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The European Union Financial Transaction Tax

Feasibility and Desirability

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Abstract

The roots of a Financial Transaction Tax date back to 1936. At that time, Keynes stated that the implementation of an internationally agreed uniform tax over financial transactions could be a solution to control the volatility of financial markets, an idea that was later developed in the 70's by James Tobin (1972; 1974). Taking into consideration the arguments in favour and against such tax, the European Commission decided to propose the implementation of a common Financial Transaction Tax in the European Union.

The main goals of this thesis are to examine the feasibility and desirability of that proposal. In addition, this essay intends to understand which would be the main implications for the European financial sector and how it would react. In order to do so, this dissertation synthesizes and interprets the main arguments in favour and against the proposal present in the economic literature.

The results of this study, based on the information available, point out that not only the proposal seems unfeasible and undesirable, but also that European financial institutions would be able to avoid taxation, a situation that would probably generate negative distortions in financial markets. Moreover, this essay also concludes that are other taxation mechanisms - namely the Financial Activities Tax - that better address European Commission's desires with the measure.

Keywords: Financial Transaction Tax; European Commission; European financial sector; European Union

Resumo

As raízes de um imposto sobre as transacções financeiras remontam a 1936. Nesse ano, Keynes referiu que a implementação de um imposto comum sobre as transacções financeiras a nível internacional poderia ser uma solução para controlar a volatilidade nos mercados financeiros, uma ideia que foi mais tarde desenvolvida por James Tobin (1972; 1974). Tomando em consideração os argumentos a favor e contra tal imposto, a Comissão Europeia decidiu propor a implementação de um imposto comum sobre as transacções financeiras na União Europeia.

Os principais objectivos desta tese passam por examinar a plausibilidade e a desejabilidade da proposta Europeia. Adicionalmente, este ensaio pretende perceber quais seriam as principais implicações para o sector financeiro Europeu e de que forma este reagiria. Para este efeito, esta dissertação sintetiza e interpreta os principais argumentos a favor e contra a proposta presentes na literatura económica.

Os resultados deste estudo, com base na informação disponível, apontam não apenas que a proposta parece inviável e indesejável, mas também que as instituições financeiras Europeias seriam capazes de evitar a tributação, uma situação que provavelmente geraria distorções negativas nos mercados financeiros. Além disso, este ensaio conclui que existem outros mecanismos de tributação – nomeadamente um imposto sobre as actividades do sector financeiro – que vão mais ao encontro dos objectivos da Comissão Europeia com a medida.

Palavras-chave: imposto sobre as transacções financeiras; Comissão Europeia; sector financeiro Europeu; União Europeia

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List of Abbreviations

AMAFI – Association Française de Marchés Financiers

CDS – Credit Default Swap

CTT – Currency Transaction Tax

EC – European Commission

ECB – European Central Bank

ECOFIN – Economic and Financial Affairs Council

EMU – Economic and Monetary Union

EU – European Union

FAT – Financial Activities Tax

FDI – Foreign Direct Investment

FTT – Financial Transaction Tax

GATT – General Agreement on Tariffs and Trade

GDP – Gross Domestic Product

IIF – Institute of International Finance

IMF – International Monetary Fund

PwC – PricewaterhouseCoopers

SME – Small and Medium Enterprises

TFEU – Treaty of the Functioning of the European Union

UK – United Kingdom

US – United States

VAT – Value Added Tax

Introduction

The discussion concerning a Financial Transaction Tax (FTT) – an internationally agreed uniform tax over financial transactions - and its likely impacts started 70 years ago. At that time, Keynes (1936) mentioned that it could be used to reduce speculative activities and to reflect long-run expectations in financial markets, an idea that was later reinforced by James Tobin, even though his proposal was only addressed to spot currency transactions (Tobin, 1972; 1974). In fact, Tobin's proposal was later named Tobin Tax, an expression that is often misused as a synonym of a FTT.

These initial approaches triggered an intense discussion regarding both feasibility and desirability of a general FTT. Indeed, this subject has been discussed by some of the most renowned authors in the economic literature, such as Eichengreen, Friedman and Stiglitz among many others, which reveals the scientific relevance of the theme. In addition, this topic is extremely relevant from a managerial point of view, since the institution of a FTT will necessarily have an impact on the different features of capital markets, a situation that will ultimately affect the way firms and countries operate.

Therefore, the discussion about the implementation of a common FTT within the European Union (EU) area is of unquestionable relevance. The main goals of this dissertation are to assess the feasibility and desirability of the European Commission's proposal for a common FTT. In addition, it also focuses on the main implications of the measure for the financial sector – the main target of the proposal – and studies how it would react. In other words, this scientific work

aims to join the debate regarding the implementation of a common FTT in the EU area by giving an overview of the main arguments about the subject, paying special attention to those concerned with the impacts on financial institutions. In the end, the questions that must be answered are the following: Is the European FTT desirable? Are the European Commission's objectives feasible? Which would be the main implications for financial institutions and how would they react? In order to answer these questions, this scientific work will be based on the literature review concerning the main arguments in favour and against a general FTT and, more particularly, the European proposal.

The first chapter of this dissertation is devoted to the analysis of the main arguments in favour and against a general FTT and may be seen as an introduction to the pros and cons of a potential European FTT. Moreover, this section not only attests the scientific relevance of the theme, but also allows a better understanding of the foundations of the European proposal for a FTT. Afterwards, the second section presents empirical evidence regarding the implementation of a FTT. Nonetheless, this section shows that it is very difficult to predict the outcome from the application of any sort of FTT, proving that it is mandatory to study the peculiarities surrounding the European proposal for a FTT in depth. In addition to this, the countries presented in this part – Chile, Sweden, United Kingdom (UK), and France - implemented their taxes unilaterally, which makes these cases necessarily different from a potential European FTT.

The discussion in the economic literature about the pros and cons of a FTT, together with the empirical results of the different national FTTs provide the basis for the European Commission's proposal. Therefore, the third chapter of this dissertation presents the main features of the current proposal, such as its objectives, its main target, its scope and the principles that would govern taxation. Indeed, it is observable that some of the different features of the tax were designed in order to overcome some of the disadvantages that are

typically associated to the implementation of a FTT. Nevertheless, there are many European countries, especially those that depend more heavily on the activities of the financial sector such as the UK, that are definitely against the tax, making the discussion about the application of a common FTT one of the most intense discussion topics in the heart of the EU.

In this context, the fourth section looks at the debate about the design of the European proposal. In other words, this part intends to highlight the main arguments in favour and against the proposal, especially in what concerns to its desirability and feasibility. Moreover, it will analyse which would be the main implications of the measure for the European financial sector, how would it react and which would be the consequences coming from that reaction. Finally, the last chapter examines if there are better alternatives to the FTT in order to achieve the European Commission's main goals, giving particular emphasis to the Financial Activities Tax (FAT).

Chapter 1

The Theoretical Background Behind the European Proposal

The roots of a FTT date back to 1936. John Maynard Keynes (1936) was the first to mention that the establishment of a FTT could work as a useful tool in preventing speculators' guesses about short-run behaviour of other speculators, helping to reduce financial volatility, although the final result would ultimately depend on speculators' horizons. According to Keynes, this measure would make returns to be determined by rational expectations, instead of speculation.

Following Keynes reasoning, James Tobin (1972) suggested to establish an internationally agreed uniform ad valorem tax (e.g. 0.1%) on all spot currency transactions. Tobin's idea of taxing spot currency transactions was then put down on paper (Tobin, 1974) and, later, was named "Tobin Tax". The author had two main goals on his mind at that time: give more autonomy to national governments when carrying out fiscal and monetary policies and to make exchange rates less vulnerable to short-run actions and speculative movements as well as to reflect long-run expectations (Tobin, 1996). In particular, James Tobin (1978) refers that in a world that is increasingly more characterized by low transaction costs, as well as cheaper and better communication systems, there is a need to "throw some sand in the wheels of excessively efficient money markets", since under these circumstances there is much room for speculation. Tobin's proposal is still the starting point for all FTT suggestions made nowadays, even though currency control is not the main target in most cases.

Milton Friedman (1953) was the first to raise his voice against such measure to reduce speculation and excess volatility. In fact, the author argues that there is no reason for introducing a FTT to achieve those goals because the market is very volatile and risky by nature, making investors unwilling to speculate because the potential losses may be very high. In addition, according to Friedman, there is no way that a state intervention can be positive since a “pure market”, that is, a market where supply and demand curves work without any kind of intervention, is the only structure that can determine securities’ true value, even in the long-run (Frankel, 1996). However, Walmsley (1988) argues that Friedman’s vision concerning speculation is not valid anymore since the way financial markets work as well as its structure changed dramatically since 1953. In particular, Walmsley mentions that financial systems’ functioning nowadays depend on high-technology platforms, which entail very high fixed costs. Therefore, there is a need for high turnovers, which are only possible with the existence of speculation.

Nevertheless, it is necessary to distinguish two different types of volatility when discussing the impacts of a FTT on financial markets: fundamental volatility and excess volatility (Hakkio, 1994). Fundamental volatility must not be affected because it is absolutely fundamental in order to incorporate the effect of new information on asset prices. On the other hand, excess volatility refers to irrational and speculative movements, which have nothing to do with rational expectations and investment principles.

Typically, those irrational and speculative movements are usually related with very short-term transactions and are commonly known as “noise trading” (Shome, 2011). As expected, supporters of the tax believe that there is excess volatility on financial markets and that “noise trading” is harmful. Therefore, these activities must be discouraged since they can destabilize financial markets (DeLong, Schleifer, Summers, & Waldmann, 1990). However, a FTT also penalizes investors that base their decisions on long-term fundamentals due to

the stock price decline that is empirically related with the implementation of a FTT (Matheson, 2011). In turn, opponents of the tax are not so convinced that “noise trading” should be curbed. An empirical study conducted by French and Roll (1986) dismantles the idea that “noise trading” must be blamed for excess volatility. This study states that volatility is caused by 3 distinct factors: public information that is released to the market, investors who have access to insider information and, finally, trading activity itself – the latter would be the one affected by a FTT because of transaction costs increase. Indeed, after studying the behaviour of the New York Stock Exchange between 1963 and 1982, the authors conclude that trading activity by itself only explains 12% of total market volatility.

The debate about the usefulness of “noise trading” is, indeed, a very important point on the discussion about the potential advantages and disadvantages of a FTT. On one hand, proponents of the tax believe that the existence of “noise trading” makes financial information and technical analysis useless when determining securities’ prices (Stiglitz, 1989). Therefore, the creation of a FTT, by discouraging speculative movements, may reverse this situation, fostering price stability. Secondly, supporters of the tax argue that if “noise trading” is suppressed, companies’ CEOs will focus more on long-term results and on taking truly strategic decisions, rather than on short-term results as it happens in many companies nowadays (Schwert & Seguin, 1993).

On the other hand, opponents of the tax have a different view of the problem. In particular, these economists claim that “noise traders” are needed to give liquidity to financial markets. In other words, “noise traders” and investors who base their decisions on economic fundamentals may complement each other since “noise traders” allow “rational investors” to close their positions (Ross, 1989).

Whenever market volatility is discussed in the literature, the subject of speculative bubbles is a mandatory discussion topic. The advocates of a FTT

frequently use speculative bubbles to counter Friedman's original argument that the way markets operate would be enough to put speculative movements apart (Friedman, 1953). More precisely, proponents of the tax say that speculative bubbles prove that it is possible to destabilize markets, without having losses associated to that behaviour. Nevertheless, opponents of the tax note that is not by increasing transaction costs (e.g. via FTT) that the creation of bubbles is avoided. In fact, some economists contend that many times bubbles and market volatility are often linked with lack of liquidity, so increasing transaction costs will reduce short-term movements even more, worsening the problem (Summers & Summers, 1989).

Proponents of the tax do not agree with the perspective presented above and remember that the outstanding development of communication systems over the last couple of years led to a sharp increase of short-term trading, which is highly speculative, increasing the probability of bubbles. Therefore, a transaction costs increase – via FTT, for example -, may help to reduce volatility and misleading prices (Schulmeister, Schratzenstaller, & Picek, 2008). In addition, advocates of the tax also base their argument on speculators' reasoning. Their goal is to close their positions rapidly, before the bubble "bursts"; otherwise they will suffer large losses. Therefore, if a FTT is introduced, there will be less incentives for bubble creation because each transaction will now be taxed, creating restrictions to free capital movements. As a result, the amount of short-term transactions will be reduced, making speculators' positions harder to close (Eichengreen & Wyplosz, 1996). In summary, proponents of the tax argue that a FTT, by making short-term transactions more expensive than long-term transactions, allows reducing both short-term and long-term volatility (Palley, 2003).

The latter argument presented by Eichengreen and Wyplosz (1996) is implicitly suggesting that the neoclassical economics postulate that free capital movement is fundamental for an efficient allocation of resources between

individuals who have an excess of capital and those who need it, allowing to reach a Pareto optimal, is not so consensual. In other words, opponents of the tax remain faithful to this neoclassical statement, while proponents are not so sure. In particular, proponents of the tax argue that not only investment and economic growth levels are far from what was expected, but also that too many resources - human and financial - are being used on financial and capital markets. So, the institution of a FTT could diminish the attractiveness of these markets, shifting resources to truly important sectors for economic development (Baker, Pollin, & Schaberg, 1994). Besides that, free capital movements, by being directly interrelated with volatility, together with information asymmetry play a very important role on investors' decisions, especially for the less informed ones. In fact, investors usually follow trends, leading to an atmosphere of excessive optimism or pessimism in capital markets, even though this behaviour is not necessarily linked with economic rationality. However, just a rumour can be enough to completely reverse the trend, producing very harmful impacts on the economies, especially on emergent markets (Eichengreen, 1990).

The last paragraph explains James Tobin's (1996) point on suggesting a small ad valorem tax on all spot currency transactions in order to give more autonomy to national governments when implementing fiscal and monetary policies. Furthermore, the same author also thinks that too many resources are being spent on financial markets, especially on stock markets. In particular, the author argues that is important to distinguish transaction efficiency of transaction volume and variety. By "throwing sand in the wheels of too much efficient markets", short-term capital movements would be a lot more discouraged than long-term investments and, consequently, financial markets would be able to accomplish their purpose: allocating families' savings to finance companies' investments, instead of only promoting transaction volume and variety as it happens nowadays (Tobin, 1984). Stiglitz and Weiss (1988)

share Tobin's opinion that speculative movements together with the rapid technology development make market efficiency costs outweigh the benefits. By imposing barriers to speculative movements and, to a certain extent, to financial innovations (e.g. via FTT), it may be possible to make everyone better off.

Regarding the issue of financial innovation and transaction variety, it is also mandatory to mention the financial instability hypothesis (Minsky, 1992). According to this theory, financial institutions are always looking forward to innovate in order to make profit and to perform its financing activities efficiently. Concerning the relationship between firms and debt, the author states that during periods of economic prosperity, firms gradually transit from a situation where cash-flows are able to pay all the obligations present in their financing contracts – principle and interest – to a situation where cash-flows are no longer able to fulfil those commitments, that is, to a situation where they are forced to contract new loans or to sell assets. Indeed, Minsky refers that this change has destabilizing effects and might lead to variations – inflation and deflation pressures - that even governments are not capable to control. Following this reasoning, the imposition of a FTT may discourage financial innovation, which in turn may mitigate this deviation system. As a matter of fact, the last economic crisis has proven that dangerous imbalances may be created under a period of apparent macroeconomic stability, a situation that triggered the interest on specific macroprudential instruments, as we will see further on this work (Blanchard, Dell' Ariccia, & Mauro, 2013).

The previous paragraphs show that the imposition of a FTT will necessarily impact several different features of capital markets, such as asset pricing, transaction volume and liquidity. Regarding asset pricing, the fiercest opponents base their argument on the efficient market hypothesis. This hypothesis states that in an efficient market, that is, a market that adjusts almost immediately to new information (Fama, Fisher, Jensen, & Roll, 1969) and prices

reflect all information accessible to investors (Fama, 1970), the price of an asset will always reflect its fundamental value (Fama, 1965).

However, according to FTT supporters, the efficient market hypothesis is not verified in practice since the assumption that all agents are rational and base their decisions on economic fundamentals is not necessarily true. In fact, there are speculative traders, who invest following a different reasoning, making asset prices to diverge from its fundamental values. Concretely, speculative activity produces distortions in the information that is incorporated into prices, making asset prices to deviate from its true value (Summers & Summers, 1989). According to Stiglitz (1989), a “fool is born every moment”, meaning that some investors will continue to try to beat the market by using their own rules.

Nonetheless, since capital markets’ main features are very interrelated, both transaction volume and liquidity will also be affected. Indeed, most opponents of the tax agree that such a tax may affect both asset prices and transaction volume. That happens due to the increase of the “bid-ask spread” in financial markets when a FTT is implemented: buyers will be willing to pay less for the same security, since transaction costs will increase and sellers, on their turn, will now demand more for the same security (Shome, 2011). In other words, higher transaction costs will lead to lower asset prices because investors will now require higher returns and, therefore, asset prices go down (Kupiec, 1996). If this is true, liquidity will be lower, slowing not only the process of incorporating the effect of new information in financial markets (Frino & West, 2003), but also transaction volume, even though the final impact on transaction volume will ultimately depend on the type of security and its market elasticity: more elastic markets will suffer more from a FTT than inelastic ones (Garber, 1996).

Following the reasoning presented above, it becomes obvious that the greatest distortions will occur in securities with shorter maturities because they are traded more often and, consequently, their required return would increase

dramatically, situation that can condemn them to their disappearance (Grundfest & Shoven, 1991). Nevertheless, this situation may not be necessarily negative. Krugman (2009) mentions that one of the reasons that led to public intervention in the financial system after the outbreak of the last economic crisis, was precisely the overdependence of financial institutions on very short-term financing sources. Therefore, the introduction of a FTT would discourage this kind of activities, making the financial system not only less reliant on very short-term financing mechanisms, but also more prepared to deal with future crisis.

The discussion suggests that the institution of a FTT will definitely affect investors' required return, which means that a Tobin Tax will definitely have an impact on a firm's cost of capital. In fact, this is one of the main discussion topics regarding the introduction of a FTT. Following the logic above, economists against the tax argue that if stock prices fall due to the implementation of a FTT, that means that raising capital through the issuance of stock becomes more difficult, meaning that the cost of capital increases (Hakkio, 1994). Furthermore, the quantity of projects that is worth such a high cost of capital will decrease, suppressing production and investment levels (Schwert & Seguin, 1993), which ultimately can damage a country's Gross Domestic Product (GDP) growth. As one might expect, this situation may be particularly relevant for emerging economies, especially those that are still developing their financial markets (Kirilenko & Summers, 2003).

On the other hand, proponents of the tax have a very different view regarding the impact on a company's cost of capital. Firstly, they defend that a firm's cost of capital will not necessarily increase because of a FTT. In fact, economists in favour of the tax believe that since it moderates volatility, risk will be significantly reduced, leading to a lower cost of capital. Therefore, investment's "risk premium" will go down, raising capital on stock market becomes easier for companies and investment goes up (Hakkio, 1994).

Secondly, Matheson (2011) does not deny that raising capital on the stock market would be harder, but the author also mentions that on thinly traded securities the impact would be insignificant, pointing the bond market as an example. Finally, some authors contend that the impact of a FTT on the cost of capital is positive. The reasoning is on the revenue potential of the tax. If tax revenues are used to reduce deficit, the capital that was formerly invested on government debt can then be used to invest on companies' securities, thereby alleviating pressure on the companies' cost of capital (Kiefer, 1990).

The argument developed by Kiefer (1990) explicitly shows one of FTT's most tempting features for national government nowadays: the potential to generate revenue. In reality, by analysing capital markets' transaction volume, it becomes easy to conclude that this revenue opportunity is real. Moreover, the administrative costs of managing a FTT appear to be relatively low, even though they ultimately depend on the scope of the FTT to be implemented. Specifically, more general FTT - such as those covering derivatives and over-the-counter transactions - entail higher administrative costs when compared with more specific ones (Burman, Gale, Gault, Kim, Nunns, & Rosenthal, 2015).

This FTT's ability was soon recognized by Tobin (1978), although this has never been one of the main drivers behind his proposal (Tobin, 1996). Nevertheless, in a context of more and more liberalized markets, an additional source of revenue can work as an instrument to recover some of the authority and independence lost by national governments over the last couple of years. Obviously, if tax revenues revert to national governments and are collected locally, countries with more developed financial markets will collect more money from the tax than less developed ones.

Kenen (1996) remembers that although this revenue incentive is real and acceptable, it shall not affect transaction volume on financial markets. Indeed, and from a public finance perspective, there are two main reasons for introducing a tax, which are not mutually exclusive: to raise revenue and to

discourage activities that produce negative externalities. In the case of a FTT, many authors do agree that it could reduce some of the harmful transactions that are currently taking place in the financial system, thus reducing its systematic risk as well as its negative externalities. On the other hand, these authors state that the revenue argument by itself is not particularly strong, mentioning that there are better mechanisms to collect revenue if that is the goal (Darvas & Von Weizsäcker, 2010).

The potential revenue obtained through the application of a FTT can be used to promote the development of projects at both international and national level. At an international level, it might be used not only to assure the provision and preservation of public goods, but also to finance development projects on less industrialized economies, promoting economic growth and fostering more investment at a global scale, even though competition between countries may also be fiercer as a result. However, if that is the goal, the prisoner's dilemma must be taken into consideration: every country wants to benefit from public goods, but no one wants to pay for them. In other words, every country is going to wait for other countries to pay (Kaul & Langmore, 1996). Finally, the introduction of a FTT could allow reducing other taxation mechanisms, such as VAT, personal taxation and corporate taxation.

Furthermore, the tax can also be seen as an additional instrument to solve national problems. In the past, national governments did not worry so much about creating additional sources of revenue, since the access to debt was easy and cheap, allowing them to satisfy society's most pertinent requests relatively fast, such as the increasing number of pensionists and the need for infrastructures (Kaul & Langmore, 1996). However, reality has definitely changed. First of all, credit is now more expensive, particularly after the beginning of the financial crisis, which made debt much less appealing (Norman, 1995). Secondly, the unsustainable levels of sovereign debt together

with increasing concerns over credibility and rating grades, made debt issuance more expensive and difficult (Langmore, 1995).

Opponents of the tax do not doubt that the institution of a FTT could generate a significant amount of revenue. Nonetheless, these economists argue that such measure is not feasible, since it would encourage the creation of “financial engineering” schemes in order to avoid taxation as well as capital outflows to tax havens (Felix, 1995). Regarding the first criticism, economists against the tax argue that it is almost impossible to make a legislation that covers all types of capital movements and that this process of legislating can be neverending (Kenen, 1996). Moreover, if the introduction of a FTT affects the transaction volume of taxed instruments – decrease - and non-taxed instruments – increase - and if transaction volume has an informative role, this will mean that the informational efficiency of markets will be hampered (Habermeier & Kirilenko, 2003). In turn, the possibility of capital outflows to tax havens is recognized by both supporters and opponents of the tax, even though Tobin (1996) defends that this risk can be significantly reduced if the leading financial centres reach an agreement for a FTT implementation.

The statements above make clear that the success of a FTT requires cooperation between all nations, or at least between the leading financial centres, situation that opponents of the tax consider unrealistic. In fact, if a country applies a FTT unilaterally, it will see capital moving offshore. However, proponents of the tax remember that much more unlikely agreements were achieved in the past (e.g. GATT), so condemning FTT proposals to failure is precipitated (Eichengreen, Tobin, & Wyplosz, 1995). In addition to this, and although proponents of the tax agree that the process of making a flawless legislation is extremely difficult, they refer that the implementation of a general FTT over several different types of transactions could actually help to deter “financial engineering” schemes’ creation, giving more time to financial regulators to improve the law (Darvas & Von Weizsäcker, 2010).

After discussing the pros and cons of a FTT, it becomes important to define the main arguments of both sides for the most relevant discussion topics. The following table summarizes the main arguments in favour and against a FTT, taking into consideration not only the discussion presented throughout this chapter, but also the Schulmeister's synthesis (2009) regarding the subject.

Discussion Topic	Arguments in favour of a FTT	Arguments against a FTT
Revenue Potential	It can be used to provide and preserve public goods as well as to finance development projects. Moreover, the measure could generate a significant amount of revenue, without necessarily having very high administrative costs.	The success of a FTT requires a high level of cooperation, situation that is unrealistic. In addition, investors will try to create "financial engineering" schemes to avoid paying the tax.
Noise Trading	There is a need to "throw some sand in the wheels" of financial markets because there is too much speculation, which is destabilizing them.	Only a "pure market", that is, a market where demand and supply curves operate without any kind of intervention, is able to determine securities' true value.
Long-run speculation	By increasing transaction costs, highly speculative short-term trading will be reduced because each transaction would become more expensive. Therefore, both short-run and long-run volatility would decrease and prices would move towards their fundamental equilibria.	Long-run speculation is often associated with lack of liquidity, so increasing transaction costs will only worsen the problem because an increase in transaction costs makes transaction volumes to go down, thus reducing liquidity.
Firm's cost of capital	The introduction of a FTT will moderate volatility, meaning that risk will be significantly reduced, which in turn will lead to a lower cost of capital. Therefore, raising capital on the stock market becomes easier and investment goes up.	Stock prices usually fall after the introduction of a FTT in financial markets, meaning that raising capital in the stock market becomes more difficult. As a result, production and investment levels may be suppressed, damaging the economy as a whole.

Table 1 - The main discussion topics regarding the implementation of a FTT.

Chapter 2

Empirical applications of a Financial Transaction Tax

After discussing the theoretical pros and cons related with FTT implementation, we present some of the most relevant case studies regarding its application. By doing so, it will be possible to realize whether the theoretical arguments presented by both sides – in favour and against the measure – are verified in practice or not.

One of the best empirical examples in the literature compares the case of Mexico and Chile in the 80's. However, it is important to emphasize that this case study is more related with the original concept of the Tobin Tax, commonly known as Currency Transaction Tax (CTT), in which the main goal was to tax spot currency transactions (Tobin, 1972;, 1974). During that period, Chile and Mexico were confronted with large volumes of capital inflows, when comparing to the size of both economies, which obliged both countries to take measures not only to protect them from potential risks – appreciation of the real exchange rate with negative impacts on exports and trade balance deficit, for example -, but also to benefit from positive aspects – e.g. increase of Foreign Direct Investment (FDI) – of the situation.

On one hand, Mexico liberalized its capital market, fostering highly speculative short-term capital inflows, making the real exchange rate to go up, which in turn made imports cheaper and more appealing than internal

consumption. Obviously, these circumstances also undermined exports and, consequently, trade balance deficit went up. On the other hand, Chile decided to discourage short-term capital inflows to the country – by taxing loans from foreign countries, for example -, but still managed to capture long-term capital inflows (e.g. FDI), increasing investment levels and, therefore, economic growth (Agosin & Ffrench-Davis, 1996). In summary, the case of Mexico and Chile proves that a FTT can influence overall macroeconomic performance.

Before moving on to the European proposal, it is important to present some of the experiences regarding the implementation of a FTT within European countries. In that sense, it is mandatory to present the Swedish example, since it is probably the most discussed and well-known case in the literature. In addition, the cases of the UK and France will also be addressed, even though the results on these last two countries are not so concrete because the measure is still in place.

The first Swedish proposal for a FTT was announced in 1983, although it was only implemented on the 1st of January of 1984. The Swedish FTT included taxation over equity registered in Sweden – even though, transfers of Swedish registered equities to other financial centres than Stockholm as well as orders placed outside Stockholm were exempted from the tax -, equity options, fixed income instruments (e.g. Swedish Government Bonds) as well as futures and options (PwC, 2013). Consequently, due to managing problems and disappointing results, the measure only lasted until December 1991 (Wrobel, 1996).

In fact, several empirical studies point out the negative consequences on the Swedish economy and financial markets because of FTT implementation. Steven Umlauf (1993) points out that the Swedish Stock Market fell 5.3% in the first 30 days after the introduction of the Swedish FTT and 2.2% in the first trading day of 1984, that is, at the day when the tax became effective. In addition, the same author concludes that 60% of the transaction volume of the

top 11 companies in the Stockholm Stock Exchange migrated to other financial centres. Additionally, Campbell and Froot (1995) argue that the revenue performance of the measure fell short on Swedish Government expectations, since investors avoided the tax by placing their orders on other Stock Exchanges. Finally, and as the tax was also applied to government bonds, the goal of giving national authorities more autonomy when carrying fiscal and monetary policies was not achieved at all. The transaction volume of government bonds fell around 85%, probably due to the lack of liquidity of these securities, making financing operations more expensive, which in turn damaged government authority.

The empirical evidence presented above makes the discussion about the desirability of a FTT more interesting because it reveals how dissimilar the results coming from its imposition can be. The presentation of the UK Stamp Duty, together with the more recent French FTT, will deepen the discussion even more.

The UK stamp duty is levied on market participants that are not registered as financial intermediaries (Oxera, 2007) and implies the payment of a 0.5% tax on the value of purchases on all equities registered in the UK (PwC, 2013). As it is observable, the burden of taxation falls on non-financial entities, while on the European proposal the opposite happens, as it will be studied in the following chapter.

It is undeniable that the UK stamp duty has been generating a significant amount of revenue over the last years, playing an important role on UK total tax incomes. In fact, just a 0.5% tax rate on equity purchases allowed British Tax authorities to collect around 3-4 billion £ each year, between 2000/01 and 2005/06 (Oxera, 2007). Moreover, Hawkins and McCrae (2002) proved that its collection costs are very low when compared with other instruments: it only costs 9 pence to collect 100£ with the stamp duty, while the average collection cost of all taxes – including stamp duties - is around 1.11£ to obtain the exact

same amount of revenue¹. In addition to this, the position of London as the world's leading financial centre seems to be unaffected by the presence of stamp duty since there are not meaningful variations on total trading volume (Oxera, 2007). Nevertheless, these results must be interpreted with caution because this measure was implemented a long time ago– in fact, the roots of the stamp duty date back to the 17th century (Dagnall, 1994) – and, therefore, it has almost no influence on nowadays' total trading volume fluctuations (PwC, 2013).

However, the interpretation of stamp duty's effect on trading volume is not so straightforward. Indeed, economists against the tax emphasize that although total trading volume did not vary significantly, investors' preferences regarding the way of financing have definitely changed. Oxera (2007) mentions that direct equity investment became less attractive than derivative contracts and "financial betting" that are not under the scope of taxation. Such occurrence might not only contribute for the emergence of financial distortions, but also reveals that there can be an incentive for the creation of "financial engineering schemes". Finally, Oxera (2007) also states that the tax has increased British corporations' cost of capital, especially for the public ones (7 to 8.5% higher). Therefore, its abolition may lead to higher investment levels and hence, to a higher GDP level, as explained in the previous chapter.

Finally, the case of the French FTT is also worth a discussion since it can be seen as a starting point to figure out which could be the potential impacts of a European FTT. In fact, the French government assumes that the goals of this taxation instrument are to reduce speculation and to oblige financial institutions to pay the state aid received after the outbreak of the economic crisis (Meyer, Wagener, & Weinhardt, 2015). These objectives are precisely European Commission's motivations for imposing a common FTT within the

¹ The average collection cost was calculated considering stamp duty, income tax, corporation tax, petroleum revenue tax, capital gains tax, inheritance tax and national insurance contributions in the UK.

EU, as it will be shown in the following chapter. Nevertheless, it must be stressed that this measure – French FTT - was implemented unilaterally, and thus is necessarily different from a potential European FTT. Indeed, the European proposal consists on the implementation of a common FTT in several different European countries, not just in one country as it happens in France. Therefore, we cannot translate the consequences of the French FTT to a potential European one. Actually, the unilateral application of the measure is one of the main criticisms made by some French associations, such as AMAFI – Association Française de Marchés Financiers (AMAFI, 2012).

The current French FTT, which is in force since the 1st of August of 2012, includes taxation over equity trading, high-frequency trading and also on Credit Default Swaps (CDS). Equity trading is taxed at a 0.2% tax on the purchase of French companies' shares with a market capitalization larger than 1 billion euros (The Economist, 2015). The tax is paid by financial intermediaries as it was stated above (Meyer, Wagener, & Weinhardt, 2015).

In what concerns to liquidity, the results are unclear. In fact, the “bid-ask spread”, that is, the difference between the lowest selling price and the highest buying price, did not increase significantly after the introduction of the tax (Meyer, Wagener, & Weinhardt, 2015). In turn, intraday volatility is found to fall 2.3 to 3 basis points after the establishment of the measure (Becchetti, Ferrari, & Trenta, 2013). However, all empirical studies concerning the French case agree that the impact on trading volume is evident, denoting a considerable drop. The average daily transaction volume per stock has fallen around 18%, but companies with larger market capitalization felt the impact even more, witnessing a drop of 20% on average (Meyer, Wagener, & Weinhardt, 2015).

Chapter 3

The European Commission's Proposal for a FTT

The previous chapters showed how intense has been the debate between supporters and opponents of a FTT. In fact, the topic is discussed from time to time, especially during the periods of economic crisis (Raffer, 1998) and the current European crisis is not an exception. Nevertheless, the potential uses of a Tobin Tax alike in the EU were acknowledged several years before the outbreak of the last economic crisis. Raffer (1998) soon recognized that it could be used for banking monitoring purposes and Kaul and Langmore (1996) mentioned that it could also work as an useful instrument to fulfil Maastricht's convergence goals: public deficits below 3% and a level of public debt below 60% of GDP.

Taking into consideration not only the arguments in favour and against a FTT, but also the roots of the current economic crisis, the European Commission (EC) started to discuss the implementation of a FTT within its territory in 2009, in the G20 summits of Pittsburgh and Toronto (European Commission, 2011a). Following this initial discussion, the EC formally announced its intention to tax the financial sector in October 2010 and, in June 2011, in the context of the multiannual financial framework, it suggested using the potential revenues of the measure as a new resource for the next EU budgets (European Commission, 2011b). On September 2011, the EC has finally delivered its proposal of a harmonized FTT to be implemented in all Member States, replacing the former

directive 2008/7/EC, which was related with the role of indirect taxation on raising capital².

The EC has different aims in mind (European Commission, 2013a): to harmonize Member States' legislation regarding indirect taxation, to make sure that the financial sector pays as much as the other economic sectors for European Union's recovery since it has benefited from several different tax advantages (e.g. VAT exemption) and, finally, and recalling James Tobin, the EC also pretends to "throw some sand in the wheels of too much efficient markets" (Tobin, 1996).

According to the European Union's plan, this FTT would apply not only to transactions involving shares and bonds at a rate of 0.1%, but also to derivative contracts at a rate of 0.01% (European Commission, 2011b). As a matter of fact, and in order to avoid tax evasion, "financial engineering schemes", capital outflows among many other problems that were already discussed in the first chapter, the EU tried to develop a scheme with the broadest basis possible (European Commission, 2011a).

The 0.1% tax would be levied on the exchange of shares, corporate bonds, government bonds, "repos", that is, on the secondary market (European Commission, 2013a). In turn, the issuance of shares and corporate bonds would not be subject to taxation, just as spot currency transactions, credit provision, insurance contracts and operations performed under restructuring programs (Allen & Overy, 2013). In addition to this, as it was stated above, the tax would also apply to derivatives, but at a lower tax rate: 0.01%. This includes taxation over several different transactions such as options, futures, swaps and forwards which, according to the EU, would definitely contribute to reduce the amount of riskier trading activities (e.g. betting on the fall of a particular share) and, hence, distortions in financial markets. However, the transaction of derivatives

² The Directive 2008/7/EC is the one that regulates the charging by Member States of indirect taxes on the raising of capital. It targets the issue of certain securities as well as contributions of capital to capital companies and restructuring operations involving them.

that comprise the exchange of financial instruments, such as the transfer of shares as collateral, would be taxed at a 0.1% tax rate (Allen & Overy, 2013).

Despite pointing out that a FTT must have the broadest basis possible, the main target of the proposal is clearly the financial sector. Indeed, excluding the transaction of shares and bonds, citizens and Small Medium Enterprises (SMEs) would be exempted from paying the tax, while on the other hand, and quoting European Commission's own words, "is time for the financial sector to pay its fair share". To prove its point, the EC argues that the financial sector has benefited not only from tax benefits over other sectors - giving VAT exemption as an example -, but also from substantial financial aid from governments, which was not available to other sectors. Finally, the EC mentions that financial institutions played a major role on the economic crisis that we are currently facing and it is time for them to assume their responsibilities (European Commission, 2011b).

So, as it is easily perceivable, financial institutions such as investment firms, credit institutions and hedge funds are the most likely to feel the impact of the measure (European Commission, 2011a). In addition, and since the tax would be applied per transaction, the most affected agents would be the ones whose businesses consist in making rapid financial transactions with high profit (loss) potential. Nonetheless, there is always the risk that these institutions charge the final customer – citizens and firms – if they operate on their behalf (European Commission, 2013b).

Besides defining the main target, the financial instruments that would be levied as well as the corresponding tax rates, the proposal also defines the principles that would govern taxation. First of all, it is important to underline that the FTT would have to be paid by both sides of the transaction. For example, in the case of bond trading, both buyer and seller would have to pay a 0.1% tax on the value of the transaction (Allen & Overy, 2013). In the case of derivatives, the 0.01% tax would be collected considering the notional value of

the contract. For example, if an investor pays 250€ for an option to buy or sell shares that are currently valued at 250000€ - the notional value of the contract -, the tax would be levied on the 250000€ (0.01% of 250000€) (European Commission, 2013b). However, there are some exceptions to the rule mentioned above, such as repos, reverse repos, securities lending and borrowing agreements: in these types of transactions the tax would be levied only once (Allen & Overy, 2013). Furthermore, it is easily observable that the European proposal for a FTT implicitly encompasses a “Cascade Effect”. As a matter of fact, the European proposal for a FTT is a “Cascade Tax”, since it would be levied in each layer of the financial transaction chain, regardless of the number of transactions made before. So, the final result of a “Cascade Tax” is that the end tax amount will be much higher than the officially announced tax rate (Investopedia, 2015).

Furthermore, in order to understand how the EU intends to avoid tax evasion as well as the underlying mechanisms of tax collection, it is also key to analyse the two main principles embraced by the EC: the residence principle and the issuance principle (PwC, 2013). The residence principle basically states that taxation would take place on the country where the financial institution is established. In other words, if a financial institution is an EU resident and performs a transaction through a branch outside the FTT area, it would have to pay the tax anyway, hence discouraging relocation of transactions (European Commission, 2011a). So, the residence principle implies that if one of the parties is resident in the FTT area, it will not matter where the other party is located: it will have to pay the tax no matter what. Therefore, this situation may create incentives for financial institutions to relocate their residence to countries outside the FTT area, so that their clients do not have to pay the tax.

Moreover, the EC also decided to base its FTT scheme on an issuance principle, meaning that the location of the underlying security also matters. In other words, if on the primary market the security is issued by an unit that

belongs to the FTT area, it will not matter where the parties involved in the transaction are placed because they will have to pay the tax anyway. Nevertheless, the risk of financial institutions' relocation still exists because this principle does not apply to securities that were issued on the primary market by countries outside the FTT area (Allen & Overy, 2013).

The evidence above clearly suggests that the FTT proposal would require a great amount of cooperation between financial institutions and tax authorities. In fact, the implementation of this FTT proposal would oblige financial institutions to keep all transaction data and to provide it to legal tax authorities, so that they could confirm the correct payment of the tax. In addition, different tax authorities would have to be in touch to assure the proper functioning of the proposal. Still, this would not be a novelty for financial institutions, since they are already required to store all the information regarding transactions in financial instruments under the Art. 25(2) of the current Markets in Financial Instruments Directive (European Commission, 2013c).

Finally, and as mentioned by James Tobin in the 70s (Tobin, 1978), the implementation of a FTT would certainly generate very high revenues. The EU is definitely not indifferent to this aspect of a FTT and estimates to collect around 57 billion € every year with the tax, which represents around 0.42% of EU's GDP at current prices, according to AMECO (European Commission / Economic and Financial Affairs, 2015). Furthermore, Member States would also be allowed to increase the minimum tax rates for the exchange of shares and bonds (0.1%) and for derivative contracts (0.01%), if they wanted to do so, therefore increasing tax revenues for each transaction performed (European Commission, 2011a). The amount collected would revert, in part, to the EU budget, while the other part would stay in the corresponding Member State. In summary, the money raised with the measure would allow to reduce Member State's quotas for the EU budget and to support them during economic crisis (European Commission, 2011b).

As a matter of fact, an European FTT can be an important mechanism to deal with asymmetric shocks. In fact, by aligning legislation concerning financial markets' transactions and by promoting a higher degree of cooperation between member states, asymmetric effects of shocks can definitely be reduced. Moreover, the FTT does not harm long-term transactions that much, and therefore long-term investments on less developed areas will not be affected. These effects are in accordance with European Parliament's concerns regarding asymmetric shocks within the Economic and Monetary Union (EMU) (Patterson & Amati, 1998).

Naturally, the different characteristics of the FTT proposal have a goal in common: accomplish European Commission's objectives for implementing the measure. However, it is important to understand what the EC exactly means with each one of the goals mentioned above. The first one – harmonize EU countries' legislation concerning indirect taxation - is related with European Commission's belief that there is a need for an harmonized taxation scheme, so that there are no more incentives for each Member State to impose its own FTT. In the opinion of the EC such measure would contribute positively for strengthening the image of the EU as a single market. In turn, the concerns about the role of the financial sector are not only related with the tax benefits that it has enjoyed over the last couple of years, but also to assure that they pay a fair contribution for the European economic recovery – actually, financial institutions were the main responsible for the crisis – and also to create additional sources of revenue. Finally, but not less important, the third goal is linked with European Commission's desire to reduce activities with a higher risk level and to relocate focus on long-term results (European Commission, 2011c).

Nonetheless, the EC also mentions that there are some risks associated with the proposal, namely the risk that financial institutions shift the burden of the FTT to private households and SMEs, the potential relocation of financial

institutions to other jurisdictions and the risk of losing its international competitiveness (European Commission, 2011a). Naturally, the awareness of these risks is preventing European Union's countries of reaching an agreement, making even more difficult to fulfil European Commission's desire to implement such measure at a global scale, which was one of the main drivers behind the FTT proposal in the EU-27 (European Commission, 2011a).

As a result, the process of incorporating a FTT in the EU has been marked by ups and downs, with persistent reformulations of the proposal and constant disagreements between countries in favour and against the tax, generating two different groups. Regarding the second group, there is one country that clearly stands out: the UK. As one might expect, the UK is against such measure, unless it is introduced at a global scale because it fears the delocalization of financial institutions from the country to competitors, such as the United States (US) (European Commission, 2013b). Holland, for example, is also against the measure because the proposal does not exempt pension funds (Allen & Overy, 2013). Therefore, and after several meetings, the incompatibility between both groups became evident and, at the ECOFIN meeting in June 2012, Member States declared that it was impossible to reach an agreement (Council of the European Union, 2012).

However, the 11 countries that had reached an agreement – Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovakia, Slovenia and Spain – did not quit and, therefore, announced their intention to implement a FTT along the lines defined by the EC between themselves in the form of Enhanced Cooperation and requested the EC to submit a formal proposal to the European Council. After analysing the pros and cons, the EC did not find substantial evidence to reject the petition and submitted it to the European Council, which approved it on the 22nd January of 2013 (European Commission, 2013d). As a consequence of the decision, the political and legal

debate became even more intense and Member States against the measure – particularly the UK – argued that such procedure was illegal (PwC, 2013).

First of all, and in order to better understand the discussion regarding Enhanced Cooperation, it is absolutely crucial to define it. The question of Enhanced Cooperation arises when certain countries, due to their hesitancy, prevent others of advancing with certain policies that require unanimity among all Member States. Under this framework, the Treaty of the Functioning of The European Union (TFEU) defines that if at least 9 Member States want to go ahead with an EC proposal, unanimous agreement is proven to be impossible and if other criteria – objective and other subjective remarks - defined on the European law are met, Member States that agree with a particular European Commission's initiative may apply it among themselves (European Commission, 2012a). In fact, besides requiring 9 member states and being regarded as the ultimate possibility, the implementation of an Enhanced Cooperation requires that: there is a strong belief that the proposal will strengthen integration of the EU as a whole, all rights and duties of the non-participating countries are respected and also that the internal market will not be destabilized (Allen & Overy, 2013).

On one hand, the EC considers that all these criteria are verified because there are 11 countries requesting an Enhanced Cooperation (1st criterion), an unanimous agreement was declared impossible at the ECOFIN meeting in June 2012 (2nd criterion), the current proposal leaves the possibility for the non-participating members to join at a later stage exactly in the same conditions as the first group as well as freedom for adopting their own FTTs (4th criterion), the internal market is not undermined at all since there already 10 countries with some sort of FTT – Belgium, Cyprus, France, Finland, Greece, Ireland, Italy, Romania, Poland and the UK – and, besides that, a common FTT could actually reduce distortions on competition within EU's single market (5th criterion). In addition to this, the EC also argues that financial institutions

would find it easier to deal with just one type of FTT in the EU. If this is true, the implementation of the measure would contribute for EU integration as a whole and, thus, the 3rd criterion is verified (Allen & Overy, 2013); (European Commission, 2012a; 2012b).

On the other hand, some countries, such as the UK, disagree that all the criteria for an Enhanced Cooperation are checked. In particular, the UK claims that this process cannot be legal since not only the implementation of such proposal would bring costs for non-participating countries, but also because the measure would have extraterritorial effects, which would violate their rights and duties (PwC, 2013). Moreover, many non-participating Member States think that a FTT under Enhanced Cooperation along these lines infringes TFEU's fundamental freedoms, especially in what concerns to free capital movements (Allen & Overy, 2013).

Chapter 4

Advantages and disadvantages of the European Commission's proposal

As one might expect, the discussion regarding the implementation of a common FTT within the EU area is not only related with particular features of the European Commission's plan, but also with the theoretical background behind any FTT. In fact, and as it will be shown throughout this chapter, most arguments focus on certain characteristics of the proposal, such as its scope, its tax rates and its main target: financial institutions. In addition, the feasibility of

European Commission's main objectives with the measure - to reduce market speculation, while creating a sustainable source of revenue for Member States and to trigger the discussion about the employment of a FTT at a global level – is also discussed (European Commission, 2011c).

The pursuit of these goals, as presented in the first chapter, will necessarily have an impact on the different features of capital markets, which in turn will affect investment levels and, therefore, GDP. In other words, the arguments presented in favour and against the European proposal fall on both feasibility and desirability of European Commission's goals (Grahl & Lysandrou, 2014).

In what concerns to desirability, the financial sector soon expressed its disagreement, mentioning that the introduction of such tax would certainly undermine the competitiveness of the European banking industry (Gabor, 2014), especially during these times of financial markets turbulence (Bhogal & Fryer, 2013). On the other hand, proponents of the proposal argue that this tax over financial transactions can work as a first step to restore consumer's confidence in the sector, since most European citizens are in favour of its application. Therefore, the FTT may not be necessarily negative for financial institutions (Palmieri, 2012). In addition, the economic consequences of such a tiny levy are not very different from the charges and fees that banks impose to their clients (French K. , 2008).

Another discussion topic is related with who is going to pay the tax in the end. Indeed, some authors fear that financial institutions avoid taxation by charging the end-users of financial services (Vella & Maffini, 2015). If that is true, the likelihood of lower investment returns for financial consumers will probably increase, meaning that consumers might prefer to invest in financial institutions and financial instruments that are not under the scope of taxation, even though the introduction of the "issuance principle" has mitigated that possibility (IIF, 2013). However, Griffith-Jones and Persaud (2012) do not agree that financial institutions can transfer the cost of the tax so easily due to the

financial sector competitiveness and, therefore, they will, at least, support part of the tax so that they do not lose their customers.

Still, the EC assumes that the implementation of a shared FTT within the EU area incorporates some risks, such as the relocation of relevant financial activities to countries with lower tax rates or the transition from taxed operations to non-taxed ones (European Commission, 2011c). Nevertheless, it is important to remember that the location of financial institutions will not matter if a transaction involves an instrument issued by a participating Member State due to the issuance principle, a situation that will probably diminish the attractiveness of transactions comprising instruments issued on those countries (European Commission, 2013c). In short, the implementation of a FTT may lead not only to a migration of transactions for countries outside the FTT area, but also to a decrease on the transaction volume of FTT-zone securities (Bhogal & Fryer, 2013).

The risks presented above justify why European Union's main financial centres, especially the UK, as well as many other Member States – in fact, only 11 out of 27 Member States are willing to move forward with the tax at this stage - are so reluctant to take part on the European Commission's proposal. Furthermore, these countries might actually have incentives to not take part on the proposal since they may benefit from financial activities' relocation and capital outflows from the FTT-area (Grahl & Lysandrou, 2014). Nonetheless, some authors cannot understand this kind of reasoning. In particular, Persaud (2012) asks himself how much value the British financial sector brings if it is so afraid of such a small tax.

The evidence above suggests that the introduction of a FTT is going to affect transaction volumes. The question that arises is if the EC should intervene in the functioning of capital markets or not. On one hand, as described in the first chapter, opponents of the tax argue that financial markets are able to self-regulate and that the only way to determine a securities' true value is to let

demand and supply curves to operate without restrictions. On the other hand, the EC contends that there is excess volatility on financial markets and, therefore, appropriate disincentives to speculative transactions must be created (European Commission, 2013c).

The reasoning behind the European proposal is curbing short-term trading and, more particularly, high frequency trading in order to reduce excess volatility and price deviations from fundamental values, so that the probability of future crisis is reduced (Vella & Maffini, 2015). In fact, the weight of this kind of transactions on total trading activities has been increasing over the last couple of years in the EU (Gomber, Arndt, Lutat, & Uhle, 2011) and, according to some authors, the FTT proposal could be a good solution to reverse this trend. Secondly, Schulmeister (2011) advocates that the implementation of a broad FTT at very low tax rates would constrain noise traders' activities, but investors with long-term perspectives would be protected. Additionally, Arestis and Sawyer (2013) reinforce the idea that only a broad FTT is capable to reduce excess volatility and speculative movements. Finally, Persaud (2012) adds that a FTT, by increasing transaction costs, may deter the creation of very big speculative bubbles, lowering the possibility of violent adjustments because the bigger is the bubble, the bigger is the "crash" as the last economic crisis has proven.

Conversely, opponents of the European FTT do not share the view that curbing short-term trading is necessarily positive. Indeed, opponents of the tax remember that this may result on a volatility increase, since higher transaction costs may lead to less market participants, situation that can result in less liquid financial markets and, therefore, higher price fluctuations (Twarowska & Szolno-Koguc, 2013). In addition to this, economists against the tax criticize the EC for not considering the harmful impacts that this measure may have on transactions meant to encourage liquidity and manage risk, such as hedging transactions (Bhogal & Fryer, 2013). Effectively, this kind of transactions -

characterized by high-frequency and low margins - will become less frequent, situation that may contribute to a new crisis in the European banking sector (Baran & Eckhardt, 2011).

The latter argument against the tax gives the idea that the EU proposal does not distinguish between beneficial and prejudicial trades (Vella, Fuest, & Schmidt-Eisenlohr, 2011). However, the EC mentions that the exemption of primary market operations from the scope of taxation definitely dismantles that idea. Such exemption, according to the EC, means that the measure will not harm companies and governments, since economy funding – “low-speed transactions” - will not suffer from the implementation (European Commission, 2011c). Nevertheless, opponents of the tax remind that any impact assessment of the measure must also consider the consequences that the proposal might have via financial institutions (Grahl & Lysandrou, 2014).

As a matter of fact, the statement above brings to the debate one of the most controversial discussion topics in the literature: the impact of taxation on repos. Indeed, repos are one of the most important sources of financing for financial institutions, especially after the outbreak of the last economic crisis (Grahl & Lysandrou, 2014) and the rationale behind such occurrence is quite easy to understand. Repos are essentially short-term transactions – one day, week, month - in which an owner of marketable securities trades those securities in exchange for cash. Afterwards, the seller of the security - borrower – repurchases it to the buyer – lender – paying the amount of cash borrowed plus an interest (Investopedia, 2016a).

As it is possible to see, such transactions are secured by backing collateral, making short-term loans less risky, which justifies financial institutions’ higher reliance on these instruments during the current economic crisis. However, repos’ transaction volume is expected to fall around 66% with the measure, a situation that may definitely affect not only financial institutions’ financing, but also credit granting to companies (Stevenson, 2013). In addition, such situation

may actually foster the return to riskier financing mechanisms, such as unsecured financing transactions (Comotto, 2013). However, proponents of the tax argue that the last economic crisis proved that the dependence on short-term financing mechanisms, such as repurchase agreements, is completely unsustainable. Gorton and Metrick (2012) remind that after Lehman Brothers' collapse, contagion effects via repos became evident and the idea of repos as being very beneficial for financial stability completely fell apart.

Gorton and Metrick's argument is implicitly suggesting that an overdependence on repos can be a potential source of systemic risk and, therefore, these financing mechanisms have a higher risk level than what opponents of the tax consider. Moreover, proponents of the tax argue that too much reliance on these mechanisms can be market destabilizing. Therefore, Hauser (2013) contends that the implementation of a FTT on the repo market can actually make it easier to regulate this market, since financial institutions would be required to share all information regarding the instruments used on repurchase agreement operations. Such circumstance would allow financial supervisors to not only realize which financial institutions are more dependent on this kind of agreements, but also to figure out the different implications of repos on other markets. In other words, proponents of the tax believe that a FTT on financial markets - including repos - together with an effective supervision would allow reducing systematic risk, which would lead to higher economic growth in the future (Persaud, 2012).

In contrast, opponents of the tax are truly convinced that taxing repos will have negative side-effects on other financial instruments, giving special emphasis to the case of government bonds (Gabor, 2014). In fact, sovereign bonds are used very often as collateral on repurchase agreements due to its high rating grades, allowing financial institutions to get a lower interest rate on their loans (Gabor, 2013). Hence, the fall of repo transactions will reduce both transaction volume and liquidity of this type of securities, making interest on

government bonds to go up because investors will now ask for a higher return as a result of such incident. Finally, liquidity and risk management will also become harder (Vella & Maffini, 2015). Such concerns about sovereign bonds became empirically justified after the implementation of the recent French FTT. In fact, many counterparties refused to accept French securities, including French government bonds, and started to demand cash as collateral (Bhogal & Fryer, 2013). As a result, the French government decided to retreat from its decision of taxing repos (Gabor, 2014).

The undesirable impacts described above can apparently be overcome by using foreign exchange swaps. The reasoning in this type of transactions is exactly the same as the short-term collateralized loans described above: the only difference is on the type of collateral, which takes the form of currency. However, this is definitely not a solution for opponents of the tax, since such procedure would make the entire European banking system dependent on the credit conditions of other states. In order to understand this argument, it is only necessary to think on an Eurozone bank that wants to borrow euros and gives dollars as collateral in the transaction, committing itself to repurchase them at a later stage. It is easily observable that such bank would become reliant on the credit conditions in place in the US (Grahl & Lysandrou, 2014). In summary, according to opponents of the tax, the taxation of repos along these lines will only contribute to increase the European Union's dependence to external markets. In fact, the European Central Bank (ECB) shares the same opinion, affirming that under these circumstances, it will necessarily remain as the main liquidity provider of the EU, even after the actual monetary policies cease (Gabor, 2014).

The previous paragraphs make clear that the imposition of a FTT on the EU area will definitely have implications on the different economic agents, namely European firms. In fact, opponents of the tax argue that under the presence of a FTT, European companies' cost of capital will increase, diminishing EU firms'

attractiveness to invest, and therefore investment levels, if the tax is not implemented at a global level (Twarowska & Szolno-Koguc, 2013). In other words, an investor that is confronted with the choice of investing between two substantially identical securities, being one from the FTT area and other outside that area, will probably choose the second (Vella & Maffini, 2015). On the other hand, supporters of the tax state that when transactions costs are already very low, very small increases of cost of capital will not affect significantly investment demand (Persaud, 2012). Besides that, economists in favour recall that the revenue raised from the tax could be used for increasing companies' investment (e.g. innovation on SMEs), a situation that would stimulate economic growth (Griffith-Jones & Persaud, 2012).

Nevertheless, the view of a FTT as a stable and predictable source of revenue for Member States constitutes one of the biggest disagreements between proponents and opponents of the tax. Actually, opponents of the tax are quite sceptical about European Commissions' estimates that the measure would raise around 30 to 35 billion euros (bn) if introduced under Enhanced Cooperation (European Commission, 2013c) and 57 bn euros if introduced on EU-27 (European Commission, 2011c). First of all, economists against the European FTT mention that the tax cannot be regarded as a stable source of revenue given the volatility and uncertainty surrounding the EC proposal. In reality, the results from the Swedish FTT in the 80's as well as the French FTT corroborate such opinion. Regarding the latter case, French authorities just managed to collect 245 million Euros of the estimated 540 million Euros (Vella & Maffini, 2015).

However, revenue estimates for the European proposal vary considerably across different studies. For example, Schulmeister and Sokoll (2013) argue that revenue collection would reach 56 billion Euros under an Enhanced Cooperation agreement. On the other hand, Nerudová and Dvořáková (2014) estimates are in line with European Commission's estimates, but emphasize

that the final result can be lower due to the nonparticipation of the main financial centres, especially the UK. In addition, other authors believe that there is an overestimation error in Schulmeister and Sokoll's (2013) analysis not only because they do not consider the issuance principle in their study (Nerudová & Dvořáková, 2014), but also because they do not take into account the possibility of very aggressive reactions coming from financial institutions given the small area covered by the EU-11. In other words, the possibility of "tax evasion" as well as the potential risk coming from a drastic fall of transaction volume in the FTT area may jeopardize European Commission's target regarding revenues (Alworth & Arachi, 2012).

Nonetheless, and despite some doubts about the amount of revenue that would be raised by the measure, supporters of the FTT continue to highlight the potential benefits of the proposal. Firstly, supporters of the tax argue that this money may be used to reduce public deficits and to increase national productivity through the investment on innovation processes, for example. Indeed, in the absence of resources from private investors, the government could use taxes (e.g. revenues from the FTT) to replace them (Blanchard, Dell'Ariccia, & Mauro, 2010). Moreover, the cost of managing the tax would be quite low, since the vast majority of transactions are conducted electronically and, therefore, taxation would be almost automatic and inexpensive (Nerudová & Dvořáková, 2014). Finally, the implementation of this tax could allow reducing other tax instruments, such as VAT, boosting consumption levels, and, consequently economic growth (Griffith-Jones & Persaud, 2012).

After analysing the different features of the European Commission's proposal for a common FTT within the EU area, it becomes important to define not only the main discussion topics regarding the subject, but also the main arguments made by supporters and opponents of the measure. The table below summarizes the most relevant information concerning the debate of the European FTT.

Discussion Topic	Arguments in favour of the European Proposal	Arguments against the European Proposal
Burden of Taxation	Competition between different financial institutions will deter them to transfer the burden of taxation to the final consumer: if they do so, they will lose their customers. In addition, this measure may actually help to restore the confidence in the European banking system.	Financial institutions will try to transfer the burden of taxation to the end-users of financial services. Therefore, financial consumers will prefer to invest in financial institutions that are not under the scope of taxation, a situation that may undermine the competitiveness of the European banking industry.
Intervention in financial markets	The implementation of a broad FTT at very low tax rates will curb speculative trading, while protecting investors with long-term perspectives. Moreover, the exemption of primary market operations assures that economy funding will not be hurt.	The tax will have a negative impact on transactions meant to encourage liquidity and to hedge against investment risk. In fact, less liquid financial markets may induce higher price fluctuations, a situation that may actually end in a new financial crisis, as it happened before.
Taxation of repos	The last economic crisis has proven that overdependence on repos is unsustainable due to contagion effects. Therefore, it is important to regulate these repurchase agreements in order to understand its implications in other markets and to reduce systematic risk.	The taxation of repos will encourage financial institutions to incur in riskier financing operations. In addition, it will also reduce the transaction volume of other financial instruments. Therefore, liquidity will be lower and interest rates will go up, making financing operations more expensive.
Revenue Potential	The revenue raised from the tax might be used for multiple purposes: to reduce public deficits, to increase national productivity or to reduce other taxation mechanisms, for example. Moreover, the costs of managing it are quite low.	Although the revenue potential is noticeable, it cannot be overestimated. In particular, the EC must consider the risk of a drastic fall of transaction volume as well as the possibility of "tax evasion" in its estimates.

Table 2 - The main discussion topics regarding the potential implementation of the European proposal

The table presented above makes clear that the arguments from both sides of the discussion are based on the theoretical arguments concerning the desirability of a FTT that were already analysed in the first chapter. Indeed, all discussion topics listed above were somewhat discussed throughout the first chapter, excluding the case of the burden of taxation.

In what concerns to intervention in financial markets, it is very interesting to see that the exemption of primary market operations from the scope of taxation works as an answer to Hakkio's argument (1994) that firms' cost of capital would increase after the implementation of a FTT because raising capital through the issuance of stock would become harder. In addition, the reasoning behind curbing "noise trading" is the same as the one developed by FTT supporters in the beginning of the 90s (DeLong, Schleifer, Summers, & Waldmann, 1990). On the other hand, the argument against the intervention in financial markets follows Summers & Summers' (1989) idea that excess volatility is interrelated with lack of liquidity in financial markets and so increasing transaction costs would only worsen the problem.

In fact, Summers & Summers' argument (1989) emerges as the starting point for most criticisms of the European proposal. Indeed, economists against the tax contend that taxing repos – increasing its transaction costs - will reduce the liquidity of other financial instruments and, thus, its transaction volumes. According to opponents of the European FTT, this sequence of events will increase firms' cost of capital, a situation that will lead to lower investment levels within the EU. As it is observable, such reasoning is quite similar to the one developed by Schwert & Seguin (1993). In contrast, the answer to this criticism is essentially a replication of Krugman's (2009) view regarding the overdependence on very-short term financing mechanisms.

Finally, as it is noticeable, the potential to generate revenue is recognized from both sides of the discussion, even though opponents of the FTT claim that it is not as stable and predictable as supporters of the European FTT contend. Moreover, it is easily observable that some of the potential uses suggested by EU FTT supporters counter opponents' arguments. In particular, the suggestion of using the revenues raised from the measure to increase firms' investment levels on innovation processes, like Kiefer (1990) suggested is clearly an answer

to the economists that advocate that the implementation of a FTT will necessarily lead to an increase of firm's cost of capital.

Chapter 5

Alternatives to the European Commission's Proposal

As it is easily observable, the analysis performed so far has basically covered the merits and demerits of a general FTT and, more specifically, of the current European proposal. Regarding the latter, the discussion has essentially focused on two main discussion topics: on the desirability of a European FTT along the lines defined by the EC and on the feasibility of the objectives pursued by the EC.

First of all, and before moving on to the analysis of different taxation possibilities, it is important to emphasize that one of the lessons that the last economic crisis has taught us is that there is a need for macroprudential instruments directed to promote the stability of the financial sector and to reduce its systemic risk. As a matter of fact, the interest on regulatory policy and on regulatory measures has increased significantly after the last economic crisis, being the cyclical regulatory ratios the most conspicuous example of that reality. These ratios allow controlling financial institutions' leverage, by forcing them to possess more capital during favourable times in order to face the challenges of more adverse periods. Nevertheless, empirical evidence about the

results of these instruments is mixed and there is still no consensus about how to manage them effectively (Blanchard, Dell'Araccia, & Mauro, 2010; 2013).

Following this reasoning of assuring financial system stability, there are actually other tax measures for the financial sector that could have been implemented. In other words, the EC could have designed a different taxation instrument to ensure that the financial sector pays as much as the other economic sectors for European Union's recovery given the substantial financial aid that it received from governments and its role on the last economic crisis, while reducing market speculation and creating a sustainable source of revenue for Member States (European Commission, 2011b; 2011c; 2013a).

Indeed, Matheson (2011) agrees that there are other alternatives to raise a significant amount of revenue from the financial sector, while curbing speculative transactions. The EC (2010) states some of those alternatives, such as bonus taxes, a surcharge on financial institutions' corporate taxation and a Currency Transactions Levy. The first measure consists on taxing the bonuses paid to financial institutions' employees that are above a certain level, which is settled beforehand. In contrast, a Currency Transactions Levy only applies to foreign currency transactions. However, according to some authors, the establishment of a very tiny tax on these transactions would only act as a pure revenue raiser, since investors' behaviour would not be significantly affected (Schmidt, 2008).

In reality, the last paragraph not only makes clear that there are different mechanisms for financial sector taxation, but also that the tax base does not have to be directly related with gross financial transactions, that is, the tax may also fall on other components, such as financial institutions' wages and profits. As a matter of fact, the statement above is the reasoning behind IMF's preferred taxation method for the financial sector: the Financial Activities Tax (FAT) (IMF, 2010). Generically, the FAT represents a set of available taxes in order to levy the sum of profits and remunerations of financial institutions, conditioning its

activities, but without directly affecting financial markets' operations as it happens with the FTT (Nerudová, 2011). Moreover, the IMF provides three different possibilities for implementing a FAT: the addition method FAT, the rent-taxing FAT and the risk-taxing FAT (IMF, 2010).

The addition method FAT can be perceived as a tax designed to correct the inequity between the financial sector and the other economic sectors in what concerns to VAT (Nerudová, 2011). In fact, and as mentioned in the third chapter, the European financial sector has been enjoying from VAT exemption over the years, creating a sense of unfairness among the other financial sectors (European Commission, 2013a). Besides that, such occurrence led, on one hand, to an overconsumption of financial services and, on the other hand, to a situation where very few financial services were being used as production inputs, since companies could not recover the VAT on them. As a result, there has been an overproduction of financial services, making the case for taxing them (Lockwood, 2010). Consequently, Cnossen (2009) contends that the taxation of financial institutions should be made considering a broad tax base that would be similar to value added, which would consider the sum of profits and wages, with the possibility of full expensing of investment, but not of financial expenses. Nevertheless, it is argued that this tax would not be effective in changing financial institutions' behaviour, since it would tax profits regardless of how they are obtained (European Commission, 2010).

However, the same criticism does not apply to the remaining options. For instance, if the goal is to reduce the economic rents produced by the financial sector – the difference between the effective return and the minimum required return (Investopedia, 2016b) – in order to reduce the size of financial institutions and to change its behaviour, the rent-taxing FAT is the preferable solution (IMF, 2010). According to this taxation method, cash-flow profits and remunerations would be levied if they are above a certain threshold (IMF, 2010). As Keen (2010) refers, this solution is quite appealing since there is

empirical evidence that shows that not only the financial sector has been growing in size (Devereux, Griffith, & Klemm, 2004), but also that its profits have been increasing over time (Johnson & Kwak, 2010). However, the application of such measure presents some practical problems. First of all, it is not easy to define the thresholds for cash-flow profits and remunerations. Secondly, it would require a great amount of international cooperation because in the context of an increasingly globalized world, financial institutions' sources of rents are becoming less and less linked to one specific location (Nerudová, 2011).

Finally, the focus of the risk-taxing FAT is on discouraging financial institutions from adopting a very risky behaviour. However, despite having a different basis, the way this version of FAT works is very similar to the rent-taxing FAT (European Commission, 2010). In fact, instead of defining a limit for cash-flow profits and for remunerations, it determines a "normal level" of profit: if recorded profits are above that limit, the excess return would be taxed at a higher rate. By doing so, excessive risk-taking would be deterred because riskier activities – the ones with higher potential return - would become less compelling. Notwithstanding, defining the "normal level" of profit and the profit generated by excess risk-taking can be problematic (Nerudová, 2011).

The evidence above reveals that a FTT is definitely not the only solution for achieving the European Commission's goals. In fact, despite deciding for a FTT, the EC also considered the adoption of a FAT as an alternative, but it seems that the FTT was preferred due to its higher revenue potential (Twarowska & Szolno-Koguc, 2013). Indeed, the revenue potential of a FTT is higher than the FAT, since it is applied to financial transactions, while the FAT is related with financial institutions' value added. Therefore, the FAT tax rate would have to be much higher than the FTT to obtain the exact same amount of revenue (Matheson, 2011).

Nevertheless, the relocation of financial transactions to less-taxed jurisdictions and the shift from taxed operations to non-taxed ones constitute serious threats to the European FTT as a revenue raiser. On the other hand, other instruments such as the rent-taxing FAT that focus on less mobile components, such as labour costs, are less exposed to the risk of tax avoidance. Moreover, a FAT – more particularly the rent-taxing and the risk-taxing FAT - affects financial institutions directly, making them unable to transfer the tax burden to the end-users of financial services as it could happen in the case of the European FTT (Vella & Maffini, 2015). In addition, since the FAT is not levied on gross financial transactions, it mitigates the “cascade effect” associated with the FTT (Nerudová, 2011).

In summary, the reasoning behind the European proposal for a FTT is that short-run trading is merely speculative and, therefore, must be discouraged (Grahl & Lysandrou, 2014). However, as analysed in the previous chapter, some authors fear that such a tax may harm fundamental short-run transactions, such as hedging transactions (Bhogal & Fryer, 2013), damaging the entire European financial system. So, rather than interfering in financial institutions activities, it would be better to tax the excess profits they obtain from them (Grahl & Lysandrou, 2014).

Chapter 6

Conclusion

The present research has highlighted the controversy surrounding the implementation of a common FTT in the EU area. Indeed, the debate about the desirability and feasibility of an internationally agreed uniform tax over financial transactions has started several years before the European Commission's proposal for implementing a common FTT and there is still no clear and well defined conclusion. Nevertheless, there are some convergence points between supporters and opponents of a FTT.

First of all, both supporters and opponents of a general FTT agree that the implementation of a FTT would discourage short-term financial transactions a lot more than long-term ones. However, both parties have different views regarding the desirability of curbing short-term activities. In fact, while proponents of the tax see short-term trading and, more particularly, "noise trading" as being necessarily negative, opponents of a FTT alert for the nefarious consequences arising from the reduction of this kind of transactions.

Proponents of the tax argue that if short-term financial transactions were reduced, excess volatility in financial markets would be curbed, fostering price stability (Stiglitz J. E., 1989) and making companies' CEOs to focus more on long-term results (Schwert & Seguin, 1993). Following this reasoning, supporters of the European FTT contend that it could be an effective

mechanism to reduce the weight of short-term trading in the EU (Gomber, Arndt, Lutat, & Uhle, 2011) and to prevent future economic crisis (Persaud, 2012). On the other hand, economists against a general FTT remember that speculative movements are essential to provide liquidity to financial markets (Summers & Summers, 1989) and to allow “rational investors” to close their positions (Ross, 1989). Besides that, in the context of the European FTT, some economists state that the EC is not considering the impacts of the measure on transactions meant to manage risk and to give liquidity to financial markets, such as hedging transactions (Bhokal & Fryer, 2013), a situation that may result in another crisis within the European financial sector (Baran & Eckhardt, 2011).

Secondly, the revenue potential of the measure is also acknowledged by both supporters and opponents of the tax, even though the latter group claims that this revenue opportunity is overvalued. In reality, the revenue obtained from the tax would allow to reduce Member States’ quotas for the EU budget and to help them during economic crisis (European Commission, 2011b). Furthermore, this aspect of the European FTT is often used to refute some of the arguments against a common FTT in the EU area. In fact, according to the proponents of a common FTT, the different applications of the money collected from the tax, together with the exemption of primary market operations from the scope of taxation work as an answer to the theoretical argument that the implementation of a FTT would necessarily lead to an increase of firm’s cost of capital.

Nevertheless, the revenue potential of the measure is overestimated. In fact, despite the incorporation of the residence and the issuance principle in the European FTT, the EC assumes that its proposal does not exclude the possibility of relocation of financial services to jurisdictions with a lower tax rate or the possibility of transition from taxed operations to non-taxed ones (European Commission, 2011c). Moreover, the incorporation of the issuance principle may lead to a decrease of the transaction volume of FTT zone-securities, a situation that may actually damage all the participating countries. In other words, this

measure may actually contribute to undermine the European financial sector competitiveness and, therefore, it is logical that the European Union's main financial centres do not want to take part in this project (Grahl & Lysandrou, 2014). All these circumstances allow to conclude that the European Commission's objective of creating a stable and sustainable source of revenue is very unlikely to be achieved. In fact, the case of the Swedish FTT seems to corroborate this view as Campbell and Froot (1995) argued.

In addition to this, it still remains unclear if this proposal will make the financial sector pay its "fair share" in the EU recovery process as the EC desires. As a matter of fact, the way the proposal is designed leaves the door open for financial institutions to transfer, at least, part of the burden of taxation to the end-users of financial services (Vella & Maffini, 2015), a fact that is not denied by the EC (European Commission, 2013b). Finally, it is very likely that the goal of deterring riskier financial transactions will not be achieved. Actually, the argument against the taxation of repos played a particularly important role in the conclusion concerning this point.

In fact, although proponents of the FTT argue that the overdependence on this kind of short-term financing mechanisms led to the public intervention in the financial sector (Krugman, 2009) and that repos are a source of systemic risk (Gorton & Metrick, 2012), the undesirable side-effects of taxing them may exceed the potential advantages. Indeed, financial institutions will probably begin to replace repos for non-taxed financing mechanisms, such as unsecured financing transactions or foreign exchange swaps. The first option has obviously a higher risk level than repos due to the nonexistence of collateral in the transaction (Comotto, 2013); while the second would make the entire European financial sector dependent on the external markets' policies (Grahl & Lysandrou, 2014). Moreover, taxing repos will certainly have implications on other financial instruments, especially on European government bonds. In reality, taxing repos will probably reduce European governments bonds'

transaction volume and liquidity, a situation that will ultimately lead to a higher required rate of return on these securities, affecting European governments' financing operations (Vella & Maffini, 2015).

In summary, according to this research, it seems that the European proposal for a FTT is unfeasible as well as undesirable. Moreover, it will possibly have a negative impact on the European financial sector competitiveness, a situation that is even more serious given these times of financial market turbulence. In addition, the EC will probably not be successful in making the financial sector pay its "fair share" in the EU recovery, since financial institutions will avoid taxation by switching from taxed operations to non-taxed operations, an occurrence that may actually generate results contrary to those intended by the EC. In fact, in our perspective, there are other forms of taxation that would better suit European Commission's desires, namely taxing effectively financial institutions, without having the downsides of the FTT, such as the FAT. Indeed, the latter taxation mechanism allows to target financial institutions directly and does not allow financial institutions to avoid taxation by simply creating "financial engineering" schemes.

Nevertheless, it must be stressed that in order to get a more concrete idea about the likely impacts of the measure, it would be important to perform a quantitative analysis to figure out how much the transaction volume of the different financial instruments would be affected after the introduction of the proposal. However, due to time constraints and lack of data it was not possible to do so. For further research, it would be interesting to study more deeply the main consequences of a European FTT for European government bonds.

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