

AIMA NOTE

Financial Transaction Tax

An assessment of the European Commission's proposed Financial Transaction Tax

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Executive Summary

The European Commission (the Commission) recently¹ proposed plans for an EU-wide Financial Transaction Tax (FTT) to take effect from 1st January 2014. This tax would be payable on all transactions of equities and bonds at 0.1% of value and on all derivatives transactions (both exchange-traded and OTC) at 0.01% of value calculated on the basis of the derivative's notional underlying value.

The Commission estimates that the proposed tax will raise approximately €25-43bn in revenue annually (depending upon whether derivatives trading reduces by 70% or 90%) while its estimates of the potential impact of the tax (at a rate of only 0.1% on securities, but excluding the derivatives markets) on the EU GDP range from a possible reduction in future GDP growth by 1.76% (€286bn²) to 0.53% (€86bn³) depending on whether mitigating effects from the FTT's design are factored into the calculations or not. The midpoint (average) of this range is approximately -1.15% (i.e. a reduction of approximately €186bn⁴).

In other words, the Commission is proposing a tax that it expects will reduce GDP growth. If this is so, overall tax revenues could also be significantly reduced.

The Commission has two broad objectives that it seeks to achieve through the implementation of the FTT.

1. Referring to the recent financial crisis and the costs borne by EU taxpayers in the form of state bailouts, the Commission views the proposed FTT as a viable revenue-raising tool in its endeavour to recoup part of these costs.
2. The financial sector, unlike other sectors of the EU economy, is currently subject to a VAT (Value Added Tax) exemption. The Commission believes that the FTT would facilitate 'levelling the playing field' with respect to the tax contributions made by the different sectors of the EU economy.

Closer examination of tax incidence, however, indicates that the FTT is likely to affect EU taxpayers and pensioners the most, by reducing their savings and retirement income at a crucial point when Europe's savers, pensioners and households are still recovering from the financial crisis. In fact, the Commission's own impact assessment admits that the burden of the proposed FTT would likely be passed on to consumers.

Studies show that the burden of the proposed tax would in reality be much more severe than intended due to the noted 'cascading' effect of transactions taxes.

The proposed FTT, as designed, could lead to a significant decrease of cross border trading in the EU, undermining the Single Market. The Commission's own studies⁵ show that simple equity transactions usually require a much longer transaction chain with one or more intermediaries being interposed between a client and a trading venue in another Member State. These chains are unlikely to be reduced by changes in business models as, often, there is only a limited number of ways one is able to execute transactions on a cross border basis. Furthermore, the Commission impact assessment does not contemplate the differences in financial market liquidity in the various Member States. Indeed, the impact of the FTT on a smaller, less liquid market could be much more severe, creating an uneven impact, draining of liquidity and raising the cost of capital from certain Member States in a disproportionate manner.

¹ 28th September 2011.

² Based on Eurostat's GDP figures for 2010 (\$16,242,256 million in 2010 according to the IMF).

³ Impact Assessment (pg 51-52); Barclays Capital "FTT: A Taxing problem" (October 2011); Based on Eurostat's GDP figures for 2010 (\$16,242,256 million in 2010 according to the IMF).

⁴ Based on Eurostat's GDP figures for 2010 (\$16,242,256 million in 2010 according to the IMF).

⁵ http://ec.europa.eu/internal_market/financial-markets/docs/clearing/first_giovannini_report_en.pdf

The Commission also aims to discourage speculative trading activities and to curb undesirable market behaviour through the FTT. More importantly, in light of the recent financial crisis, it is felt there is an increased need to take adequate measures to ensure that risky financial decisions that led to the crisis are discouraged.

An analysis of the academic research available (see section 2) demonstrates that the proposed FTT is likely to lengthen holding periods appreciably. Traders that operate on a high turnover strategy and extremely thin profit margins could find that the tax adversely undermines the viability of their operations. While the proposed tax would certainly affect the profit margins of almost all investors, the impact on the EU fund industry as a whole would be detrimental.

Our analysis concludes that a tax that reduces or eliminates such trading activities would reduce liquidity, impede price discovery and increase the price impact of trades. The proposed FTT would also create unintended investment incentives, undermining sound asset management practices such as diversification, proper hedging and efficient execution. The incentivisation of investment in 'riskier' alternatives such as derivative instruments (forcing asset managers to undertake greater levels of risk to deliver the same level of return to investors as they had done previously) could negatively impact portfolio performance for pension funds and more conservative fixed income portfolios. There would, therefore, be the potential for such risk management procedures to leave market-makers with higher risk, increasing spreads in the markets and declining liquidity, all of which would undermine the FTT's ability to raise revenue sufficient to compensate for other lost taxes.

Studies indicate that a FTT could also lead to a reduction in the level of investment in the real economy and discourage corporate governance and long term engagement because investment managers would invest less in equities and more in derivatives as a result of the bias⁶ in the proposed rates. Again, as a result, the investment performance of pension funds could suffer considerably.

Academic and empirical evidence (see section 3) also strongly suggests that implementing the proposed FTT could cause a significant reduction in asset prices, widen spreads, hinder efficient price discovery, increase market volatility and, most importantly, lead to transaction migration away from Europe.

The effect on the foreign exchange market would also be dramatic; due to the widening of spreads, even a very small tax would significantly alter the manner in which participants operate in the foreign exchange market. Trading strategies necessitating frequent trades would be significantly affected by the proposed transaction tax, leading banks to deal with the market in an entirely different way instead.

It is also highly likely that the proposed FTT would cause both the migration of business away from EU as well as its transformation into less transparent (and arguably more systemically 'dangerous') forms. Studies examining similar tax levies introduced in the past in various jurisdictions reveal significant and irreversible trade migration away from the countries implementing the tax and to more favourable tax jurisdictions.

Introducing an FTT on a unilateral, EU-wide basis⁷ appears to carry very substantial risks from which the EU financial sector and the EU economy may find it difficult to recover.

⁶ The proposed FTT rate on equities is 10 times that on derivatives.

⁷ The proposed tax is EU wide only.

Introduction

The idea for an FTT has gained momentum among some G-20 countries since the onset of the recent financial crisis. The injections of public money in financial institutions during the crisis prompted governments to consider recovering these costs from the financial sector. During their September 2009 meeting at Pittsburgh, the G-20 leaders requested the IMF to explore “the range of options countries have adopted or are considering as to how the financial sector could make a fair and substantial contribution toward paying for any burdens associated with government interventions to repair the banking system.” The idea of introducing a euro-wide FTT was brought to the fore in recent policy debates, when the possible introduction of such a tax was discussed during the 2011 IMF/World Bank annual meeting (September 23rd-25th 2011).⁸

A. What is the proposed FTT?

The Commission has outlined plans for an EU-wide FTT that, provided it receives approval from all 27 EU Member States, would take effect from 1st January 2014. The tax would be payable on all transactions of equities and bonds at 0.1% of value and on all derivatives transactions (both exchange-traded and OTC) at 0.01% of value calculated on the basis of the notional underlying value. Further, the FTT would be levied when at least one party to the transaction is a financial institution and either that party or another party to the transaction is established within the EU⁹.

Reference has often been made to this current proposal being based on an earlier financial tax advocated by Professor James Tobin. However, Tobin (and his co-authors of the paper “*Two cases for sand in the wheels of international finance*”¹⁰) proposed the introduction of a *global* FTT that was aimed solely at *foreign exchange transactions*. Their paper described two situations in which such an FTT might be beneficial:

1. Use of an FTT as an effective tool to reduce short-term exchange rate volatility.
2. An FTT as a means to prevent speculative attacks on currencies.

In contrast, the proposed FTT would exempt all spot foreign exchange transactions¹¹ so that it would not reduce foreign exchange volatility or prevent speculative attacks in the foreign exchange market.

B. To which institutions is it applicable?

The term “financial institution” includes: banks, credit institutions, insurance and reinsurance undertakings, pension funds, UCITS collective investment funds and their investment managers, securitisation SPVs and other special purpose vehicles and certain leasing companies.¹² Finally, a person carrying on deposit taking, lending, providing guarantees, finance leasing or participating in financial instruments as a “significant activity in terms of volume or value of financial transactions” would also be treated as a financial institution¹³. However, central counterparties for clearing houses, securities depositories, the European Financial Stability Fund and “any international financial institution established by two or more EU Member States which has the purpose to mobilise funding and provide financial assistance to the benefit of its members that are experiencing or threatened by severe financing problems” are exempt from the definition of a “financial institution” and hence exempt from the FTT.

⁸ Note: The proposed FTT is not a Tobin Tax since spot foreign exchange transactions (central to the Tobin Tax thesis) are specifically excluded from this proposal.

⁹ Financial Sector Taxation: The IMF's Report to the G-20 and Background Material (September 2010), Chapter 8, Pg. 145

¹⁰ “Two cases for sand in the wheels of international finance”, *The Economic Journal*, Vol 105, Issue 428 (Jan 1995), 162-172.

¹¹ In this, it is inconsistent with the objectives of the Tobin Tax.

¹² Directive, Article 2.1(7)

¹³ Directive, Article 2.1(7)

C. To which financial instruments is it applicable?

Financial transactions that fall within scope for taxation are:

1. The sale and purchase of a financial instrument before netting or settlement, including repos and securities lending agreements.
2. The transfer between group entities of the right to dispose of a financial instrument and any other operation effecting a transfer of risk associated with that instrument.
3. The “conclusion or modification” of derivatives agreements (the terms “conclusion” and “modification” are not further defined in the Directive and no further guidance is given in any of the supporting documentation produced by the Commission). The entry into a derivative, any change in its terms, any extension or close out of a derivative, whether cash-or-physically-settled would appear to fall within these concepts and therefore fall within the scope of FTT. Certain types of derivatives, such as variance swaps, reflect daily price changes based on the closing price of the underlying product, which could arguably be said to be “modified” on a daily basis.”

However, “all transactions in which private individuals or SMEs were involved would fall outside the scope of the tax.”¹⁴ Loans, deposits, spot foreign exchange transactions, physical commodities and emissions credits are exempt from the tax, too. Finally, primary market transactions are also excluded from the scope of FTT¹⁵.

The tax would be applied on the basis of residence, with two conditions to be met for a financial transaction to be within scope:

1. At least one party to the transaction must be established in the EU;
2. A financial institution (established in the EU) acting either for its own account or as an agent must be a party to the transaction.

Therefore, a non-EU financial institution (based outside the EU) entering into a financial transaction in which one party is an EU established company would fall within the scope. The non-EU financial institution would be liable for any FTT due, with the EU corporate counterparty being jointly and severally liable.

However, a financial institution will be exempt from the proposed FTT if it can show that it should not be treated as being established in the EU, by proving that there is no link between the economic substance of the transaction and the territory of any EU Member State.

It should be noted that this could prompt non-EU banking groups to avoid the proposed FTT by incorporating treasury companies outside the EU. When non-EU financial institutions enter into financial transactions with such treasury companies (established outside the EU), they will be exempt from the FTT.

Box 2 in the Appendix to this paper illustrates the likely impact of the proposed tax (and associated effective tax rates) on various financial transaction scenarios (involving equities, bonds or derivatives).

¹⁴ Europa Press Release: “Common Rules for a Financial Transaction Tax; Frequently Asked Questions (28 September 2011), page 2.

¹⁵ Directive, Article 1.4

1. How would the FTT impact the EU GDP and what is its revenue raising potential?

In an environment where economic growth has virtually halted in the euro-zone, a measure that is likely to negatively impact the EU GDP should be given further consideration. The Commission's Impact Assessment itself estimates that the potential impact of the tax (at a rate of only 0.1% on securities, but excluding the derivatives markets) on the EU GDP range from a possible reduction in future GDP growth by 1.76% (€286bn¹⁶) to 0.53% (€86bn¹⁷) depending on whether mitigating effects from the FTT's design are factored into the calculations or not.

The Commission estimates that the proposed tax will raise approximately €25-43bn in revenue annually (depending upon whether derivatives trading reduces by 70% or 90%). However, the FTT's revenue raising potential should be assessed in light of the Commission's forecast for the proposed tax's negative impact on the EU GDP. The impact of such a tax must be examined taking into account its effect on the EU's ability to raise other taxes also. A tax that successfully raises significant tax revenues (in isolation) may well alter the behaviour of market participants in a way that reduces overall tax revenues and, therefore, should be avoided. Indeed, the proposed FTT could reduce overall revenues through unfavourable changes in the specifics of market arrangements (affecting trading frequency and/or market spreads).

Tax revenues collected from the financial sector depends substantially on the specifics of market arrangements affecting trading frequency. Since greater trading volumes (and trading values) render greater tax revenues, all other things being equal, a trading environment that encourages continuous trading would produce greater tax revenues than one that promotes periodic "calls" with reduced trading volume. In fact, a World Bank Policy Research Working Paper¹⁸ published in 2009 reports that a FTT can substantially lower overall tax revenues precisely because it could lead to market arrangements shifting from continuous trading to a periodic "call". Using formal models, the paper illustrates how, "when new information arrives, the required adjustments in the optimal portfolio (of any class of assets) both of informed and uninformed investors can be very considerable (cf. O'Hara, 2003) and if the continuous flow of information in the market necessitates repeated re-adjustments of dealer inventory and portfolio rebalancing, the imposition of a FTT could lead to such a shift".

That World Bank paper concludes its study of FTTs by finding that such a tax would be a "disappointment"¹⁹ because, even if the tax base²⁰ were large, it would be concentrated in a small number of countries, reflecting the dominance of multiple technical transactions among wholesale financial market participants as they manage the risks of acting as market-makers in foreign exchange and securities trading. The paper finds that even a small FTT would lead to market-makers changing their method of handling risk in a variety of ways that would sharply reduce the volume and total value of transactions. There would, therefore, be the potential for such alternative risk management procedures to leave market-makers with higher risk, increasing spreads in the markets and declining liquidity, all of which would undermine the FTT's ability to raise revenue enough to compensate for other lost taxes.

¹⁶ Based on Eurostat's GDP figures for 2010 (\$16,242,256 million in 2010 according to the IMF).

¹⁷ Impact Assessment (pg 51-52); Barclays Capital "FTT: A Taxing problem" (October 2011); Based on Eurostat's GDP figures for 2010 (\$16,242,256 million in 2010 according to the IMF).

¹⁸ World Bank Policy Research Working Paper #5230 (2009).

¹⁹ "Although conditions are better than ever for the introduction of a broad-based financial transactions tax, expectations for such a tax are likely to be disappointed." World Bank Policy Research Working Paper #5230 (2009), Pg. 23.

²⁰ Measured by the total value of automated payments transactions or broadened to include the gross nominal value of derivatives transactions.

2. What are the objectives of the proposed FTT and what are the potentially positive outcomes of the tax?

Many studies²¹ have examined the design, feasibility and effects of FTTs. Close attention should be paid to the specifics of the design of any proposed FTT in order to ensure that intended objectives are achieved while avoiding unintended harm and preventing the dilution of efforts to promote economic recovery in the EU. In light of the recent financial crisis, there is an increased public call to take adequate measures to ensure that risky financial decisions that led to the crisis are discouraged.

The idea of introducing an EU-wide (or even a global) FTT has therefore received heightened attention recently. Several G-20 countries already use some version of a FTT. Discussions on the merits and possible pitfalls of an appropriate FTT at the global level should be supported. Admittedly, technological advances in the electronic tracking of transactions have now made easier the execution and implementation of such a FTT on organised markets, trading platforms, settlement/delivery systems, clearing houses or trade repositories. These advances would also minimise the administrative costs associated with collection.

The Commission's proposal outlines a few broad objectives that it seeks to achieve through the introduction of the tax:

A.

- i. The financial crisis that unfolded during 2007-08 required substantial public financial support in the form of state bailouts (an estimate of the cost of bailing out the financial system across the EU reports a figure of approximately €4.6 trillion) and the Commission views an EU-wide FTT on equities, bonds and derivatives to be a viable revenue-raising tool in an attempt to recoup part of these costs.
- ii. The proposed FTT would 'level the playing field' with respect to the tax contributions made by the different sectors of the EU economy. The Commission believes that the financial sector is currently relatively under-taxed, pointing to the Value Added Tax (VAT) exemption currently in place for the sector (the EU Tax Commissioner Algirdas Semeta has said that the measure would deliver "a fair contribution from the financial sector").

Among arguments in favour of such a tax, the proposition that the FTT would serve as an additional source of critical tax revenue appears to be prominent. An analysis by the UN's Advisory Group on Finance²² reports that while the capacity of the tax to raise revenue is highly sensitive to its design, estimated revenues are consistent, even with a small tax rate. That study asserts that such additional sources of revenue do not draw from other developments or other sources of financing.

However, the AGF study emphasises the need for a global implementation of such a tax (as opposed to EU-wide only) and describes global implementation as a necessary requirement to prevent avoidance of the tax and a progressive shrinking of the tax base and also critical to avoid undermining the importance of liquidity and legal security requirements.

There is much evidence (see section 3) pointing to the significant trade migration witnessed by countries that introduced a FTT in the past. The migration of trading volume to lower tax jurisdictions has often been significant and irreversible.

²¹ (i) Commission staff working document: "Innovative financing at a global level" (April 2010).

(ii) IMF staff document: "A fair and substantial contribution by the financial sector - interim report for the G 20" (April 2010).

(iii) The Task Force on International Financial Transactions and Development (July 2010)

²² "Work Stream 5 on Financial Transaction Tax (FTT)" UN's Advisory Group on Finance (2011)

Assertions that the financial sector in Europe is currently under-taxed are not supported. The Commission and other proponents of the tax refer to the VAT exemption provided to the financial sector as support for the imposition of the FTT. However, it can be argued that the VAT exemption represents an additional cost to the financial sector and not a benefit. Financial institutions often incur significant VAT on acquiring inputs, an irrecoverable cost to them because, as a result of the VAT exemption on the sector, they cannot recover the VAT cost.

The Commission's Impact Assessment reports that "The extent to which applying VAT to the financial sector would raise additional tax revenues and - consequently - the extent to which the exemption constitutes a tax advantage for the financial sector is an unsettled empirical question²³". A study²⁴ prepared for the City of London Corporation examined the impact of the VAT exemption on the financial sector of the United Kingdom and concluded that this irrecoverable VAT represents "a significant cost" for the UK financial sector. It can therefore be argued that the VAT exemption serves as an additional burden for the financial sector and that the economic benefits that would accrue to the sector as a result of the abolition of the VAT exemption would be considerable.

Arguably, the objective of policymakers in introducing the VAT exemption for the financial sector was not to ameliorate the sector's tax burden. Instead it was recognised that a VAT on financial institutions (and on the financial sector, in general) would eventually be passed on to small investors through collective investment schemes. Therefore, and as confirmed by the *Abbey National Case (C-169/04)*²⁵, the exemption was originally provided to avoid imposing a tax on savings of EU citizens.

B. The Commission views the proposed FTT as a potential tool to discourage risky and speculative trading. The tax would be levied on a party (located within the EU) each time it enters into a transaction involving the purchase or sale of an equity, bond or derivative. It would discourage high turnover of trades by associating higher transaction costs with a greater number of transactions. Proponents argue that the tax would thus lengthen holding trading periods²⁶ for securities by rendering shorter-term or more active trading strategies less profitable. Since shorter term investing is considered by some to cause security prices to move away from fundamental conditions, to diminish the average trade size, reduce equity liquidity and accentuate volatility, proponents believe such an FTT would reduce financial market risk and harmful speculative activity by curbing such trading practices.

Proponents of the FTT make the argument that, as trading volumes have multiplied in size, high-frequency traders (HFT) have been increasingly viewed as a source of market instability and systemic risk. They maintain that the FTT will enhance financial stability, by reducing the market-destabilising effects of speculative short-term trading, through the imposition of a severe penalty on investments with short-term horizons. For instance, the average annual return on the S&P500 index is approximately 2%²⁷ and a FTT of 0.1% on a passive investment in the S&P500 index would consume 100% of the investment's profit for the initial 18 days. In other words, it will take 18 days before the interest earned on the investment will recoup the cost of the proposed FTT²⁸.

²³ Impact Assessment, Volume 6: Is the Financial Sector Undertaxed? Pg. 2.

²⁴ Prepared for the City of London Corporation by PwC (December 2010)

²⁵ 4 May 2006; in particular, see point 62. Also see:

[http://curia.europa.eu/jurisp/cgi-](http://curia.europa.eu/jurisp/cgi-bin/gettext.pl?where=&lang=en&num=79939495C19040169&doc=T&ouvert=T&seance=ARRET)

[bin/gettext.pl?where=&lang=en&num=79939495C19040169&doc=T&ouvert=T&seance=ARRET](http://curia.europa.eu/jurisp/cgi-bin/gettext.pl?where=&lang=en&num=79939495C19040169&doc=T&ouvert=T&seance=ARRET)

²⁶ The holding period is defined as the real or expected period of time during which an investment is attributable to a particular investor. In a long position, holding period refers to the time between an asset's purchase and its sale. In a short sale, the holding period is the time between when a short seller initially borrows an asset from a brokerage, and when he or she sells it back - in other words, the length of time for which the short position is held.

²⁷ Calculated as the average return on a passive investment in the S&P 500 index from January 1st 2000 till December 31st 2010.

²⁸ It would take approximately 18 days for an asset with an expected annual return of 2% to earn 0.1%.

Therefore, as the investment horizon (of such an investment) increases, a smaller fraction²⁹ of the holding period would be spent in recovering the cost of the FTT.

As detailed in section 3, empirical evidence exists to support strongly the hypothesis that the proposed FTT would deteriorate market liquidity and therefore widen spreads. Such evidence suggests that, contrary to the belief that HFT is 'socially useless', these traders provide meaningful liquidity to market participants such as pension funds, thereby lowering their transaction costs (through reduced/narrower spreads). In fact, over a third of Europe's equity market total turnover is provided by HFT firms³⁰ and a tax that significantly reduces such a large portion of that turnover would also negatively impact other market participants significantly.

A study³¹ analysing the effects of HFT (on 26 NASDAQ-listed stocks) reported that these traders helped reduce the price impact of a 100-share trade by \$0.022 and that of a 1000-share trade by \$0.083 thereby improving the market's absorptive capacity. Another report³² also points to at least two studies³³ that find evidence of algorithmic trading and HFT having narrowed bid-ask spreads which has benefited all market participants, including pension funds. Consequently, reduction of the trading volume offered by these market participants could negatively affect market participants due to increased bid-ask spreads.

More generally, proponents of the proposed FTT believe that the financial and shadow banking sectors have grown to an undesirable scale and consequently are detrimentally pro-cyclical and dangerously decoupled from the real economy. Some economists argue that the global financial sector is hyper-inflated³⁴. One report details that the regulation of the financial sector must include "right-sizing finance", describing the FTT as a critical step towards the prevention of future financial crisis.³⁵ Those in favour of the FTT also point to the reduced share of wages in GDP and an increase in profits as having negatively impacted long-term growth and unemployment by diminishing aggregate demand.³⁶ Accordingly, they believe that a FTT would assist in reducing the size of these sectors, mitigating their procyclicality and establishing a strong relationship between the financial sector and the real economy³⁷.

However, such an assessment of the financial sector ignores the importance of these sectors as major contributors to tax revenues as well as being important sources of employment. A detailed study³⁸ strongly refutes the proposition that the UK financial services sector is under-taxed and provides evidence to support the view that the sector is a chief contributor to total UK tax revenues. That study estimates that for 2010 the financial sector as a whole made a "total tax contribution of £53.4 billion, which is 11.2% of total government tax receipts, from all taxes, for that year... The [financial services sector] remains the largest sector paying corporate tax in 2010, ahead of oil and gas companies operating in the North Sea... [Furthermore], the financial services sector employed over one million workers at March 2010, which is a significant part (3.5%) of the total UK workforce. We estimate that the sector generated total employment taxes of £24.5bn in 2010 (including both employers and employees NIC and income tax deducted under PAYE). Employment taxes are therefore an important part of the total tax contribution from the sector."

²⁹ For example, if the holding period is 36 days, the FTT would consume 100% of the investment's profit for half of its holding period. On the other hand, if the holding period is a year, the FTT would consume 100% of the investment's profit for 5% of its holding period.

³⁰ Haldane, 2011: <http://www.bankofengland.co.uk/publications/speeches/2011/speech509.pdf>

³¹ Brogaard (2010)

³² Haldane, 2011: <http://www.bankofengland.co.uk/publications/speeches/2011/speech509.pdf>

³³ Hendershott et al (2010) and Hasbrouck and Saar (2011)

³⁴ As per the Europeans for Financial Reform (March 2010), "[f]inancial transactions volumes have increased drastically to reach 70 times world GDP in 2007, when this ratio was only 15:3 in 1990."

³⁵ Warwick Commission (2009), pg. 33.

³⁶ Europeans for Financial Reform "Fighting for a Financial Transaction Tax - how and why?" (15th March 2010)

³⁷ Europeans for Financial Reform "Fighting for a Financial Transaction Tax - how and why?" (15th March 2010)

³⁸ Prepared for the City of London Corporation by PwC (December 2010)

C. By reference to undesirable market behaviour caused by implicit guarantees ('moral hazard'), improperly managed and unsupervised automated trading, distorted debt-equity choices (excessive leverage), excessive executive compensation schemes encouraging risk-taking, complex products, counterparty risk and economic rents, the Commission believes that the proposed FTT would also reduce incentives for excessive risk-taking, address specific risks posed by automated trading, reduce leverage, avoid distortions within the EU, ensure efficiency of the measures, safeguard relative competitive positions within the EU and avoid double taxation.

Proponents of the FTT believe that the impact of such a tax would minimally affect asset prices. One estimate³⁹ is that the impact of the introduction of a FTT of 0.01% (one-tenth the proposed FTT) on the German stock market index would lead to a decrease of merely 0.45% of market value, indicating that such a tax would have little or no negative effect on stock prices across the EU. The IMF⁴⁰ has also reported that a 0.01% FTT in the US would increase the cost of capital (for corporates with taxed securities) by only 0.002%-0.0036%. However, several reports (as detailed in the following section) strongly contradict these findings, suggesting much steeper declines in stock prices across the EU (as already confirmed by the sharp declines in stock prices witnessed across the EU on the announcement of the Commission FTT proposal) and much sharper increases in the cost of capital for European firms as a result of a FTT.

D. The proposed FTT also seeks to achieve greater harmonisation and avoid fragmentation in the EU financial services sector. While it might be possible that a FTT could potentially achieve better harmonisation, the same could be achieved through other current tax and non-tax, regulatory measures.

It seems that the significant number of regulatory proposals recently adopted or to be adopted by the EU institutions will already tackle, in a more precise and targeted way, the market failures described by its proponents as the *raison d'être* for the FTT. Unless one considers these efforts superfluous or ineffective, imposing an FTT to mitigate prudential or systemic risk concerns on top of the regulatory intervention could be suboptimal.

The proposed FTT, as designed, could lead to a significant decrease of cross border trading in the EU, undermining the Single Market. The Commission's own studies⁴¹ show that simple equity transactions usually require a much longer transaction chain with one or more intermediaries being interposed between a client and a trading venue in another Member State. These chains are unlikely to be reduced by changes in business models as, often, there is only a limited number of ways one is able to execute transactions on a cross border basis. Furthermore, the Commission impact assessment does not contemplate the differences in financial market liquidity in the various Member States. Indeed, the impact of the FTT on a smaller, less liquid market could be much more severe, creating an uneven impact, draining of liquidity and raising the cost of capital from certain Member States in a disproportionate manner.

Economic literature reviewed in the following section (section 3) also reveals a multitude of empirical and theoretical evidence that suggests that introducing the proposed tax would lead to a reduction in the overall tax revenues for members of the EU. The Commission's own Impact Assessment accepts that "the revenue estimates for the variants of FTT heavily depend on the assumption on volume decrease and on the elasticity of remaining trade volumes to the tax."⁴² That assessment also admits that it could lead to a reduction in the EU GDP by 1.76%.⁴³ As the following section elicits, there is a strong possibility of a non-trivial volume of financial transactions migrating away from Europe. Given the fragile economic condition of the EU at present, against a

³⁹ "Financial transactions tax: small is beautiful", by Z. Darvas and J. von Weizsäcker, Bruegel (January 2010)

⁴⁰ "Draft Final Report for the Group of Twenty Ministers on a Fair and Substantial Contribution by the Financial Sector", IMF, May 2010.

⁴¹ http://ec.europa.eu/internal_market/financial-markets/docs/clearing/first_giovannini_report_en.pdf

⁴² Impact Assessment, paragraph 7.8.

⁴³ Impact Assessment, paragraph 7.8.

background of a slowdown in economic recovery and the possibility of a double-dip recession, the proposal for an FTT should be reconsidered, in light of these negative forecasts.

Evidently, arguments in favour of the FTT that describe the tax as a strategy geared towards promoting long-term growth and job creation should be given further consideration in light of the evidence to which we draw attention.

3. What are the potential downsides of the FTT?

Theoretical and empirical evidence strongly suggests that the proposed FTT will likely have several undesirable effects and potentially severe consequences, if implemented.

First, the proposed FTT will likely cause a significant reduction in asset prices.

Theoretical models generally report that higher transactions costs (including transaction taxes) are associated with lower asset prices⁴⁴ because investors require a higher return from holding securities associated with higher costs, bidding the price down. The IMF, in its report to the G-20 in September 2011, concludes that higher transaction costs therefore raise the cost of capital for corporations with taxed securities because increased transaction costs and decreased liquidity in the secondary market can make it less attractive for investors to subscribe to new levels of primary equity issuance.

The magnitude of the reduction in asset prices which would be caused by the proposed FTT depends not only on the magnitude of the tax rate itself but also on the average length of the holding period of the asset. According to the aforementioned IMF report, the shorter the average holding period of an asset, the greater is the impact of the tax on the security's value. Specifically, for short holding periods (for example, one day), the IMF predicts the likelihood of even a very low tax rate of 0.01% causing a 50% reduction in the security's value. On the other hand, for very long holding periods (for example, 10 years), the reported decline of the security's value from even a 0.50% FTT is quite small at 1.4%. Therefore, evidence suggests that the effect of the proposed FTT could be significant as investors would face strong incentives to reduce short-term trading as there would be a strong incentive to hold stocks for longer periods. Very short-term trading (one-day timescales) would therefore be affected the worst.

Consider the case of a hypothetical stock in the S&P500 index with a holding period that equals the average holding period of the S&P 500 index (equal to nearly three and a half months⁴⁵). In other words, the time between the purchase and the sale of this stock has been on average approximately three and a half months (in the year 2009). According to the IMF's report, the 0.1% tax rate proposed by the Commission would reduce the market value of this stock by 7.60% and increase the cost of capital (for the company issuing the stock) by 0.25%^{46,47}. These theoretical assessments of FTTs by the IMF are also supported by empirical evidence. One report⁴⁸ found that a 1% tax on Swedish equities in 1983 resulted in an average decline of 5.30% in the value of the Swedish Index (OMX) in the 30 days leading up to the introduction of the tax. Another⁴⁹ study estimates that abolition of the 0.50% UK Stamp Duty would increase equity prices by 7.20% and reduce the cost of capital (for corporates) by 0.66%-0.80%. Using the standard deviation theoretical model, a different study⁵⁰ estimated that, if the existing UK Stamp Duty of 0.5% were abolished,

⁴³ Kupiecs, 1996; McCrae, 2002

⁴⁵ IMF (September 2011)

⁴⁶ IMF (September 2011)

⁴⁷ The IMF (September 2011) also finds that an STT of 0.05% or less on the corporate cost of capital is likely to be "modest" because the STT would lengthen the average holding period of securities, especially for large cap stocks, reducing the overall impact of the STT on security values and capital costs.

⁴⁸ For a more detailed analysis see Table 2 in the Appendix.

⁴⁹ Umlauf, 1993

⁵⁰ Oxera, 2007

⁵¹ "Stamp Duty on Shares & its Effect on Share Prices" The Institute for Fiscal Studies (2004)

the increase in share prices would be a function of its turnover rate and dividend yield and, more specifically, that “the higher the frequency of transactions, the more Stamp Duty would be saved in the future by shareholders as a result of its abolition, and the higher is the predicted increase in the current share price. This basic prediction holds for cuts in the rate of Stamp Duty more generally, provided the turnover rate increases less than proportionately as the rate of Stamp Duty is reduced.” That study’s predictions have been summarised in Table 6 in the Appendix to this paper. Another study⁵¹ found an elasticity of share price with respect to transaction costs of -0.23 (in the UK), implying that the 1984 reduction in the Stamp Duty rate from 2% to 1% would have led to an 8% rise in share prices.

Second, as mentioned previously, empirical evidence also exists to support the hypothesis that the proposed FTT would deteriorate market liquidity and therefore widen spreads.

An increase in transaction costs in the form of a transaction tax on equities, bonds or derivatives negatively impacts profit margins for those participating in transactions involving these securities. As a result, investors or traders would face greater incentives to reduce turnover, in addition to the total value of transactions causing a decrease in market liquidity⁵² and widening of spreads. More specifically, the extent of the decrease in a security’s liquidity due to an increase in the transaction costs faced by investors depends on the security’s trading volume ‘elasticity’. The trading volume elasticity represents the expected percentage change in volume traded as a result of a percentage change in the tax rate. A negative elasticity in the case of the proposed FTT would mean that an increase in the tax rate would lead to a decrease in the security’s trading volume.

A report⁵³ has shown that a sharp drop in trading volumes occurred in Sweden in 1989 due to the introduction of a 0.002% to 0.003% security transaction tax (STT) on bonds. During the first week of imposition of the tax, bond trading volume fell by about 85% (from its average during the summer of 1987). Trading in futures on bonds and bills fell by about 98% over the same period. Trade in options essentially disappeared. In contrast, the tax rate proposed by the Commission is three to five times the tax rates imposed in Sweden and, consequently, its impact could be significantly worse.

Generally, studies indicate that the magnitude of a STT and the breadth of its base are two critical factors determining stock market trading volume elasticities - and particularly, that broader bases and lower taxes lead to lower elasticities.

Third, an FTT is also likely to hinder efficient price discovery⁵⁴.

Reduced trades would cause market participants to incorporate new information at a slower pace; leading to greater autocorrelation of returns⁵⁵ (a symptom of inefficient price discovery). One study⁵⁶ confirms this in the case of Japanese stocks that experienced reduced autocorrelation of returns in 1989 when a decision to reduce a STT was made public. In fact, the autocorrelation of returns of Japanese equities was brought more in line with that of untaxed Japanese depository receipts trading on the US markets after that announcement. A separate report, in 2006⁵⁷, found similar results with respect to transactions in Chinese equities.

⁵¹ Jackson and O’Donnell (1985)

⁵² Amihud and Mendelson, 1992; Kupiec, 1996

⁵³ Froot and Campbell, 1994

⁵⁴ ‘Price discovery’ is defined as the process by which financial markets incorporate the effect of new information into asset prices. (Froot and Perold, 1995; Frino and West, 2003)

⁵⁵ Autocorrelation is defined as the correlation between observations of a time series with lagged observations of the same series.

⁵⁶ Liu, 2007

⁵⁷ Batalgi et al, 2006

Fourth, while one of the stated objectives of the proposed FTT is to reduce market volatility, it can be argued that an increase in financial transaction costs (for example, by an STT) would instead lead to an increase in market volatility.

Although empirical evidence examining the relationship between volatility and transaction costs usually focuses on short-term price volatility and reports no effect of transaction costs on volatility, in some cases a positive effect is noted. For example, two reports⁵⁸ find no consistent relationship between volatility and transaction costs, yet there are several reports⁵⁹ which find a positive effect. Most notably, the IMF (in its September 2011 report) finds that, while the net effect of an STT on volatility depends on market microstructure and the composition of trading, it could well cause an increase in price volatility.⁶⁰

The IMF also considers that the STT may suppress activity as informed traders and arbitrageurs push prices away from fundamental values.⁶¹ Other studies suggest that reduced trading volume and market liquidity increase the price impact of trades. In assessing the impact of transaction costs on the formation of asset 'bubbles', the IMF (in its September 2011 report) also concludes that "though transaction costs may play a role in determining market cycles, they are clearly not a decisive factor." The IMF adds that a low-rate STT may slow the upswing of an asset cycle (during the formation of an asset bubble) due to reduced transaction volume but, on the other hand, it may even reduce the pace of price correction.

Fifth, a decline in trading volume due to the proposed FTT is likely to contribute directly to the loss of jobs.

As has been noted by several commentators and stakeholders, if implemented, a FTT is likely to have disproportionate significance for the UK. A EU-wide FTT while the revenue raised by the FTT would be channelled towards supporting the EU budget, ahead of providing support to Member States. A 2008 study⁶² found that a broad-based tax on equities, bonds and all derivatives would mean that the UK would contribute approximately 71% of the tax (see figure 1 in the Appendix). The Corporation of London has estimated that approximately 80% of such an EU-wide tax would be paid by London-based institutions. However, despite raising a significant portion of the EU tax revenue, the UK would receive little of the benefit, clearly an unattractive proposition. The success of the City of London in establishing itself as a centre for foreign exchange transactions stems, at least in part, from its regulatory and tax environment. A 2010 survey of currency trading conducted by the Bank for International Settlements shows foreign exchange turnover in the UK reached more than \$1.9 trillion on a daily basis in 2010, accounting for 36.7% of the global total (see Table 3 in the Appendix).

The London Stock Exchange currently has the fourth largest domestic equity market capitalisation in the world, after exchanges in the USA and Japan, but remains larger than those in other European countries and in Hong Kong and Shanghai (see Table 4 in the Appendix). London is also the most active centre in the world when it comes to trading in eurobonds. New eurobonds and medium-term notes issued in London during 2010 were equivalent to £416.6bn.

The UK also has the largest financial derivatives market in the world, with an average daily turnover in interest rate derivatives of just over \$1.4 trillion, equivalent to 45.8% of the total (see Table 5 in the Appendix). Further, the UK has the largest asset management business in Europe, accounting for just under a third of the entire market, calculated on a net asset basis. As many as

⁵⁸ Roll, 1989 and Baltagi et al, 2006

⁵⁹ Jones and Seguin, 1997, Hau, 2006 and Green et al, 2000

⁶⁰ "Financial Sector Taxation: The IMF's Report to the G-20 and Background Material", Chapter 8, pg. 160.

⁶¹ On the other hand, the IMF (September 2011) also notes that an STT may also reduce "noise trading" (trading based on spurious information such as past price movements) and therefore serve to stabilize markets (De Long, and others, 1990a; Froot, and others 1992).

⁶² Schulmeister

50,000 people are employed in the UK's fund management business (more than 30,000 in the hedge fund industry), accounting for 0.7% of UK GDP in 2010.⁶³

Professor Tim Congdon at the University of Oxford estimates that the proposed FTT would cost London approximately one out of every four jobs in the City⁶⁴. Another analysis⁶⁵ conducted to estimate the impact of a FTT on New York City concluded that even a transaction tax that reduces trading volume (at the NYSE) could impact the employment in the financial sector significantly, costing 10,000 to 11,000 jobs (\$2.5 billion in lost wages). Additionally, the study also reported that, due to the cascading effect of FTTs, the job losses in the securities industry could cause job losses in other sectors as well. Overall, the report estimated that 23,000 to 33,000 private sector jobs (in New York) could be lost as a result of a FTT.

Sixth, and arguably the greatest risk of an EU-wide FTT, is the possibility of transaction migration away from Europe (especially to New York, Hong Kong and Singapore).

As noted, the tax would be levied whenever at least one party to the financial transaction is located within the EU. Thus, a firm located outside the EU (for example, in the US) which trades an EU equity, bond or derivative with another non-EU party would be exempt from the tax even though a firm located within the EU would be taxed for trading not only EU equities, bonds and derivatives but also international equities, bonds and derivatives. Besides the considerable difficulty that the Commission would encounter in convincing international trading intermediaries to bear additional administrative costs associated with collecting and remitting the tax back to Europe, such a tax based on a residency principle is also inequitable.

As described in section 2, the territorial scope of the proposed FTT would strongly incentivise derivative broker/dealers and other market participants to relocate outside the EU, to lower tax jurisdictions. Consequently, other financial institutions would also be encouraged to relocate to these jurisdictions. Gaining consensus across all G-20 countries to adopt a similar FTT (in order to stem migration) would be improbable and unrealistic given the complicated and lengthy process.

The migration of financial transaction volumes away from could possibly lead to a greater number of uncollateralised and weakly regulated transactions.

The Commission's own impact assessment report predicts that a consequence of the proposed FTT would be that the volume of derivative transactions traded in the EU would decline by a range of 70% to 90%. A decline in volumes traded of such magnitude is consistent with a 1993 report⁶⁶, which concluded that a FTT introduced in Sweden in 1985 (and subsequently doubled in 1986) profoundly caused trade migration to non-taxed or lower-taxed jurisdictions. As a result, 60% of the trading volume of 11 of the most actively traded Swedish share classes moved to London and 30% of all Swedish equity trading moved offshore. By 1990, 50% of all Swedish equity trading had moved offshore.

Other countries have also faced unfavourable consequences before eliminating similar financial taxes. In 1974, the UK introduced a Stamp Duty of 2% levied upon registration of securities (not on transactions per se); it was reduced to 1% in 1984 and to 0.5% in 1986. The market responded to the introduction of the tax by switching from equity trading to trading in equity derivatives with similar returns and trading in American Deposit Receipts (ADRs). Importantly, trade migration from equities to ADRs or their foreign equivalents would also dampen efforts to regulate these investments.

⁶³ The City UK Fund Management Research Report (2011): <http://www.thecityuk.com/assets/Uploads/Fund-Management-2011.pdf>

⁶⁴ "Cameron must stand up against the EU tax that could destroy our finance industry (October 2011) <http://www.dailymail.co.uk/debate/article-2055634/A-financial-transactions-tax-disaster-Britain.html>

⁶⁵ "The Stock Transfer Tax and New York City: Potential Employment Effects" Schwabish (December 2004)

⁶⁶ Umlauf, 1993

Perhaps, a potentially unintended consequence of the introduction of Stamp Duty in the UK is the rise of the contract for differences (“CFD”) market. When UK Stamp Duty was introduced, market participants, in order to avoid paying the duty, reallocated their capital from equities to the CFD (Contracts for Difference) market. CFDs are traded on the basis of the asset, rather than trading in the asset itself, thereby affording a saving on Stamp Duty for UK traders. An analysis of the CFD market published earlier this year⁶⁷ found that as much as 50% of the executable market in the UK (or £1.5 trillion of UK equity turnover) over the last twelve months were conducted through CFDs, which have increasingly become the investment vehicle of choice for professional investment funds. The savings from trading CFDs as opposed to UK cash equities (which are subject to Stamp Duty) can amount to 0.5% of total transaction value. However, CFDs carry (arguably) higher risks due to the inherent leverage. Proponents of the proposed tax should therefore consider the possibility that the FTT might encourage investments to reallocate to riskier (and perhaps less regulated) alternatives.

Overall, it is estimated⁶⁸ that the UK Stamp Duty reduced equity trading volumes by as much as 50%.⁶⁹ It is also estimated that the abolition of the 0.50% UK Stamp Duty would increase prices by 7.20% and reduce the cost of capital by 0.66%-0.80%.⁷⁰

Switzerland also introduced a 0.15% Stamp Duty in 1994, which caused its mutual fund business to migrate to Luxembourg and its eurobond and equity businesses to London. Subsequently, Switzerland abolished its Stamp Duty, in order to stem the migration. Germany's experience with its version of an FTT was similar; a 1993 study⁷¹ confirmed that 30% of trading in German government bonds, 50% of trading in other Deutsche Mark-denominated bonds and 80-90% of trading in floating rate Deutsche Mark-denominated bonds then migrated to London and, eventually, the FTT was abolished. A study⁷² analysing the impact of the reduction in the Japanese FTT rate from 0.55% to 0.30% in April 1989 found that, “controlling for other factors that potentially have influence over trading volume, at the margin, the tax reform in April 1989 seems to have had a positive impact on the yen value of daily trading volume, consistent with the positive overall efficiency impact reported earlier.” Another study⁷³ found that an increase in the Chinese FTT by 0.2% (from 0.35% to 0.53%) led to a decline in trading volume by 33%. Analysis of the impact of the reduction of the Taiwanese FTT from 0.5% to 0.25% (levied on futures transactions) reported⁷⁴ a “negative impact on trading volume and bid-ask spreads, as trading volume increased and bid-ask spreads decreased in the period following the reduction in the transaction tax.”

However, the most dramatic development from introduction of an STT was in the US, where it led to the formation of the euro-dollar market. Attempts to control capital exports and place other regulations on the banking system resulted in the market bypassing US government control.

In line with these results, Westerholm (2003) also concluded that transaction costs and turnover rates of shares are negatively correlated in Sweden and Finland.

The recent introduction of a Brazilian FTT also provides support for the view that FTTs result in trade migration to low-tax jurisdictions. In October 2009, Brazil introduced a FTT of 2% on all foreign portfolio investments. Consequently, foreign investors reallocated capital to Brazilian ADRs in New York.

⁶⁷ “Breaking Down the UK Equity Market: Executable Liquidity, Dark Trading, High Frequency and Swaps” (Tabb Group, 2011)

⁶⁸ Financial Sector Taxation: The IMF's Report to the G-20 and Background Material (September 2010)

⁶⁹ *Supra* at 2.

⁷⁰ Oxera, 2007, “Stamp Duty: Its Impact and the benefits of its Abolition” (report prepared for Association of British Insurers, City of London Corporation, Investment Management Association and London Stock Exchange (London).

⁷¹ “A Securities Transaction Tax: Beyond the Rhetoric” (Kupiec, White and Duffee, 1993)

⁷² Liu (2007)

⁷³ Baltagi, Li, and Li (2006)

⁷⁴ Chou and Wang (2006)

Other empirical research⁷⁵ concludes that a low ‘Tobin’-type tax will not curb speculation and a high rate will significantly reduce liquidity. It is also surely suggestive that, each time a transactions tax has been introduced in the EU, it has been subsequently abolished (with the exception of the UK Stamp Duty). For an overview of all existing financial taxes around the world today, please see Table 1 in the appendix at the back of this paper.

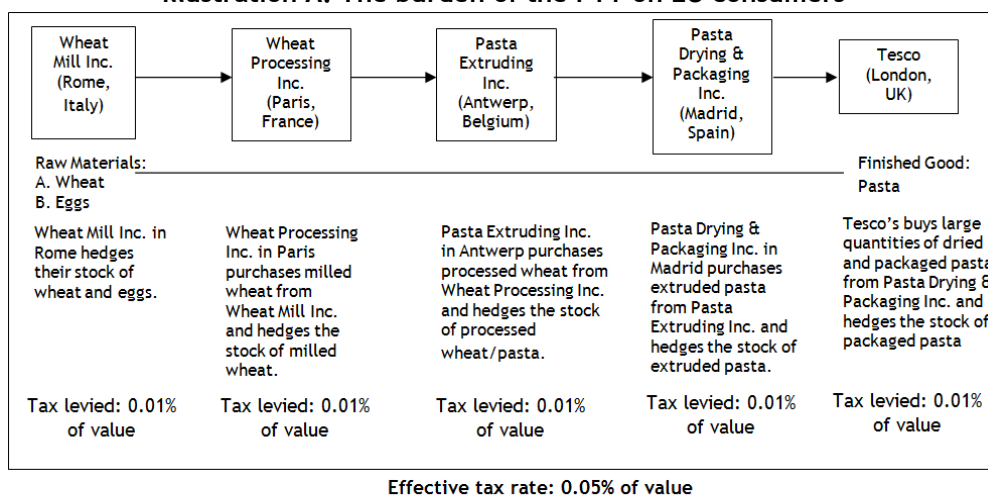
4. How would EU citizens (like pensioners) and tax payers be impacted by the FTT?

Jose Manuel Borroso, President of the Commission, discussing the FTT proposal, declared that it is a “question of fairness”. He argued that EU tax payers had contributed more than €4,000bn in guarantees to help the financial sector and that a transaction tax would serve to channel wealth from banks to society. However, closer examination of tax incidence reveals that the FTT is likely to affect EU tax payers worst, by reducing savings and retirement income at a crucial point, when Europe’s pensioners, savers and households are still recovering from the financial crisis.

Not only would the cost of the FTT be borne by EU taxpayers but the burden of the tax would be much greater than that contemplated by its proponents. Tim Worstall of Forbes draws attention to the ‘cascade’ effect of transactions taxes (originally explained by Sir James Mirrlees, Nobel Laureate)⁷⁶. Using the example (see Illustration A, below) of pasta purchased and consumed in the UK and its various raw materials which are assembled in different parts of Europe, he argues that before the final product (the pasta) reaches the hands of a European consumer, the various raw materials of that product would be hedged by corporations in different countries in Europe. With the proposed FTT, the same raw materials (for example, wheat) and the final product will often undergo payment of the tax several times over, through the hedging transactions undertaken by those corporations across Europe. As a result, the cost of hedging, the cost of capital (for corporate businesses) and the price of finished goods will increase. Additionally, those businesses which decide to avoid using financial markets to hedge the prices of their raw materials will consequently face greater risk, due to the fluctuations in the prices of those raw materials.

Moreover, as the cost of hedging increases, trading volumes of soft commodities would decline as firms face greater disincentives to use the financial markets to protect themselves from price fluctuations. Decreased trading volumes would result in price spreads to widen, further increasing the cost of hedging and exacerbating the impact on the cost of capital and price of finished products.

Illustration A: The burden of the FTT on EU consumers



Note: The same raw materials are taxed five times, which will be passed on to the final consumer (at least to some extent).

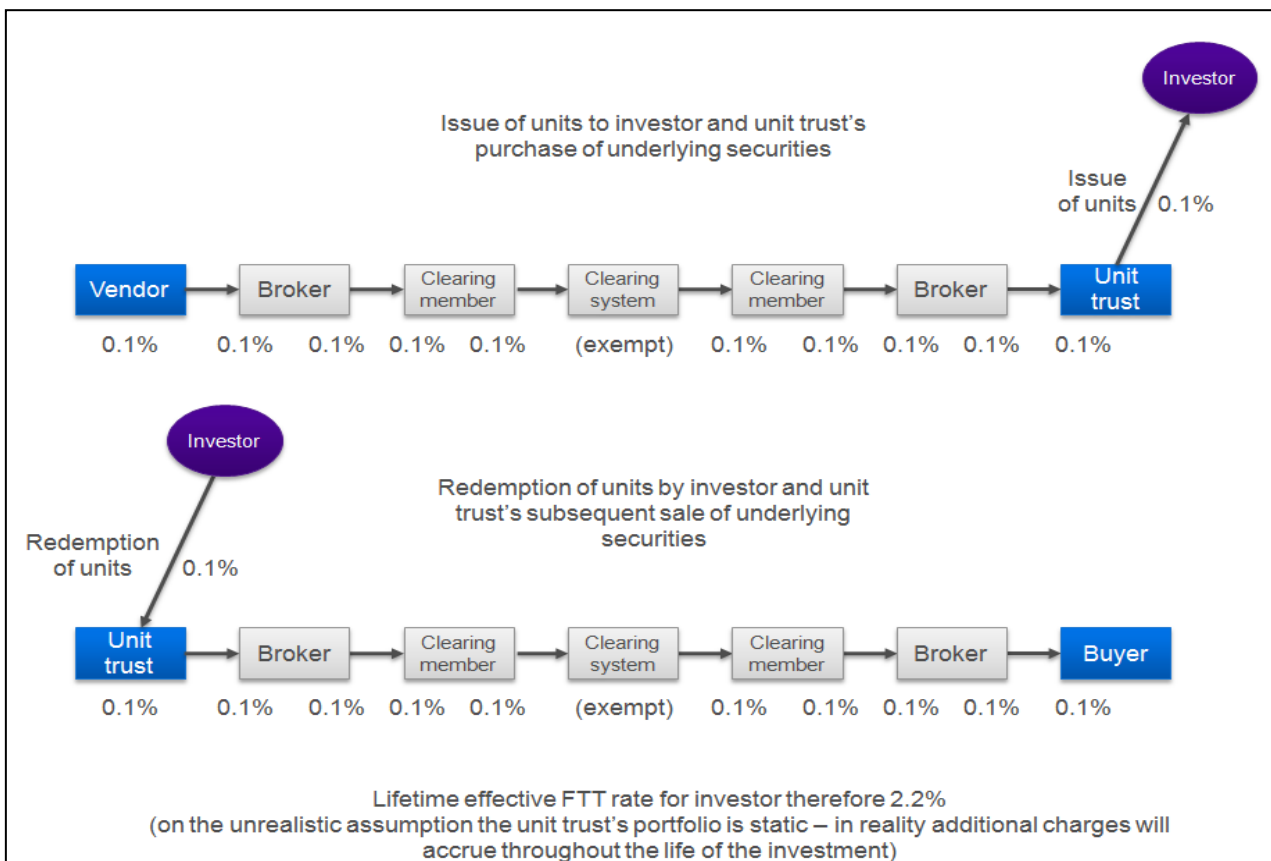
⁷⁵ Mende and Menkhoff, 2003

⁷⁶ Forbes article (22 September 2011), “Corporations Do Not Pay Taxes: They Can’t, They’re Not People”.

The UK Chancellor of the Exchequer, George Osborne, has also pointed out that the tax would be borne by pensioners, not banks.⁷⁷ The Dutch Algemene Pensioen Groep (APG), one of the world's largest administrators of group pension schemes, has declared that the proposed FTT would be a "tax on current and future retirees."⁷⁸

Illustration B (below) demonstrates the cascading effect of the FTT as proposed on a relatively simple transaction by a unit trust (or pension fund, or similar) to acquire a security. When the cost to the investor of acquiring units is included, the additional cost of the FTT becomes (if it was not already) prohibitive. It should be noted that there is also an opportunity cost as the unit trust or pension fund will no longer lend out securities as the income earned, net of the FTT costs, is likely to make it unprofitable. This represents a potentially valuable stream of income foregone by these entities.

Illustration B: Cascade Effect of the proposed FTT



Note: Increased transaction costs due to the financial transactions tax (FTT) could result in:

1. Discouragement of sound investment management practices (e.g., diversification and hedging).
2. The security holder foregoing income from lending securities.

This example assumes that trading behaviour/methods would remain unchanged.

⁷⁷ "Tobin Tax is a tax on pensioners that will cost 1m jobs, says Chancellor George Osborne"
<http://www.telegraph.co.uk/finance/personalfinance/consumertips/tax/8876977/Tobin-Tax-is-a-tax-on-pensioners-that-will-cost-1m-jobs-says-Chancellor-George-Osborne.html>

⁷⁸ "Tobin Tax is a tax on pensioners that will cost 1m jobs, says Chancellor George Osborne"
<http://www.telegraph.co.uk/finance/personalfinance/consumertips/tax/8876977/Tobin-Tax-is-a-tax-on-pensioners-that-will-cost-1m-jobs-says-Chancellor-George-Osborne.html>

Analysis⁷⁹ of the incidence of the Stamp Duty implemented in the UK concluded that, in the long run, such a tax will be borne by individuals, in the form of lower returns on their savings, higher product prices due to lower investment or a combination of both. That study also reported that, at the time of the announcement of the tax (or an unanticipated increase of the tax), the incidence of the tax may fall largely on existing shareholders “if share prices adjust to deliver the same expected post-tax returns as are available on substitute assets that are not subject to Stamp Duty”.

Illustration C below demonstrates the annual investment performance burden of the FTT on sample portfolios as calculated by BlackRock⁸⁰. BlackRock has analysed the impact of the European Commission's FTT by applying the proposed FTT tax rates to actual transactions made during 2010 in a selection of mainstream funds typically used for long term investing.

Illustration C: Impact on representative fixed income and equity portfolios

Fund Type	Active Return Expectation* (bps)	Current Total Expense Ratio (bps)	Annual Cost of the FTT (bps)		
			Total (bps)	Cash Securities (10 bps)	Derivatives (1 bp)
Fixed Income Euro ETF	0	20	8	8	-
Fixed Income Euro Index	0	20	6	6	-
Fixed Income Euro Active	50	54	25	21	4
Equity UK Index	0	40	1	1	0
Equity UK Active	100	40	6	6	0
Equity Global Active	150	75	33	33	0
Equity European Active	300	75	257	252	5

*Expected return above benchmark, gross of fees

Source: Pgs 48-49 <http://www.parliament.uk/documents/lords-committees/eu-sub-com-a/FinancialTransactionTax/FTTWrittenevidence.pdf>; BlackRock Risk and Quantitative Analysis (RQA)

As can be seen in the table, BlackRock estimates that the annual cost of the FTT for any given fund is a function of the fund's turnover (i.e., the volume of securities traded) and also depends on whether the fund trades cash securities, derivative instruments or both. As one would expect, the greater the volume of securities traded by the manager of the portfolio, the greater the FTT burden. For example, the FTT burden on a fixed income Euro ETF fund would be 0.08%, while the FTT burden on a fixed income Euro active fund would be 0.25% - over 3 times the FTT burden on a fixed income Euro ETF fund not only because a fixed income Euro active fund is more dynamic but also because unlike the fixed income Euro ETF fund, the fixed income Euro active fund involves the purchase and sale of derivative instruments in addition to cash securities. Similarly, the FTT burden on an equity UK Index fund, an equity UK active fund, an equity global active fund, and an equity European active fund have been estimated to be 0.01%, 0.06%, 0.33% and 2.57% respectively.

⁷⁹ “Stamp Duty on Shares & its Effect on Share Prices” The Institute for Fiscal Studies (2004)

⁸⁰ Pgs 48-49 <http://www.parliament.uk/documents/lords-committees/eu-sub-com-a/FinancialTransactionTax/FTTWrittenevidence.pdf>; BlackRock Risk and Quantitative Analysis (RQA)

Taking this one step further, they have estimated⁸¹ that in the case of a prudent 40 year old investing €10,000 in a fixed income active portfolio would pay nearly €1,000 of this original amount to the FTT by the time he/she were nearing retirement 20 years later. If the same investor was to invest €10,000 in a global equity fund, an FTT would have eliminated over €2,300 in expected returns by the time he/she reaches 60. More significantly, the same individual would lose nearly €15,000 investing in a more dynamically managed European equity fund over this timeframe. This is 50% more than what he/she originally invested. This analysis does not take account the FTT's negative impact on the performance of the pension fund due to client subscriptions and redemptions nor of the cascading effect of the FTT and therefore severely underestimates the impact of the FTT on a pension fund holder.

5. The FTT would affect:

A. European institutional investors

The proposed FTT would affect European institutional investors by directly increasing the transaction costs associated with the purchase and sale of stocks, bonds and derivatives. Arguably, small reductions in returns generated by pension funds, their dedicated investment funds and asset managers would eventually accumulate into considerable reductions in final pension fund returns. For example, a study by APG (administrators of over 4 million pension participants in the Netherlands), as noted, has estimated that the Dutch pension funds sector would have to pay EUR 3 billion per year as a result of the FTT. Such a burden would equal approximately 5.5% of the total tax revenues (EUR57 billion) which the Commission aims to collect.

As the proposal is currently framed, pension funds could be directly hit at least twice by the FTT: when the fund manager arranges a transaction on behalf of the fund and when the fund acquires or sells that asset.

B. European fund managers

A FTT levied on the value of each transaction involving the purchase or sale of equities, bonds or derivatives is likely to reduce the volume of those securities traded, as the higher the level of transaction volumes the greater the increase in transaction costs for traders. Further, additional transaction costs would affect the profit margins of all asset managers and investors. In particular, the increased costs would particularly prove to be a burden for algorithmic traders, who seek to benefit from a spread between the bid and ask price through a high turnover strategy and, accordingly, operate on extremely thin profit margins.

Arguably, hedge funds operating on slim profit margins could cease to be viable as a direct result of the proposed tax. An analysis⁸² by platform provider TraderServe estimated that assets allocated to 'typical' short-term (non-high frequency) portfolios would migrate to tax jurisdictions outside the EU if the FTT is implemented⁸³ and that short-term trading is of general benefit as it usually improves efficient transfer of risk between longer-term market participants.

TraderServe reported that in order to achieve the best execution for their investors, many managers take advantage of systems which attempt to trade at the best bid or offer without "crossing the spread" for at least a short period. Wider spreads (such as those experienced in lower priced major stocks in Tokyo) typically mean that this type of execution improvement becomes impractical as the likelihood of getting to the front of the queue is so low. Therefore, when a manager chooses to trade for its investors, it not only pays a wider spread but would no longer have

⁸¹ Pgs 48-49 <http://www.parliament.uk/documents/lords-committees/eu-sub-com-a/FinancialTransactionTax/FTTWrittenevidence.pdf>; BlackRock Risk and Quantitative Analysis (RQA)

⁸² The opinion of Mr. Nick Idelson of TraderServe.

⁸³ An FTT of 0.01% would represent transaction costs on average of around 125% of assets per annum for these portfolios which have a typical volatility of 15% per annum.

the option for improved execution quality. The report concludes that investment managers and other market participants would be incentivised to hold positions past the time which their professional judgement dictates because the effect of the FTT on short holding periods would be substantial.

The FTT would also affect the returns of “safer” fixed income portfolios because these funds invest in shorter-duration bonds, involving a greater number of transactions, and therefore facing greater costs due to the higher turnover. Similarly, money market funds would suffer because they invest in high-quality paper with short-durations. Specifically, it would eliminate large portions (if not all) of the profit margins of pension funds seeking market neutral returns through long-short strategies.

Funds emphasizing sound investment management principles that seek to reduce risk through diversification or hedging will be exposed to greater risk as such measures prove to be heavy burdens on profit margins, exacerbating the pensions shortfall currently faced by many individuals. Surprisingly, the Commission's claim that the tax serves to benefit EU taxpayers somewhat contradicts the Commission's own Impact Assessment which, among its conclusions, admits that the burden of such a FTT would be passed on to consumers, not banks or other financial institutions⁸⁴. That Impact Assessment finds that “banks are able to shift at least 90% of their corporate income tax burden [on to their customers], depending also on the competitive pressure they face.”

The asymmetry between the tax rates applied to stocks and bonds (0.1%) and to derivative instruments (0.01%) will incentivise investments in more complex alternatives (derivative instruments). The proposed FTT, therefore, would reduce investment in the real economy and discourage corporate governance and long term engagement if, as seems probable, investment managers invest less in equities and more in derivatives as a result of the bias in the FTT rates in favour of derivatives.

6. Could a transactions tax have stemmed excesses leading to the recent crisis?

Results from the World Bank policy research paper in 2009 mentioned above suggest that an FTT of the nature proposed by the Commission would not have succeeded in preventing the recent crisis (caused primarily by the malfunction of the collateralised debt obligation (CDO) markets, together with the activities of the markets for securitized sub-prime mortgages and other derivatives-based instruments).

The World Bank found that an FTT would have no appreciable impact on the construction and sale of mortgage-backed securities and their derivatives because those are typically buy-to-hold securities and are not sufficiently liquid to be repeatedly traded on a minute-to-minute basis. Since neither the underlying errors in risk estimation nor the securities most intimately involved would have been much affected, it is hard to see why an FTT could be expected to have a very significant effect. Moreover, the revenue potential of such a tax would not be very promising. For example, quarterly issuances of these securities peaked in 2006-7 at around \$100bn/quarter. A high fraction of the total lifetime tax revenue from that issue would be approximately \$10 million with a tax rate of 0.01%.

It is also hard to argue that an FTT applied at a low rate would be effective in reducing the damage caused by CDOs. A tax applied only to the actual premia paid would have no effect on secondary market trading, while a tax applied to the nominal volume of debt insured might be more promising from a revenue point of view but difficult to apply in practice.

⁸⁴ Annex 9, pg. 37.

Conclusion

AIMA's analysis of the Commission's proposed EU-wide FTT argues against the introduction and implementation of any such tax. As explained in sections 2 - 6 of this paper, empirical and theoretical evidence concludes that an FTT would largely fail to achieve stated policy objectives and even prove to be counter-productive.

1. The Commission's Impact Assessment estimates that, as a consequence of the proposed financial transactions tax (at a rate of only 0.1% on securities, but excluding the derivatives markets), future EU GDP growth is likely to be in the range of -1.76% (a reduction of €286bn) and -0.53% of EU GDP (a decrease of €86bn)⁸⁵; the midpoint (average) of this range is approximately -1.15% (a reduction of approximately €186bn). In other words, the Commission is proposing a tax that it expects will reduce GDP growth.
2. The Impact Assessment also recognises that the FTT would increase the cost of capital for corporations across Europe, thereby reducing levels of investment⁸⁶.
3. It also warns that the FTT could have a "far reaching potential impact on the financing of investment projects."⁸⁷
4. Undoubtedly, the proposed FTT is unmerited and unfair in that the burden of the tax would fall on those sections of society which did not contribute to the financial crisis but instead shared the burden of bailing out the banking sector and aided in stabilising the economy:
 - a. As detailed in section 5, economic literature (including the Commission's Impact Assessment) supports the proposition that, contrary to the Commission's objective of recouping part of the costs of bailing out the EU banking sector through the FTT, the true incidence of the tax is likely to fall on EU citizens and pensioners and not (as intended) on financial institutions.
 - b. Consideration should also be given to the rationale for the financial sector's VAT exemption. As explained in this paper, that VAT exemption was provided to the financial sector because it was recognised that the true incidence of VAT would fall on the final consumers, i.e. EU savers and pensioners.
 - c. Although studies have consistently shown that investment funds did not contribute to the recent financial crisis, the Commission's proposal would also penalise those funds.
 - d. Indeed, the burden of the FTT would be borne by both direct and indirect investors in investment funds (including pension funds) in the form of widened spreads, higher brokerage fees or both.
5. Evidence also suggests that such burden is also likely to be compounded by the tax's cascading effect because the FTT will be applicable each time a stock, bond or derivative is purchased and sold (units in collective investment vehicles are also not exempted from the tax). In the absence of any mechanism that credits consequent transactions with the FTT levied earlier in a series of principal transactions, the effective rate of the FTT will be much higher than intended (see section 5 for details) and have a debilitating effect on the Single Market as cross border trades involve longer transaction chains.
6. Arguments that suggest that the impact of an FTT on EU citizens and pensioners can be reduced ignore the impracticality of such a plan, which would necessitate the implementation of complex exemptions (contradicting the Commission's claim that the tax would be relatively

⁸⁵ Barclays Capital "FTT: A Taxing problem" (October 2011)

⁸⁶ "The [FTT] may lead to a drop in share prices and thereby to an increase in firms' costs of raising capital" (IA; Pg. 34; Vol. 16).

⁸⁷ IA; Vol. 1

easy to implement) or a reduction of the tax rate significantly below 0.1% (thereby further hindering the tax's ability to raise tax revenues).

7. In summary, the academic review that we have presented concludes that the proposed FTT is likely to achieve these negative effects across the EU: the FTT could cause a significant reduction in asset prices, deteriorate market liquidity, widen spreads, hinder efficient price discovery, increase market volatility, contribute negatively to the already grim employment levels in the EU, reduce the level of savings and investments of ordinary EU citizens, erode the competitiveness of European industries by increasing the cost of capital of EU corporations and, most importantly, cause a significant and permanent migration of financial transaction volumes away from Europe to preferred tax jurisdictions thereby decreasing the ability for EU supervisors to control systemic risk.

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APPENDIX

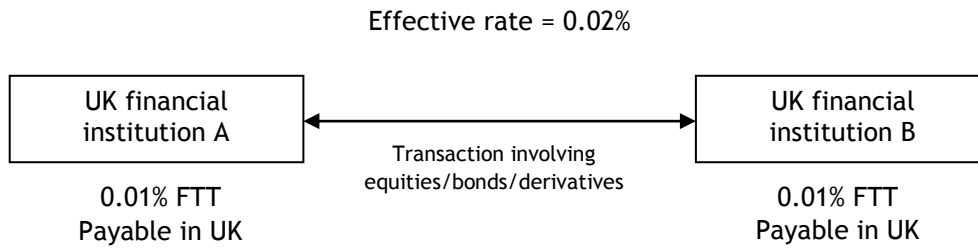
Box 1: Key Highlights/Summary of Comments on the Proposed FTT

- **11th January 2011:** The Prime Minister of Italy, Mario Monti: "We are willing to back this initiative on an EU level. The ideal situation would be to have it globally. It could make sense if it were among all 27 EU countries. I'm not sure if it makes sense only at eurozone level."
- **11th January 2011:** German Chancellor Angela Merkel: ""We [the Christian Democrats] can imagine it in the euro zone but clearly as the head of a government, you need to have the agreement of the coalition partners ... Therefore, when I spoke [in favour of the tax], I made it clear it was a personal opinion. Everyone in the government is of the opinion [that] we should [try to get it] on the basis of 27 [EU member states]. We will negotiate that until March. There is no agreement [in the coalition] on the question of an introduction in the euro zone and therefore the government cannot represent that position, no matter what I said before." (Reuters article 11 January 2011 "Merkel, Monti - Can support only EU-wide Tobin tax")
- **10th January 2011:** French President Nicolas Sarkozy announced that he would take the lead -- even go it alone within Europe, if need be -- in introducing and pushing a Financial Transaction Tax in his country. "If France waits for others to tax finance, then finance will never be taxed." (Huffington Post article 11 January 2011 "Obama, Sarkozy and Taxing Wall Street")
- **10th January 2011:** The French Banking Federation: "A tax that's limited to France would weigh on growth, lead to a loss of competitiveness, and create a heavy handicap for the financing of the French economy,"
- **8th November 2011:** Chancellor of the Exchequer of the United Kingdom, George Osborne, pointed out that "That is [The European Commission's] central estimate that is going to cost 500,000 jobs across the European continent." He also stated that approximately 995,000 jobs across Europe (3.5% of the EU's GDP) would be lost as a result of the tax.
- **29th September 2011:** Michael Spencer, CEO of ICAP: "Sadly deluded if they thought they could raise over €50bn from this tax...Wholesale markets are highly mobile and would move to avoid it... he was certain that the UK would veto the proposal...if it came to it ICAP would relocate their business." (29th September 2011)
- **29th September 2011:** The Minister of Finance, Ireland: "Obviously Ireland would have concerns about any tax that would distort the market. A transaction tax would need to apply to the whole 27 rather than the 17 euro countries because we can't have a situation where there is a transaction tax in Dublin and there is no transaction tax in London. There is also a need to ensure that our response to the crisis is coordinated at the global level, to make sure that measures are internationally consistent." (29th September 2011)
- **29th September 2011 :** Deputy Finance Minister for Holland, Frans Weekers: stated that the FTT plan is "no good at all" and would affect competitiveness of the European Union. (Bloomberg article 29 September 2011 "Dutch Government rejects a EU plan on FTT")
- **28th September 2011:** UK Treasury: "The government will continue to engage with its international partners on FTTs and has no objection to them in principle. But any FTT would have to apply globally and there are a number of practical issues that need to be worked through. These issues are underlined by the commission's own analysis." (Guardian article 28 September 2011 "Osborne expected to oppose EU's proposal for Tobin Tax on banks")
- **16th September 2011:** US Treasury Secretary, Tim Geithner: "Now there are proponents of introducing other frictions, in transactions, but I don't think their history is very good in containing the risks of large swings in asset prices...I don't think they're the most effective way to contain leverage, or limit leverage, and I think most evidence suggests that they probably damage liquidity, that they undermine depth in markets, which is valuable in a crisis". (Bloomberg article 16 September 2011 "Geithner says financial rule changes needed to support growth")

- **10th September 2011:**
UK Chancellor, George Osborne: “I am against an EU tax...There would be no point introducing a FTT that led, the next day, to our foreign exchange markets moving to New York or Singapore or anywhere else.” (Daily Telegraph 10 September 2011 “George Osborne rejects EU transaction tax”)
- **7th September 2011:**
Swedish finance minister, Anders Borg: “Basically, our futures trading, our bond trading and our stock trading to a large extent just moved to London...if we would introduce a unilateral European system, it's quite likely the trading will move to the U.S. or Switzerland. It's not a system that can work actually.” (Anders Borg Swedish Finance Minister interviewed by Bloomberg TV's Countdown program 07 September 2011)
- **August 2011:**
Merkel & Sarkozy called the FTT a “necessity” and a “priority” (Paris, August 2011)
- **7th November 2009:**
US Treasury Secretary, Tim Geithner: “A day-by-day FTT is not something we're prepared to support”. (Daily Telegraph article 07 November 2009 “US Treasury Secretary Timothy Geithner slaps down Gordon Brown's 'global tax'”)

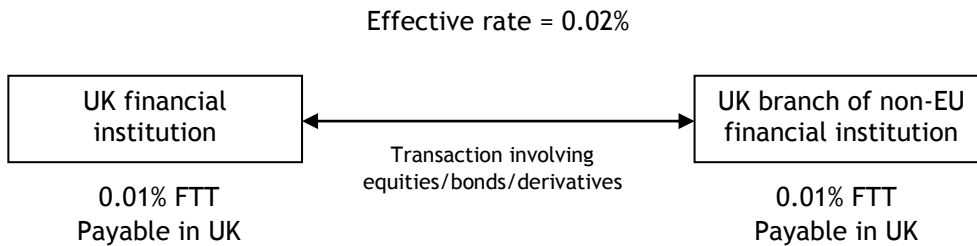
Box 2: Effective tax rates of FTT based on the “residency principle”

Case 1: Two UK financial institutions



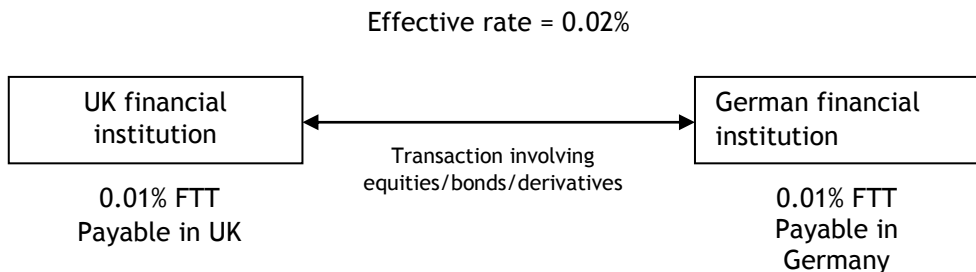
Case 1 examines a financial transaction conducted by a UK branch of a UK-based financial institution (A) and a UK branch of another UK-based financial institution (B). The effective rate in this case amounts to 0.2% (0.1% paid by A & 0.1% paid by B). Both taxes would be payable in the UK.

Case 2: UK financial institution & UK branch of non-EU financial institution



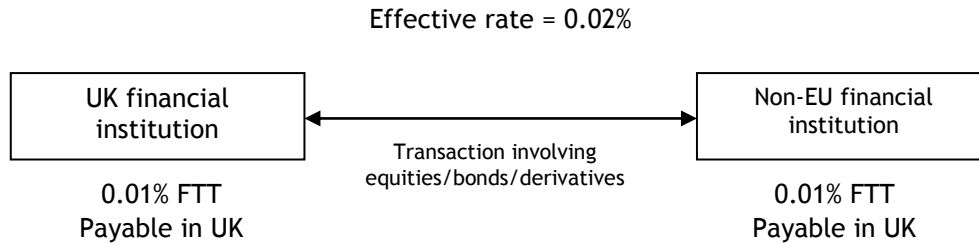
Case 2 involves a financial transaction between a UK branch of a UK-based financial institution and a UK branch of a non-EU-based financial institution. Again, the effective rate in this case amounts to 0.2% (0.1% paid by each institution) and both taxes would be payable in the UK.

Case 3: UK financial institution & financial institution from another EU jurisdiction (ex: Germany).



Case 3 involves a financial transaction between a UK branch of a UK-based financial institution and a German branch of a Germany-based financial institution. Again, the effective rate in this case amounts to 0.2% (0.1% paid by each institution). The UK-based financial institution would pay the FTT in the UK and the Germany-based financial institution would pay the FTT in Germany.

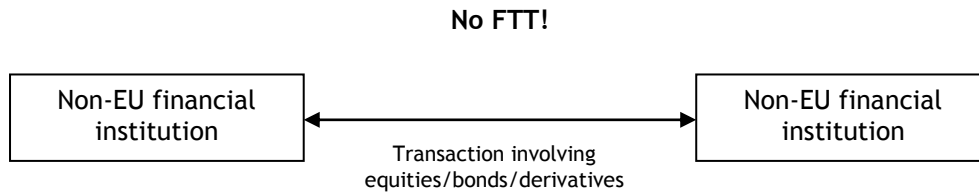
Case 4: UK financial institution & non-EU branch of non-EU financial institution (Ex: New York).



→ When conducting business with EU, there is no tax advantage to being based outside the EU.
→ The European Commission does not provide details on how the tax will be collected from the non-EU financial institution.

Case 4 examines a financial transaction between a UK branch of a UK-based financial institution and a non-EU branch of a non-EU-based financial institution. In this case, the effective amounts to 0.1% (paid by the UK-based financial institution), payable in the UK.

Case 5: Non-EU financial institution A & Non-EU financial institution B



Case 5 examines a financial transaction between a non-EU branch of a non-EU-based financial institution and a non-EU branch of another non-EU-based financial institution. In this case, no FTT is levied because neither institution is based in the EU.

Evidently, the 'residency principle', on which the proposed FTT is based upon, encourages financial institutions to change domicile away from the EU in order to avoid the tax.

Table 1: An Overview of Existing Transaction Taxes Around the World

Argentina	Provincial stamp tax, usually 1%, may affect bonds and debentures
Australia	State level taxes may apply to shares, loans and bonds
Austria	1% on contributions of capital to an Austrian company
Belgium	0.5-1.7% per €1,000 worth of securities (shares, bonds, other securities) up to a maximum of €500 per transaction; 0.6% on physical delivery of bearer securities. Trade in short term commercial paper and securities issued upon formation of a company or investment fund are not taxable.
Brazil	1.5% tax on equity issued abroad as depository receipts and on loans; 0.38% on forex; 5.28% on short term forex (< 90 days); 2% tax on capital inflows to stock and bond markets. Brazil's Congress recently defeated a proposal by the Roussef government to revive a levy on bank withdrawals and deposits.
Chile	0.1-1.2% tax on bond issuance
China	0.3% on securities
Cyprus	Stamp duty of 0.15-0.2% on corporate contracts including share purchase agreements; stock transfer tax of 0.6% for individuals and 1% for corporations on transactions that take place on the Cyprus stock exchange
Finland	1.6% on shares and other securities; 4% of the purchase price or value of other remuneration of the transfer of real property
Greece	1% on contribution to share capital upon formation of a company; 0.15% on shares listed on Athens Stock Exchange or any other recognized stock exchange in the world, also on unlisted shares
Hong Kong	10 bps on equities
Ireland	1% on shares registered in Ireland
India	0.25% on stock price, 0.025% on intraday equity transactions, local stamp taxes also may apply to stocks and bonds; 0.017% on options premium, 0.125% on options strike; 0.017% of futures delivery price
Indonesia	0.1% on value of shares, local stamp duties may also apply on stocks and bonds
Italy	€168 flat fee on share issuance; 3% on business purchases; 0.01-0.14% of shares traded off-exchange; 0.25-2% on loan principal
Japan	Registration tax of 0.4% on mergers and trusts
Luxembourg	1% on contribution of capital to a company or branch upon formation or subsequent increase of the subscribed capital
Malta	2% on marketable securities; transfers of securities listed on the Malta stock exchange are exempted
Poland	0.5% on initial capital contribution to a newly registered company and on any additional contribution to the company's capital: 1% on shares bonds and other

Table 1 (contd.)

	securities if underlying rights are exercised in Poland; 2% on real estate transactions
Portugal	0.4% on capital contributions to companies upon incorporation or any subsequent capital or equity increase
Russia	Capital duty of 0.2% of value of new share and bond issues (not IPOs)
Singapore	20 bps on equities
Switzerland	1% on issuance of shares and other participation rights; 0.15% on domestic securities; 0.3% on foreign securities. Transfers are taxable if one of the parties is a securities broker with traded securities exceeding a book value of CHF 10 million
South Africa	0.25% of share value, new share issues excluded
South Korea	0.1-0.4% tax on capital formation; 0.5% on value of shares in corporations or partnerships
Spain	1% on contribution of capital to a company or branch upon formation or subsequent increase of the subscribed capital
Switzerland	1% on share issuance in excess of CHF 1 million; 15 bps on domestic shares; 30 bps on foreign shares; 6-12 bps on bond issuance
Taiwan	30 bps on equities; 10 bps on corporate bond principal; 10-60 bps on options premiums; up to 0.025 bps on interest rate futures; up to 6 bps on stock index and other futures
Turkey	Stock issuance charge of 0.2%; initial 0.1% charge for obtaining stock market quote, 0.025% annual maintenance charge; 0.6-0.7% bond issuance charge
UK	Stamp duty 0.5% on secondary sales of shares and trusts holding shares; 50 bps on options strike price, if executed; 50 bps on futures delivery price
US	SEC fees on stock trading: 0.0013%; NY State tax of \$0.05 per share up to \$350 per trade

Source: "Financial Sector Taxation: The IMF's Report to the G-20 and Background Material" (2011)

Table 2: Estimates of percentage reduction in security valuation and increase in cost of capital due to an STT

Percentage Reduction in Security Valuation due to an STT								
	Average Holding Period (Years)							
Tax Rate (T), Basis Points	0.10	0.25	0.5	1	2	3	3.7	10
1	3.2%	1.3%	0.7%	0.3%	0.2%	0.1%	0.1%	0.0%
5	14.3%	6.2%	3.2%	1.6%	0.8%	0.5%	0.4%	0.1%
10	25.0%	11.7%	6.2%	3.2%	1.6%	1.1%	0.8%	0.3%
50	62.5%	39.9%	24.9%	14.1%	7.5%	5.0%	4.1%	1.4%
<i>Discount rate less dividend growth rate: R = 0.03</i>								
Increase in Cost of Capital - Percentage Points								
	Average Holding Period (Years)							
Tax Rate (T), Basis Points	0.10	0.25	0.5	1	2	3	3.7	10
1	0.10	0.04	0.02	0.01	0.01	0.00	0.00	0.00
5	0.50	0.20	0.10	0.05	0.03	0.02	0.01	0.01
10	1.00	0.40	0.20	0.10	0.05	0.03	0.03	0.01
50	5.00	2.00	1.00	0.50	0.25	0.17	0.14	0.05

Source: "Financial Sector Taxation: The IMF's Report to the G-20 and Background Material", Chapter 8, Pg. 155 (2011)

Table 3: Top 5 Global Foreign Exchange Average Daily Turnovers

Country	Average Daily Turnover (US \$ Billions)	Share of Total
United Kingdom	\$1,853.6	36.7%
United States	\$904.4	17.9%
Japan	\$312.3	6.2%
Singapore	\$266	5.3%
Switzerland	\$262.2	5.2%

Source: Bank for International Settlements (April 2010)

Table 4: Top 5 Largest Domestic Equity Market Capitalisation

Exchange	Domestic Equity Market Capitalisation (US \$ Billions)
NYSE Euronext	11,794
Tokyo Stock Exchange	3,277
NASDAQ OMX (US)	3,165
London Stock Exchange	2,407
NYSE Euronext (Europe)	2,295

Source: World Federation of Exchanges (June 2010)

Table 5: Top 5 Global Interest Rate Derivative Markets

Interest rate derivative markets	Average Daily Turnover (US \$ Billions)	Share of Total
United Kingdom	\$123,4.9	45.8%
United States	\$641.8	23.8%
France	\$193.3	7.2%
Japan	\$89.9	3.3%
Germany	\$48.5	1.8%

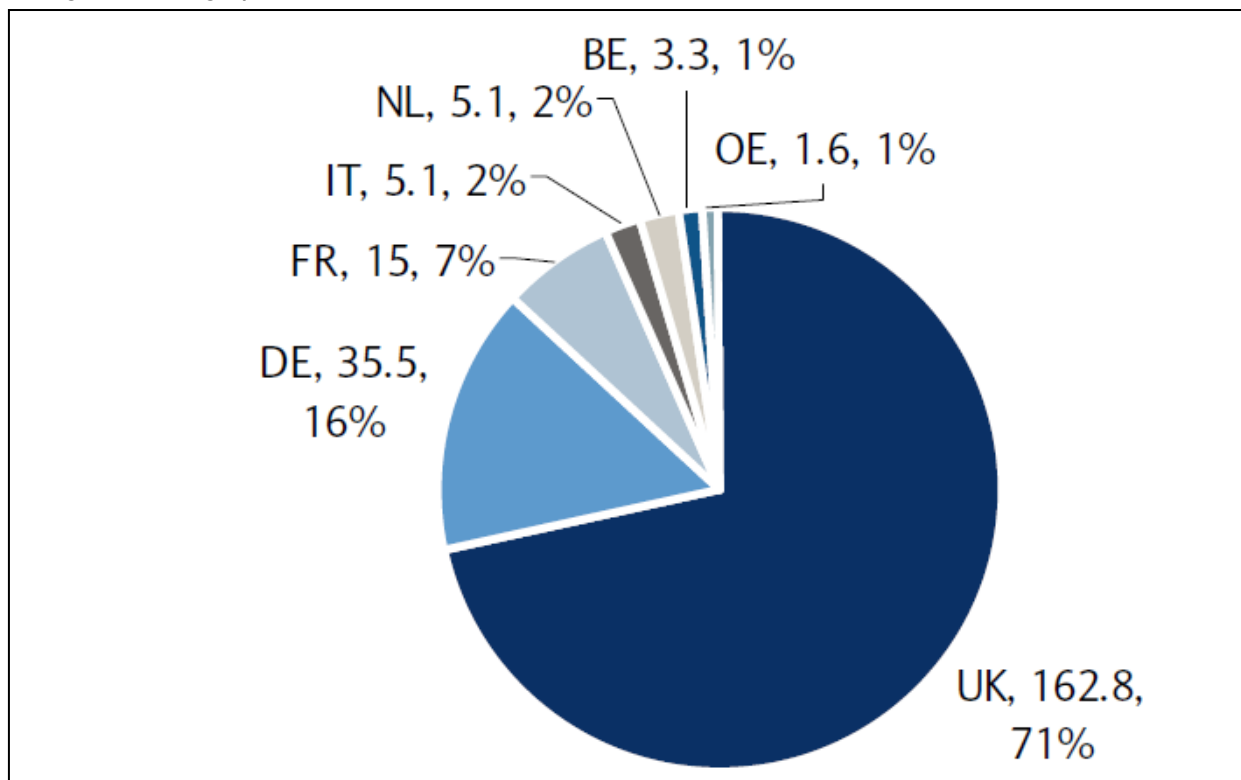
Source: Bank for International Settlements (April 2010)

Table 6: Predicted share price impact of abolishing Stamp Duty

Dividend Yield	Turnover		
	10%	30%	50%
2%	2.50%	7.50%	12.50%
3%	1.75	5.00%	8.30%
4%	1.30%	3.80%	6.30%

Source: Stamp Duty on Shares & its Effect on Share Prices” The Institute for Fiscal Studies (2004)

Figure 1: Geographical Incidence of 0.1% FTT on stocks, bonds and derivatives.



Source: IMF, Schulmeister et al (2008)