjustment to arrive at GloBE Income. There are many, many timing differences (and some permanent differences) not adjusted for. Thus, there are some differences between accounting income and taxable income that are a direct adjustment to financial accounting income in order to arrive at GloBE Income and some that are not adjustments.[7] Thus, GloBE income is not equivalent to taxable income and it is not equivalent to financial accounting income – it is another, separate measure of income.[8]

[6] The OECD labels these adjustments as being for permanent items. These differences are not all permanent in nature so I will just call them 'GloBE Adjustments'. In her talk at the Centre for Business Taxation at Oxford on July 1, 2022, Dr. Ulrike Schramm, Global Head of Tax at Continental AG, listed at least 22 possible adjustments at this stage.

[7] Finally, even the GloBE Adjustments will not be the same across countries or companies (e.g., the pension adjustment for GloBE Income will differ due to differences in the tax treatment and accounting standards across countries) and some are elections to be made by companies (e.g., the stock-based compensation adjustments).

[8] There are other issues that I do not have space to discuss here. For example, companies would not otherwise compute aggregated or consolidated financial accounting income by jurisdiction. Thus, this a new task companies will need to do and additional data beyond what the companies probably have will need to be gathered.

The second step is to compute the income taxes associated with this GloBE Income. This step turns out to be quite complicated. Recall that the objective of the minimum tax is ostensibly to ensure companies pay a minimum (15%) rate of tax on GloBE Income (with one subtraction discussed below) in each jurisdiction. GloBE Income was computed in Step 1. In Step 2, companies determine the income taxes associated with that income. Because taxes are paid on taxable income and not on GloBE Income, extra computations are required to determine the taxes associated with GloBE Income to ensure the tax measure computed is analogous to GloBE Income. The company is to start with recorded current tax expense on the financial statements of the Constituent Entities and Permanent Establishments in the jurisdiction.[9] Then, there are required adjustments to current tax expense for certain specified additions and specified subtractions. Then, there is an adjustment made for deferred taxes. The third step is to compute the **Jurisdictional ETR** by dividing Adjusted Covered Taxes for each jurisdiction by GloBE Income in that jurisdiction.

A further explanation of the deferred tax adjustment is likely necessary. Timing differences between book and taxable incomes are differences that exist in one year but that reverse in a future year. Such differences exist because of expense and revenue items that are included in book income in one year and included in taxable income in a future year, or vice versa. To illustrate deferred taxes and the deferred tax adjustment, let's take the deprecation book-tax difference mentioned

[9] Adjusted Covered Taxes *exclude* Top-up Taxes accrued as part of Pillar 2 (i.e., taxes under a Qualified Income Inclusion Rule (IIR), Qualified Domestic Minimum Top-up Tax (QDMT), and Qualified Undertaxed Payments Rule (UTPR)) to avoid a circular calculation. However, a domestic minimum tax that is not a QDMT is included in Covered Taxes if it otherwise meets the definition of a Covered Tax. Covered Taxes also *include* taxes under a Controlled Foreign Company (CFC) regime (e.g., Subpart F, probably Global Intangible Low Taxed Income (GILTI), and possibly the Corporate Alternative Minimum Tax in the U.S.); these would be allocated back to the CFC jurisdiction and included in that jurisdiction's Covered Taxes. In addition, Covered Taxes include tax on net income under Pillar 1 and taxes imposed on distributions of profits. Finally, Covered Taxes *exclude* consumption taxes, property taxes, excise taxes, payroll taxes, digital services taxes, and others. (This note is taken from Hanlon and Nessa (2023), please see their paper for more details.)

above as an example. Assume that the jurisdiction allows full expensing of assets upon purchase. Thus, all else constant, financial accounting income will be higher than taxable income in a year when an asset is purchased and a large amount of tax depreciation is deducted. The current tax expense (essentially the tax owed in cash for this year) on the financial statement will be low relative to financial accounting income and will result in a low Jurisdictional ETR unless some adjustment is made. Apparently, the OECD does not want this type of situation to lead firms to have a low Jurisdictional ETR and *cause* them to fall subject to the Pillar 2 top-up tax. Thus, the rules call for an adjustment to Covered Taxes for deferred taxes related to the book-tax depreciation difference. The rate to compute the deferred tax amount is the lower of 15% or the country's statutory tax rate. Thus, if the depreciation book-tax difference is $2,000 (taxable income is lower than financial accounting income by $2,000 because of the difference in depreciation), and the country's tax rate is 25%, the accelerated depreciation saved the company $500 dollars in tax relative to what would have been paid on financial accounting earnings in the current period (though no further depreciation deductions for tax purposes will be allowed in the future). For the Adjusted Covered Tax computation, the company will start with its current tax expense in the jurisdiction and add to that $300 ($2,000X15%) to increase the numerator in the Jurisdictional ETR computation, and thus, increase the Jurisdictional ETR. This yields a result that the depreciation difference will not *cause* the Jurisdictional ETR to fall below the minimum tax.

Because there are many book-tax differences that require this type of treatment, the company will need to maintain a deferred tax system for Pillar 2. While this system will be similar to the deferred tax system for financial accounting, it is sufficiently different that it will increase complexity significantly.

The fourth step is to compare the Jurisdictional ETR to the minimum tax rate set by the OECD, currently 15%. If the minimum tax rate, 15%, is higher than the computed Jurisdictional ETR then there is a Top-up Tax Percentage equal to the differential. If the Jurisdictional ETR is higher than 15%, then the company is not subject to the top-up tax in that jurisdiction.

The fifth step is to compute **Excess Profit**. Excess Profit is GloBE Income as described above less an exclusion for real activities in the jurisdiction, called a Substance Based Income Exclusion (SBIE). Initially, the SBIE is the sum of 10% of payroll costs and 8% of tangible assets. These percentages will both decline gradually to 5% over a ten-year transition period. Eligible tangible assets are property, plant, and equipment; natural resources; lessees' rights of use of tangible assets; and government licenses to use immovable property or exploit natural resources in the jurisdiction. The carrying value is based on the average of the net carrying value at the beginning and end of the year from the financial accounts used to prepare the parent company's consolidated financial statements. The motivation for the SBIE is to exempt 'real' activity and to tax what is more likely profit shifting.[10] The sixth step is the computation of the top-up tax by jurisdiction which is calculated by multiplying **Excess Profit** by the **Top-up Tax %** and then subtracting any Qualified Domestic Minimum Tax (QDMT) in that jurisdiction.[11]

Of note in terms of the Excess Profit income measure is that it is not adjusted for most timing differences (and possibly some permanent differences). Thus, while the Jurisdictional ETR takes timing differences into account via the deferred tax system (e.g., the deferred tax expense added to the numerator of the Jurisdiction Specific ETR in the depreciation example above results

[10] I do not discuss this exclusion further in the interest of space, but see Devereux, Vella, and Wardell (2022), Faulhaber (2023), and others for more details.

[11] A QDMT is a minimum tax regime implemented by a jurisdiction that increases the domestic tax liability on domestic profits to the 15% minimum rate in a manner similar to the GloBE Rules. See Herzfeld (2022) for an excellent discussion. I do not discuss the QDMT further in this paper because it mainly affects the party to which the tax is paid. The QDMT is to be a tax similar to the Pillar 2 computation and thus does not pose new or additional problems relative to what I discuss in terms of using financial accounting income as the base.

in the numerator and denominator being analogous), timing differences are not adjusted for in the base of the tax.

To illustrate the effect of a depreciation timing difference through the entire computation process, I have included an example of the computations where depreciation is the only book-tax difference in Table 1.[12] In this example, the statutory tax rate in the country is 10%. Book income and taxable income before the consideration of depreciation are both $3,000 (depreciation is the only book-tax difference).[13] The company purchased an asset for $1,000 and is able to deduct the amount in full for tax purposes. Book depreciation is spread over a 10 year period and, as a result, is $100 per year. Panel A presents the first year in the asset's life, Panel B presents the second year, and Panel C presents the end of the asset's life, year 10. I present 6 columns. I focus on Columns (1)-(3) in this section. These columns present results under the currently written Pillar 2, which relies on financial accounting income as the starting base. I discuss Columns (4)-(6) below, these columns present an alternative of starting with taxable income.

In this case, in year 1, the GloBE Income, and thus Excess Profit, will be higher than taxable income by the book-tax difference for depreciation, $900. This is true when an SBIE is allowed and when it is not. As one can observe, across Columns (1) – (3), the amount of the tax base subject to the top-up tax is book income, meaning in this case that only straight-line depreciation is allowed in the Excess Profits tax base. Thus, in terms of the minimum tax, there is not a benefit of full expensing in this jurisdiction in the minimum tax calculation (I will come back to this below when I discuss alternatives).

[12] Hanlon and Nessa (2023) present additional and more detailed examples of how Pillar 2 and deferred taxes will operate.

[13] If there were GloBE Adjustment items that were necessary to arrive at GloBE income those would occur as well, however, the focus in the example here is on timing differences and how they affect the rates and the tax base.

In Panel A, Column (1), I present the results if no deferred tax adjustment is done in the Jurisdictional ETR. The difference between Column (1) and Column (2) is only the use of the deferred tax adjustment. If the computation starts with financial accounting income and no deferred tax adjustment is made to Adjusted Covered Taxes, one can see that the numerator (current tax expense = actual tax liability in this case) is not commensurate with the denominator (book income) resulting in a Jurisdictional ETR that is arguably artificially low and results in higher top-up tax (though this would wash out over the 10 year life of the asset via an arguably artificially high ETR in later years).[14] Column (2) where a deferred tax adjustment is made to the numerator (current tax expense of $200 + deferred tax expense of $90 (computed as $900*10%)), the top-up tax percentage is equal to the 5 percentage-point differential between the minimum tax rate and the country's statutory rate. Still in this case, note that the tax base, Excess Profits, is the $2,900 – only straight-line depreciation is allowed. Finally, in Column (3) I show the results when an SBIE is granted. In this calculation, I assume that the transition period has passed and the SBIE is 5% of the ending (not the average, for simplicity in the example) carrying value of the asset for financial accounting purposes. In this case, at the end of year 1, the SBIE is $45. Excess Profit is $2,900 (Globe Income) less the SBIE ($45) or $2,855.

Looking now to Panel B, I present results for year 2 of the asset's life. In year 2 Column (2), the book-tax difference starts to reverse, meaning that the book depreciation in year 2 ($100) is greater than tax depreciation in year 2 ($0). In Column (2) the top-up tax rate continues to be at 5% because the deferred tax adjustment now operates to lower the numerator (current tax expense of $300 less the deferred tax adjustment of $10 (computed as $100*10%)) such that the ratio is $290/$2,900, for an ETR of 10%.

[14] Whether and when any timing differences should be taxed under the minimum tax is a choice. None of these are per se wrong or right but it depends on the objective that is trying to be achieved.

In Panel C, I present the results for year 10, including a summation over the 10 years. The table shows that in this simple example, the results in Column (2) for year 10 are identical to year 2 (Panel B) because the temporary difference reverses in the same amount in years 3 - 10 as in year 2. Column (3) shows that for this simple example, the SBIE in year 10 goes to zero because the carrying value of the asset for financial accounting purposes is zero by the end of year 10.

2.2 Potential Problems and Concerns

2.2.1 General[15]

There are several high-level concerns with proposals to increase the conformity between financial accounting income and taxable income, including when financial accounting income is included as part of, or the starting point for, a minimum tax base calculation. In this section, I discuss these high-level concerns and then in the next section discuss specific concerns regarding Pillar 2.

First, accounting standard setters will have an impact on tax revenues. If the accounting standards change in such a way as to decrease financial accounting income, and this change flows through to the taxable income calculation (e.g., the GloBE Income calculation in the case of Pillar 2), then taxable income will be lower and tax revenues will be lower. Some are very concerned with the notion that the accounting standard setters (e.g., the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB)) will have essentially tax legislation-writing capabilities in some sense.

Second, because of this potential impact on the tax revenues, governments and possibly the OECD, may try to exert more influence on the accounting standard setters. Accountants are

[15] I outline these concerns in Hanlon (2021) as well.

generally more concerned about this aspect—governments having too much influence over accounting standard setters—than we are about accounting standard setters having an impact on tax revenues. Again, accounting standards are intended to yield financial statements that provide outsiders, such as investors and creditors, with information about the economic performance of the firm. Financial accounting standards are (generally) not used to provide incentives or disincentives for certain behaviors.[16] The rules contained in the tax law that promote certain types of behavior (e.g., investment) lessen the information about performance in the income measure (e.g., immediate expensing of asset purchases would provide outside stakeholders no information about how long managers expect assets to be used and would not match revenues from the use of the asset to the costs of the asset). If governments start overly influencing accounting standards, the quality of information contained in financial accounting income will decrease. This will lead to less information to the capital markets and less efficient markets (Hanlon and Shevlin (2005); Hanlon, Maydew, and Shevlin (2008), Atwood, Drake, and Myers (2010)).

Third, when financial accounting information as used as the minimum tax base there may be an incentive for some companies at some times to lower their reported financial accounting income number to achieve a better tax outcome. All companies will not immediately report lower income, that is certainly true. Indeed, there is a great deal of pressure to report *higher* accounting income, oftentimes even if it costs the company more in cash taxes (see Shackelford and Shevlin (2001) for a review of what is known as the book-tax tradeoff literature; see Erickson, Hanlon, and Maydew (2004) for a study of firms that were willing to pay tax on fraudulently reported

[16] For example, depreciation for financial accounting is not accelerated, and is not changed to be more accelerated in economic downturns to promote investment. As another example, in the U.S., municipal bond interest income is included in financial accounting income. Such income is excluded from U.S. taxable income, however, in an effort for the U.S. government to subsidize borrowing costs of the state and local governments issuing the municipal bonds. I note, though, that one could argue that the recent climate risk and ESG *disclosures* (not items recognized on the financial statements) that are included (or will be required to be included) in financial statements are possibly in place to incentivize and disincentivize certain behaviors.

accounting earnings). However, there is some evidence (mixed, perhaps) the companies did manage accounting earnings downward in the U.S. after the corporate minimum tax enacted in 1986 relied, in part, on financial accounting earnings. It is an empirical question as to whether companies would alter earnings in response to Pillar 2. It seems plausible that some companies would be able to manage/shift income *across* jurisdictions to achieve their goal of lowering their top-up taxes in specific countries, while keeping worldwide reported consolidated accounting earnings unaffected. Another way companies might achieve a better outcome for tax purposes under Pillar 2 without hurting accounting earnings in some sense, is to lower accounting earnings through specific items such as goodwill writedowns, restructuring charges, or estimating greater equity-based compensation charges. These types of items can be added back in disclosures of non-GAAP earnings, otherwise known as pro-forma earnings. If investors and creditors (and maybe boards of directors) are more likely rely on these non-GAAP earnings, then lowering reported GAAP earnings to save taxes under a minimum tax regime may not be so harmful to company share price and manager pay. However, moving more reporting outside of GAAP still lessens the information contained in GAAP earnings. All these tactics are costly in some manner and many of the strategies will reduce the information contained in financial accounting earnings and potentially harm the capital markets.

2.2.2 Specific Concerns with Pillar 2[17]

Beyond the general concerns mentioned above, there are other concerns specific to Pillar 2. First, the compliance, administration, and enforcement of these rules will be extremely complicated and difficult. I acknowledge that there are many new tax rules that are very difficult

[17] Much of this discussion is based on that in Hanlon and Nessa (2023). See that paper for more details.

to learn and implement, difficult to enforce, etc. Thus, one might ask whether Pillar 2 is any worse than prior tax law changes and proposals? Furthermore, Pillar 2 only applies to relatively large companies who arguably have the resources to comply.

I argue, however, that Pillar 2 seems more difficult and also needlessly difficult to some degree because the computation starts with financial accounting income. Further, because apparently the OECD does not really want to just tax actual financial accounting income, there are adjustments required. In addition, a deferred tax system is necessary to ensure that Jurisdictional ETRs are not adversely impacted by the effect of timing differences.

Second, Pillar 2 raises issues for financial statement auditors. For example, what is considered material? Company management and auditors apply a large degree of judgment in determining materiality. Financial statement auditors obtain reasonable assurance about whether the financial statements in total are free from material misstatement (Arens, Elder, Beasley, and Hogan, 2020). A misstatement is considered material if knowledge of the misstatement could reasonably be expected to impact an economic decision of a financial statement user (Arens et al., 2020). Should tax authorities be considered financial statement users under Pillar 2? The issue is that the materiality levels for Pillar 2 appear much smaller than what would be considered material for financial accounting at large multinational companies. Yet, as Hanlon and Nessa (2023) point out, the OECD states, "The financial accounting auditor's acceptance of a deviation [from a strict application of the UPE's accounting standard] without qualification of the auditor's opinion is good evidence that the difference is immaterial" (OECD 2022c, Article 3, paragraph 12). Thus, is possible that financial statement auditors are thrust into a tax enforcement role.

3. Is there a Better Way Forward?

3.1 What is the Problem we are Trying to Solve?

The first question to consider is what is the problem we are trying to solve; indeed, is there a problem in need of solving? There are two potential problems that the OECD has stated that Pillar 2 will address – income shifting and tax competition. I focus on income shifting in this article because it is not clear to me tax competition is a problem per se.

The estimated magnitudes of income shifting by multinationals are wide ranging and hotly debated. The OECD states their definition of Base Erosion and Profit Shifting (BEPS) is the use of "tax planning strategies that exploit gaps and mismatches in tax rules to artificially shift profits to locations with no/low tax rates and no/little economic activity, resulting in…1) little or no corporate tax being paid, and 2) annual revenue losses for governments of at least 100 – 240 billion USD, equivalent to 4 – 10% of global corporate income tax revenue".[18] Clausing (2020) employs Bureau of Economic Analysis (BEA) data and estimates that U.S. multinational firms shifted income on the order of $100 billion in 2017 alone. Blouin and Robinson (2022) re-examine Clausing's data and argue that there is 'double counting' of lower-tier subsidiary earnings in the Clausing paper(s) and conclude that estimates of income shifting calculated by Clausing's methods and the BEA data are much smaller in magnitude than what Clausing claims. Clausing (2020b) examines multiple sources of data that she argues are not subject to the 'double counting' issue and estimates income shifting within the range of her prior estimates. Clausing (2020a) examines income shifting after the TCJA and claims that "…as of the end of 2019, there is no evidence of a reduction in profit shifting or a change in the location of US MNC profits" (p. 1270).

[18] https://www.oecd.org/tax/beps/flyer-inclusive-framework-on-beps.pdf

Dyreng and Hanlon (2022) conduct back-of-the-envelope calculations using financial accounting data and conclude that many of the estimates in prior research (e.g., Clausing (2016, 2020a) and Torslov, Wier, and Zucman (2020), and Wright and Zucman (2018) seem implausibly high. For example, the authors point out that Wright and Zucman (2018) estimate that 60% of foreign income (roughly $250 billion) was recognized in tax havens. However, if one examines using financial statement data by public companies, that 60% estimate implies that the remaining 40% would have been taxed at roughly 59% to account for the foreign current tax expense recorded by companies in their financial statements.[19] In addition, Dyreng, Hills, and Markle (2022) use financial statement data and provide more rigorous evidence that prior estimates by Clausing, Zucman, and other researchers are likely too high and that income shifting is concentrated in a small number of firms. Thus, there does not seem to be a consensus about the magnitude or breadth of the income shifting problem. It is difficult to determine if the costs of compliance, administration, and risks to financial accounting are worth the benefits, if we do not have agreed-upon measures of the tax-motivated income shifting the system is targeted to address.

Furthermore, some question whether BEPS 1.0 should be given more time to have an effect on behavior. The BEPS 1.0 action items were released in final form in 2015. However, it does not seem that we have a good handle on the effects of the provisions or to what extent they have mitigated income shifting or hampered tax competition. If BEPS 1.0 fell short, then understanding why and in what way specifically would help better guide the efforts of BEPS 2.0.

In addition, the U.S., home to the companies probably most suspected of income shifting, changed its tax regime starting in 2018 via the tax law known as the Tax Cuts and Jobs Act (TCJA). The changes should have mitigated (not eliminated) the incentives to shift income out of the U.S.

[19] These are estimates from financial statement data which have limitations; see Dyreng and Hanlon (2022) for a discussion of the limitations and more details.

For example, the top statutory corporate tax rate was lowered from 35% to 21%. In addition, the foreign-derived intangible income (FDII) provision allows for a lower tax rate on the portion of a U.S. corporation's intangible income that is derived from serving foreign markets. The portion of income allowed the lower rate is determined on a formulaic basis. Furthermore, a 100% participation exemption was enacted that allows companies to repatriate foreign earning U.S.-tax free. On the other hand, some of the 'sticks' enacted in the TCJA include the Global Intangibles Low-Taxed Income (GILTI) provision which imposes a relatively low-rate of U.S. tax on foreign earnings in presumably low-tax jurisdictions. The tax is imposed as the earnings are earned (not when repatriated) and an exemption is allowed for a deemed 'normal' rate of return on tangible assets (Qualified Business Asset Investment (QBAI)) in the foreign jurisdictions in proxy-attempt to capture mostly shifted income and abnormal returns. There has not been enough time to thoroughly investigate whether these legislative changes had a significant effect on income shifting or other outcomes. Thus, it is not clear there is a substantial income shifting problem that remains to be solved.

3.2 Are there Alternative Solutions?

3.2.1. Eliminate the use of financial accounting income in Pillar 2

If the desire is to retain many provisions of Pillar 2 and to have a minimum tax imposed on a country-by-country basis, then improvements to the current Pillar 2 proposal could be made.[20] Most importantly, in my opinion, it would be worthwhile (re-) considering whether the minimum tax provisions could start with taxable income in each jurisdiction with adjustments made to

[20] Again, there are many concerns about Pillar 2 beyond the use of financial accounting income that are outside the scope of this paper.

eliminate deductions and credits that should not be allowed.[21] Starting with financial accounting income leads to a black-box sense of the tax base.[22] Starting with taxable income and making adjustments for items specifically would make the tax base more clear and understandable. In addition, many complexities that arise because of the differences between financial accounting and taxable income would be eliminated. For example, and just naming a few, the differences in consolidation rules between tax and book purposes would not need to be corrected/adjusted for, the differences arising because financial accounting does not rely on the realization principle would not be a concern and would not require adjustments (e.g., mark-to-market accounting, fair value option accounting), accounting's use of the acquisition method accounting for all mergers and acquisitions would not be an issue (including how Goodwill is treated post-acquisition). Perhaps most importantly for the majority of companies and in terms of compliance and administration, is that no deferred tax accounting system would be required to track timing differences for purposes of Pillar 2 (in addition to the system already kept for financial accounting). If the computation would start with taxable income and include principles to guide what adjustments are required it would 1) require policy makers to actually specify the tax base and 2) (seemingly) significantly ease the complexity for compliance, administration, and enforcement.[23]

[21] We could debate who should get to determine what deductions and which credits should be allowed, but for brevity and to stay-within scope in a paper about Pillar 2, I will leave at the OECD for now. But I recognize that the authority does not have to be there and maybe should not be there.

[22] Indeed, Kim Clausing, former Assistant Secretary for Tax Policy at the U.S. Treasury, called the tax base for the U.S. Corporate Alternative Minimum Tax, a minimum tax also based on financial accounting income, a "mysterious" tax base. (Tax Policy Center, The Prescription webcast)

[23] I understand that this was considered as part of the early Programme of Work for Addressing the Tax Challenges of the Digitalization of the Economy published by the OECD in May 2019. Annex B (paragraph 19) of the Pillar 2 public consultation document from Nov-Dec 2019 has an excerpt from the Programme of Work that states "The programme of work starts from the proposition that in principle the tax base would be determined by reference to the rules that jurisdictions already use for calculating the income of a foreign subsidiary under their CFC rules, or in the absence of CFC rules, for domestic CIT purposes. Such an approach means, however, that each subsidiary of an MNE would need to recalculate its income in accordance with the tax base calculations in the parent jurisdiction. This may result in significant compliance costs and lead to situations where technical and structural differences between the calculation of the tax base in the parent and subsidiary jurisdiction could result in an otherwise highly taxed subsidiary being treated as having a low effective rate of tax for reasons unrelated to the policy drivers underlying the GloBE

Let's return to Table 1 and focus on Columns (4) – (6). In these columns I start with taxable income as the tax base for the Pillar 2 tax computation. In this example, taxable income is GloBE Income. However, if it were determined that adjustments of some sort are necessary, for example, for items of deductions included or items of income, then adjustments could be made to arrive at a GloBE Income that would be different than taxable income. In addition, depending on how one desires to treat timing differences, timing differences could be adjustments to arrive at GloBE Income or adjustments made to arrive at Excess Profits later in the computational steps. In my example, I use the approach of not adjusting Globe Income for timing differences but rather, adjustments occur in the calculation of Excess Profits.

In Columns (4) – (6) there is no deferred tax adjustment and no deferred tax system required. In Column (4), I present the result allowing only book depreciation into the Pillar 2 tax base (as in Columns (1) – (3) and as Pillar 2 is actually proposed). In Column (5), I allow tax depreciation in the tax base. In other words, I illustrate the case of an adjustment for depreciation to arrive at Excess Profits that allows only straight-line depreciation rather than full expensing and an alternative where full expensing is allowed in the tax base.[24] As one can observe, the results are the same in Column (4) as in Column (2) (in each year and in the sum total of the 10 years) because the items included and excluded from the tax base are indentical. However, starting with financial accounting income requires a deferred tax system in order to operate correctly which increases the complexity significantly, even in a simple case. I recognize that I am abstracting from the difficulties of adjustments to the various taxable incomes used across jurisdictions, but it is not clear to me if one considers all the various complexities of the two alternatives, that the alternative

proposal." It is not clear that these challenges are less than those that arise from using financial accounting income and that these issues could not be adjusted for in a simpler manner.

[24] This is a choice policy makers need to make, obviously, as illustrated by the eleventh-hour change to the U.S. Corporate Alternative Minimum Tax (CAMT) rules in the U.S.

of starting with taxable income is more complicated than starting with financial accounting income because 1) financial accounting standards is not identical across all jurisdictions, 2) there is more discretion allowed within the same standards across companies, and 3) (I think) a lot of complexities of using financial accounting income, including with the required deferred tax system, are unknown at this point. In addition, it seems that what is in the tax base and what is out of the tax base is less "mysterious" when taxable income is the starting point. Finally, complexity is not the only potential problem, the overriding concern about the effect on financial accounting and the capital markets is eliminated entirely if the computations for Pillar 2 start with taxable income and not financial accounting income.

3.2.2 Scratch Pillar 2 and use a provision similar to the GILTI

Why not just implement the GILTI rules (or something similar to the CFC regime rules other countries have)? The GILTI rules are not perfect by any means (e.g., the expense allocation rules are likely too harsh), but they seem to accomplish a goal of taxing 'low-taxed' earnings of foreign operations. The GILTI rules do not use financial accounting as the starting point which makes the GILTI rules much more attractive and straightforward. While not the same in terms of operation, the UK, Germany, and other countries have rules that prevent domestic companies from shifting all their income to tax havens. If all countries agree to adopt a provision to tax low-taxed earnings in the home jurisdiction, it would seemingly go a long way to achieving the goal of mitigating income shifting. If tax havens want to collect the revenue instead of the home countries, they could raise their statutory tax rates. Something in this spirit would be far simpler than the Pillar 2 proposal and probably just as effective, or at least effective enough. Similar to any crime mitigation, we cannot target zero income shifting, the costs of the policy would be too high.

3.2.3 A more complete overhaul

One option is to reconsider something in the spirit of the Destination Based Cash-Flow Tax (DBCFT) which was, in my opinion, potentially not appropriately named but had many redeeming qualities in substance.[25] The huge questions that would need to be more directly addressed and explained would include what happens to currency valuations and prices. If the outstanding questions could be addressed, the DBCFT (or an aptly-named similar proposal) could potentially accomplish many of the goals of both Pillar 1 and Pillar 2.

4. Conclusions

This paper discusses the rules in the Pillar 2 proposal and some potential alternative solutions. Overall, in my opinion, using financial accounting income as the base of a minimum tax is a mistake. It leads to many complexities for both taxpayers and tax authorities and, even more concerning, it risks lowering the quality of financial accounting earnings and thus, risks harming the efficiency of capital markets. There is not a perfect way to arrange the international tax regime and it will be complicated no matter how the system is designed because how to tax global companies and which jurisdictions get the tax revenues are complex problems. However, there are several viable alternatives that do not incorporate financial accounting income that seem least as attractive as the Pillar 2 proposal. I recognize that the testing of the outcomes caused by Pillar 2 adoption will be difficult due to the normal identification issues, however, I look forward to research that examines the economic consequences that might aid in charting a better path forward.

[25] I say potentially not appropriately named because it is not clear to me that the authors that devised DBCFTmeant to actually tax cash flows or some items on an accrual system as in the current tax system (e.g., inventories, accounts payable, accounts receivable, etc.).

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Appendix A

Pillar 2 Computations

Step 1: Calculate **GloBE Income** on a jurisdictional basis.

- Financial accounting income for the Constituent Entities and Permanent Establishments in the jurisdiction, adjusted by a subset of book-tax differences (potentially up to 20-25 items)

Step 2: Compute **Adjusted Covered Taxes** on a jurisdictional basis.

- Income taxes accrued as current tax expense on the financial statements to that jurisdiction, and adjusted for certain specified reductions and additions. Further, the amount is increased by deferred tax expense and decreased by deferred tax benefit, both computed for GloBE purposes; meaning at the higher of 15% rate or the country's statutory corporate rate and excluding valuation allowances and excluding deferred taxes related to items that are adjustments to obtain GloBE Income. Covered taxes excludes top-up taxes acc

Step 3: Compute a **Jurisdictional Effective Tax Rate (ETR)** for each jurisdiction required →

Jurisdictional ETR = **Adjusted Covered Taxes/GloBE Income**

Step 4: Compute the **Top-up Tax %** for each jurisdiction →

Top-up Tax % = 15% - **Jurisdictional Effective Tax Rate**

Step 5: Compute **Excess Profit →**

Excess Profit = GloBE Income – Substance Based Income Exclusion (SBIE)

Step 6: Compute the Jurisdictional Top-up Tax →

Jurisdictional Top-up Tax = (**Top-up Tax %** X **Excess Profit**) –

Qualified Domestic Minimum Tax (QDMT)

Table 1: Example of Deferred Tax Accounting in Pillar 2 and Alternative Option of Using Taxable Income

Panel A: Year 1 of an Asset's Life

Cost of Assets put into service in current year (10 year book life)		$ 1,000	
	Book	Tax	Excess Profits Col. (4) - (6)
Income before depreciation	$ 3,000	$ 3,000	$ 2,000
Depreciation	$ 100	$ 1,000	$ 900
Pre-Tax Book Income (or Taxable Income)	$ 2,900	$ 2,000	$ 2,900

Tax rate in jurisdiction = 10%				***Min. Tax Rate = 15%***		
	(1)	***(2)***	**(3)**	***(4)***	***(5)***	**(6)**
Starting base:	***Financial Accounting Income***			***Taxable Income***		
	No DT adj & no SBIE	**DT adj & no SBIE**	**DT adj & w/SBIE**	**Book depr. exp. allowed in base & no SBIE**	**Tax depr. deduction allowed in base & no SBIE**	**Tax depr. deduction allowed in base w/ SBIE**
GloBEIncome (Taxable Income in Columns (4) - (6)) (a)	$ 2,900	$ 2,900	$ 2,900	$ 2,000	$ 2,000	$ 2,000
Adjusted Covered Taxes						
Current tax expense (tax liability in Columns (4) - (6))	$ 200	$ 200	$ 200	200	200	200
Deferred tax adjustment	$ -	$ 90	$ 90			
Total (b)	$ 200	$ 290	$ 290	200	200	200
Jusrisdictional ETR ((a/b) = c)	6.8966%	10.0000%	10.0000%	10.0000%	10.0000%	10.0000%
Top-up Tax % ((15%-c) =d)	8.1034%	5.0000%	5.0000%	5.0000%	5.0000%	5.0000%
SBIE (cost of asset - accum. book depreciation = e)			$ 45			$ 45
Excess Profit (f = (a - e when calc allows SBIE; a otherwise; except column (4) which uses adjusted TI))	$ 2,900	$ 2,900	$ 2,855	$ 2,900	$ 2,000	$ 1,955
Top-up Tax = Excess Profit * Top up Tax % (f * d)	$ 235.00	$ 145.00	$ 142.75	$ 145.00	$ 100.00	$ 97.75

Table 1 (continued)

Panel B: Year 2 of the Asset's Life

Year of Reversal - Year 2

	Book	Tax	Excess Profits Col. (4) - (6)
Income before depreciation	$ 3,000	$ 3,000	$ 3,000
Depreciation	$ 100	$ -	$ (100)
Pre-Tax Book Income (or Taxable Income)	$ 2,900	$ 3,000	$ 2,900

Tax rate in jurisdiction = 10%				***Min. Tax Rate = 15%***		
Starting base:	***Financial Accounting Income***			***Taxable Income***		
	(1)	***(2)***	**(3)**	***(4)***	***(5)***	**(6)**
	No DT adj & no SBIE	**DT adj & no SBIE**	**DT adj & w/SBIE**	**Book depr. exp. allowed in base & no SBIE**	**Tax depr. deduction allowed in base & no SBIE**	**Tax depr. deduction allowed in base w/ SBIE**
GloBEIncome (Taxable Income in Columns (4) - (6)) (a)	$ 2,900	$ 2,900	$ 2,900	$ 3,000	$ 3,000	$ 3,000
Adjusted Covered Taxes						
Current tax expense (tax liability in Columns (4) - (6))	$ 300	$ 300	$ 300	300	300	300
Deferred tax adjustment	$ -	$ (10)	$ (10)			
Total (b)	$ 300	$ 290	$ 290	300	300	300
Jusrisdictional ETR ((a/b) = c)	10.3448%	10.0000%	10.0000%	10.0000%	10.0000%	10.0000%
Top-up Tax % ((15%-c) =d)	4.6552%	5.0000%	5.0000%	5.0000%	5.0000%	5.0000%
SBIE (cost of asset - accum. book depreciation = e)			$ 40			$ 40
Excess Profit (f = (a - e when calc allows SBIE; a otherwise; except column (4) which uses adjusted TI))	$ 2,900	$ 2,900	$ 2,860	$ 2,900	$ 3,000	$ 2,960
Top-up Tax = Excess Profit * Top up Tax % (f * d)	$ 135.00	$ 145.00	$ 143.00	$ 145.00	$ 150.00	$ 148.00

Table 1 (continued)

Panel C: Year 10 of an Asset's Life

Year of Reversal - Year 10

	Book	Tax	Excess Profits Col. (5)
Income before depreciation	$ 3,000	$ 3,000	$ 3,000
Depreciation	$ 100	$ -	$ (100)
Pre-Tax Book Income (or Taxable Income)	$ 2,900	$ 2,900	$ 2,900

Tax rate in jurisdiction = 10%	***Min. Tax Rate = 15%***					
	(1)	***(2)***	**(3)**	***(4)***	***(5)***	**(6)**
Starting base:	***Financial Accounting Income***			***Taxable Income***		
	No DT adj & no SBIE	**DT adj & no SBIE**	**DT adj & w/SBIE**	**Book depr. exp. allowed in base & no SBIE**	**Tax depr. deduction allowed in base & no SBIE**	**Tax depr. deduction allowed in base w/ SBIE**
GloBEIncome (Taxable Income in Columns (4) - (6)) (a)	$ 2,900	$ 2,900	$ 2,900	$ 3,000	$ 3,000	$ 3,000
Adjusted Covered Taxes						
Current tax expense (tax liability in Columns (4) - (6))	$ 300	$ 300	$ 300	300	300	300
Deferred tax adjustment	$ -	$ (10)	$ (10)			
Total (b)	$ 300	$ 290	$ 290	300	300	300
Jusrisdictional ETR ((a/b) = c)	10.3448%	10.0000%	10.0000%	10.0000%	10.0000%	10.0000%
Top-up Tax % ((15%-c) =d)	4.6552%	5.0000%	5.0000%	5.0000%	5.0000%	5.0000%
SBIE (cost of asset - accum. book depreciation = e)			$ -			$ -
Excess Profit (f = (a - e when calc allows SBIE; a otherwise; except column (4) which uses adjusted TI))	$ 2,900	$ 2,900	$ 2,900	$ 2,900	$ 3,000	$ 3,000
Top-up Tax = Excess Profit * Top up Tax % (f * d)	$ 135.00	$ 145.00	$ 145.00	$ 145.00	$ 150.00	$ 150.00
Total top up tax over 10 years	$1,450.00	$ 1,450.00	N/C	$ 1,450.00	$ 1,450.00	N/C