

A Wealth Tax on Corporations' Stock*

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Abstract: We propose to institute a new tax on corporations' stock shares for all publicly listed companies and large private companies headquartered in G20 countries. Each of these companies would have to pay 0.2 percent of the value of its stock in taxes each year. As the G20 stock market capitalization is around 100% of world GDP, the tax would raise approximately 0.2% of world GDP in revenue. Because stock ownership is highly concentrated among the rich, this tax would be progressive. The tax could be paid in kind by corporations (by issuing new stock) so that the tax does not raise liquidity issue nor affect business operations. In today's globalized and fast-moving world, companies can become enormously valuable once they establish market power, even before they start making large profits (e.g., Amazon and Tesla). This tax would make them start paying taxes sooner than standard income taxes.

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Introduction

Governments worldwide have reacted swiftly to the Covid crisis, with ambitious relief measures to support families and businesses. More than a year after the start of the pandemic, various paths for sharing the economic cost of this crisis are discussed: debt renegotiations, one-off levies on top-end wealth (Landais et al., 2020), a higher taxation of top incomes, or more broad-based tax increases (see, e.g., IMF 2020 for a discussion of these various options). In this article, we propose a new instrument that could usefully complement the other measures envisioned until now. We propose to institute a new tax on corporations' stock shares for all publicly listed companies and large private companies headquartered in G20 countries. Each of these companies would have to pay 0.2 percent of the value of its stock in taxes each year.

This proposal is particularly adapted to the immediate post-Covid world. The pandemic has reinforced two of the defining trends of the pre-coronavirus global economy: the rise of business concentration and the upsurge of inequality. While brick-and-mortar stores were closed during lockdowns, Amazon sales rose, cloud computing exploded, Facebook traffic soared. Giant businesses thus emerged as the main winners from the global health crisis. Despite the collapse of world output, their market capitalization rose and the wealth of their owners boomed. In the United States, for example, the wealth of the 400 richest Americans reached the equivalent of 19% of GDP in July 2021, double the level observed in 2010.

A tax on the capitalization of big companies would also contribute to addressing broader trends that pre-date the pandemic. Multinational corporations have been the largest winners of globalization since the 1980s. But instead of paying more taxes, these economic actors have tended to pay less, due to the rise of international competition and profit shifting profits to tax havens (see, e.g., Zucman 2014; Tørsløv, Wier, and Zucman 2020). This fiscal injustice undermines support for an open global economy. Put simply: if globalization means lower and lower taxes for its main winners (multinational companies and their shareholders), and higher and higher taxes for those who do not benefit much from it or sometimes suffer from it (such as retirees, small businesses, and low-wage workers), then it is unlikely to be sustainable, neither politically nor

economically. It is urgent to reconcile globalization with tax justice, and to demonstrate practically that economic integration can go hand in hand with a greater taxation of those who most benefit from this process.

The simplest way to implement a tax on the capitalization of big companies would be to apply this tax to listed companies, for which market capitalization are readily observable. The securities commissions in each G20 country—which already collect fees for stock issuance and transactions—could easily administer the new tax listed firms. This would make the tax easy to enforce and difficult to avoid.

From an economic and legal perspective, it would also be desirable to tax large private businesses. To value these businesses, tax authorities could apply the valuation multiples of listed firms to comparable private firms, as is commonly done in the financial industry to value private businesses in the context of mergers and acquisitions, initial public offerings, or private sales. Moreover, because the ownership of corporations is divisible, tax authorities could offer firms the possibility to pay the wealth tax in kind, with shares rather than in cash, thus making any uncertainty about valuation irrelevant.

Our proposal complements existing ideas to improve the taxation of multinational companies. More than 130 countries have agreed in June 2021 to implement a minimum tax of at least 15% on the profits of multinationals (OECD, 2021). However, the tax rate of this minimum tax remains low: 15% is below the effective tax rate paid by working-class and middle-class households in high-income countries (e.g., Saez and Zucman, 2019, for the United States). This tax would not affect companies that declare relatively little profit relative to their market capitalization, such as Amazon. More broadly, existing proposals to fix the corporate income tax tend to be highly technical and are hard for the public to understand, giving power to corporate lobbyists to defang remedy proposals.¹ The solution we propose here is simpler; it can generate substantial revenue while gathering strong public support; and it would tax companies that are highly valuable even if they manage to report little taxable income.

Because stock ownership is highly concentrated among the rich, a tax on the capitalization of big companies would be highly progressive. In the United States, for example, the top 1%

¹ Saez and Zucman (2019), Chapter 6 discuss this issue.

adults with the highest pre-tax income own about 30% of all publicly-traded corporate equities (including equities indirectly held through pension plans and insurance funds). As the G20 stock market capitalization is around 100% of the G20 countries' GDP (slightly above \$90 trillion in 2021), a tax at a rate of 0.2% would raise approximately 0.2% of the GDP of G20 countries in revenue. Revenues would be higher if large private businesses would be subject to the tax.

The tax we propose is akin to a wealth tax on the market value of corporations, so that the most successful companies pay the most. In our globalized and fast-moving world, companies can become enormously valuable once they establish market power, even before they start making large profits. Amazon—and more recently Tesla—are striking illustrations of this phenomenon. A tax on stock values would make these companies start paying taxes sooner than the traditional corporate income tax.

Our proposal works best if the largest economies coordinate to adopt the tax jointly. Corporations headquartered in the G20 represent over 90 percent of global corporate equity market value. The G20 would also be the ideal institution to negotiate the creation of such a tax and decide how its proceeds should be allocated between member countries. Several allocation keys can be considered: the proceeds could be allocated among G20 countries or globally (including to non-G20 countries), proportionally to population, to the sales made in each country, to the value of the tangible capital stock, and to a combination of these (and other possible) factors. The tax could also be used to fund global public goods, to address global externalities (most importantly climate change), and to build an international global sovereign fund. Because the tax rate is low (only 0.2%) and G20 countries need tax revenue due to the large increase in public debts during the COVID crisis, it is conceivable that G20 countries could agree to such a tax in the foreseeable future.

Wealth taxes have entered the public debate with the success of Piketty's (2014) book *Capital in the 21st century*. Progressive wealth taxes have also been proposed in some countries in recent years. These taxes are popular because they are easy to understand by the public and fall squarely on the rich. The main impediment to wealth taxation is the perceived difficulty of administration, in particular the issue of how to value certain assets. These difficulties are one of the reasons why wealth taxes have been abandoned (often in the 1990s and 2000s) in several

European countries (Saez and Zucman 2019b). In this article, we propose an alternative form of wealth taxation: a wealth tax at source on the stock of large corporations, as opposed to a wealth tax on rich individuals. The key advantage of the tax at source is that it is much easier to administer. Because it is charged on large corporations, the tax could be paid in-kind by these corporations, simply by issuing new stock. Because it is a tax on corporate stock and corporate stock is highly concentrated (more so than most other forms of wealth, such as real estate), it remains a progressive tax.

To understand the logic behind the tax we propose, a historical analogy is useful. Income tax systems developed along two tracks: the comprehensive and progressive individual income tax on the one hand, and “schedular” income taxes on the other. Schedular taxes were taxes on specific income components, generally levied at a flat rate. Payroll taxes on labor earnings, and corporate taxes on corporate profits, are two examples of such taxes that remain to this day. On the wealth side, there is already a “schedular” wealth tax on real estate (land and buildings), namely the property tax. Taxing corporate equity wealth at source would be a more progressive form of “schedular” wealth taxation, easier to administer for the government and more convenient to pay for taxpayers. It would also be more adapted to modern economies where corporate equity wealth has grown to become as large if not larger in aggregate than real estate wealth.²

1. A Novel Wealth Tax on Corporations’ Stock Values

In the new tax we propose, listed companies and large private businesses would have to pay a tax equal to 0.2% of their market value at the end of the year. Large private businesses could be defined as those with a value in excess of \$1 billion. For listed corporations, the securities commission of each country (the agency in charge of regulating publicly traded stocks) would levy the tax. Each corporation could pay the tax in cash or in-kind. Payment in kind means that

² Some countries do or did impose wealth taxes on assets owned by corporations. Generally, property taxes apply to real estate owned by corporations. Colombia still has a tax on the comprehensive assets (tangible and intangible) owned by corporations (see Londono-Velez and Avila, 2021). Our point is that, instead of taxing the wealth owned by corporations, it is much easier to directly tax the market value of corporations through their stock.

corporations would have the option of paying the tax in the form of corporate shares that the securities commission (or the tax authority) would then resell on the market. With the option to pay in-kind, even liquidity-constrained corporations could pay the tax without affecting their finances or direct business operations. Large private businesses would pay the correct amount of tax even if their valuation is uncertain. The stakes of existing shareholders would simply be diluted by 0.2%.

The stock of large corporations is an asset class highly amenable to an easy-to-administer wealth tax, because corporate stock is divisible. The very notion of corporate shares is what makes it possible to diversify ownership—and what makes it possible for a government to levy a tax in-kind in the form of shares that can immediately be resold for cash. This contrasts with real estate property, which cannot be as easily divided. Real estate property taxes are ubiquitous for historical reasons, even though they raise substantial liquidity issues—and hence are among the most disliked forms of taxation (Wong, 2020). The inclusion of real estate property in the base of European wealth tax is one of the reasons behind the demise of these taxes, as affluent but illiquid real estate owners could, in some instances, face hardship to pay the tax (Saez and Zucman, 2019b). The wealth tax on corporations' stock that we propose would not suffer from this issue.

Security commissions in each country, such as the Securities Exchange Commission (SEC) in the United States, already control and regulate the listing, initial public offerings, additional stock issuance, and all transactions of corporate stock on the exchange. Security commissions already charge modest fees for most such activities.³ This implies that, at least for listed companies, it would be very easy to administer and enforce the tax we are proposing within the existing institutional structure.

2. Economic effects

³ Such fees are intended to allow the SEC to recover costs associated with its supervision and regulation of the U.S. securities markets and securities professionals (and hence are not a tax proper).

Rate of return on stocks. The tax would reduce the annual rate of return from owning stock in large corporations by 0.2 points. To put this tax in perspective, it is useful to remember that mutual funds charge fees based on asset values. These fees—which are not dissimilar to a private tax—average about 0.5 points in the United States in 2018 (Morningstar 2019), significantly more than the tax we propose.⁴ A 0.2% tax on the market value of large corporations would make this asset class slightly less attractive to savers relative to fixed-income assets (cash, savings accounts, and bonds) and real estate. The tax would capitalize into equity prices, thus reducing the valuation of corporate stock relative to other asset classes. For example, in a standard asset pricing model, if the discount rate is 4% per year, a 0.2 percentage point tax in perpetuity reduces the value of an infinitely-lived asset by $0.2 / 4 = 5\%$. The drop in stock value would hit owners at the time the tax is enacted. Thus, the current owners of existing listed corporations—who have tended to fare well during the Covid 19 pandemic—would bear the burden of this new tax.

Socialization of corporate wealth. Another way to interpret the wealth tax we propose is to note that it gradually socializes corporate equity wealth. With a low rate of 0.2%, the socialization is very slow and modest. It takes 10 years to socialize 2% of a company, 100 years to socialize 20%. Income taxes naturally socialize income. Property taxes do not socialize property (as real estate property is typically not divisible) but make it more costly to own property. By contrast, the corporate wealth tax, as it just dilutes ownership, is a form of ownership socialization. In contrast to nationalizations (or communist experiences that prohibited private ownership of the means of production), it is a softer and much more gradual form of ownership socialization. The corporations themselves never become public property but any private ownership stake gets diluted year after year by the wealth tax. With higher tax rates (for example 1%), the socialization would be more notable, 10% after 10 years and 73% after 100 years (as $0.99^{100} = 37\%$).

Taxation of large private businesses. If the tax was only applied to listed companies, it would create an extra cost to being public (as opposed to remaining private). To counterbalance this

⁴ The average fee is 0.48 points on \$17 trillion in assets, that is, \$90 billion in 2018. This fee is slowly going down (it was about 0.94 percent in 2000) as savers slowly learn and turn to low-cost passive index funds that charge only the cost-of-operation (less than 0.1 percentage points of asset value).

distortion, it is desirable to impose an equivalent tax on the largest private businesses. Any private business whose share value exceeds, say, \$1 billion could be charged a tax corresponding to 0.2% of its value, like for listed companies.

How would private businesses be taxed? First, tax authorities could apply the valuation multiples of listed firms to comparable private firms, as is commonly done in the financial industry to value private businesses in the context of mergers and acquisitions, initial public offerings, or private sales.

Second, tax authorities could offer firms the possibility to pay the wealth tax in kind. Just like listed companies, large private businesses are also organized in divisible shares and generally have multiple shareholders. Private companies could be given the option to pay the tax in shares that the government would resell, effectively creating the market that currently is missing (Saez and Zucman, 2019b). For large private businesses with a single shareholder, which are credit constrained (hence cannot pay the tax cash), and do not want to bring in additional shareholders, the government could become a notional shareholder (taking a 0.2% extra notional stake each year) and redeem its notional stake upon sale of the business, stock issuance to new shareholders, or at the time the business becomes public.

Complementarity with corporate profits tax. In principle, stock market values reflect both the value of the assets owned by the corporation (such as land, buildings, capital equipment, intangibles, and financial assets net of debts) and the future stream of profits that the business is expected to generate. The stock market value is thus not perfectly correlated with current profits, which are the base for existing corporate income taxes. In today's globalized and fast-moving world, companies can become enormously valuable once they establish market power, even before they start making significant profits. Amazon and Tesla are two recent and striking examples. The wealth tax would make such companies (and hence their shareholders) start paying taxes sooner than the current corporate income tax does. A wealth tax on corporations is a useful tool to make billionaires (and other wealthy shareholders) pay taxes in proportion to

their ability to pay and in line with the enormous accumulation of wealth generated by the new global corporate behemoths.

To the extent that ability to pay is bi-dimensional (income and wealth, which are never perfectly correlated), a tax system based on ability to pay taxes both income and wealth. It is important to note that governments already today use a mix of taxes on flows of income and stocks of assets. Most countries have business property taxes in addition to business income taxes. However, these property taxes tend to be archaic: they are usually not based on market values, they have relatively narrow bases, they are often local and uncoordinated (thus generating tax competition). Our proposal creates a modern tax on assets that complements the corporate income tax.

Would there be a risk of double taxation by imposing both a corporate profits tax and a corporate wealth tax? Because corporate taxes have fallen dramatically in recent decades (e.g., Zucman, 2014) and the proposed wealth tax is modest, we are far from a situation where double taxation may be considered an issue. However, if the wealth tax succeeds and its rate is increased (for example to 1%), it would become possible to explore ways to alleviate double taxation. For example, the wealth tax could become a minimum tax that kicks in only if regular profit taxes are below the wealth tax liability. Effectively any wealth tax paid could become a non-refundable tax credit against the corporate profits tax.

Business operations. Because the tax can be paid in-kind by issuing new stock, the tax has no direct impact on cash flows. This it would not directly and negatively affect credit-constrained companies. Firms always have the option to issue new stock, although struggling firms may not be able to raise much if their stock price is already low. But because the tax is set as a fixed fraction (0.2% in our proposal) of shares, the burden for struggling firms with low stock value is modest. Issuing only 0.2% of new shares should have only minimal impact on the stock price given existing volumes of transactions.

Debt/equity bias. An objection to the tax we propose is that it would give firms incentives to issue debt rather than stock, thus exacerbating the current tax bias in favor of debt (as interest paid on corporate debt is also deductible from profits for corporate tax purposes). This could in principle be overcome by taxing corporate bonds. Just like stocks, bonds are highly centralized and regulated, making it easy to collect a tax at source (see Zucman, 2015, chapter 4, for a discussion). This would make the wealth tax we propose neutral from the viewpoint of the choice of capital structure.

3. Revenue and Progressivity

Revenue. The revenues generated by the tax we describe depend on the capitalization of the stock market of G20 countries, how the tax would affect this capitalization, and the value of private businesses. To simplify the exposition, we focus on mechanical revenues for listed companies—applying the 0.2% tax to current stock market capitalizations—and disregard private companies. As the computation above illustrates, a simple way to factor in behavioral responses is to reduce capitalization (and thus revenues) by 5%. Taxing large private firms would, by definition, generate additional revenues.

To start the analysis, it is useful to focus first on the case of the United States—which has the largest stock market capitalization in the world—and to put market capitalization in the more general context of the evolution of private wealth.

Figure 1 shows the evolution of total private wealth in the United States, expressed as a fraction of GDP. Private wealth is the sum of the wealth of households and the wealth of non-profit institutions serving households. Several striking patterns are worth noting. First, total private wealth has doubled relative to annual output since 1975. The private wealth to GDP ratio has increased from about 260% in 1975 to close to 530% in 2020. At a basic level, this means that taxing wealth can generate a large and growing amount of revenue relative to the annual flow of income and output. Second, the main driver of this rise has been the increase in the value of

listed corporate equities (including equities held indirectly through pension funds). Listed equities have increased from about 30% of GDP in 1975 to more than 150% of GDP in 2020. This asset class alone accounts for about half of the rise of the private-wealth-to-GDP ratio in the United States. Third, listed equity wealth has increased particularly fast relative to GDP during the coronavirus pandemic, both due to a rise in stock prices and a decline in output. Last, and as a result of this trend, listed equities now account for about 30% of the wealth of US households and non-profits, second only to gross housing wealth (35%).

Since listed equities owned by households and non-profits add up to about 150% of GDP today, the tax we propose would generate at least 0.3% of U.S. GDP in annual revenue (0.2% times 150%). In practice the U.S. equity market capitalization is slightly higher than 150% of GDP, because of intercorporate holdings of listed equities. These equities would be subject to the tax at source, in effect causing a small double tax. In addition, U.S. households own equities in foreign corporations, and foreign investors own part of U.S. listed equities. However, such cross-border equity holdings (to the extent that they involve G20 countries) do not affect revenue from the perspective of the G20 as a whole (but simply which G20 country would collect revenues). In the case of the United States, net cross-border holdings of listed equities are close to zero (in 2019, foreign portfolio equities owned by the United States were about as large as U.S. portfolio equities owned by non-residents). This means that the revenues that would actually be collected by the SEC would be close to 0.3% of U.S. GDP (about \$60 billion).

If we now generalize these computations to the G20 as a whole, based on World Federation of Exchanges data, we estimate that the G20 stock market capitalization was around \$90 trillion in 2019 (about 90% of the G20 countries' GDP of \$100 trillion).⁵ Thus the tax would have raised approximately \$180 billion that year, close to 0.2% of the GDP of the G20. This is a bit less than what we estimate for the United States (0.3% of US GDP) because stock market capitalization is higher than average in the United States: 150% of GDP in the United States vs. around 120% in

⁵ See also the estimates of stock market capitalization to GDP reported by the World Bank: <https://data.worldbank.org/indicator/CM.MKT.LCAP.GD.ZS>

Japan, 85% in France, and 55% in Germany. Revenues would range from around 0.1% of GDP in a country like Germany to 0.3% of GDP in the United States—averaging to about 0.2% of GDP for the G20 as a whole.

Progressivity. Because stock ownership is highly concentrated among the rich, this global tax would be progressive. To quantify this aspect, Figure 2 focuses on the case of the United States, a country where detailed estimates of the joint distribution of income and equity wealth (including held through pension fund) are available, from the distributional national accounts micro-files of Piketty, Saez and Zucman (2016).

According to these estimates, the top 1% adults with the highest pre-tax income earned 19% of total pre-tax national income in 2019. They also owned about 30% of all listed equity wealth. Therefore, even a flat tax on listed equity wealth would be progressive. Such a tax would also increase the progressivity of the US tax system, since the top 1% currently pays about 21% of all (federal, plus state and local) taxes in the United States. That is, the current effective tax rate of the top 1% (all taxes included) is only barely higher than the average U.S. tax rate, hence the share of taxes paid by the top 1% (21%) is barely higher than the share of pre-tax income earned by the top 1% (19%)—both of which are significantly lower than the share of our new tax that would be paid by the top 1% (about 30%). In other countries where a lower fraction of equity wealth is owned through pension funds, the tax could be even more progressive (similar to the U.S. situation in the 1960s and 1970s, before the rise of pension funds—see Figure 2).

4. How Could Countries Agree to Such a Tax?

International agreement. The best way to implement such a tax would be through an international agreement whereby all countries in the G20 would agree to create it simultaneously. Each country would collect taxes on its own companies. Companies listed in multiple stock exchanges (a common occurrence among large multinationals) would be taxed only once. The advantage of an international agreement is that listed companies have no way to

escape the tax as they need to be listed somewhere. Private companies cannot escape the tax either, as they need to be incorporate somewhere.

Even if a tax haven stock exchange develops, as such companies do a large fraction of their business and sales in G20 countries, it is possible for the G20 to impose remedial taxes on companies listed in tax havens. For example, the G20 could require any such company to report the fraction of its global sales made in G20 countries and require a pro-rated payment of the wealth tax. If the company makes 80% of its sales in the G20, it would have to pay a wealth tax of $80\% \times 0.2\% = 0.16\%$ of its stock value.

The simplest way to allocate the proceeds of the tax is for each country to collect taxes on companies listed on its own stock exchange (and large private companies domiciled in the country) . For multinational companies, it would make sense to develop apportionment rules to determine which country gets the proceeds. The proceeds could be allocated among G20 countries or globally (including to non-G20 countries), proportionally to population, to the sales made in each country, to the value of the tangible capital stock, and to a combination of these (and other possible) factors. Importantly, the apportionment rule matters for the distribution of taxes but not for the tax burden, so that there is no incentive for companies to game the system. The apportionment rules for multinationals could be negotiated by the G20. It is conceivable as well that the proceeds of this tax could be used to fund international organizations or for specific new global initiatives, e.g., to address the issue of climate change.

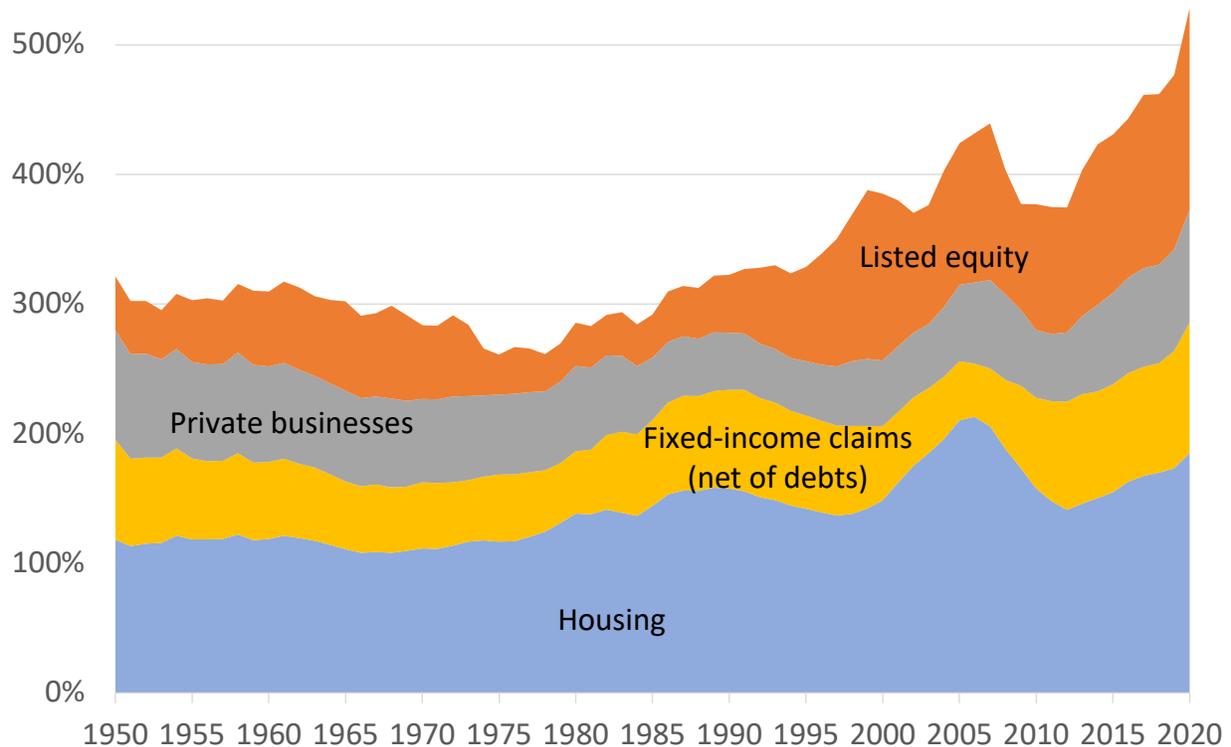
Why would G20 countries agree to such a tax? Corporate tax rates have declined drastically over the last 40 years, driven down by tax competition (Zucman, 2014). Large valuable multinationals are the largest and most visible winners from globalization (and the biggest beneficiaries of the race to the bottom in corporate taxes). Therefore, there is public demand for higher corporate taxes.

In June 2021, more than 130 countries agreed to implement a minimum tax of at least 15% on the profits of multinationals (OECD, 2021). However, the tax rate of this minimum tax remains low and this tax would not affect companies that declare relatively little profit relative to their market capitalization. The advantage of the wealth tax we propose relative to the corporate profits tax is that it is easy to administer and very hard for companies to avoid. If the current international negotiation for a significant global minimum corporate income tax succeed, an international negotiation for a modest wealth tax will be easier to achieve. If the current international negotiation fails, negotiating a more modest wealth tax might be an easier lift.

Can a Country Do it Alone? In our vision, such a tax should be coordinated across countries. Because international coordination is always challenging and can take time, however, it is worth discussing how a single country could impose such a tax unilaterally. Legally, nothing would prevent a country from imposing a wealth tax on its own publicly listed corporations. This, however, creates an incentive for companies to change nationality (the so-called corporate inversions). To address this issue, each country can tighten rules to make it more difficult for corporations to change nationality. For example, there haven't been inversions in the United States after 2016 due to tightened rules under Obama.

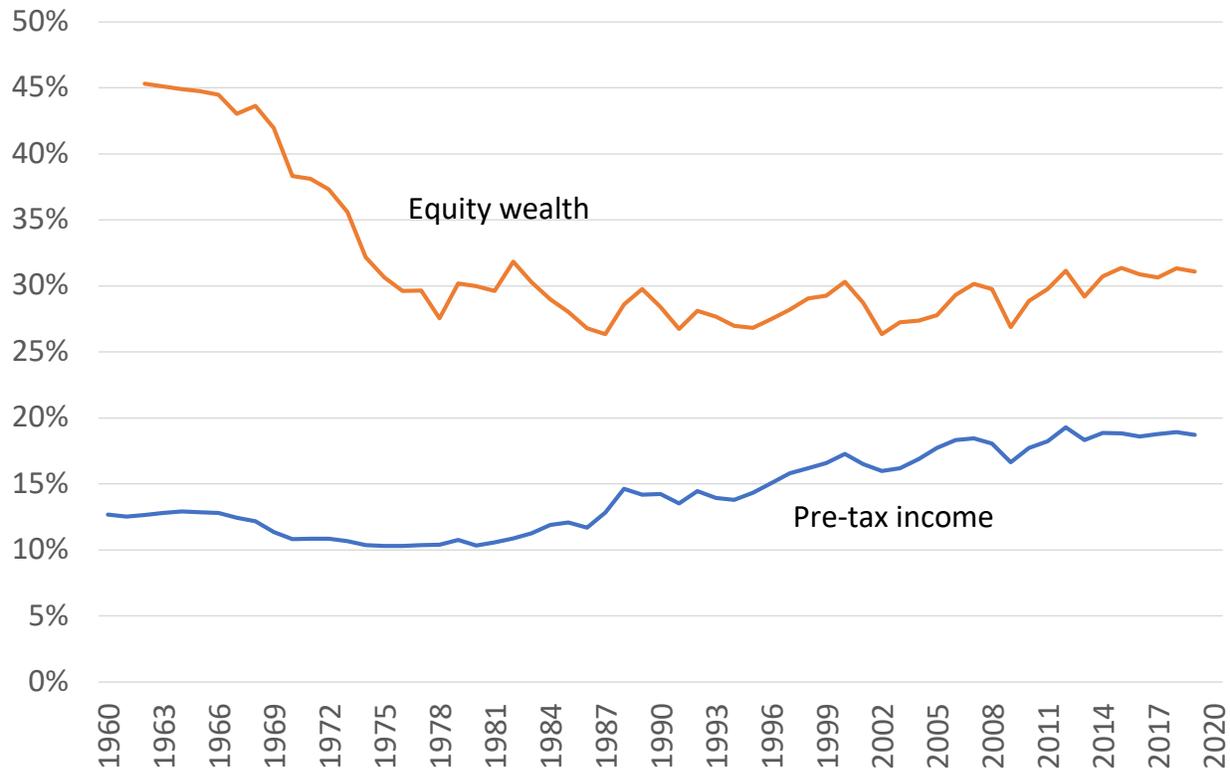
To level the playing field between domestic and foreign corporations, it is also possible for a single country, say Germany, to impose a partial wealth tax on corporations headquartered and listed in another country. The wealth tax could be pro-rated to the percent of the activity of the company that takes place in Germany (if the home country fails to charge an equivalent wealth tax), paralleling a proposal in Saez and Zucman (2019) to curb corporate tax avoidance by multinationals. For example, if Toyota sells 20% of its global production in Germany, Germany would charge a wealth tax of $20\% \times 0.2\% = 0.04\%$ on Toyota's stock value. This extra charge would be administered through the corporate income tax. This in turn would give an incentive for Japan to adopt such a tax and collect the tax—instead of letting Germany and other countries adopting a similar system act as a de factor “tax collector of last resort”.

Figure 1: Private wealth in the United States
(% of US GDP)



Notes: This figure shows the evolution of total private wealth in the United States, expressed as a fraction of GDP. Private wealth is the sum of the wealth of households and the wealth of non-profit institutions serving households. “Housing” includes both owner-occupied and tenant-occupied housing and is gross of any debt. “Fixed-income claims (net of debts)” includes all interest-generating assets (including those held through pension funds and insurance companies), net of all debts (mortgage and non-mortgage debt). “Private businesses” includes equity in non-corporate businesses (sole proprietorships and partnerships) and equity in unlisted corporate businesses (including S-corporations and private C-corporations). “Listed equity” includes household and non-profit equity in listed corporations, including equities held through pensions plans and insurance companies. **Source:** Saez and Zucman (2016), updated, based on the Federal Reserve Financial Accounts.

Figure 2: Share of pre-tax income earned vs. share of equity wealth owned by the top 1% pre-tax income earners



Notes: This figure shows the share of pre-tax national income earned and the share of equity wealth owned by the top 1% highest pre-tax income earners in the United States. Pre-tax national income is income after the operation of the pension system but before taxes and government transfers. Equity wealth includes all corporate equities held directly and indirectly through pension funds and insurance funds, minus equity in S-corporations (which are all privately owned). That is, equity wealth includes listed equity wealth from Figure 1 plus equity in unlisted C-corporations, whose distribution cannot be estimated separately, but which is small on aggregate in recent years (less than 10% of U.S. GDP as opposed to 150% of GDP for listed equities). To rank adults (and compute pre-tax income), income is split equally among married spouses. **Source:** Piketty, Saez and Zucman (2016), updated in Saez and Zucman (2020).

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