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Discussion Paper

Taxing Capital in the Age of Intangibles



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Abstract: The rise of the intangibles economy has led to a significant erosion of corporate tax revenue in the innovation-intensive advanced economies, even as the share of national income flowing to capital rose. For developing countries, the erosion is worse and comes on top of substantial erosion of corporate tax revenues from the tangibles economy due to weak tax administration and corruption. In this paper, we take up the questions of how big is the taxing problem that the intangibles economy has raised, and whose problem is it. Further, we consider how well the proposed OECD/G20 Inclusive Framework measures up in responding to this problem. We conclude that the importance of tax reform in the modern digitalizing economy goes beyond preventing base erosion and profit shifting for it is about sustainable development and future prosperity. And whether we are there yet is a matter of wait and see.

Key words: BEPS, Inclusive Framework, digital services tax, intangible capital assets, taxing capital, tax havens

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1 A Taxing Problem

The rise of the intangibles economy¹ has posed numerous governance problems, including for how we measure economic activity (data is everywhere except in the economic and trade accounts), how we classify products (are digital products goods or services?), and importantly how and where economic returns are booked – and thus how and where they are taxed, including the share of taxes borne by capital.

Taxes on capital have always faced the difficulty that capital is mobile. As well, given the differences in corporate profit tax rates across jurisdiction, companies have manipulated pricing to reduce their total tax burden (for example, by under/over-invoicing sales or, in the case of branch plants established abroad, setting transfer prices for intra-firm sales to minimize the net payments to government; Eden, 2009). Companies have also used their market power to play governments off against each other to extract preferential tax treatment – recent well-publicized episodes include Amazon’s play to get favourable tax treatment in locating its second headquarters (Thaxton, 2018) and Google’s play in extracting tax concessions for locating its data centers (Dwoskin, 2019). That being said, governments have hardly been innocent in this regard since they have engaged in industrial policy through tax competition to attract foreign direct investment (Devereux, 2007; Tørsløv et al., 2018). Public finances have thus traditionally been supported mainly by taxes on property, labour, resources, and increasingly on households through consumption-based taxes: in the rich countries club – the Organisation for Economic Co-operation and Development (OECD) – only about 10% of government revenue comes from taxes on corporate profits (OECD, 2020a).

Intangible capital is particularly mobile as intellectual property – patents, copyrights, trademarks – can be parked in a low tax jurisdiction of choice. As Jones and Temouri (2016) found, the growing use of tax havens was especially pronounced for high technology firms, which “transfer the ownership of their high value intellectual property to tax havens in order to minimise taxation at home, but also from abroad in non-tax haven subsidiaries. See also, Dischinger and Riedel (2011).

The potential scale and distortive consequences of this were set in stark relief by the move in 2015 of several companies (most notably Apple) to domicile their intellectual property in Ireland to minimize their overall tax liabilities by taking advantage of Ireland’s low corporate tax rate and various loopholes (Stewart, 2018; Fannon, 2019). The scale of the moves was sufficiently large that they boosted Ireland’s measured gross domestic product at market prices by 32.4% in 2015, but without a commensurate boost to jobs or real activity in Ireland. This in turn forced the Irish authorities to issue a supplementary set of economic accounts to measure what was actually happening in the Irish economy (Tedeschi, 2018).

¹ While the services sector has often been described as “intangible”, the term “intangibles economy” here is restricted to an economy based on intangible capital assets such as intellectual property and data, which are not extinguished in the act of production and consumption, such as is the case of a waiter delivering an order and a customer receiving it. On this distinction, see Hill (1999).

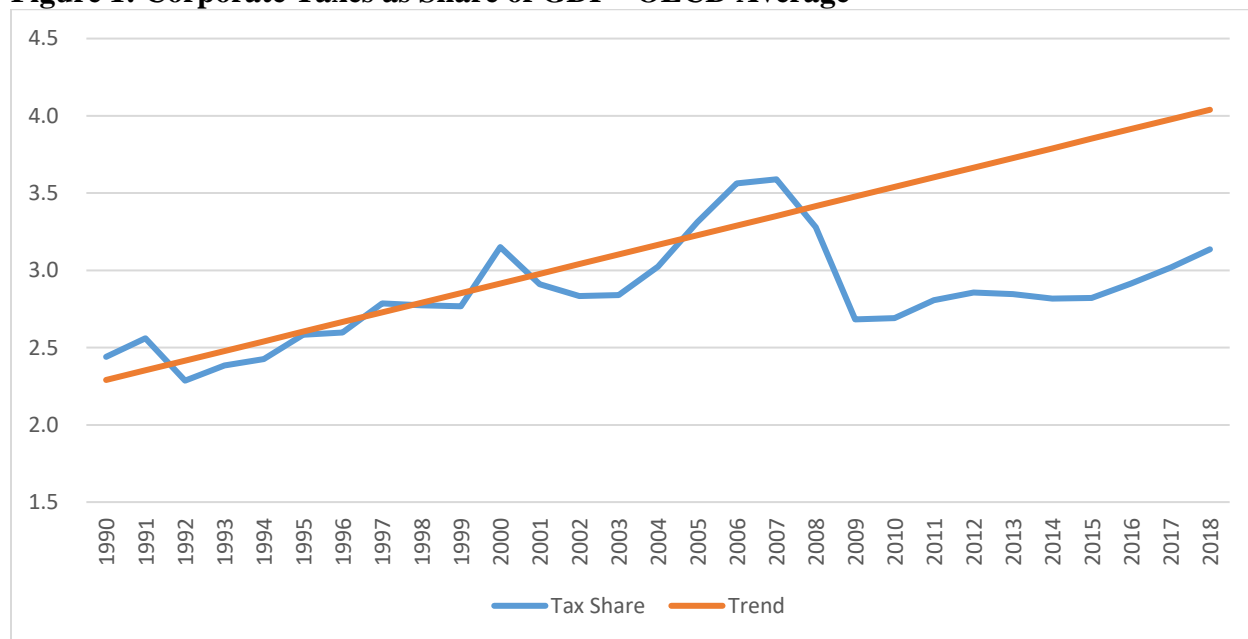
With the digital transformation, the taxation of corporate income has become a particularly vexing problem because it enabled multinational enterprises (MNEs) – in particular the “platform” firms like Google, Facebook, and Amazon – to conduct business and earn profits through a virtual presence in a jurisdiction. A virtual presence is not taxable locally under the corporate tax principles developed for the physical economy, which make local “permanent establishment” the basis for local taxation. Even when the platform firms do have local affiliates, their practices as regards attribution of profits can still leave the local government with little or no corporate tax revenue related to this activity (Ndajiwo, 2020); in the digital economy, profits may be easily switched using, for example, royalty and license payments (Stewart, 2018).

2 How Big a Problem?

The intangibles economy thus clearly poses a taxing problem. The first question to address is: how big a problem is it and whose problem is it?

During the KBE era, when the share of income accruing to capital started to rise on trend and the share of income going to labour started to decline, it did not appear to be a particularly large problem: corporate tax revenues in the OECD – which hosted the rising intangibles economy – were buoyant, rising from about 2.5% of GDP to about 3.5% of GDP (Figure 1), even in the context of a worldwide decline in corporate tax rates during this period (Devereux, 2007). However, as intangible investments in the United States and Europe overtook their tangible counterparts after the 2008 global financial crisis (Westlake and Haskel, 2017), the cyclical recovery of corporate tax revenues was on a clearly lower trend path than it had been previously (Figure 1).

Figure 1: Corporate Taxes as Share of GDP - OECD Average



This near flat-lining of the corporate profit tax share of GDP occurred even as corporate profit growth continued unabated (see, e.g., Trading Economics, 2021 for corporate profit growth in the United States; Sharpe et al., 2020 provides estimates for Canada). To put this into perspective in

terms of fiscal consequences, had the corporate tax share reverted to its pre-financial crisis trend by 2018, corporate tax revenue in the OECD would have been about 4.1% of GDP on average (versus the actual 3.1%), or on the order of USD 584 billion higher (given OECD GDP in 2018 of \$61 trillion²). This foregone revenue appears to be largely additional to the reported estimates for tax losses due purely to the tax haven effects of the KBE era. For example, in a study based on mostly pre-2008 data, before this additional gap showed up, Crivelli, de Mooij, and Keen (2015) place the revenue loss to OECD countries from tax havens at just over 1% of GDP. Thus, even as the DDE turbocharged the rise of the intangibles economy, it also scaled the corporate tax erosion problem commensurately.

The impact of the tax haven issue is not uniform across economies. Tørsløv et al. (2018) estimate that close to 40% of MNE profits are shifted to tax havens globally. Further, they assess that, if all countries adopted the same effective corporate tax rate, profits recorded in high-tax European Union countries would increase by about 15% and in the United States by about 10%. Meanwhile, in tax haven jurisdictions, recorded profits would fall by 60%. Accordingly, measures to tighten corporate tax regimes for the intangibles economy promise to have a strong redistributive impact. Not surprisingly, countries such as Ireland that have relied on tax-driven industrial policies have a strong incentive to oppose solutions that eviscerate those policies (Alderman, 2021).

The United States faces a particularly tricky political economy problem: even though the US government stands to see a significant fiscal benefit in clawing back revenues lost to tax havens, the United States is also home to the major firms of the digital economy that produce the intangibles that power this economy and that deliver the digital services. Accordingly, solutions that claw back taxes to benefit the US government would also expose US firms to greater foreign taxation.

While the above distributional problems primarily affect the advanced countries, developing countries face even more challenging problems from the rise of the intangibles economy. There are at least three distinct issues for these economies.

First, they share with many advanced countries the problem of capturing tax revenue from businesses operating in their jurisdictions on a virtual basis. A report by Britain's ActionAid International covering 20 countries in the Global South estimates that they miss out on as much as \$2.8 billion in tax revenue from the untaxed activities in their jurisdictions of Facebook, Microsoft, and Google/Alphabet alone (Schwikowski, 2021).

Second, developing countries depend much more on tariff revenues than do the OECD countries. Accordingly, as previously dutiable physical products (such as music CDs) are increasingly displaced by electronic transmissions (music streaming services) that are protected from tariffs under a moratorium established under the World Trade Organization (WTO) in 1998 and extended routinely since, they face tariff revenue erosion (Banga, 2019).

² <https://data.oecd.org/gdp/gross-domestic-product-gdp.htm>. Accessed 22 October 2021

Third, and more subtly, there is an inherent externality that militates against their ability to share in the benefits of the digital economy:

“If the whole [of an MNE] is worth more than the sum of its (geographically diverse) parts, which countries get to tax that extra value? It is rarely lower-income countries, since the system tends to give preference to the place where multinationals have their headquarters, usually rich countries.” (Shaxson, 2019)

These new challenges for developing countries come on top of other long-standing challenges of taxing MNE activities in areas such as resource extraction, which are estimated to cost developing countries very substantial sums, with estimates ranging from \$50 billion (Cascais, 2021) to as much as \$200 billion (Shaxson, 2019).

The pandemic has only escalated the problems facing governments in taxing intangibles as it has accelerated the digital transformation and thus boosted the intangibles economy. At the same time it has blown large holes in public finances, making it all the more urgent to stop the erosion.

To summarize, the rise of the intangibles economy has led to a significant erosion of corporate tax revenue. Estimates of the scale vary, but for the OECD countries the erosion in the KBE era appears to be on the order of 1% of GDP; there is a prima facie case that this erosion substantially intensified in the DDE era. For developing countries, the erosion is still larger as a share of GDP and comes on top of substantial (if poorly measured) erosion of corporate tax revenues from the tangibles economy due to weak tax administration and corruption. Addressing the erosion would likely have significant redistributive impacts across economies, creating political economy problems for designing and implementing reforms. Houston, we have a taxing problem.

3 Structural Issues Demand Structural Solutions

There are two inter-related structural features of the economy behind this taxing problem: the increased share of intangible capital assets, which facilitates tax avoidance; and the rise in the share of income flowing to capital, which scales up the consequences of tax avoidance.

The first issue is well-illustrated by the Irish example described above; the second issue is more complex. The reasons advanced for a rising share of income going to capital are varied (see for example the cottage industry of studies stirred up by Thomas Piketty's book *Capital in the Twenty-First Century*) but many of the drivers that have been identified are directly or indirectly linked to the rise of the intangibles economy:

- The myriad drivers of globalization enable the unbundling of production into global value chains (GVCs), the integration of which drives “a dense circulation of information flows to communicate specifications, standards, technical know-how in addition to costs and other operational details ... [and] is thus linked to a rising mobilization and circulation of intangibles” (Durand and Milberg, 2019).
- The erosion of the bargaining power of labour, which also has a myriad drivers, some of which are the increased international mobility of capital relative to labour, the outsourcing of labour-intensive tasks to low-cost jurisdictions as part of the GVC framework, and the

various features of the KBE/DDE that shifted economic rents from labour-intensive tasks such as manufacturing and basic services to intangibles such as IP and branding (as graphically depicted in the “smile curve”; Ciuriak, 2020), including through the acceleration of innovation (Ellis and Smith, 2007).

- The rise in corporate concentration and market power given the “superstar firm” dynamics of the intangibles economy (Autor et al., 2020).
- The replacement of labour with technology due to the steep decline in the cost of information technology (Schwellnus et al., 2018); the related increased investment in software, which substitutes for labour (Aum and Shin 2021); and the accelerated depreciation of intangible assets (Manyika et al., 2019).
- The under-pricing of capital through monetary policy that kept real interest rates low for macroeconomic conditions that were shaped by the intangibles economy and thus abetted the substitution of capital for labour (Ciuriak, 2016).

The shift of income from labour to capital thus reflects numerous structural features of the modern intangibles-intensive economy. Moreover, this shift may intensify as machine knowledge capital increasingly claims a share of national income with the ubiquitous deployment of data-driven artificial intelligence applications (Ciuriak, 2018).

Not surprisingly, while tax haven issues have been around for a long time, governments have only been truly galvanized into action since the advent of the DDE. This has led, *inter alia*, to the following:

- US tax reforms in 2017 in respect of foreign-derived intangible income (FDII) and global intangible low-taxed income (GILTI). The FDII set an effective lower tax rate of 13.125% on profits earned from intangible assets that support US exports while the GILTI set the same 13.125% tax rate on foreign earnings which were deemed to be competitive with foreign tax rates on income from intangible assets such as patents, trademarks, and copyrights. The ultimate aim was to encourage companies to keep their IP in the United States or to incentivize repatriation of these assets from offshore locations (although the Biden Administration has concluded they actually perversely incentivize offshoring of these assets (Bunn, 2021).
- New special nexus rules for patent boxes under the OECD’s Base Erosion and Profit Shifting (BEPS) Action Plan (Ansen, 2019) to address tax competition through these devices – several countries have adopted patent boxes that give 50% or greater discounts off the corporate tax rate or similar incentives to attract those assets (Hodge and Bunn, 2020).
- A slew of unilateral digital services taxes (DSTs) imposed at varying rates ranging from 1.5% to 7.5% on variously defined gross revenue streams of large companies (KPMG, 2020; Ansen, 2021); as these taxes mainly impact US companies, the United States has threatened retaliatory measures (Bunn, 2020).
- The addition of a new rule (Article 12B) to the UN Model Tax Convention (adopted 20 April 2021), which contemplates that a Contracting State may subject income from

automated digital services paid to a non-resident to a withholding tax at a recommended rate of between 3 and 4% percent (Buchanan et al., 2021).

- And most generally, the Inclusive Framework package of measures developed by the OECD and the Group of 20 (G20), which was agreed by 136 countries on 08 October 2021 (see Box 1).

Box 1: The OECD/G20 Two-Pillar Inclusive Framework (IF)

Pillar One establishes new rules that assign some taxation rights to jurisdictions where firms conduct sustained and significant business, their physical presence in such jurisdictions notwithstanding. The key features of Pillar One are as follows:

- The proposal reallocates some taxation rights to the end-markets in which firms operate and where their products are used and consumed, based on a new special purpose “nexus” rule that establishes a relationship between a firm’s profits and its operations in these end-markets.
- The allocation of taxation rights is limited to “in-scope firms” (those with EUR 20 billion in global revenue and a profit margin above 10%; extractive industries and regulated financial services are exempt).
- The allocation affects only in-scope firms’ “residual profits” (the portion that can be attributed to capital, risk management functions or IP) and reassigns between 20 and 30% of the amount above a 10% profit margin to the end-markets based on a formula.
- The jurisdictions to which taxing rights are transferred are those in which the firms generate at least EUR 1 million in revenue (for countries with GDP less than 40 billion, the threshold is lowered to EUR 250 million).
- Double taxation issues are addressed through a “safe harbour” provision.
- The details of the allocation formulas are being worked out. The rules are to be finalized in 2022, with prospective implementation in 2023.
- The new rule is expected to replace digital services taxes (DSTs) that have been proposed or implemented by various countries but to co-exist with the US GILTI tax.
- The new rule is intended to have minimal effects on MNEs that operate on a physical basis in their markets.
- The allocation is estimated by the OECD to shift about US\$ 100 billion in corporate profit taxation rights to the end markets.

Pillar Two proposes a global minimum tax that is intended to put a floor under tax competition. It creates three new rules:

- An Income Inclusion Rule (IIR)
- An Undertaxed Payment Rule (UTPR) and
- A Subject to Tax Rule (STTR)

These rules are designed to ensure taxation of MNE groups’ profits at a rate of at least 15%. Other key features are as follows:

- The threshold for application of the new framework is to firms with consolidated revenue above EUR 750 million.
- IF member states are not obliged to adopt the plan but must accept the application by other IF members.
- The measures are to be introduced in 2022 and made effective in 2023.

All the members of the OECD have signed onto the IF package, including Ireland which had been a holdout since the 15% minimum tax rate is higher than its own 12.5% rate. Four members of the IF - Kenya, Nigeria, Pakistan and Sri Lanka - have not yet joined the agreement (OECD, 2021).

4 Complexity and Compromise

The OECD/G20 proposals have been described as the first substantial reform proposed for international corporate tax rules since the 1928 model bilateral treaty conventions on double taxation and fiscal evasion that were developed under the League of Nations (League of Nations, 1928). As we move towards implementation of the new principles, it is of interest to look back to the context in which these original rules were developed.

Prior to World War I, direct taxes on income were not a major source of fiscal revenue for governments. The post-war period witnessed increased reliance on income taxes in a context in which business interests had become increasingly international. This galvanized governments to address the dual issues of double taxation and fiscal evasion, leading to the 1928 League of Nations model conventions. This sounds familiar.

Then as now, reaching agreement was difficult because (a) competing plausible principles for taxation were advanced (based on nationality, residence, location of income-generating assets, proportionality of liability to taxation based on the distribution of business interests across countries, and some combination of the above); and (b) countries in different situations favoured different principles: for example, a resource-based economy would naturally prefer to tax corporate income where it is generated while a financial centre economy would have a strong interest in taxing on the basis of residence. Accordingly, for any given economy, as Crobaugh (1923) observed, it was quite possible that “conformity to a mere abstract principle would be too dearly purchased.” This too sounds familiar.

Notwithstanding these difficulties, a way forward was agreed in the 1920s, and a way forward has been found again a century later in the 2020s.

While the broad acceptance of the IF framework is a promising start, how well it responds to the issues is open to question.

First, the expected increase in the flow of revenues to governments under the IF proposals (about \$150 billion) seems small compared to the scale of the tax avoidance that the knowledge-based and data-driven economy has allowed, which appears to be an order of magnitude larger at over \$1 trillion for the OECD member countries alone on the basis of the estimates above.

Second, the taxing rights on profits that are transferred to end markets (about \$125 billion of profits) implies the reallocation of about \$30 billion in revenues (if we apply the OECD average corporate tax rate of about 23%³). Quite aside from the question of how this stacks up relative to the scale of shifted profits, this seems very small when one takes into account the value of data

³ https://stats.oecd.org/index.aspx?DataSetCode=Table_III

that is captured by platform firms. One way to estimate the value of data is to equate it to the value of free services over the Internet that platform companies provide as a barter exchange for data. The value of free Internet services has been estimated in the United States on the order of 2% of GDP (Nakamura et al., 2018). For the OECD, this would imply about \$1.2 trillion in value annually, of which two-thirds or over \$800 billion would be generated outside the United States and would flow mainly to US platform firms. This value does not show up in national economic accounts, trade statistics or profit statements – only in the market valuation of firms (Ciuriak, 2019). If we think of this as a capital gain that is taxable at about 20%, this implies a tax value flow of over \$160 billion annually. Importantly, this is over and above the recognized revenues that platform firms earn from selling services based on these data – and only these recognized revenues are taken into consideration in formulating the IF proposal.

Third, the proposals are complex, the thresholds invoked are arbitrary and will certainly invite gaming, and there is likely more than one devil to be encountered in the details as the framework is applied (Stiglitz, 2021).

Fourth, while the 136 signatory jurisdictions account for more than 90% of global GDP, there are many countries outside the framework; these have other options – e.g., the UN model code. As Buchanan et al. (2021) observe, “It is unclear whether the approach taken by Article 12B [of the UN model code] can be reconciled with the OECD approach.” Insofar as this may lead to disputes, there is the further matter of tax dispute resolution – which will have its own issues as can be seen from the ongoing impasse over the WTO’s Appellate Body, the criticisms that have been levelled on the types of dispute settlement mechanisms available in investment agreements (Stiglitz, 2021), and more generally because of concerns about regime bias (see, for example, van Harten, 2011).⁴

Finally, while the developing country revenue gains are expected to be greater as a proportion of existing revenues than those in the advanced economies, the amount of tax transferred is likely to be small in absolute terms – and very small relative to their digital infrastructure needs. In Sub-Saharan Africa, for example, as of 2020, less than 40% of the population used the internet compared to a global average of 60% (Statista, 2021). Ultimately, the importance of tax reform in the modern digitalizing economy goes beyond preventing tax avoidance – it is about sustainable development and future prosperity. Whether in developing countries or developed ones, private companies such as Google, Facebook, Amazon, Microsoft and others that prosper in the digital economy will need to shoulder their fair share of the burden to support the development of the public digital infrastructure that underpins their private success. The Inclusive Framework is a step in the right direction but the considerations above suggest there is a long journey ahead to fully come to grips with the challenges of taxing capital in the age of intangibles.

⁴ Regime bias refers to the differential manner in which international economic governance (IEG) rules are interpreted and applied where the interests of developing countries are at stake. The regime bias critique views the manner in which rules of IEG are crafted, applied and adjudicated between industrialized and developing countries, or between developing countries and the interest of global capital, as ‘unfair’. It rejects the manner in which choices are made between alternative ways of crafting rules, the meaning ascribed to a particular rule in its application by administrative agencies or at the adjudication stage by international tribunals in disputes involving developing countries.

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