

ÖSTERREICHISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG

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Atanas Pekanov, Margit Schratzenstaller

Research assistance: Nathalie Fischer

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This policy brief summarises the main points of our detailed study on the concept of a financial transaction tax (FTT), the theoretical and empirical evidence in favour and against introducing it and the results of estimations of potential revenues from such a global FTT. We analyse the benefits and challenges of introducing a tax on financial transactions, putting special focus on the introduction of such a tax on a world-wide scale. For a number of reasons, international cooperation is deemed a central prerequisite for an efficient FTT. The purpose of the tax is to raise substantial revenues and help dampen excessive financial market speculation and market volatility. An FTT would ensure that the financial sector contributes more substantially to government revenues. In its optimal form, the tax would be broad-based and there will be no financial instrument types exempted. In a second step, we analyse from a political economy perspective the prospects, the current status, and the lessons learnt from the European discussion on the implementation of an FTT. Finally, we calculate the revenue potential of a global FTT and report how much revenues would accrue to specific countries and regions. We estimate that the tax, if imposed globally and taking into account evasion, relocation and lock-in effects, can bring significant revenues - between 237.9 and 418.8 billion \$ annually. The baseline case delivers 326.9 billion \$ overall for the global economy, which corresponds to 0.43 percent of global GDP. These are lower bounds for potential revenues due to missing data on a number of financial instrument types. For specific countries, in the baseline case this would result in 72.57 billion \$ annual potential revenues for the USA (0.37 percent of GDP), 119.46 billion \$ for the European Union (0.69 percent of GDP), 10.00 billion \$ for Germany (0.27 percent of GDP), 9.99 billion \$ for France (0.39 percent of GDP) and 19.99 billion \$ for Japan (0.41 percent of GDP).

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A Global Financial Transaction Tax – theory, practice and potential revenues

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Policy Brief

March 2019

Internal review: Stephan Schulmeister, Thomas Url • Research assistance: Nathalie Fischer

Abstract¹

This policy brief summarizes the main points of our detailed study on the concept of a financial transaction tax (FTT), the theoretical and empirical evidence in favour and against introducing it and the results of estimations of potential revenues from such a global FTT. We analyse the benefits and challenges of introducing a tax on financial transactions, putting special focus on the introduction of such a tax on a world-wide scale. For a number of reasons, international cooperation is deemed a central prerequisite for an efficient FTT. The purpose of the tax is to raise substantial revenues and help dampen excessive financial market speculation and market volatility. An FTT would ensure that the financial sector contributes more substantially to government revenues. In its optimal form, the tax would be broad-based and there will be no financial instrument types exempted. In a second step, we analyse from a political economy perspective the prospects, the current status, and the lessons learnt from the European discussion on the implementation of an FTT. Finally, we calculate the revenue potential of a global FTT and report how much revenues would accrue to specific countries and regions. We estimate that the tax, if imposed globally and taking into account evasion, relocation and lock-in effects, can bring significant revenues – between \$ 237.9 billion and \$ 418.8 billion annually. The baseline case delivers \$ 326.9 billion overall for the global economy, which corresponds to 0.43% of global GDP. These are lower bounds for potential revenues due to missing data on a number of financial instrument types. For specific countries, in the baseline case this would result in \$72.57 billion annual potential revenues for the United States (0.37% of GDP), \$119.46 billion for the European Union (0.69% of GDP), \$ 10.00 billion for Germany (0.27% of GDP), \$ 9.99 billion for France (0.39% of GDP) and \$ 19.99 billion for Japan (0.41% of GDP).

¹) This policy brief summarizes the results of a detailed study by Pekanov – Schratzenstaller (2019).

1. Introduction and background

The idea of a tax on financial transactions (FTT) is not new. For decades, the introduction of an FTT was repeatedly brought into play within various economic and political contexts. Beginning with John Maynard Keynes, who in 1936 suggested a tax on transactions on stock markets after the Great Depression, various concepts for the taxation of (certain) financial transactions were brought into discussion during the last decades. After the breakdown of the Bretton Woods System in the beginning of the 1970s and the currency crises in Russia and Asia in the 1990s, the focus was initially on the taxation of currency transactions, as suggested by James Tobin. Tobin proposed to tax currency transactions as a way to reduce the volatility on currency markets and to limit what can be seen as "excessive", purely speculative and potentially destabilizing trading.

During the last decade the focus of the academic as well as the policy debate has shifted towards a general, broad-based financial transaction tax levying a uniform tax rate on all kinds of financial transactions. The recent financial and economic crisis resulted in new momentum for this concept of a general FTT, also against the backdrop of the general under-taxation of the financial sector. This coincided with a debate about the implementation of international solidarity taxes to finance global public goods. It was led rather intensely in the beginning of the 2000s, starting with the Monterrey Consensus of 2002 recognizing "the value of exploring innovative sources of finance" to meet the Millennium Development Goals (MDGs). In 2004, the so-called Landau Report commissioned by the French President Jacques Chirac identified the feasibility of new financial sources such as solidarity levies to be implemented at the international and national level. However, the concrete results of these debates and the ensuing initiatives were rather limited.

With the adoption of the Sustainable Development Goals (SDGs) in 2015, the question how to finance expenditures necessary to secure the provision of global public goods as one element of an overall strategy to make global development socially, economically and socially sustainable has re-emerged. According to UNCTAD, a \$ 2.5 trillion funding gap needs to be closed in order to achieve the 2030 Agenda for Sustainable Development. Sustainable Development Goal 17.3 aims at mobilizing additional financial resources for developing countries from multiple sources, without, however, specifying in detail the potential (tax-based) revenue sources.

The recent global financial crisis has led to renewed attention and public support for introducing a measure of taxing the financial sector to raise revenues, guarantee an adequate contribution of the financial sector to government coffers, which in the past have often been used to support crises situations, and possibly to reduce the risk of such crises.

2. Aims and goals of a financial transaction tax

The main goals and arguments in favour of the introduction of an FTT revolve around the potential for high revenues for governments which can be used to finance additional activities or to - 3 -

reduce other taxes on labour and capital more distortionary than an FTT. A recurrent theme addressed by numerous international organisations and NGOs ever since the outbreak of the global financial crisis has been the urgent need to mobilise further financial resources with the aim of funding the provision of global public goods and ensuring the ability to fulfil a number of commitments and initiatives, including the fight against climate change, broad environmental commitments, or development aid. Financial activities have been one of the main beneficiaries of globalisation and the environment of economic growth of the last three decades. However, there is a widely-shared sense that the financial sector has not contributed effectively and proportionally to the funding of import public policy goals. This is why the call for addressing this funding gap by the implementation of an FTT has been even more pronounced since the global financial crisis. Finance was essential for globalisation and global growth, but it has often been associated also with heightened macroeconomic instability. The financial sector, which has benefited immensely from capital mobility and the increasing role of cross-border transactions, itself needs this enhanced macroeconomic stability and globalized economy. To limit the current backlash in public opinion against globalisation, the financial sector needs to contribute more decisively to a fair distribution of its gains back to public goods and overall welfare. While the concrete kind and design of global public goods that are needed to further balanced global growth and development of course can and should be discussed, in any case they need additional financial resources.

Global challenges should best be addressed globally as their extent makes it impossible for a single country to take effective action. Accordingly, more global funding resources are required. This is clearly also communicated in the UN's Sustainable Development Goals agenda. Many of the global problems of today, such as climate change and financing for development needs, present an even more serious collective action problem than the provision of national public goods, as the many stakeholders involved, including national governments, rationally try to first maximize their national interests and therefore would not devise effective global solutions themselves. This lack of commitment towards global public goods and towards solving global challenges has been deemed as the Global Solidarity Dilemma. Delivering on these promises through the mechanisms and institutions of global cooperation can be an effective way to restore and reinforce the somewhat shaken confidence in these.

In addition to the ability to raise much needed revenues, an FTT is often perceived as having the potential to act as a corrective tax addressing serious market failures. Such financial market inefficiencies exist in various manifestations and are partly explained by specific frictions and market failures resulting from behavioural biases. The developments in the financial sector during the last three decades before the outbreak of the recent global financial crisis made financial markets more susceptible to serious and painful crises. The financial system can become subject to systemic crises that have long-lasting damaging effects on the functioning of the economy, and interventions are required to either prevent such crises or at least limit their consequences. If the FTT can dampen the transactions and volumes of financial products that are

excessively complex and opaque or are purely based on speculative trading, "irrational exuberance", inflated expectations or behavioural biases, this can have a beneficial effect on market stability.

At the core of this argument lies the idea that an FTT will burden more heavily short-term transactions, which are often assumed to be key drivers of speculative trading. Throughout the past decades developed capital markets have undergone a significant shift to short-termism (Haldane, 2010). Short-term speculative trading activity can have a destabilizing effect on markets and can enhance periods of market turbulences unrelated to fundamentals. Market volatility has been seen by many proponents of an FTT as contributing to business cycle fluctuations, and therefore to painful boom-bust adjustments. An FTT would reduce the volume of trades by raising transaction costs. Some trades that would have been profitable with lower transactions costs would become unprofitable due to the FTT and would not be undertaken – and this would affect short-term transactions most significantly as the tax burdens each single transaction, thus implying a cascade effect, making it more costly to have an overly active portfolio management. Comparing the burden of actively managed portfolios with portfolios where financial instruments are acquired based on a long-term holding strategy shows that over many years the overall accumulated burden of the FTT is considerable when there are many trades per year, while it is very small in comparison to transaction costs when the strategy is to hold the financial asset for a long period (Schäfer – Karl, 2012). Therefore, these long-term strategies of investment and financing will be much less affected by an FTT. Besides the overall goal to reduce volatility, the proponents of an FTT stress the possibility of discouraging dangerous speculations and thus to contribute to reducing periods of excessive market adjustments which can lead to significant deviations of prices from fundamentals - "bubbles". Such "bubbles" and periods of excessive credit growth were identified in some of the recent contributions in the literature as important precursors to deep economic crises (Brunnermeier – Oehmke, 2012; Jordà et al., 2015).

The potential of an FTT to reduce the activities of high-frequency traders would contribute to such a stabilizing effect. High-frequency trading raised substantially throughout past years, and many observers have argued that this kind of trading enhances herd behavior problems and can contribute to short-term destabilizing periods. If the FTT decreases financial transactions of high-frequency this could redirect financial markets towards a more long-term model of financing. Moreover, the FTT could induce a shift of assets or capital away from the shadow banking system, where financial entities have transferred significant parts of their assets throughout the past decades. If transactions between a company and a shadow banking entity were taxed by the FTT, this would partly discourage such transactions and would provide incentives to banks and companies to keep the transactions internal – which is preferred as long as the shadow banking industry is seen as intransparent, unregulated and susceptible to risks.

The tax can be expected to have a progressive character (Burman et al., 2016). While it is often argued that raising costs of capital will be shifted towards final consumers and that the effective tax burden will still be carried by households, it is important to note that these increased

costs will accrue mostly to top income groups, which mainly trade with financial instruments. Financial transactions and especially trading of shares, bonds and/or derivatives are carried out mostly by high net-worth individuals, especially in Europe and in Asia. They will bear the increased burden of the additional tax if indeed the tax is shifted towards households. There are fears that an FTT may be passed as additional costs to ordinary investors. However, most ordinary investors will not be significantly affected by an FTT, as they do not make transactions very frequently, but rather buy assets and instruments to hold them for a longer period based on long-term investment strategies. It is exactly the nature of an FTT that it aims to tax those financial market participants that make transactions very frequently. Thus, for ordinary investors, the FTT charge will be small in comparison to the other transaction costs like fees and commissions that are normally paid in a standard financial transaction. Altogether, it can be assumed that an FTT would not have undesirable distributional consequences.

3. Elements of an optimally designed financial transaction tax

There are various central characteristics that an FTT needs to comply with to ensure that it creates minimum market distortion and achieves its goals to mitigate financial market inefficiencies and to raise substantial revenues, without causing significant undesirable behavioural responses. An optimal design of an FTT should be based on the following elements:

- The tax should be imposed on all transactions of financial assets and financial instruments
 of all kinds without exemptions. It should therefore cover the trading of classical stocks,
 interest rate securities and foreign exchange as well as bonds, but also all derivative contracts such as options, futures and swaps (for stocks or stocks indices, interest rates, foreign
 exchange, commodities or credits), traded both on organized exchanges or over-thecounter (OTC). To avoid economically inefficient substitution effects and substantial reduction of the tax base, the FTT should be comprehensive across assets and instrument
 types, but also across economically equivalent financial contracts that lead to identical
 pay-off patterns, which would otherwise represent an easy substitute and thus an obvious
 loophole to circumvent the tax.
- The tax rate should be low in order to hit transactions that are very frequent (or very fast) over-proportionately, as these are often part of automated, high-frequency trading which is often considered to be increasing volatility excessively.
- Important exemptions from the tax base relate to initial public offerings of stocks and bonds, so that the tax is only based on secondary market transactions. Another possible exemption which is often discussed regards pension funds, as these are trading with the savings of ordinary citizens and imposing a tax on them would just translate into lower rates of returns for pension funds and therefore lower pension benefits in the future.

4. International coordination as central prerequisite for an efficient FTT

Given the difficulties of implementing an FTT on the national level, especially due to significant possible evasion and relocation effects and the negative consequences for the given financial jurisdictions from lower trading volumes, there is much discussion on the need to implement an FTT on the global level. Many observers consider international coordination and multilateral consensus to be indispensable cornerstones for an effective implementation and administration of an FTT. Global implementation on the one hand makes sense from a theoretical point of view, as it would give policymakers the opportunity to optimally design the tax, and in particular to include all financial transactions as well as financial market sectors and actors in the tax base, thus avoiding potential distortions caused by exemptions. On the other hand, global implementation would allow to raise significant revenues as it would restrict the opportunities to evade the tax, to relocate tax payers and/or tax base to non-taxing jurisdictions, or to substitute taxed assets and instruments by untaxed financial products. In the absence of global cooperation individual non-participating jurisdictions would be able to undermine the revenue potential of an FTT in a beggar-thy-neighbour manner by promoting their own country as a place where financial transactions can take place unhindered by taxes.

The past few years have seen an erosion of the willingness of some countries to support and to comply to the multilateral arrangements agreed upon earlier. Also trust in international institutions has faltered. The FTT could be an opportunity for international institutions and for multilateralism to illustrate the benefits that could be gained by international cooperation. Global implementation of an FTT would require the agreement on a uniform tax base and tax rates to be applied in all countries worldwide. In the absence of a Global Tax Authority, tax revenues would be collected by national tax authorities and be transferred to a supranational institution, which would finance global public goods. To limit tax avoidance and evasion, international cooperation between national tax authorities would be required. During the last few years substantial progress in international cooperation in tax matters has taken place. Important examples are the Base Erosion and Profit Shifting project and the automatic exchange of information coordinated by the OECD, or various initiatives at the European level to avoid tax fraud and tax evasion. These initiatives were encouraged by budgetary pressures in many countries following the recent financial crisis, but also by the several media leaks (e.g. Panama or Paradise Papers) inspiring an extensive public debate in many countries, as well as by recent academic work quantifying the extent of private wealth hidden from tax authorities in tax havens and of corporate tax avoidance due to profit shifting.

Right from the beginning of the debate on the introduction of a broad-based FTT, many countries succumbed to concerns that the tax would endanger their attractivity as financial centres and lead to financial activity flight, therefore rejecting introduction at unilateral or regionally limited level. Similar to other taxes on allegedly or actually mobile tax bases and tax subjects (net wealth, international aviation, etc.), these fears have led to the elimination of existing national FTTs within a race to the bottom or have prevented countries to introduce national or regionally coordinated FTTs in the first place. The initiatives led by international organisations and the successes they have achieved so far are gradually changing countries' perspectives on taxation in an international context. There is increasing understanding of the need for international cooperation in tax matters on the level of national governments, international/supranational organisations and citizens. For the case of an FTT voters' preferences as well as increasing awareness of fairness aspects of taxation might lead to increasing pressure from international institutions and policymakers to tax the financial sector.

Besides the fact that global implementation would prevent tax evasion and avoidance most effectively, there are various additional reasons why it would be optimal to introduce a financial transaction tax on a global level:

- As currently the most urgent challenges facing government worldwide result from global externalities or require the provision of global public goods, fair burden-sharing at the global level regarding the financial means needed to finance these global public goods is required.
- The uncoordinated introduction of an FTT on a unilateral basis or in certain regions only could distort competition and prevent the creation of a level playing field for global financial players.
- Initiatives to introduce an innovative financial instrument involving substantial potential revenues and affecting politically powerful sectors and actors require a global political commitment supported by key international stakeholders to credibly demonstrate the determination to push such an initiative through against all resistance.
- The political acceptance of an FTT can be expected to increase when the tax is introduced on a global level with revenues being earmarked to finance a global public good, as for example a climate fund for the poorer countries or development aid.

There are several reasons why, among the various potential candidates for internationally coordinated taxes to finance global goods, a tax on financial transactions appears as particularly well suited:

- International financial transactions on global financial markets constitute a tax base containing a cross-border element. Therefore, the tax base and accordingly the tax revenues can hardly be attributed to individual countries, which suggests using revenues for a supranational budget.
- The tax would be a new and additional financing source, as the existing national FTTs cover rather narrow segments of financial markets only. Potential conflicts over "ownership" of tax revenues between national governments and supranational bodies would therefore be limited, as the extent of financial flows from sources already used which would have to be redirected from the national to the global level would be limited.
- Although the concept of national impact and tax incidence is somewhat meaningless in the case of the FTT due to the transnational nature of its base, it would over-proportionately

burden the developed countries, where the major financial centres are located, thus implying equitable burden sharing on the global level.

- Due to the very broad base, also very low tax rates would yield significant revenues to finance global public goods, while in the best case stabilizing international financial markets and in the worst case only minimally distorting the economy.
- The tax can be expected to meet with high political acceptance, as it imposes the fiscal burden on a sector which is perceived to be currently not paying its fair share of the tax burden.
- There is a broad civil society alliance, including tax justice and anti-poverty NGOs and trade unions, often with an international scope and presence, that supports the introduction of a global FTT.
- The FTT is a suitable candidate for a global solidarity tax as it can be expected to have progressive effects.

All these arguments underline the nature of the FTT as a global tax and strengthen the case for global implementation, encompassing all jurisdictions as well as all financial market sectors and actors. They also point to the importance to gather revenues in a global pool that could be used by international organisations for the provision of global public goods. A global cooperation regime will be crucial to fulfil these goals in the most efficient manner.

The G20 offers itself as the most suitable international forum to pursue a renewed initiative for implementing an FTT, as it represents the world's main economic and political centres. Introducing the FTT on the G20 level would imply that the tax would not cover 100% of jurisdictions. However, G20 wide implementation would mean that the main financial centres would be covered and would allow the introduction of a credible sanction mechanism against non-cooperative jurisdictions, thus minimizing avoidance opportunities. Recent progress made with regard to international coordination and cooperation to tackle tax evasion and avoidance on the G20, the OECD and the EU level can be expected to support a new initiative to introduce a global FTT.

5. Estimates for potential revenues of a global financial transaction tax

The FTT can be an important source of revenues for governments and international institutions. We estimate that the tax, if imposed globally, even after taking into account still significant evasion, relocation and lock-in effects, can bring significant revenues – between \$ 237.9 billion and \$ 418.8 billion annually. The baseline case delivers \$ 326.9 billion overall for the whole global economy, which corresponds to 0.43% of global GDP. The three different estimates of potential global revenues for the three different scenarios are given in Table 1. We use the formula used by the *European Commission* (2011) and *Anthony et al.* (2012) to estimate the potential revenues of an FTT. The formula requires data on the transaction volumes of the specific financial instrument in question, as well as assumptions on the evasion effects, the relation of the tax rate to the transaction costs of the financial instrument, and the elasticity of traded volumes to the tax rate in relation to transaction costs. By changing the assumptions regarding evasion effects and the implied elasticities, we calculate different scenarios based on assumed values for the reactions. These assumptions are presented in Table 1.

Summary Table	Global Revenues			
	Conservative	Baseline	Optimistic	
	Million \$			
Equities	65,644.00	70,903.63	76,584.67	
Exchange Traded Derivatives	18,168.03	55,405.05	93,101.82	
ETD Options	04,068.79	12,408.15	20,850.48	
ETD Futures	14,099.24	42,996.89	72,251.34	
OTC Derivatives	15,628.18	47,659.54	80,745.59	
Interest Rate Derivatives	01,729.21	05,273.39	08,934.27	
Bonds	136,693.50	147,645.85	159,475.74	
Total	237,862.92	326,887.46	418,842.10	

Table 1: Estimated global revenues from a financial transaction tax

Source: Authors' calculations based on assumptions given in Table 2; Data Source: BIS; World Bank, Global Economic Monitor, FESE, WFE, Macrobond.

Table 2: Estimation assumptions

	Conservative Scenario	Baseline Scenario	Optimistic Scenario
Evasion effects for stocks and bonds	15%	15%	15%
Evasion effects for derivatives Elasticity of tradina volumes	90% -1.5	70% -1.0	50% -0.5

Using a proxy that averages between the weight of the specific country in the real economy (GDP) and in the financial sector (derivatives trading), we can also break down these global results to individual countries. In the baseline case this would mean considerable revenues – \$72.57 billion for the United States (0.37% of GDP), \$119.46 billion for the European Union (0.69% of GDP), \$10.00 billion for Germany (0.27% of GDP), \$9.99 billion for France (0.39% of GDP) and \$19.99 billion for Japan (0.41% of GDP). Our estimates for country-by-country specific revenues

are presented in Table 3. Furthermore, we can express the total revenues estimated using our proxy in relation to country GDP. This enables us to put our results in a comparative perspective. Table 4 presents the total revenues for a number of countries and regions in the baseline scenario. These results are broadly in line with previous estimates of potential revenues in relation to GDP. The result for the European Union is inflated upwards through the very central position that the UK has in global derivatives trading. The usage of our proxy inevitably redistributes from global trading volumes to a number of countries, which explains why some values in the country-specific potential revenues below are higher than the ones in the summary tables for the different scenarios above.

	Equities	Exchange	OTC	Interest Rate	Bonds	Total
		Traded	Derivatives	Derivatives		
		Derivatives				
-			Milli	on\$		
United States	15,915.50	12,436.59	9,307.01	1,770.14	33,141.58	72,570.82
EU28	24,891.58	19,450.61	22,704.86	578.88	51,832.86	119,458.79
Austria	295.53	230.93	137.49	1.11	615.39	1,280.43
Belgium	354.38	276.92	168.63	48.51	737.94	1,586.38
Bulgaria	36.52	28.54	12.93	-	76.05	154.04
Czech Republic	121.10	94.63	27.96	0.01	252.17	495.88
Denmark	701.33	548.03	737.65	20.97	1,460.42	3,468.40
Finland	190.39	148.77	98.99	3.59	396.45	838.19
France	2,178.72	1,702.48	1,321.29	254.90	4,536.86	9,994.26
Germany	2,344.80	1,832.26	851.46	90.55	4,882.69	10,001.77
Greece	99.25	77.56	7.43	-	206.68	390.92
Hungary	82.59	64.54	24.18	0.41	171.99	343.71
Ireland	165.36	129.22	16.07	-	344.34	654.99
Italy	996.67	778.81	129.91	19.63	2,075.40	4,000.41
Latvia	17.30	13.52	4.33	-	36.03	71.18
Lithuania	23.29	18.20	1.71	-	48.49	91.68
Luxembourg	229.15	179.06	269.29	0.47	477.16	1,155.12
Netherlands	847.79	662.47	622.53	63.99	1,765.38	3,962.16
Poland	293.24	229.14	66.69	6.12	610.62	1,205.81
Portugal	114.60	89.55	17.61	0.28	238.64	460.70
Romania	113.00	88.30	21.13	-	235.30	457.72
Slovakia	57.48	44.92	17.81	-	119.70	239.91
Spain	785.78	614.02	238.54	5.56	1,636.26	3,280.14
Sweden	475.94	371.90	306.81	62.78	991.06	2,208.49
United Kingdom	14,314.87	11,185.83	17,604.44	2,743.66	29,808.51	75,657.31
Japan	4,416.01	3,450.73	2,919.34	6.02	9,195.67	19,987.77
Australia	1,299.83	1,015.70	887.24	30.04	2,706.70	5,939.51
Hong Kong SAR	2,533.43	1,979.65	3,193.90	25.07	5,275.47	13,007.52
Singapore	2,970.09	2,320.87	3,783.88	12.29	6,184.76	15,271.89
Switzerland	1,164.89	910.26	1,144.47	13.54	2,425.71	5,658.88

Table 3: Country specific potential revenues from an FTT, Baseline Scenario

Source: Authors' calculations; Assumptions: evasion effects for equities and bonds: 15%; evasion effects for derivatives: 70%; elasticity of trading volumes: -1.00. For the Asian region and rest of the world (Other) region data were not available for all financial instrument types.

	Total Revenues		
	Million \$	In % of GDP 2017	
Global	326,887.46	0.43	
United States	72,570.82	0.37	
EU28	119,458.79	0.69	
Austria	1,280.43	0.31	
Belgium	1,586.38	0.32	
Bulgaria	154.04	0.26	
Czech Republic	495.88	0.23	
Denmark	3,468.40	1.05	
Finland	838.19	0.33	
France	9,994.26	0.39	
Germany	10,001.77	0.27	
Greece	390.92	0.19	
Hungary	343.71	0.25	
Ireland	654.99	0.20	
Italy	4,000.41	0.21	
Latvia	71.18	0.23	
Lithuania	91.68	0.19	
Luxembourg	1,155.12	1.85	
Netherlands	3,962.16	0.48	
Poland	1,205.81	0.23	
Portugal	460.70	0.21	
Romania	457.72	0.22	
Slovakia	239.91	0.25	
Spain	3,280.14	0.25	
Sweden	2,208.49	0.41	
United Kingdom	75,657.31	2.86	
Japan	19,987.77	0.41	
Australia	5,939.51	0.43	
Hong Kong SAR	13,007.52	3.81	
Singapore	15,271.89	4.53	
Switzerland	5,658.88	0.83	

Table 4: Total revenues in % of nominal GDP (2017), Baseline Scenario

Source: Authors' calculations; BIS; World Bank, Global Economic Monitor; Macrobond.

Our estimations can be understood as a lower bound for the potential revenues from a global

FTT. They are most probably an underestimation for three distinct reasons. First, we include high relocation and evasion effects even in the case of a global FTT due to the possibility that small jurisdictions decide to not comply with the tax. Ensuring they are as few as possible could increase significantly potential revenues. Secondly, we do not have globally comparable data on a number of financial instruments, such exchange traded funds (ETFs), undertakings for the collective investment in transferable securities (UCITs) and alternative investments funds (AIFs). Using an approximation for several EU countries where these data are available, we estimate that these further instruments can yield an additional 14% in potential revenues from the FTT. In the baseline scenario this equals to an additional \$45 billion in revenues globally. Finally, there is no data available for the trading volumes for bonds in the Asian region and the Rest of the

world region, which would also bring significant additional revenues. Overall, the reported potential revenues are relatively conservative estimates and could be higher in reality.

6. Conclusion

Since the global financial crisis public support for taxing the financial sector and the commitment to contribute more to government revenues has increased, which has spawned a variety of proposals and initiatives to introduce an FTT either at the national or the global level. Many of these initiatives were inhibited by technical difficulties or lack of common acceptance of technical details. Much of the disputes in technical discussions was the result of the competition between different jurisdictions. A role plays also the lack of willingness to impose the tax on specific financial instruments deemed as important for particular countries, which has brought about numerous proposals to exempt certain asset types from the tax, which particularly coined the discussion of the past 10 years in the European Union.

Global and multilateral cooperation will thus be essential for the successful implementation of the FTT by overcoming fruitless technical discussions and agreeing upon a common design that can generate substantial revenues and ensure that it does not disproportionally distort market efficiency. An FTT is both viable and feasible if there is broad acceptance of the idea that financial market participants are not contributing enough in taxation towards government budgets. The existing empirical evidence on the effects of taxes on financial transactions on financial market stability is inconclusive. Proponents of the FTT should accept that the tax might impose certain costs to market efficiency. The FTT might or might not help reduce market instability through its effect on market volatility. However, the very significant revenues that the tax will bring to governments should still mean it makes sense to introduce the tax from a welfare perspective. Furthermore, the potential revenues from such a tax would be determined mostly by the decisiveness and efficiency with which tax evasion is limited by its design. As our analysis shows, this evasion parameter is much more important for the overall revenues than any possible reduction in trading volumes that might result from imposing a tax at a small rate in comparison to transaction costs as proposed in the current proposals. Thus, a global solution for the FTT would be a necessary step for its most efficient implementation.

The FTT can raise significant revenues globally. If policymakers and international institutions follow the optimal design of such a tax with a very broad base and a relatively low rate of the tax, the distortionary effects should be quite small. In addition, the burden of the tax can be expected to fall predominantly on top wealth groups, which are most active on financial markets. The tax will have a progressive nature, which can also address growing concerns about inequality and distributional fairness. Finally, the FTT enjoys public support and the broad alliance between NGOs and civil society organisation in its favour might make its implementation more feasible politically. The additional revenues from a global FTT can contribute to the urgently needed resources for a number of specific global priorities, where multinational cooperation is essential. In any case, with this amount of potential revenues, an FTT, if designed properly and imposed globally, could help to meet public demands on the financial sector, contribute more to government budgets and show that international cooperation and multilateral institutions can provide significant and effective solutions to the most pressing global issues of our time.

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