

THE TAXATION OF FINANCIAL TRANSACTIONS: AN ESTIMATE OF GLOBAL TAX REVENUES

Gunther Capelle-Blancard

(gunther.capelle-blancard@univ-paris1.fr)

Centre d'Economie de la Sorbonne - University Paris 1 Panthéon-Sorbonne

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Summary

The idea of a financial transaction tax (FTT) is both widespread and controversial. It entails technical concerns (financial, economic, and juridical), while having strong symbolic implications.

The FTT is often described as a utopia whose implementation would signify an insurmountable impediment to financial markets. However, stock market transactions have been taxed in the United Kingdom since as early as the seventeenth century, in the form of a stamp duty which generates around 4 billion euros each year – and does so without hampering the City's development. Virtually all developed countries have used it at some point, and even today more than thirty countries in the world tax financial transactions, including Switzerland, Hong Kong or Taiwan, as well as France. Empirical studies show that, in practice, the effects of the FTT are modest: while transaction volumes decrease slightly when the FTT is introduced, there is very little impact in terms of market liquidity or volatility. In other words, it is neither the apocalypse feared by some, nor the panacea hoped for by others. Certainly, the European FTT project is more ambitious than the existing systems, in particular because its application is broad, including derivatives and high-frequency trading.

Fears about potential offshoring of financial activity are nonetheless exaggerated. The dual principle of issue and residence provides the conditions for a very broadly applicable tax, regardless of the origin of the transaction. Today, FTTs apply only to transfers of ownership, effectively excluding intraday transactions. Between 60% and 70% of transactions appear to be exempt from the FTT in France. Taxing intraday transactions would require a thorough revision of the tax collection system in order to have reliable information, notably on high-frequency trades and/or transactions carried out on alternative platforms.

Ultimately, it seems that the FTT has the attributes of a good tax. The FTT is not particularly distortive, tax revenues are potentially high, and the collection costs are minimal. It also has a redistributive effect. The equivalent of the UK stamp duty or the French FTT applied by the G20 countries, notwithstanding its numerous exemptions, would raise between 156 and 260 billion euros per year (according to a nominal rate of 0.3% or 0.5%). Extending the tax to derivatives and intraday trades would bring additional revenue, while improving transparency in financial markets.

1. Introduction: a widespread but controversial idea

“Tobin Tax”, “Robin Hood Tax” or “FTT”; no matter what we call it, the idea of taxing financial transactions is very common. Its principle is simple: given the considerable amount of transactions carried out on financial markets, it would suffice to apply a micro-tax, at an extremely low rate, to raise significant fiscal revenues, without adversely affecting the proper functioning of either the markets or the economy. A broad tax base and a low tax rate make for two generally appealing elements. Further, supporters of the FTT see it as a way to curb short-term speculation.

At the same time, the FTT is particularly controversial. Opponents argue that its implementation would be counterproductive: this tax would contribute to increasing volatility by decreasing liquidity. Criticisms of the FTT often take the form of parodic ridicule. For its detractors, the FTT would be nothing less than “madness” or “suicide,” while its defenders are frequently deemed naïve, even incompetent or populist. Yet this outrage is curious. It indicates, as it were, a total ignorance of existing experiences with FTT. Taxes in place today – in leading financial centers, and sometimes having been used for centuries – have very little impact on market liquidity or stability, and as much is likely to be true of future initiatives.

Far from the caricature that detractors often make of it, the FTT has all the features of a good tax; it all comes down to its design. Clearly, certain fears should be taken seriously, yet these must not be overestimated. Like any tax, the FTT can create distortions, but these costs must be weighed against the benefits of the tax. All will depend on how the FTT is devised. Yet the greater part of the FTT’s opponents reject it outright, without considering the different possible implementation methods. Today, two options are up for negotiation:

- The European Commission project, presented in 2011. This ambitious proposal generated much enthusiasm, but after years of bitter debate, it has yet to come to fruition. The project was designed to adapt to financial globalization and to limit offshoring, but now faces a lack of cooperation among EU member states regarding the technical matters of the proposed tax. The debates mainly concern the derivatives and intraday trades, which represent the vast majority of volumes, but which are exempt from the taxes in effect today.
- The generalization of stamp duty. This FTT has been applicable in the UK for centuries, without impeding the City’s development. It served as the inspiration for the French FTT introduced in 2012 (since followed by Italy and Spain). It is in effect a stamp duty on transfers of ownership. Purchase and sale transactions carried out the same day (sometimes the same second, etc.), which today represent the vast majority of transactions, are exempt. However, the drawbacks of such a basic FTT are also its advantages: its impact is low (to none), and its implementation arouses little hostility. Extended to the G20 countries of the world, the UK stamp duty or the French FTT, notwithstanding their numerous exemptions, would make it possible to collect between 156 and 260 billion euros per year (according to a nominal rate of 0.3% or of 0.5%) – revenue which could be used, for instance, toward the fight against climate change or for development aid.

The FTT will remain central to many discussions in the coming years. And for good reason: it signifies a reaffirmation of the resolve to reform the financial system, the abandonment of market efficiency dogma, and a breath of new life into tax law in a globalized world.¹

2. Literature Review

2.1. A brief panorama

The FTT has a long history, almost as old as the markets themselves. It has been continuously applied in the United Kingdom for over three centuries, and almost all countries have used it at some point. Until the end of the 20th century, the FTT was common practice in all main financial centers. With the liberalization of the markets, many industrialized countries abolished their system – the United States in 1966, Germany in 1991, Japan in 1999, and so on. At the same time, most emerging countries in Latin America and Asia have introduced an FTT. Just as the practice seemed to disappear from Western countries, the FTT has seen a marked resurgence of interest, with new systems in numerous countries, including France (see below), Italy, and Spain. More than thirty countries now have an FTT, among them the UK, Switzerland, Hong Kong, and Taiwan. Clearly, the implementation of the FTT has not impeded the development of these financial centers, which are among the foremost in the world.

The FTT is an old practice, exercised in numerous and diverse countries, and still applied today in several leading financial markets. There is therefore little reason to think that the FTT is fundamentally incompatible with the development of financial markets – these have, on the contrary, experienced considerable growth. At the very least, it must be acknowledged that criticisms of the FTT as unrealistic and impractical are unjustified.

In countries where the FTT exists, financial crises are neither more nor less frequent than those who do not practice such a levy on transactions. It should also be noted that the FTT has never really curbed stock market euphoria: whether in the United States before the Great Crash of 1929, or in Japan during the 1980s, the two most famous episodes of

¹ See note for the AMF Scientific Advisory Board:
<http://www.amf-france.org/Publications/Lettres-et-cahiers/Revue-du-Conseil-scientifique/>

speculative bubbles in the 20th century took place in countries with an FTT. The FTT is hardly effective in limiting market surges.

The results of the FTT vary enormously from one country to another. For most countries that adopt one, the FTT is a relatively stable and low-distortion fiscal resource. In the case of Sweden, however, the experiment turned out to be a failure. It is necessary therefore to carefully examine the diverse potential taxation methods.

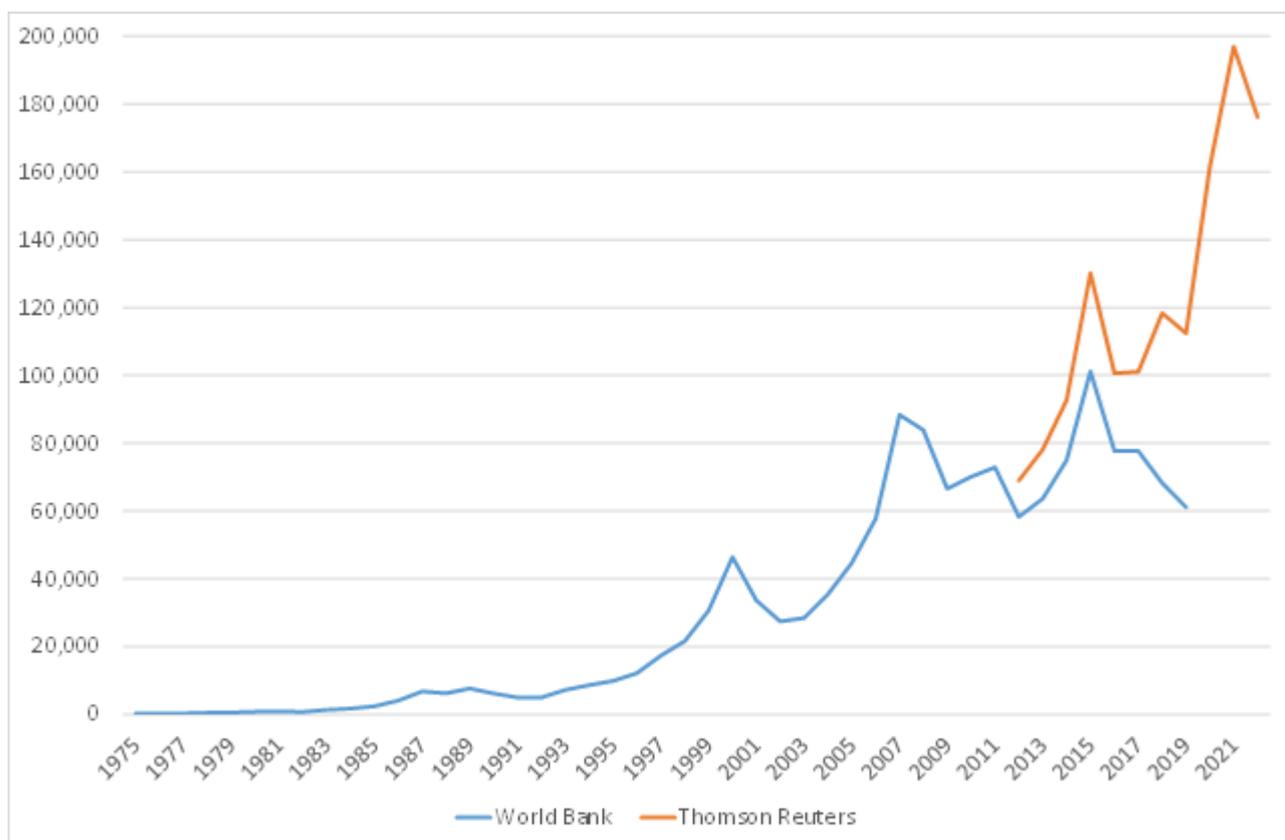
2.2. Too much finance?

The prevalence of the FTT is undoubtedly a result of the explosion in transaction volumes appearing concurrently with financial liberalization from the end of the 1970s. This liberalization has long been embraced by the majority of economists, who see it as a powerful catalyst for growth. But today the question arises as to whether the financial markets are not “beyond a socially reasonable size” (Lord Adair Turner, 2009).

Since the 1970s, the global GDP has multiplied by 15 times, market capitalization by 50, and the amount of stock market transactions by more than 500. In fifty years, the ratio of the total amount of stock market transactions to the GDP has thus risen from 5% to 200%. These ratios are orders of magnitude, as it has become quite difficult to measure the exact total amount of trades due to the rise in alternative trading platforms.

In France, the total amount of transactions on the Paris Stock Exchange represented 3.5 billion euros in 1970; 9 billion in 1980; 100 billion in 1990; 1,000 billion in 2000; and more than 2,000 billion euros today if we take into account transactions carried out on alternative platforms.

Figure 2. Evolution of global stock market transactions (in bn \$)



Sources: World Bank, World Federation of Exchanges & Thomson Reuters (Monthly Market Share Reports).

Admittedly, abundant financing (both in quantity and quality) promotes economic growth. But an increase in stock market transactions does not necessarily mean more or easier financing, nor greater market liquidity. In reality, it is impossible to know what the “right” transaction volume would be.

More is not always better. In fact, it is generally acknowledged that investors tend to carry out too many trades. Modern financial theory also advocates a moderation in trades due to the great difficulty of “beating the market.” Further, many studies show that shorter investment horizons take a toll on listed companies (reduction in R&D, poor evaluation of investments, etc.), while the presence of long-term investors is desirable. Finally, there are numerous concerns surrounding very high-frequency trading (orders placed at the speed of a millisecond), which makes up as much as 70%

of equity trading, and which is likely to result in sudden price changes. The question is perhaps less that of the impact on the markets – a debate that arouses lively controversy – than that of the (more than questionable) social value of these activities. As a matter of fact, it appears that the potential benefits in terms of liquidity are minimal, that the gains of high-frequency trading are equivalent to rents at the expense of longer-term investors, and that costs include technological overinvestment, greater opacity, and increased distrust of the markets.

2.3. The FTT: a low-distortion tax

The idea of the FTT dates back to J.M. Keynes, and was extended to the foreign exchange market by J. Tobin. Its supporters include Nobel Prize winners P. Krugman and J. Stiglitz, as well as L. Summers, J. Sachs, among others. Yet, as a whole, economists are rather reluctant to impose an FTT, whether on currency exchange or stocks, often deeming it counterproductive.² The argument most often put forward is that by increasing transaction costs, the FTT could harm the liquidity of the markets, thus causing an increase in volatility.³ However, this argument is not supported by empirical studies, which show that on the contrary, the FTT does not have harmful effects on the markets.

Impact studies conducted in countries where an FTT exists, or has existed, reveal a negative effect on volumes. But above all, it appears that the tax has no effect on either liquidity of shares or market volatility. At best, its effects are slight. Even in the Swedish example, contrary to what is often put forward, the results are not conclusive. If we examine in detail the study by Umlauf (1993)⁴, generally thought to be a textbook case, the effect of the tax is sometimes positive, sometimes zero, sometimes negative, depending on a number of factors: whether we measure daily or weekly volatility, whether or not we take into account the 1987 crash, whether or not we compare with the UK or the US markets.

It should be noted that existing studies will often merely compare transaction volumes or volatility before and after the introduction of the FTT (or, more generally, a change in its rate). It is therefore impossible to isolate the effects that specifically relate to the tax from other effects on the market resulting from the numerous events occurring during this same period. To resolve this methodological problem, it is necessary to have a sample of securities which are not subject to the FTT, but whose characteristics are as close as possible to taxed securities. The introduction of the FTT in France on August 2012, by its terms, offers this possibility.

2.4. The case of the FTT in France since 2012

In France, the FTT was (re-)introduced in August 2012. This tax mainly targets the exchange of shares, or similar, of companies whose head office is located in France and whose market capitalization exceeds 1 billion euros (Article 5 of the amending finance law for 2012 – n°2012-354). Its rate is 0.3%; although it was initially 0.1%, but was doubled before its implementation in 2012, and increased again in 2017. Approximately one hundred companies are subject to it. This FTT adopts the principle of issuance and is thus similar to the UK stamp duty (much less problematic than the former “Impôt sur les Opérations de Bourse”, in effect from 1893 to 2018). The French FTT is accountable by all stakeholders, regardless of their nationality and location. This tax only applies to transactions leading to a transfer of ownership, which effectively excludes purchase and sale transactions carried out on the same day, in particular high-frequency trading.

This tax lends itself particularly well to impact study, insofar as its base, as well as the attributes of the French stock market, make it easy to identify control groups. In a study carried out in 2013, we can therefore measure the evolution of liquidity and volatility over a period of one year, based on the date of the introduction of the tax.⁵

Let us begin by looking at the evolution of transaction volumes. If we consider large French companies, an average of 40 million euros of shares were traded in the six months following the introduction of the FTT, compared to a volume of 50 million euros the previous six months. However, it would be wrong to consider that this 20% reduction was due exclusively to the tax. Other factors may have played a role – we know, for instance, that activity is generally lower in

² Harvard professor Kenneth Rogoff illustrates this perspective well: “The Wrong Tax for Europe,” October 3, 2011.

³ Illiquid markets are volatile markets; this is a proven fact. Yet this does not mean that any increase in transaction volumes promotes market stability, nor conversely that a decrease in volumes necessarily implies an increase in volatility. In the theoretical models that deal with this relationship, outcomes depend on assumptions about the rationality of the participants. If participants are assumed to be rational, then it happens that any increase in transaction costs harms the efficiency of the markets. On the other hand, when participants (even if only some of them) demonstrate limited rationality, then the reduction in volumes may very well have beneficial effects. For surveys, see McCulloch, N., et G. Pacillo, 2011, “The Tobin Tax: A Review of the Evidence,” IDS Research Report, n°68, Institute of Development Studies; Matheson, Th., 2010, “Taxing Financial Transactions: Issues and Evidence,” IMF Working Paper.

⁴ Umlauf S., 1993, “Transaction Taxes and the Behavior of the Swedish Stock Market,” *Journal of Financial Economics*, 33, 227-240.

⁵ See Capelle-Blancard, G., et O. Havrylchyk, 2016, “The impact of the French securities transaction tax on market liquidity and volatility,” *International Review of Financial Analysis*, 47, 166-178. The idea is to compare the dynamics of samples of securities subject to the tax with that of control samples, using the so-called double-difference method (before/after and taxed/untaxed).

August or December – hence the interest of having a control sample. Over the same period, the shares of large foreign companies traded on the same market, under the same conditions, and which have probably suffered similar shocks, saw their own transaction volume fall by 10%. With respect to shares that are not subject to the FTT, large French companies have thus suffered, overall, a decrease of around 10% in their volume of transactions. Taking into account the variability of volumes over this period, this relative decline can be considered significant.

These results therefore confirm previous studies that show a negative effect of FTT on volumes traded. This does not mean, however, that the liquidity of securities has deteriorated. Indeed, liquidity is a multidimensional concept and transaction volumes are a poor measure of it. We therefore apply the same approach to other, less crude liquidity indicators. Doing so demonstrates that the FTT had no significant effect on trading costs (measured by the spread, i.e. the difference between ask and bid prices), nor on the resilience of the market (measured by the liquidity ratio, which is calculated by relating the daily volumes to the absolute value of the daily return, and is interpreted as the volume necessary to vary prices by 1%). We also measured the impact of the FTT on market volatility. Like liquidity, volatility is a concept whose measurement is not unequivocal; we have therefore selected several indicators. Regardless of the measure used, we find no significant effect on market volatility.

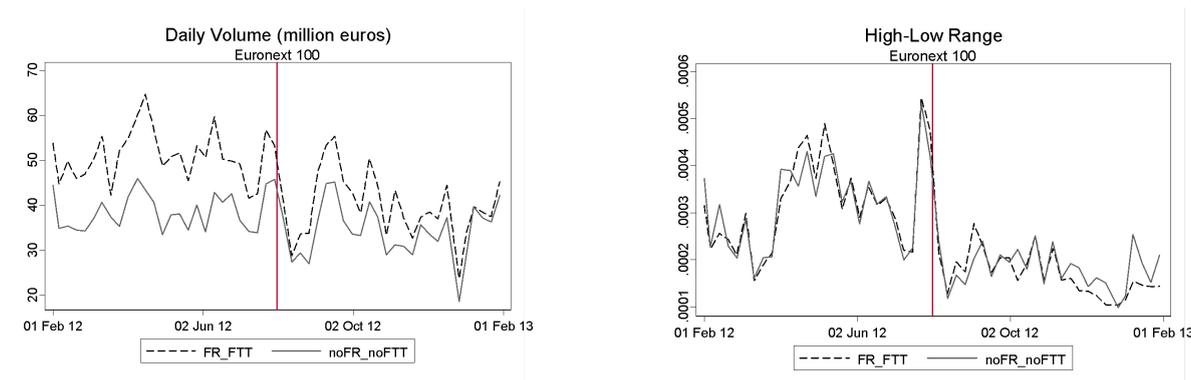
No less than five studies have been carried out on the French TTF.⁶ Although samples differ, the approaches are similar. All detect a negative effect on transactions of a comparable magnitude: between –10% and –20%. This decrease is significant, but it is mainly observed during the first weeks, thus appearing to be transitory. Above all, this decrease must be measured against the considerable growth in transactions. Between 2014 and 2015 alone, the increase in transactions on French equities was 25%. In short, it is as though the introduction of the FTT had only slowed the increasing trend in transaction volumes by a few quarters.

Moreover, four of these studies find no significant effect on the price range, regardless of the horizon or sample used. Only the depth of the market seems to have decreased since the implementation of the FTT, without this having a particularly negative effect on the other components of liquidity. Nor does it seem that there has been a suspension of activity in favor of non-taxable investment choices, such as contracts for difference (CFDs), contrary to what had been announced by practitioners in the press. Finally, with regard to the effects on volatility, once more the results are globally in agreement: the market does not seem either more or less volatile since the introduction of this tax.

Further, the effects of the FTT were examined not only in 2012, but from 2013 to 2019, as well. To isolate the causal effect of the tax we consider three different situations: i) when certain shares are taxed, while they had not been; ii) when certain shares are no longer taxed, whereas they had been previously; iii) when the tax rate increased. Since 2012, securities newly subject to the FTT have not suffered a deterioration in their liquidity, regardless of how this is measured. Conversely, securities that left the FTT system did not benefit from an improvement in their liquidity. The increase in the tax rate in 2017 (from 0.2% to 0.3%) did not have a significant impact, either.

⁶ For a summary, see Capelle-Blancard, G., et O. Havrylchuk, 2016, *op. cit.*

Figure 3: Evolution of the liquidity and volatility of shares listed on Euronext before and after the introduction of the FTT



Interpretation: The difference between the curves makes it possible to measure the effect of the FTT: when, for example, the dotted curve approaches the solid line curve (as is the case in the frame at the top left), this reflects lower transaction volumes for shares subject to the tax, relative to those that are not. Calculations: Capelle-Blancard and Havrylchuk (2016).

Academic studies conducted in numerous countries, with diverse methods, deliver clear results. The FTT – at least as it is practiced today – reduces transaction volumes by around 20%, yet without having a significant effect on the liquidity and volatility of stock prices. The currently-implemented systems are ineffective as an instrument of financial regulation; but they do not constitute an impediment for corporate financing, and do not harm companies’ competitiveness.

3. The FTT: a question of design

The debates surrounding the FTT seem, as it were, more a matter of politics – between States, the banking and financial lobby, and NGOs – than of reason. Helter-skelter, its detractors consider that the FTT would burden the economy, lead to massive offshoring, cause job losses, ruin investors, all this while impoverishing the State (no less!). In reality, as is so often the case, all will depend on how the tax is devised.

3.1. Scope: the dual principle of issuance and residence

The first key element in this design is scope. The main argument against the FTT concerns possible circumventions. For its detractors, the FTT is not implementable on a national or even European scale; the only solution would be a global system. Needless to say, such a project would be indefinitely postponed. It is true that capital today is very mobile, and financial innovation is particularly effective when it comes to circumventing regulations or taxation. This does not mean, however, that the FTT is doomed to failure. The fact that it successfully exists in many places around the world (London, Paris, Hong Kong, etc.) is proof of this.

Introduced in 1694, the UK stamp duty has since been continuously applied, making it the oldest tax in effect today in the UK. More than three centuries after its creation, stamp duty remains a model system. In practice, the UK Treasury levies a 0.5% tax on purchases of shares issued by UK companies. This tax is payable regardless of the nationality or residence of the counterparties – in other words, it is payable whether they themselves are British or not. The FTT in the UK generates several billion pounds of state revenue each year. Collection costs are modest: only 0.02 pence per pound sterling collected, 75 times lower than that of income tax.

The argument against the FTT concerning circumventing is usually based on the example of Sweden, where such a tax was introduced in 1984. This project effectively failed and ended in the tax’s repeal in the early 1990s. But the problem with the Swedish FTT is that it only applied to transactions carried out by Swedish brokers. The UK stamp duty is much better designed since all operators are liable for the tax when they deal with shares issued by UK companies: this is called the “principle of issuance.” In other words, it is the nationality of the company that issues the shares that delimits the scope of the tax, and not that of the counterparties or intermediaries who carry out the transaction. As a stamp duty, this tax provides a solid and binding legal basis. It is a device relatively difficult to circumvent, which limits tax evasion. Although there is no precise data on this issue, we know that more than half of the revenue from this tax is paid by foreigners. The FTTs introduced in France in 2012, in Italy in 2013 and in Spain in 2021 are similar in this respect, and they have not caused a massive offshoring of transactions.

In the case of the European FTT, the “principle of issuance” is combined with a “principle of residence” which comprises the taxation of all transactions carried out by the financial intermediaries of the eleven participating European

countries, regardless of the location in which they take place; this is another element that reduces the risk of circumvention.

The fear of unfair competition from foreign parties established in countries where an FTT is not in place is therefore exaggerated, since they will also be subject to the tax and will therefore not benefit from a deadweight loss effect. The dual principle of issuance and residence creates the conditions for a tax that is very broadly applicable, regardless of the origin of the transaction.

3.2. Which base?

Which transactions should be taxed? Should we place a levy on shares, as proposed by Keynes?⁷ Or on currency trading, as preferred by Tobin? Bonds, to reduce debt financing? Derivatives, often considered to be financial “weapons of mass destruction”? The vast majority of systems in place today concern exclusively shares.⁸ Currency exchange transactions are only taxed in a few Latin American countries, derivative transactions in Taiwan and Italy, and bond transactions mainly in Thailand and Belgium. However, there is a reasoning behind wanting the broadest possible tax base: namely, to avoid distortions in investors’ choices. It is for practical reasons, therefore, that the base is often limited to shares.

Concerning the European project, there are two opposing strategies. The first is to adopt an FTT limited to shares, at least initially, but to have it implemented as quickly, and by as wide a group of countries, as possible. The second involves a more ambitious approach, with a broad base and a low rate. Today the first option seems the most plausible since after years of deferment, the European Commission’s ambitious project no longer has much political support.

Regarding derivatives, we encounter implementation problems. These are complex instruments whose tax base is difficult to identify.⁹ Moreover, there is much opposition between the banking and financial sector. This is not surprising when we consider that transactions between financial intermediaries represent the bulk of derivatives, according to the BIS.

The bond market is in theory much less speculative than the stock market or derivatives markets. Even if bond issues are quite numerous, transaction volumes are much lower than for equities (in 2022 for example, bonds were traded for less than 3 billion euros on Euronext Paris). In fact, bonds are often omitted in discussions concerning the FTT. Still another question remains just as sensitive: should we include sovereign bonds or not? States are reluctant to do so, fearing that it will increase the cost of public debt.

“*Throwing some sand in the well-greased wheels of international finance*”: this was James Tobin’s objective when he proposed to tax currency exchange transactions in the 1970s. Though popular, this famous Tobin tax never emerged, despite the dizzying and nearly continuous rise in currency exchange transactions. Yet given the sums involved, even with a very low rate, tax revenues could amount to several hundred billion dollars. This tax is now mainly defended by NGOs (Attac, Oxfam, Stamp-out-Poverty, One, etc.), who would like to see its proceeds allocated to development aid or the fight against climate change. This proposal, whose logic is quite similar to the tax levied on plane tickets used to finance the fight against HIV/AIDS, is thus part of the larger movement towards “innovative financing”. The obstacle concerning the FTT seems above all political, as it presupposes broad international cooperation.

3.3. Which rate?

The European project applies a rate of 0.1% for cash transactions. This may seem low compared to the rate applied in France (0.2% when it was introduced in 2012; 0.3% since 2017) or the United Kingdom (0.5%).¹⁰ But as is often the case in taxation, the nominal rates are misleading and do not reflect the collection process well. It all depends on the tax base – or, more precisely, on its exemptions. In practice, the definition of the rate and that of the tax base are closely linked.

⁷ For Keynes, “*The introduction of a substantial government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigate the predominance of speculation over enterprise.*”

⁸ To protect companies whose securities are the least liquid, it is possible to exempt small capitalizations, as is the case in France (below a billion euros of capitalization, which concerns one hundred companies out of the approximately 600 listed in Paris), in Italy (with a threshold of 500 million euros) or in the United Kingdom (since 2014, for small companies with high growth potential).

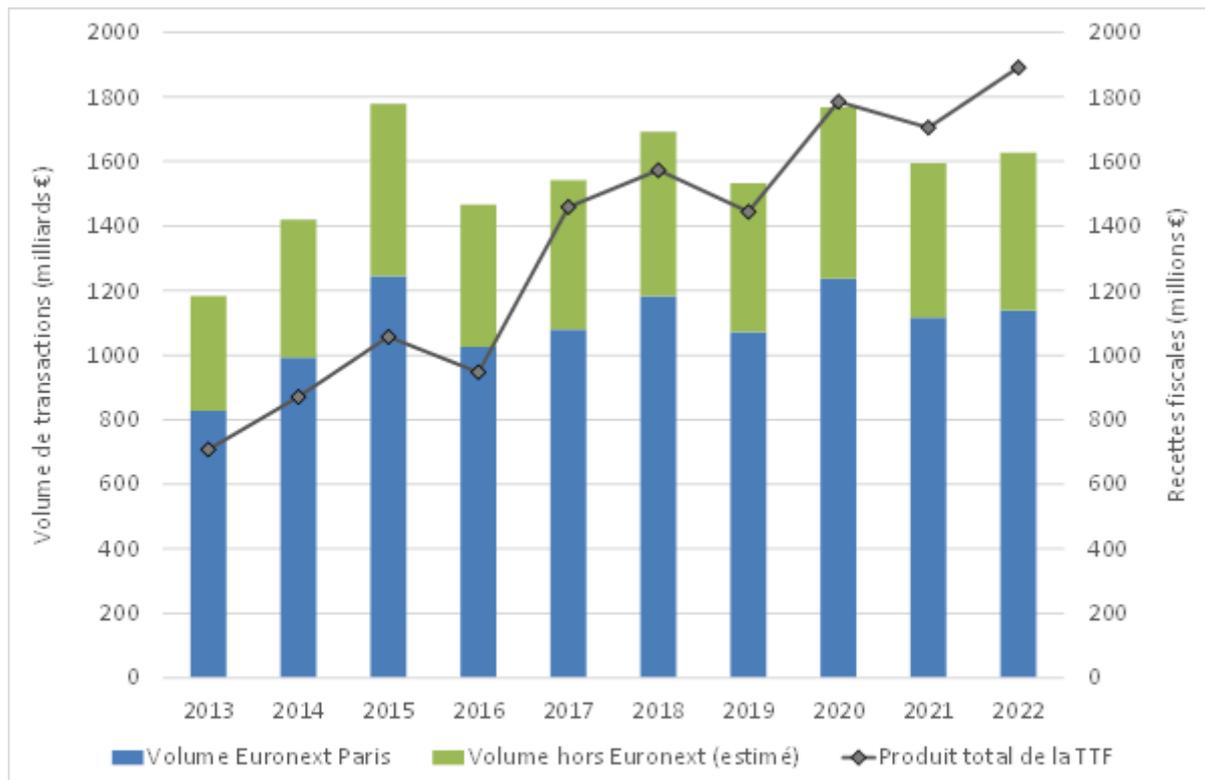
⁹ See Persaud, A., 2014, “Taxing transactions in financial derivatives: problems and solutions,” *Intelligence Capital*.
www.stampoutpoverty.org/wp-content/uploads/2014/09/Taxing_Derivatives_Transactions_Persaud_120914.pdf

¹⁰ It is also possible to tax market venues at different rates depending on whether they are regulated or not. This is the case in Italy, where a double rate is implemented for transactions carried out over-the-counter. The over-the-counter market share has also fallen sharply. See Capelle-Blancard, G., 2017, “Curbing the Growth of Stock Trading? Order-to-Trade Ratios and Financial Transaction Taxes,” *Journal of International Financial Markets, Institutions and Money*, 49, 48-73.

The concept of differentiated rates was not retained in the European project. The Italian experience, however, suggests that this can be a good way to incentivize transactions to migrate to regulated markets, particularly in the interest of transparency.

To better measure the effective tax rate, let us do some simple calculations. In 2022, the French FTT brought in 1,363 million euros to the general budget (source: situation mensuelle de l'Etat), to which are added 528 million (the capped amount) allocated to the Solidarity Fund for Development [*Fonds de solidarité pour le développement*] (FSD), i.e. a total proceeds of 1,891 million euros (a record). The nominal rate of the FTT being 0.3%, this corresponds to a tax base of 630 billion. However, this same year, the total volume of transactions on Euronext Paris amounted to 1,139 billion, to which we must also add transactions carried out on other platforms, a number that is unfortunately difficult to measure.¹¹ Assuming that the market share of Euronext Paris is between 60% and 75%, the total volume can be estimated between 1,500 and 1,900 billion.¹² We then obtain that only 33% to 42% of transactions are actually taxed. In other words, the “implicit” tax rate of the FTT in France is only 0.10% to 0.12%.¹³ The main reason that the effective rate is so low is due to intraday transactions which are, in effect, exempt. Today, with the question of the geographical scope, this is one of the key issues concerning the FTT system.

Figure 4: Traded value and total FTT proceeds in France



Left vertical axis: trade value (in billion euros); Right vertical axis: Fiscal revenue (in million euros). Blue bar: Euronext Paris; Green bar: Estimated, outside of Euronext; Gray line: Fiscal revenue of the FTT

Sources: Tax revenue according to the situation mensuelle de l'Etat (calculated as the sum of revenue in the general budget and the amount allocated to the FSD). Total traded value according to Euronext Paris (it is assumed here that the share of Euronext Paris is 70%).

3.4. FTT and HFT

¹¹ Neither the AMF nor the Banque de France provides this information. At the international level, the World Bank does provide some data, but it only concerns the main stock exchanges, and for France does not go beyond 2015.

¹² This estimate is deliberately very conservative. According to ESMA (TRV No.1 2023 Structural Market Indicators), the trading volume in France in 2021 is 2,646 billion euros, i.e. a market share for Euronext of 42%. According to Refinitiv, if we take into account OTC trades, we would even be at over 4,300 billion by 2022.

¹³ We can make a similar calculation for the other taxes, both past and present. For the UK, we also come close to an implicit rate of 0.1%, for a nominal rate of 0.5%. Until the 1990s, the implicit rates were, in fact, very close to the nominal rates. This was the case in France, for instance, with the tax on stock exchange operations, or in Sweden. The nominal rate applied in the 1980s in Sweden (2%) was already much higher than that applied today in France (0.2%); but there is also a relatively narrower taxable base today. By comparison, it thus appears that the FTT rate in France today is 20 times lower than that which prevailed in Sweden in the mid-1980s. This is not to suggest that the FTT rate should be higher – in fact, it is hardly possible to calculate the optimal rate. On the other hand, this comparison of implicit rates suggests great caution when comparing the situation in France (or the European project) to the situation that prevailed in Sweden 40 years ago.

The FTTs in effect today are nearly all equivalents of “stamp duties,” payable in the event of transfers of ownership of securities. However, these transfers of ownership have traditionally been recorded at the close of markets, which inevitably excludes transactions settled during a session. Experience confirms that this simple strategy ensures solid legal guarantees. As long as intraday transactions represented only a small part of the volumes exchanged, this did not pose problems. But with the explosion of intraday trading, this *de facto* exemption severely reduces the income generated from the FTT. But above all, it is incompatible with one of the objectives often put forward by the FTT, which is supposed to curb short-term speculation.

In France, the system provided for a tax not only on daily transfers, but on high-frequency trading as well.¹⁴ However, in practice, the tax was not binding, so much so that tax revenue was nil. Further, the extension of the FTT to intraday transactions has been subject to debate in Parliament year after year. All of these amendments were failures: from lack of support to full rejection, or adoption only to be followed by government intervention and withdrawal a few weeks later; or even censorship by the Constitutional Council for “formal defect” [*vice de forme*]. In December 2016, Parliament finally voted an extension of the FTT to the execution of purchase orders, irrespective of delivery of the security. The taxation of intraday transactions was initially postponed from January 1, 2017 to January 1, 2018; ultimately, the government resulting from the 2017 presidential elections opted to renounce the extension, as much, it seems, to promote the competitiveness of the Paris financial center post-Brexit, as to avoid legal risk.¹⁵

Taxing intraday transactions requires a thorough revision of the tax collect system, which is currently based on the transfer of ownership. With regard to the French FTT, most collections are managed by the central securities depository Euroclear, which centralizes information concerning the balance of purchases and sales at the end of the day.¹⁶ Thus in addition to political opposition, there is a technical obstacle, as well – that of obtaining reliable information on stock market transactions, including high-frequency transactions and/or those carried out on alternative trading platforms. This obstacle is not insurmountable. Any time a new tax is levied, measuring of the base becomes a concern (in a completely different field, see the recent debates on the taxation of bandwidth). This could be a further reason to expand the FTT: it might finally result in reliable, accurate information on the colossal volume of stock market transactions.

An alternative would be to consider a tax on cancelled orders rather than transactions. While the ratio between the number of orders transmitted to the market and the actual number of transactions was stable and slightly above 1 until the early 2000s, it has since then risen sharply to more than 30 today. This obviously raises serious concerns about possible manipulation of stock prices.

4. The FTT: a tricky trade-off

Why tax financial transactions? To raise new tax revenue, or for regulatory purposes? In fact, some hope to achieve both goals simultaneously; this is the idea of the “double dividend,” or “win-win” strategy. But in practice, these objectives are rather contradictory. To truly limit speculation (assuming this is a desirable objective), the rate would have to be much higher than what is in place or expected today. And if this goal were achieved, it would necessarily follow that tax revenues would be low. It is fruitless to pursue more than one objective at once, without also utilizing more than one instrument.

4.1. One FTT, or several?

Whether to contain the growth of the financial markets, to slow the flow of capital, or to combat short-term speculation and market volatility, the FTT must be binding. But this is not the case today. Thus although it is certainly possible to envisage a drastic increase in its rate, this would mean that the effect on financial markets would be uncertain.

Is it such a bad thing that the FTT, either as it is currently implemented or planned to be, has little regulatory attributes? Actually, not really – considering that this lack of effect lends well to the creation of a “conventional” and non-distortive tax.

¹⁴ High-frequency trading (HFT) consists of placing a multitude of orders in fractions of time (orders at the speed of a millisecond) using powerful algorithms and computers. In Europe, HFT would represent almost half of the total amount of transactions and more than two thirds of the number of orders.

¹⁵ In an interview with *Ouest France*, President E. Macron expresses his clear reluctance: “The French tax was voted by the former majority, in a demagogic way with regard to ‘intraday’ transactions, knowing that it was infeasible. When you’re the only one doing it, the trades go elsewhere! No more listed companies in France! At the European level, I said that I will go all the way. I’m not backing down on this. At the same time, there needs to be an articulation with regards to British access to our financial markets in the context of Brexit. Otherwise, if all your companies can go and operate from London, which will engage in fiscal tax dumping, with the same rights as in Paris or Frankfurt, they will all leave. I want the FTT. I want a FTT that applies in a coherent space, that makes sense, and that is effective.”

¹⁶ See also the summary judgement n°82017-1860 of the *Cour des Comptes* which points notably to the lack of administrative controls.

If the goal is to limit financial instability, there are probably other instruments that are more effective to this purpose: regulating high-frequency trading, limiting access to certain markets and/or certain market participants, making the change from a continuous listing system to a fixing system, strengthening financial intermediaries' prudential requirements, combating moral hazard and implicit guarantees offered to "too big to fail" banks, maintaining separation of distinct financial activities, etc. It is also possible to envisage regulating or taxing only certain transactions, such as those deemed the least useful for the proper functioning of the markets.

According to a simple rule of economic policy known as the Tinbergen rule, there must be at least as many policy instruments as there are policy targets. If the goal is at once to collect large-scale funds and fight against certain practices in the financial markets, a single tax is not enough. However, we need not necessarily choose between the two: we could very well consider a global FTT coupled with more targeted taxes, for example on canceled orders, or investments made via technologies that increase the speed at which orders are placed.

4.2. Expanded globally, the FTT could bring in between €162 billion and €405 billion each year

The FTT is a non-negligible source of revenue for many countries: approximately 4 billion pounds for the United Kingdom, more than 7 billion euros for South Korea, Hong Kong, or Taiwan, and 1.5 billion swiss francs for Switzerland. In France, tax revenue is nearly 2 billion euros. How much could an FTT bring in at the level of the euro zone, Europe, or even the world?¹⁷ Of course, these calculated sums will depend on the given input data. In the following scenarios, we will only take shares into consideration (bonds, derivatives, and currency transactions are therefore excluded).

The first scenario considers an FTT concerning only transfers of ownership (like the French FTT or the UK stamp duty), while the second involves an FTT applied to all transactions. For both scenarios we apply two rates: 0.3% (as in France) and 0.5% (as in the UK). We will assume that two-thirds of transactions are intraday, and that if the FTT is extended to intraday transactions, the transaction volume will be halved. Trading volume data is according to Monthly Market Share published by Refinitiv (Thomson-Reuters). The data and results for the world's main financial centers, country by country, are presented in the appendix. These data are approximate as it is difficult today, with the multiplication of exchange venues, to know precisely the amount of transactions.¹⁸ Table 1 summarizes the expected tax revenues if the FTT is extended to the EU27, Europe, the G7, the BRICS, the G20 and the world.

Scenario 1. *If the French FTT is generalized (with a rate of 0.3%), the tax revenue per year would be €17 billion for EU27, €26 billion for Europe, €86 billion for North America, €48 billion for Asia-Pacific. At the global level, the tax revenue could be €162 billion: 66% for the G7, 22% for the BRICS, and 96% for the G20. If the UK stamp duty is generalized (with a rate of 0.5%), the tax revenue per year would be €29 billion for EU27, €44 billion for Europe, €143 billion for North America, €80 billion for Asia-Pacific, with a total of €270 billion at the world level.* The estimates here are conservative and relatively precise, since we only need to input the amount of transactions, the other parameters being well known.

Scenario 2. *If the FTT were extended to intraday transactions, supposing a decrease of 50% of the amount of transactions, tax revenues could rise between €243 and €405 billion per year (for a rate of 0.3% and 0.5%, respectively).* The estimate here is more difficult to predict since we do not know what the effect of a tax on the volume of high-frequency trading would be.

Table 1. Estimated tax revenue from FTT

This table shows the expected tax revenues from FTT, at the global level. All figures are in billions of euros. Transaction volumes are estimates based on Refinitiv data for 2022. We consider two bases (only daily transfers - like the stamp duty - or all transactions) and two nominal rates (0.3% or 0.5%). For the calculation of the effective rate, we assume that two thirds of the transactions are intraday and that the extension of the FTT to intraday transactions will lead to a 50% decrease in volumes.

¹⁷ There are many estimates of the potential revenue from the FTT, which of course depends very much on the assumed type of tax, exemptions, and the reaction of investors (measured by the parameter of volume elasticity to the tax). At EU27 level, the Commission initially estimated tax revenue at €57 billion, two-thirds coming from the taxation of derivatives. If we limit ourselves to the member countries of enhanced cooperation (EU11), the revenue would be around 30 to 35 billion euros, or the equivalent of around 0.5% of the GDP of the countries concerned. For the United States, the think tank CEPR estimated in 2009 that tax revenues could rise from 177 to 354 billion dollars. Finally, according to the summary report published by the *Institute of Development Studies*, on a global scale, for a tax on all spot or futures financial markets, revenues could amount to more than 1,000 billion dollars.

¹⁸ According to ESMA, in the EU27 for instance, there are 116 regulated markets (RMs), 144 multilateral trading facilities (MTFs), 29 organised trading facilities (OTFs), 179 systematic internalisers (SIs), 15 approved publication arrangements (APAs) et 19 approved reporting mechanisms (ARMs).

Scenario	Stamp duty		TFF extended to intraday	
	0.3%	0.5%	0.3%	0.5%
Nominal rate	0.3%	0.5%	0.3%	0.5%
Effective rate	0.100%	0.166%	0.3%	0.5%
<i>Transactions (billion €) - Source: Refinitiv (Monthly Market Share) for 2022</i>				
North America	86,000		43,000	
Europe	26,000		13,000	
EU27	17,000		8,500	
Japan	7,000		3,500	
Asia-Pacific	48,000		24,000	
G7	107,000		53,500	
BRICS	35,000		17,500	
G20	156,000		78,000	
World	162,000		81,000	
<i>Estimated tax revenues (mds €)</i>				
North America	86	143	128	214
Europe	26	44	40	66
EU27	17	29	26	43
Japan	7	12	10	17
Asia-Pacific	48	80	72	120
G7	107	178	160	266
BRICS	35	58	52	87
G20	156	260	234	390
World	162	270	243	405

5. Conclusion

The proposal to tax financial transactions, even while appealing to a large part of the public, has also been considered iconoclastic. It has been rejected by most experts, who think such an initiative would be impossible to implement. And if it were possible, or so it is feared, the increase in transaction costs would reduce liquidity and increase market volatility. The successive financial crisis changed the situation. While the hurdles to overcome are certainly substantial, and the proposals controversial, the debate is now clearly underway.

Discussions around the FTT invariably focus on its impact. Some hope to reduce market instability by discouraging speculation, while others oppose it, fearing an increase in volatility due to lack of liquidity. Empirical studies prove both

the former and the latter wrong. As practiced today, the FTT has very little impact on the markets. It is neither the apocalypse feared by some, nor the panacea hoped for by others.

The FTT is an advantageous, modern, and efficient tax. It is not a question of punishing either the bankers or the markets. A tax with a broad base and a low rate does not generate distortions, brings in high revenues at a low collection cost and has a strong redistributive effect. The UK stamp duty extended to G20 countries would bring in around 200 billion euros a year – about two-thirds would be financed by the G7 countries, a quarter by the emerging countries. This money could be used to finance development and the fight against climate change. It is also possible to extend the FTT to derivatives and intraday transactions; the revenue collected would be all the higher for it. This would certainly require making changes to the collection system, but such a move would promote transparency in the financial markets.

Two options are on the table. We have on the one hand an ambitious project, applicable to all instruments, including the most speculative and/or short-term operations; on the other hand, we have a generalization of existing systems to a large number of countries. This second option is certainly more modest, but it has the greater chance of arousing the support of numerous European (but not only) countries. This is the apparent project of President Emmanuel Macron as per his speech on September 26, 2017: *“There are two countries in Europe that have an FTT, the UK and France. I propose that all 28 countries adopt one or the other.”* This integration would be a significant step towards the possibility of a more ambitious mechanism in the not-so-distant future.

The FTT is a strong symbol and, fiscally speaking, it's far from trivial. The willingness-to-pay taxes is one of the bases of democracy. At the European level, if the European Commission's project was (finally) approved, it would be a significant breakthrough in international tax cooperation. From the beginning, France has been one of the main architects of the European FTT project. It is a project that has been carefully elaborated to avoid major pitfalls, and recent experiences inspire an optimistic outlook. This is an opportunity to affirm at once its desire to reform the financial sector, and its commitment to international collaboration.

Main financial transaction tax schemes

Tax systems vary greatly from one country to another and make comparisons particularly difficult, notably because of the many exemptions. The information provided below should therefore be interpreted with caution.

Europe

- **United Kingdom:** Created in 1694, stamp duty is the oldest tax still in force in the United Kingdom. The system mainly concerns shares purchased by electronic means (Stamp Duty Reserve Tax, SDRT), regardless of the nationality or residence of the counterparties. The rate is 0.5% for tax revenues of over £4 billion per year, or 0.5% of total tax revenues.
- **France:** The French FTT was introduced in 2012, but a tax on stock market transactions existed between 1893 and 2018. Shares of companies headquartered in France with a market capitalization of more than €1 billion are taxed. The rate is 0.3%, but the tax only applies to transfers of ownership, which excludes intraday transactions. In addition, there is a tax on canceled stock market orders, but only for financial intermediaries operating in France. 1,891 million in 2022, or about 0.4% of total tax revenues.
- **Switzerland:** The Swiss stamp duty (Umsatzabgabe) was introduced in 1918 and reformed in 1973. It applies to the transfer of ownership of securities for valuable consideration by an authorized Swiss financial intermediary, the "securities dealer". The rates are 0.15% for Swiss securities and 0.3% for foreign securities. This tax brings in approximately 1.5 billion Swiss francs per year, or 0.8% of total tax revenues.
- **Italy:** The Italian FTT was introduced in 2013, modeled on the French FTT. However, a tax existed until 1998. The tax is on the shares of Italian companies with a capitalization of more than 500 million. The rate is 0.1% for trades made on regulated markets and 0.2% otherwise. There is also a 0.02% tax on high-frequency trading and a tax on derivatives. The tax brings in €500 million per year, or about 0.5% of total tax revenues.
- **Spain:** The Spanish FTT was introduced in 2021; however, an FTT existed until 1988. It is close to the British, French or Italian model.
- **Belgium:** A tax on stock exchange transactions (TOB) has existed since 1913. The FTT was reformed in 2017 to include transactions by non-resident financial intermediaries. The rate is 0.35% for stocks, and 0.12% for bonds.
- **Ireland:** Created in 1937 on the model of the British stamp duty. Its rate is 1% and tax revenues are around EUR 500 million per year, or about 0.5% of total tax revenues.

Asia

- **China:** Share transactions for Chinese A-shares are taxed at a rate of 0.1%. The tax brings in nearly 180 billion yuan a year, or almost 1% of total tax revenue.
- **South Korea:** The FTT imposes a rate of 0.15% on equity transactions on the Korea Stock Exchange, 0.3% on Kosdaq or Konex, and 0.5% on OTC transactions.
- **Hong Kong:** An FTT exists for equity transactions at a rate of 0.1%. 7 billion per year, or about 18% of total tax revenue.
- **Taiwan:** The FTT imposes a rate of 0.15% on equity transactions and 0.1 for bonds. There is also a tax on derivatives. 7 billion per year, or 10% of total tax revenues.
- **India:** An FTT was introduced in 2004 with a broad base. The rate is 0.1% on equities, 0.025% on intraday transactions, 0.01% on futures, 0.05% on options and 0.0001% on mutual fund shares.
- **Singapore:** An FTT, in the form of a stamp duty, is levied on equity transactions at a rate of 0.2%. The revenue is about 1% of total tax revenue.
- **Malaysia:** An FTT, in the form of a stamp duty, is levied on share transactions of large Malaysian companies at a rate of 0.3%.
- **Pakistan:** The FTT, in the form of a stamp duty, dates back to 1899.

Rest of the world

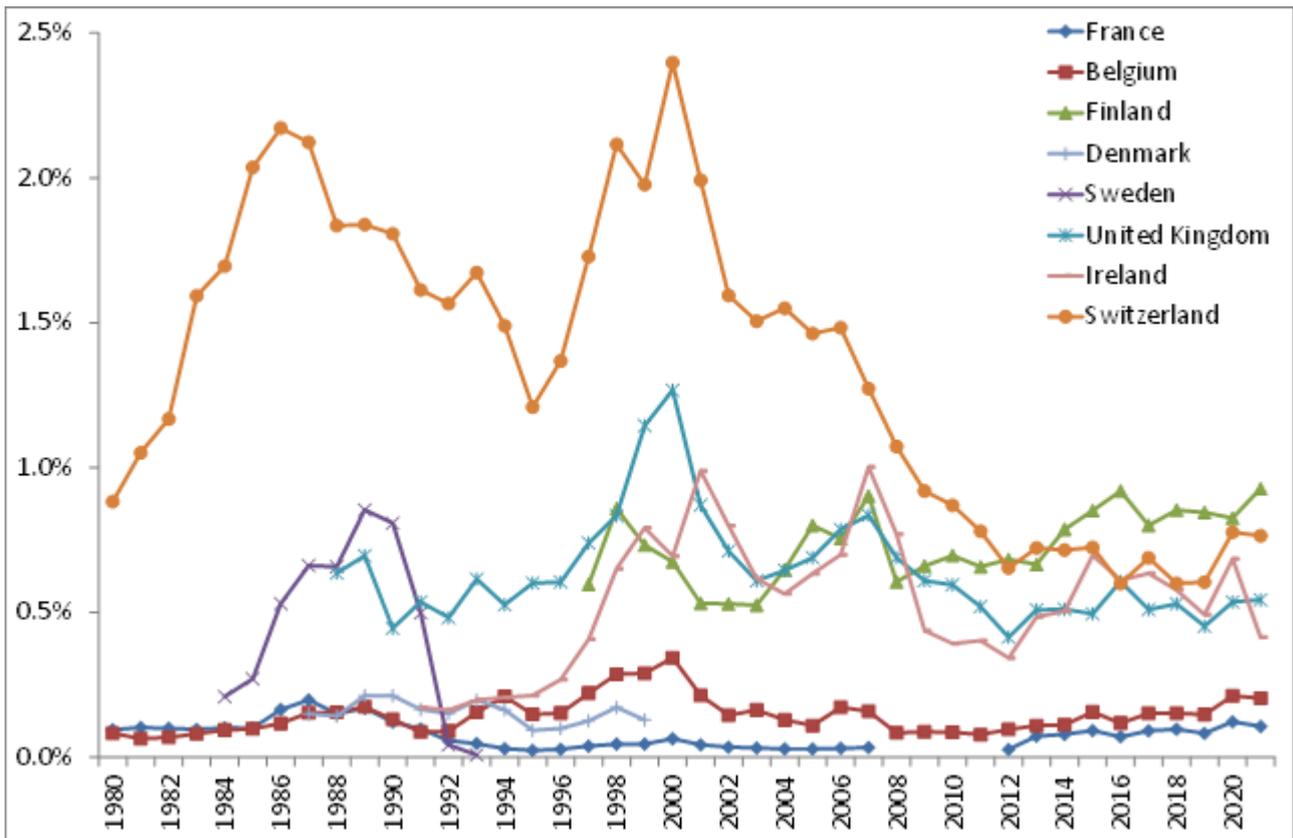
- **South Africa:** Since 2007, the FTT is 0.25% on equity transactions.
- **Brazil:** Created in 2007 (*Imposto sobre Operacoes Financeiras*, IOF) following the Provisional Contribution on Financial Transactions. It is levied on securities transactions at a rate of 1.5%. In theory, the base is very broad: shares, debt securities, foreign exchange, derivatives.

Other measures (abolished or planned)

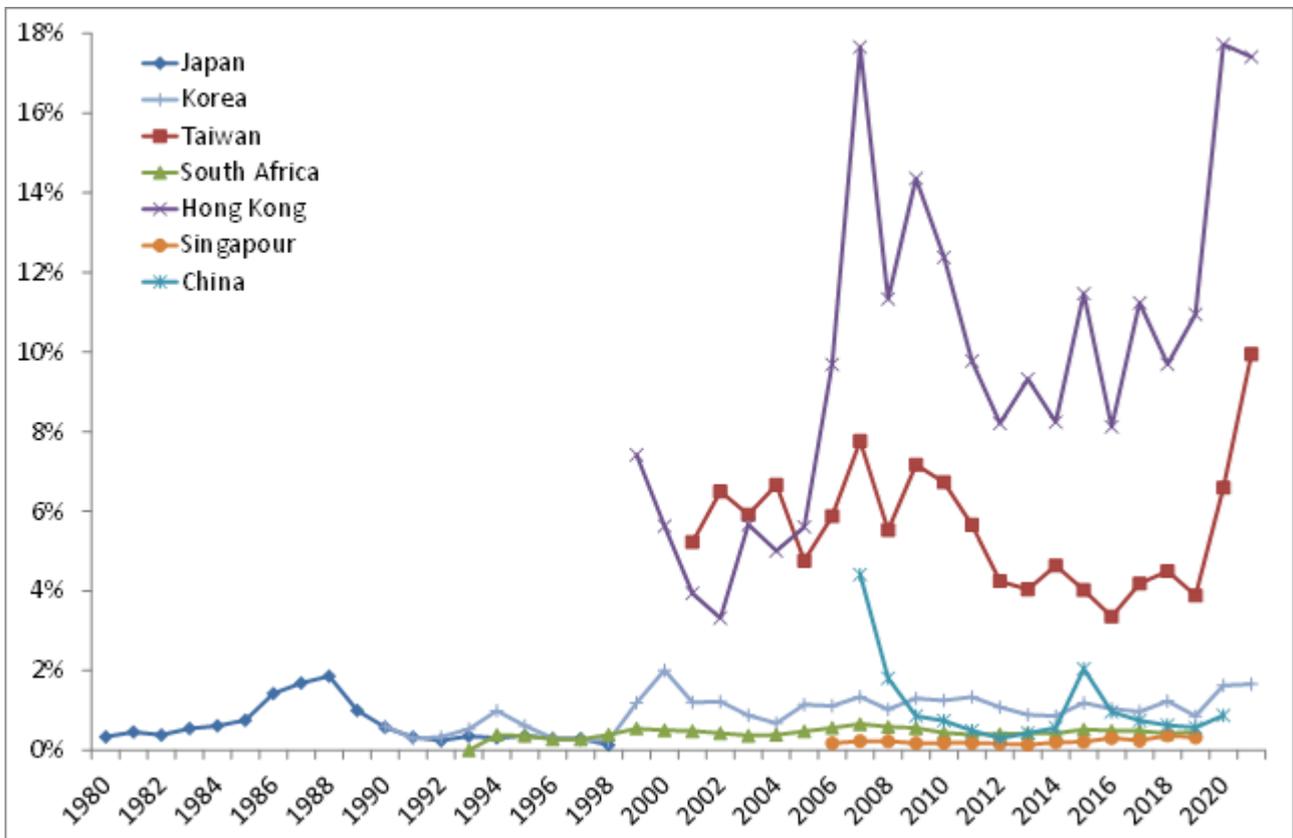
- **United States:** The FTT was introduced in the United States from at least the beginning of the 20th century, at the federal level and for certain states. The federal tax was abolished in 1966 and that of New York in 1981. However, there is still a micro-tax on stock transactions created in 1934 for the benefit of the SEC. In 2023, the tax is \$8 for a \$1 million transaction (previously \$22.9).
- **Sweden:** An FTT existed in Sweden between 1984 and 1991. This tax covered shares and debt securities. In contrast to the British stamp duty, this FTT only applied to transactions carried out by Swedish intermediaries, and caused a flight of activity to London.
- **Europe:** The European Commission proposed an FTT in 2013 as part of an enhanced cooperation procedure with 10 eurozone countries. The tax was to cover equities, debt securities and derivatives.
- **Germany:** FTT abolished in 1991.
- **Austria:** FTT abolished in 2000.
- **Denmark:** FTT abolished in 1999.
- **Norway:** FTT abolished in 1993.
- **Netherlands:** FTT abolished in 1990.
- **Japan:** FTT abolished in 1998.

Figure 5: FTT tax revenues since 1980

A. Europe



B. Asia



Sources: OECD and national statistics.

Table 2. Estimated tax revenue for TTF, country-by-country

This table shows the expected tax revenues for FTT at the global level, by country. All figures are in billions of euros. The first and second columns show, respectively, the trading volume on regulated markets (Lit-On book) and the total volume across all platforms, as reported by Refinitiv for 2022. The following columns present the tax revenue estimates. We consider two bases (only daily transactions - like the stamp duty - or all transactions) and two nominal rates (0.3% or 0.5%). We assume that two thirds of transactions are intraday and that the extension of the FTT to intraday will lead to a 50% decrease in volumes.

	Volume of transactions		Stamp duty		TTF extended to intraday	
	Lit	All	0.3%	0.5%	0.3%	0.5%
Europe	8,206	26,344	26.3	43.9	39.5	65.9
UE27	5,071	17,268	17.3	28.8	25.9	43.2
France	1,057	4,300	4.3	7.2	6.4	10.7
Germany	1,168	4,018	4.0	6.7	6.0	10.0
Austria, Belgium, Luxembourg, Netherlands	991	3,286	3.3	5.5	4.9	8.2
Denmark, Finland, Sweden	879	2,828	2.8	4.7	4.2	7.1
Italy, Spain, Portugal, Greece	803	2,221	1.4	2.3	2.1	3.4
Other UE	173	614	0.6	1.0	0.9	1.5
UK	1,165	4,886	4.9	8.1	7.3	12.2
Switzerland	676	2,193	2.2	3.7	3.3	5.5
Turkey	949	986	1.0	1.6	1.5	2.5
Russia	185	468	0.5	0.8	0.7	1.2
Other Europe	160	544	2.0	3.3	3.0	5.0
North America		85,496	85.5	142.5	128.2	213.7
USA		80,931	80.9	134.9	121.4	202.3
Canada		4,566	4.6	7.6	6.8	11.4
Africa, Latin America, Middle-East	1,943	2,151	2.2	3.6	3.2	5.4
Brazil	1,102	1,205	1.2	2.0	1.8	3.0
India	412	415	0.4	0.7	0.6	1.0
South Africa	158	241	0.2	0.4	0.4	0.6
Saudi Arabia	194	194	0.2	0.3	0.3	0.5
Mexico	74	93	0.1	0.2	0.1	0.2
Argentina	3	3	0.0	0.0	0.0	0.0

Asia-Pacific	45,476	47,982	48.0	80.0	72.0	120.0
China	32,227	32,311	32.3	53.9	48.5	80.8
Japan	5,302	6,933	6.9	11.6	10.4	17.3
Korea	3,868	4,095	4.1	6.8	6.1	10.2
Taiwan	2,064	2,223	2.2	3.7	3.3	5.6
Australia		1,000	1.0	1.7	1.5	2.5
Hong Kong	370	442	0.4	0.7	0.7	1.1
Indonesia	194	232	0.2	0.4	0.3	0.6
Singapore	12	15	0.0	0.0	0.0	0.0
World		161,974	162.0	270.0	243.0	404.9
G7		106,480	106.5	177.5	159.7	266.2
BRICS		34,640	34.6	57.7	52.0	86.6
G20		155,825	155.8	259.7	233.7	389.6
Other countries		6,149	6.1	10.2	9.2	15.4

Source : Refinitiv (Monthly Market Share) data for trading volumes (2022), except for Australia. Data is for the "ordinary" asset class only; filtered by country/region of domicile; all venues (On Book - Lit & LIS, Auction, Dark RFPT, Periodic Auctions, On Exchange Immediate & Non Immediate, On Exchange NTW Immediate & Non Immediate, On Exchange LIS Deferred, On Exchange NPFT/TNCP, OTC Immediate & Non Immediate, OTC LIS Deferred, OTC NPFT/TNCP, SI Immediate & Non Immediate, SI LIS Deferred, SI NPFT/TNCP), domestic or foreign ("country/region of venue"), are considered. Calculations: author.