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Priyaranjan Jha, Rahul Mukherjee

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Global Taxation and National Welfare States

Abstract

This paper studies the effects of globalization on the ability of governments to generate tax revenues for the financing of national welfare states. In this context, it summarizes the theoretical predictions of various economic models of tax competition between countries and discusses the role of factor mobility and country-specific characteristics such as size and factor abundance. It then draws on existing empirical evidence to outline the effects of globalization on capital, labor and consumption taxes. It touches on recent trends in income tax incentives for highly skilled workers, the challenges related to digital platforms, and ends with a discussion of recent attempts at international tax coordination among countries, including the OECD BEPS initiative.

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Keywords: globalization, welfare state, tax competition, corporate taxation, income taxation, global tax coordination.

Priyaranjan Jha
Department of Economics
University of California, Irvine / CA / USA
pranjan@uci.edu

Rahul Mukherjee
School of Economics
University of Nottingham / UK
Rahul.Mukherjee@nottingham.ac.uk

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1 Introduction

Some key functions of welfare states include the provisions of public goods and social insurance against risk, and redistribution of income to reduce inequality. Globalization – understood broadly as increased *de facto* and *de jure* openness to trade and production factor flows – can affect these functions in two ways. First, since globalization creates economic winners and losers, it increases the demand for social insurance or redistribution (the "compensation hypothesis", see Lammers, I., van Gerven-Haanpää, and Treib, 2018). Second, it may impinge on the ability of welfare states to raise revenue through the taxation of internationally mobile factors of production, thus hampering their ability to perform these functions (the "efficiency hypothesis").

According to the compensation hypothesis, globalization increases *demand* for the welfare state, requiring governments to raise more revenue through taxes, and leading to an increased size of the government. In early work in this area, Rodrik (1998) presented a theoretical model in which globalization, by increasing volatility, increased demand for social insurance resulting in an increase in the size of the government. He provided empirical evidence on the positive relationship between globalization and the size of the government.

In contrast, the efficiency hypothesis posits that some facets of globalization, e.g., increased mobility of factors of production, can constrain the ability of the government to *supply* a welfare state of adequate size by limiting the extent to which they can raise tax revenue from those factors. Indeed, increased factor mobility can also give rise to Prisoner's Dilemma type tax competition among countries whereby they all lower taxes in vain to lure mobile factors such as capital and skilled labor away from other countries.

The tension between compensation and efficiency forces was noted by Rodrik (1997), who highlights how the constraints facing the welfare state due to the forces of globalization can threaten the implicit contract between the government and the working class, whereby the former offers social insurance in exchange for greater globalization. Jha and Gogoro (2019) formalize this idea in a simple model where trade liberalization in a capital-abundant country increases inequality via the Stolper-Samuelson effect.[1] The increased inequality increases the demand for redistributive taxation.[2] However, if trade liberalization is accompanied by increased mobility of capital, as has happened since the 1980s, then the latter facet of globalization puts a constraint on taxation.

Such trade-offs, which lie at the heart of the debate on the effect of globalization on welfare states, are covered elsewhere in this book. In this paper, we focus on the key pillar that underpins much of the debate surrounding the efficiency hypothesis: the impact that globalization has on

[1] The Stolper-Samuelson Theorem is one of the fundamental results in trade theory which shows that the increase in relative price of a good brought about by international trade benefits (or punishes), the factor that is used more (or less) intensively in its production. In the case of capital abundant countries that export capital intensive goods, trade liberalization will increase (decrease) the price of the capital (labor) intensive goods that are exported (imported).

[2] In their theoretical model the redistributive tax is chosen by the median voter, however, the results generalize to settings where voters and policymakers care about inequality.

national taxation, and by extension, on the financing of national welfare states. We start off with an outline of what the theoretical literature predicts regarding the effect of globalization on taxation. We then devote the bulk of the paper to drawing lessons from the vast, mainly empirical, literature on the effect of globalization on taxation of factors of production such as capital and labor, as well as consumption expenditures. We focus mainly on recent literature and direct the interested reader to surveys of earlier literature. We then summarize the brief but emerging literature on personal income taxes and their implications for the international migration of skilled workers. We conclude with a discussion of tax coordination among countries including recent attempts to impose a global minimum tax on the profits of multinational firms.

2 Globalization and Taxation when Capital is Mobile

2.1 Theoretical background and roadmap

The starting point and theoretical foundation of the efficiency hypothesis are provided by models of tax competition between countries. Such models typically predict that increasing *financial* globalization should lead to a decline in taxes on capital. More generally, in a world with differently mobile factors of production (e.g., capital versus labor), such models predict that globalization – understood as increased mobility of a certain factor, e.g., capital – leads to reallocation of the tax burden from more mobile to less mobile factors (e.g., from capital to labor). Intuitively, this happens because mobile factors can move to lower-tax jurisdictions while immobile factors cannot. In the simplest versions of tax competition models, countries acting in their self-interest competitively lower taxes and in the process lose out on tax revenue. This 'race to the bottom' in taxes can make all countries worse off compared to a situation where they coordinated to keep taxes at a higher level (we return to tax coordination later in the paper).

Yet, while it is acknowledged that factor mobility, e.g., for capital, has increased over the last several decades according to different measures, corporate taxes around the world are far from zero and governments in practice are able to tax both kinds of production factors. Recent theoretical work, which we summarize later in this section, offers some explanations centered around imperfect substitutability of investment opportunities across countries and tax externalities, as well as the fact that labor is not fully immobile.

While tax competition models with certain additional features – such as unequally sized countries, imperfectly competitive goods markets, and trade costs (e.g., Ottaviano and Van Ypersele, 2005) – offer testable predictions about the effects of *trade* liberalization on taxation, their implications are more nuanced. In such models, trade globalization – understood broadly as a decline in trade costs and other barriers to trade in goods and services – increases the incentives of firms to locate in larger countries due to, e.g., larger market size. This lets larger countries set higher tax rates on capital than smaller countries (i.e., the effect of trade globalization on taxation is moderated by country size). This is reminiscent of Jha and Gozgor (2019), where trade globalization may lead to an increase in taxation of capital if the technology in a country is sufficiently capital intensive (so that capital owners benefit from higher export prices induced by trade liberalization).

In the remainder of this section, we draw lessons from the large empirical literature testing for the patterns of change in the taxation of capital in response to globalization both in terms increased capital mobility and trade. Some papers in this literature test the general result from simple tax competition models that increased factor mobility should lead to reduced taxation of capital. We draw on these papers in Section 2.2.1 and 2.2.2. Others directly test the predictions of the tax competition model that a country's optimal tax rate should be increasing in the rivals' tax rate, or alternative models of the nature of tax competition, which we cover in Section 2.2.3. We explore the role of geographic factors such as country size in Section 2.2.4.

2.2 Empirical evidence

Before we begin, some words on measurement issues. The measure of tax used in the papers mentioned below is either the statutory tax rate on a factor of production (e.g., the Statutory Corporate Tax Rate or SCTR) or the effective tax rate on a factor. The latter is measured usually by the Average Effective Tax Rate (AETR hereafter) which is the total tax revenue from a factor of production as a proportion of the total income generated by that factor of production. The measures of globalization are either the trade to gross domestic product (GDP) ratio, commonly referred to as trade openness, or some measure of capital market openness: *de jure* ones such as the Quinn index (Quinn, 1997) and the Chinn-Ito index (Chinn and Ito, 2006) which capture the restrictions on portfolio investment and Foreign Direct Investment (FDI) and *de facto* ones such as the ratio of foreign assets and liabilities to GDP.

It should be noted that the process of globalization itself can directly reduce certain sources of tax revenue and hence necessitate changes in the magnitude and mix of other taxes imposed, even when there is no tax competition between countries. For example, as countries liberalize trade by lowering policy barriers such as tariffs, historically important sources of revenue such as import duties diminish. As a result, governments have to find alternatives. These dynamics have been empirically documented in recent work. In a study spanning over 200 years from 1792 to 2006 for 130 countries and 99 episodes of trade liberalization, Cage and Gadenne (2018) find that a decline in tariff revenue was compensated by increases in other sources of revenue in the pre-1970 period; however, in the post-1970 period, a significant proportion of developing countries experience declines in tax revenues that last for more than 10 years while none of the rich countries do so. Buettner and Madzharova (2018) also find a decline in tariff revenues in a panel of 97 developing and transitional economies after they joined GATT/WTO during the period 1990 to 2011. However, these countries were able to offset the loss in tariff revenues through increased revenue from consumption taxes.

2.2.1 Globalization and taxation: early literature

We now move on to the large literature which tests the central empirical prediction of tax competition models, which is that tax burdens should shift from mobile to immobile factors as globalization proceeds, as outlined in Section 2.1. Papers testing this prediction using alternative measures of globalization as well as taxation have mostly found a negative relationship between globalization and capital taxation. Rodrik (1997) shows a negative relationship between trade openness and the AETR for capital in a panel of 18 OECD countries over the period 1965-1991.

Schulze and Ursprung (1999) survey the early literature in this area and Adam et al. (2013) provide a more recent survey. Below we discuss some subsequent studies.

2.2.2 Globalization and taxation: recent studies

Onaran and Boesch (2014) study the impact of globalization on AETR for capital, labor, and consumption in a panel of 15 European Union (EU) countries as well as a panel of 13 Central and Eastern European (CEE) countries over the period 1970-2007. They measure globalization using the KOF index (see Dreher, 2006) which captures economic globalization based on trade and investment flows as well as restrictions on these flows (i.e., both *de facto* and *de jure* measures), and political and social globalization based on the interaction between countries. They find a positive relationship between economic globalization and labor income taxation but no significant effect of globalization (either economic or overall including social and political) on the taxation of capital or consumption in the panel of 15 EU countries. They also find some heterogeneity in results based on the level of generosity of the welfare state regime. For the panel of CEE countries, they find that economic globalization had a positive relationship with capital taxation, a negative relationship with consumption taxation, and no significant relationship with labor income taxation. The overall KOF index capturing economic, social, and political globalization had a significant negative relationship with consumption taxes but no significant relationship with labor or capital taxes.

Mourmans (2016) used panel data from 34 OECD countries for the years 1981-2014 to examine the relationship between trade openness and taxation, focusing on the top Statutory Corporate Tax Rate (SCTR) and the top Personal Income Tax Rate (ITR). The findings reveal a negative relationship between trade openness and taxation.

Among recent works, Jha and Gozgor (2019) use a large cross-country panel data set of 155 countries over 1975-2015 and employ 7 different measures of *de facto* and *de jure* globalization relating to trade and capital flows as well as policies. Among the key results, they find support for the theoretical prediction that real trade openness[3] increases the top income tax rate in capital-abundant countries and reduces it in labor-abundant countries. They also find that greater capital mobility, as measured by less restrictions on capital flows, is associated with lower taxation in both capital importing and exporting countries.

Egger et al. (2019) study the impact of globalization on labor income taxes between 1980 and 2007 for a panel of 65 countries. Their key finding is that for the set of OECD countries in the 1980-93 sub-period, trade openness made taxes more progressive with the relative tax burden of the top earners increasing. In the 1994-2007 period, however, globalization reduced the relative tax burden of top income earners and increased it for the median. The reason for the regressive effects of globalization since the mid-1990s has to do with increased cross-border flows of labor and capital. (e.g., free mobility of labor within EU since 1992, NAFTA in 1994, Schengen agreement between EU members since 1995, and a host of investment treaties.) Since top income earners and capital are more mobile, countries have been responding to the increased mobility of

[3] Real trade openness corrects the nominal trade-GDP ratio for the lower price of non-tradables in developing countries along the lines suggested by Alcalá and Ciccone (2004). The results with nominal trade-GDP ratio are insignificant.

these factors by reducing their tax burden. The results are less clear cut for non-OECD countries because they rely less on income taxes and more on taxes on goods.

Bachas et al. (2022) construct a panel dataset of labor, capital, and indirect taxes for 150 countries from 1965 to 2018. They find that on average the effective tax rates on labor and capital have converged over time as the tax on labor has risen while the tax on capital has fallen. Looking separately at high-income and developing countries, they find that the effective tax rate on capital decreased in the former while it increased in the latter since the 1990s. The decrease in capital taxation in high-income countries is a result of a decline in the statutory tax rates consistent with the tax competition hypothesis. Looking at the impact of trade openness on taxes, they find that trade openness is positively related with the effective tax rates on both labor and capital. Searching for heterogeneity in the impact of trade openness on taxes across countries with different levels of income, they find that greater openness increases capital taxation in developing countries but has no effect on high-income countries. However, trade openness increases taxes on labor in both sets of countries. Finally, trade openness decreases SCTR in both sets of countries, but the effect is stronger in the high-income countries. That is, even though SCTR decreases in developing countries, trade openness shifts economic activities to the formal sector which are easier to tax. This 'tax-capacity effect' of globalization raises the effective tax on capital even with a declining statutory rate.

Overall, the picture that emerges from recent work on globalization and taxation is that, notwithstanding heterogeneity due to institutional features such as the ability to shift tax burdens, globalization appears to have increased taxes on immobile tax bases while reducing it for mobile ones such as capital and highly skilled labor.

2.2.3 Globalization and taxation: strategic interaction between countries

Among empirical papers that directly test the theoretical predictions of the strategic tax competition model, i.e., prediction regarding how countries react to other countries' tax rates, the most notable is Devereux et al. (2008) which finds evidence for strategic interaction in tax-setting. They construct a theoretical model where capital is mobile and multinational firms can shift profits across countries. This gives countries an incentive to lower taxes to encourage profit shifting by multinationals as well as to attract foreign capital. Empirically, they construct a measure of the effective taxation of capital (Effective Marginal Tax Rate, EMTR) by taking into account the statutory tax rate as well as the capital allowances. EMTR is relevant for attracting capital while the statutory rate is relevant for profit shifting. They find evidence of tax competition with respect to statutory tax rates to encourage profit shifting but not so much regarding EMTR to attract capital: A one percentage point fall in the weighted statutory tax rate in other countries reduces the tax rate in the home country by 0.7 percentage points. They also find that the decline in the statutory tax rates over time is consistent with their model prediction of the path of equilibrium tax rates in response to a relaxation of capital controls. That is, increased capital mobility is responsible for the decline in corporate tax rates. Keen and Konrad (2013) provide a survey of the theoretical literature on tax competition while Devereux and Loretz (2013) survey the empirical literature.

Among more recent works, Swank (2016) analyzes panel data from 18 capitalist democracies from 1982-2008, using the trade-GDP ratio and the Quinn (1997) index as measures of globalization, and found that both had a significant negative impact on the SCTR. He goes on to test for the role of strategic interaction in setting taxes and finds support for the view that the US played the role of a Stackelberg leader[4] and other countries' taxes were influenced by the US taxes: a one point cut in the US rate resulted in a 1.1 point cut in other countries' rates. Also, increased capital control liberalization in competing countries led to a lowering of taxes in a country.

Epstein et al. (2016) provide a different perspective on the Stackelberg leadership role of the US using the AETR on capital over a longer period of time. Using tax data from a set 15 OECD countries over the period 1960-2010 (see McDaniel, 2003), they document a striking convergence in the average capital tax rate in their sample of major advanced economies: over 1960-2010 the capital tax rate in the US declined from about 40% to 25%, while it increased for the other countries in their sample to roughly the level of the US. They also relate this convergence to changes in the overall capital market openness of the counties in question measured by the Chinn–Ito index (as well as a finer *de facto* measure of bilateral financial integration based on banking claims between individual countries), finding evidence that increased international financial integration went hand-in-hand with capital tax rate convergence. Furthermore, using 5-year averages of the tax rates in the spirit of the analysis of Slemrod (2004), they document two interesting dynamic patterns: first, while the countries were indeed converging towards the US tax rate, the difference in the average capital tax rates between them remained low and roughly constant; and second, the convergence was uneven over time, with the bulk taking place over the period 1970–1985 (which in turn may partly explain the differences with Swank, 2016, in terms of results). Quantitatively, they find that for the median advanced country, the process of financial integration may have contributed to a decline of up to 5.4 percentage points in the capital tax rate difference with the US.

2.2.4 Globalization and taxation: the roles of market size and geography

Market size and other factors emphasized by the New Economic Geography literature may also grant countries some degree of "market power" in setting tax rates. In Exbrayat (2017), since larger markets attract more firms in the presence of agglomeration economies and trade costs, larger countries face lower tax elasticities. As a result, larger countries can tax agglomeration economies and set higher corporate taxes. Using panel data from 26 OECD countries from 1982-2006, she finds that countries with higher market potential, or larger market size, set higher corporate taxes. Additionally, trade liberalization facilitates higher corporate taxes by increasing market size. In related work, Azemar et al. (2020) using a global sample of countries over the

[4] In the "Stackelberg leadership" model of competition, a number of economic agents compete on the basis of some variable under their control, e.g., firms competing by setting prices, or in our case, countries competing to attract capital by setting corporate tax rates. However, a large or otherwise influential agent in the model – a leader – is able to move first and set its price (or in our case, a corporate tax rate) while other agents react to the leader's action.

period 1995–2014 find that strong growth performance of neighboring countries is associated with a lower corporate tax rate, especially in developed countries and when competing countries are large and open to capital flows. These results suggest that countries go beyond simply looking at the tax rate of their neighbors when trying to attract mobile factors and recognize the role of factors such as productivity growth in alternative destinations.

2.3 Why are capital taxes not zero?

Thus, while there is empirical evidence that greater openness has led to lower taxes on mobile factors, there has not been a race to the bottom. The literature has offered some theoretical explanations for this phenomenon. In the particular case of European financial market integration, Mendoza and Tesar (2005) argue using a general equilibrium model that the harmonization of indirect taxes and the lack of harmonization of factor taxes are due to joint externalities of tax policy operating through fiscal solvency, relative prices, and wealth distribution. They model two alternative scenarios of capital tax competition between European countries, in which fiscal solvency is maintained through increasing either labor or consumption taxes. Results from their calibrated general equilibrium model suggest that when countries adjust labor taxes to balance their budget constraints while competing in capital taxes, there is no race to the bottom; in contrast, there is a race to the bottom if fiscal adjustments are made through consumption taxes, though this is accompanied by welfare gains. Coeurdacier et al. (2012) note that when claims to the capital of different countries are imperfect substitutes – as opposed to the canonical model of tax competition where they are perfect substitutes – positive capital taxes can co-exist with capital mobility. The intuition is that international risk sharing necessitates investors holding a diversified portfolio of international assets, and governments, knowing this, have some leeway in taxing capital. Furthermore, the structure of competition among countries, e.g., perfect competition versus Bertrand competition[5] versus Stackelberg leadership, can lead to quite different outcomes, not all of them culminating in a race to zero capital taxes.

2.4 Is capital tax competition effective?

The empirical consensus thus appears to be that while the extreme forms of race to the bottom have not materialized, globalization does lead to a decline in taxes on capital. Is such tax competition effective in attracting capital? De Mooij and Ederveen (2003) survey the empirical literature on the relationship between taxes and FDI and report a median tax elasticity of around −3.3 (i.e., a 1 percentage point reduction in the host-country tax rate raises foreign direct investment in that country by 3.3%). In more recent work, Davies et al. (2021) study both the extensive (i.e., entry into a foreign market) and intensive (i.e., the amount of investment conditional on entry) margins of the effect of taxes on FDI. Using European firm-level data for the years 2007–2015 and FDI inflows from a large set of origin countries, they conclude that taxes mainly affect the extensive margin. Consistent with the predictions of models of tax competition, they also find that firms from high-tax origin countries are more likely to respond to

[5] In contrast to the Stackelberg model where a leader country announces its tax rate first and then other countries follow, in a Bertrand model countries choose their tax rates simultaneously.

lower host country taxes. Their results also display heterogeneity along dimensions such as firm age and size, the GDP of the home country. Similar evidence emerges from recent work using firm-level data on cross-border mergers and acquisitions: Arulampalam et al. (2019) estimates a range of country-level tax rate elasticities, between −0.3 to −2.3, of the probability of a firm in that country being acquired by a foreign firm. On the flip side, Feld et al. (2016) provide an analysis of the abolition of repatriation taxes in the U.K. and Japan in 2009 and find that it increased the number of cross-border acquisitions by British and Japanese multinationals by 1.6% and 16.1%, respectively.

3 Globalization and Taxation when Labor is Mobile

While the tax competition literature traditionally focused on capital as being the mobile factor which moves across borders in response to differential taxation, recent empirical work has focused on how migration responds to differential taxation and its implications for migration and taxation policies. The idea that people move in response to local taxes and public goods goes back to Tiebout (1956) in the local public finance literature. However, the empirical work on migration in response to taxes either across jurisdictions within a country or across countries has started emerging only recently. Kleven et al. (2020) provide a survey of this literature. Below we discuss some key papers in this literature.

Kleven et al. (2013) study the impact of top tax rates on international migration of football players in 14 European countries and find a significant elasticity of 1 of the number of foreign players with respect to 1 *minus* the tax rate. The elasticity of domestic players is much lower at around 0.2. That is, lower top tax rates attract more foreign players to a country. In a similar vein, Akcigit et al. (2016) study the impact of top tax rates on the international migration of superstar inventors measured by the quantity and quality of patents. The identification comes from changes in top tax rates such as the preferential tax scheme for foreigners in Denmark or the US Tax Reform Act of 1986 which reduced the top marginal tax rate substantially. They also find a large migration elasticity for the top 1% of inventors with respect to the tax rate.

While the above two studies focus on superstar athletes or inventors, Kleven et al. (2014) study the impact of taxation on international migration of all workers using data from Denmark. Exploiting a preferential foreigner tax scheme introduced in 1991 for high earners, they find a substantial increase in the number of high earning foreigners relative to lower earning foreigners. The elasticity of migration with respect to 1 *minus* the average tax rate on foreigners is in the range of 1.5 to 2. However, very few Danish expatriates returned to Denmark in response to this policy even though they were eligible for preferential taxation. While the elasticity of migration with respect to tax rate is quantitatively large and econometrically well identified, one cannot generalize these numbers to other settings. Among other things, Denmark is a very small country and these migration elasticities are likely to be much smaller for larger countries. (For the world as a whole, it must be zero!). Also, it will vary according to the skill level of workers, and athletes and inventors are unlikely to have country-specific skills making their migration elasticities higher than for an average worker. Munoz (2019) extends this line of work to 21 EU countries and top 10% of population. She finds the migration elasticity with respect to the net of tax rate of about 1.5 for top earners. While most of the work reviewed above is about top earners,

recent work shows that tax incentives also work lower down the earnings distribution. Bassetto and Ippedico (2023) use quasi-experimental variation in the eligibility of expatriate Italians to a preferential tax scheme instituted by the Italian government in 2010 (called "Controesodo") that offered substantial income tax breaks to those who relocated back to Italy if they were born after 1969 and had a college degree. They show that eligible individuals were 27% more likely to move back to Italy post-reform and that these effects were salient across the wage distribution.

In sum, the emergent literature on taxation and migration finds significant response of skilled, high earning migrants to tax rates, which could potentially create pressure on welfare states to keep taxes on high earners low.

4 International tax coordination

4.1 BEPS and International tax coordination

Multinational firms use tax avoidance strategies to shift their profits from high-tax jurisdictions to low-tax jurisdictions, a phenomenon known as 'Base Erosion and Profit Shifting' (BEPS). The Organization for Economic Co-operation and Development (OECD) launched a project in 2013 to address BEPS by developing a comprehensive framework of measures to reform international tax rules to meet the challenges of the digital economy. The project resulted in the publication of 15 action points that provide guidance on how to prevent tax base erosion and profit shifting (see OECD, 2015). The goal was to create a more coherent and coordinated international tax system that is better equipped to deal with the challenges of the modern global economy. It seeks to ensure that multinational corporations pay their fair share of taxes in the countries where they operate, and to eliminate artificial tax planning schemes that distort competition and undermine the integrity of the tax system.

The widespread adoption of information and communication technology (ICT) has led to the emergence of the digital economy and it is becoming increasingly difficult to separate it from the rest of the economy for tax purposes. However, certain features of the digital economy and its business models have tax implications that go beyond the traditional economy, such as mobility, reliance on data, network effects, the prevalence of multisided business models, a tendency toward monopoly or oligopoly, and volatility. Examples of digital business models include e-commerce, app stores, online advertising, cloud computing, participative networked platforms, high-speed trading, and online payment services. Additionally, the digital economy has accelerated and transformed global value chains, enabling multinational enterprises (MNEs) to integrate their operations worldwide. OECD (2015) provides a detailed discussion of how the BEPS strategies manifest in the digital economy and how to counteract their adverse consequences for direct and indirect taxation.

One key point worth highlighting is that in contrast to the standard tax competition literature where countries acting in their self-interest choose a sub-optimally low level of tax (race to the bottom), they may impose an excessively high tax on digital firms (race to the top, see Hines, forthcoming, for a simple illustration of this). The reason is that the marginal cost of providing many digital services is very small and most of the cost of providing these services is in the nature of fixed costs which can be spread over the outputs provided to all countries. In this

setting, a tax on digital services will affect the quality and quantity of digital services provided by the MNE but most of the burden of lower-quality services will fall on other countries giving rise to perverse incentives for imposing excessively high tax rates.

To meet the challenges of taxing profits in the increasingly digitalized world economy, in October 2021, 137 countries agreed to a two-pillar solution (see OECD, 2021). Pillar One seeks to assign some taxing rights on MNE profits to the country where goods and services are sold. Pillar Two seeks to introduce a coordinated global minimum tax of 15% on MNE profits. Among other things, Pillar One aims to replace the current and planned digital taxes by many countries on digital services provided by foreign firms. While a lot of details remain to be finalized (see KPMG, 2020, for an overview of the state of play including tentative implementation timelines), for about 100 or so large MNEs 25% of their profits in excess of 10% of total revenues will be taxed by countries where their output is consumed. Hines (forthcoming) provides a critical evaluation of Pillar One and discusses its distortionary aspects. He concludes that since it targets only a small number of large companies and redistributes only a portion of their profits, it is likely to be even more distortionary than other apportionment regimes. Devereux (2023) discusses the incentives for countries to implement and maintain the global minimum tax. He argues that the agreement is incentive compatible for large countries where MNEs are headquartered. And once these large countries agree to implement it, smaller host countries are incentivized to adopt it as well.

4.2 Wealth tax coordination

Globalization and technological change induced increase in inequality has raised demand for a wealth tax to curb the rising inequality as a rise in inequality can adversely affect democratic institutions due to the influence buying by the rich (one dollar one vote instead of one person one vote). However, increased mobility of the rich puts a constraint on the ability of countries to impose a wealth tax. Therefore, a coordinated wealth tax can have bite.

Krenek and Schratzenstaller (2022) estimate that an EU-wide harmonized wealth tax at a rate of 1% on net wealth between € 1 and € 5 million, and 1.5% on wealth above € 5 million, could raise between € 165 and € 177 billion (about 1.4%-1.5% of GDP on average for the 19 EU members in the study) after taking into account the possibility of tax evasion and avoidance. A broad-based tax reduces opportunities for portfolio shifting. A common tax base among the members and increased compliance through information sharing leveraging the existing ‘automatic exchange of information framework for cross-border income’ will make it more effective. A household-based tax reduces the opportunity to split wealth among household members to lower tax liabilities.

5 Conclusion

The congruence of several factors related to the globalization of goods, capital, and labor markets over the last decades has put pressure on the ability of governments to fund welfare states using taxes. As predicted by theoretical models of tax competition, increased trade and capital market openness has been putting downward pressure on capital taxes. Fiscal solvency has necessitated that the consequent burdens fall on labor and consumption taxes. There is

evidence that labor taxes have increased with globalization, though recent increases in labor mobility, especially of high earners, may have ameliorated this effect. The evidence on consumption taxes is less sanguine, probably because there are limits to consumption taxation and consumption tax rates are already quite high in most developed economies (see, Avi-Yonah, 2000, 2019). In practice, a race to the bottom in capital taxes predicted by simple models of tax competition has not materialized, probably because of the imperfect substitutability of assets in different countries and other factors such as market size that grant countries some degree of "market power" when it comes to setting capital taxes. However, as the global economy becomes more reliant on highly skilled "superstar" workers, tax competition is likely to lead to lower labor taxes as well, at least for those categories of labor and skills that are mobile and transferrable across country borders. Of note, there is evidence that tax incentives are successful in attracting both capital and high-skilled labor. These hard realities have led to the recognition that the continued functioning of welfare states – whose redistributive and insurance roles are even more important in a globalized world – is under siege and their survival is critically linked to international tax policy coordination through initiatives such as the original OECD BEPS project, and more recently, BEPS 2.0 Pillars 1 and 2.

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