

**Implementation of a Financial  
Transaction Tax by a Group  
of EU Member States**

**Estimation of Relocation Effects,  
of the Size and Distribution of Revenues  
and of the First-mover Advantage  
of the Participating Countries**

**Stephan Schulmeister, Eva Sokoll**

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**July 2013**

Austrian Institute of Economic Research

Commissioned by the Federal Ministry of Finance

Internal review: Karl Aiginger, Margit Schratzenstaller

#### **Abstract**

The study investigates the effects of the implementation of the financial transaction tax (FTT) as conceptualised by the European Commission (EC) in a group of 11 EU countries. It is shown that the objections against this concept – recently put forward by Goldman Sachs and other banks heavily engaged in short-term trading – suffer from serious methodological flaws. Particular attention is given to the potential use of London subsidiaries of financial institutions established in participating countries as vehicle for tax evasion. If London subsidiaries are treated as part of their parent company, overall FTT revenues of the 11 FTT countries are estimated at 65.8 billion €, more than estimated by the EC for the EU 27 as a whole. Roughly one quarter of these revenues would stem from transactions in North America and Asia. If London subsidiaries are treated as British financial institutions, tax revenues would amount to only 28.3 billion €. This difference is particularly great for those countries which operate to a significant extent through big subsidiaries in London like Germany and France.

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2013/279/S/WIFO project no: 7512

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Medieninhaber (Verleger), Herausgeber und Hersteller: Österreichisches Institut für Wirtschaftsforschung,  
1030 Wien, Arsenal, Objekt 20 • Tel. (+43 1) 798 26 01-0 • Fax (+43 1) 798 93 86 • <http://www.wifo.ac.at/> • Verlags- und Herstellungsort: Wien

Verkaufspreis: 50,00 € • Download 40,00 €: <http://www.wifo.ac.at/www/pubid/46864>

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Stephan Schulmeister – Eva Sokoll

# Implementation of a Financial Transactions Tax by a group of EU member states\*

## 0. Executive summary

The study investigates the effects of the implementation of the financial transactions tax (FTT) as conceptualized by the European Commission (EC) in a group of 11 EU Member States.

The FTT concept of the EC (in the following ECP) proposes taxation (primarily) according to the “residence principle”: If at least one party to a transaction is “established” in a FTT country the transaction is subject to the tax (the residence principle is complemented by the “issuance principle” according to which transactions in instruments issued in one of the 11 FTT countries are subject to the tax if none of the parties to the transaction is established in one of the participating states; the present study is focused on the FTT implementation according to the residence principle).

Taxation takes place in the respective countries for each side of the transaction. If one party is resident in a FTT country and the other is not, the former has to pay the tax for both sides. The EC proposes a tax rate of 0.1% for transactions in stocks and bonds and 0.01% for derivatives transactions.

The most popular objections against a FTT in general and against the ECP in particular are summarized in a recent study by Goldman Sachs. It is shown in section 4.2 of the present study that the conclusions of Goldman Sachs are based on serious methodological and statistical flaws.

Two issues related to only a partial FTT implementation in the EU are particularly important. First, the use of London subsidiaries of financial institutions (FIs) established in FTT countries (FTTCs) as vehicle for tax evasion. Second, the fact that a party to a transaction on an (electronically) organized exchange does not know who the other party is. Hence, a FI established in a FTTC can hardly be obliged to pay the FTT for the other party if the latter is established in a Non-FTT country as envisaged by the ECP.

As regards the first issue, the study estimates the FTT revenues and their distribution among the participating countries under two different assumptions. In the first case, it is assumed that all subsidiaries/branches of FIs established outside the United Kingdom are treated as part of the parent company. In the second case, the London subsidiaries/branches are treated as British financial institutions.

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\* The authors wish to thank Karl Aiginger, Kurt Bayer, Manfred Bergmann, Lieven Denys, Michael Kuttin, Margit Schratzenstaller, Helene Schuberth and four London traders who preferred to remain anonymous.

The taxable transactions (i.e., without spot foreign exchange) in the global economy are partitioned into 7 regional markets which are particularly important for FIs established in the EU: UK, Germany, France, Other Europe, North America, Asia, rest of the world (ROW). For each market the transactions are specified for three types of instruments, namely, stocks and bonds on exchanges, exchange traded derivatives and OTC derivatives, respectively.

For each of these 21 markets, the transactions shares of 13 countries/country groups are estimated. These countries are as follows: Germany, France, Italy, Spain, Belgium, Austria, Other EU-FTTCs, United Kingdom, Netherlands, Other EU-Non-FTTCs, Switzerland, USA, Other Non-FTTCs.

From these estimates one can derive 21 matrices of buy-sell-transactions between FIs established in the 13 countries (analogous to input-output-matrices). Each matrix is estimated twice. First, under the condition that London subsidiaries are treated as part of their parent company, and, second, under the condition that they are treated as British FIs.

These 42 matrices form the basis for estimating FTT revenues and for assigning them to the 11 FTTCs.

The main results are as follows. If London subsidiaries are treated as part of their parent company, overall FTT revenues of the 11 FTTCs are estimated at 65.8 bn. €, more than estimated by the EC for the EU27 as a whole. Roughly one quarter of these revenues would stem from transactions in North America and Asia.

The revenues would be distributed among the participating states as follows. The lion's share of FTT revenues would go to Germany (35.0%) and France (28.9%), Italy and Spain would receive 13.5% and 14.8%, respectively. The smaller countries like Belgium, Austria and the 5 other FTTCs would get significantly less (3.2%, 1.9%, and 2.9%).

If London subsidiaries are treated as British FIs, tax revenues would amount to only 28.3 bn. €, much less than when the subsidiaries are treated as part of their parent institutions. This difference is particularly great for those countries which operate to a significant extent through big subsidiaries in London like Germany and France.

In an additional simulation, the FTT revenues are estimated under three conditions. First, the tax rate is one-sided (only that party to a transaction is taxed which is established in an FTTC). Second, the tax rate on spot transactions with stocks and bonds is reduced to the (uniform) level of 0.01% (not to discriminate spot instruments which might also weaken the resistance from Member States with important pension funds). Third, the modified FTT is implemented in all EU27 countries (to show the opportunity costs of non-participating in the FTT project).

The "big winner" of implementing a FTT in all EU27 countries would be the United Kingdom. Her FTT revenues would amount to 72.1 bn. \$ or 54.3 bn. €, roughly 77% of overall revenues of all EU27 countries (FTT revenues would equal 3.2% of the British GDP). At the same time, the UK needs not to fear massive relocation to other market places if all EU27 countries implement the tax (the extremely short-term trading cannot easily be relocated to market places in other time zones).

## 1. Scope of the study

In September 2011 the European Commission (EC, 2011A) published a proposal for the implementation of a general financial transactions tax (FTT). Ideally, such a tax should be globally implemented. However, the EC concluded from its comprehensive impact assessment of the feasibility of an FTT that the pros outweigh the cons even if such a tax were introduced in the EU27 only (EC, 2011B).

In order to limit the harmful effects of a unilateral FTT implementation in the EU27, in particular the potential dislocation of trading activities, the "Proposal for a Council Directive on a common system of financial transaction tax and amending Directive 2008/7/EC" is based on the residence principle for taxing financial transactions. According to this principle, taxation will take place in that Member State where the financial institution which is party to the transaction is established, independent of the location of the transaction.

In addition, the ECP states in its initial proposal: "In order to avoid risks of delocalisation a co-ordinated approach is needed both at EU level to avoid fragmentation of the Single Market and at international level, in line with the ambitions for G-20 co-operation" (EC, 2011A, p. 4). However, as is has turned out over the recent year, no EU-wide consensus on the implementation of a FTT in the EU27 can be reached (not to speak about a consensus at the global level).

As a consequence, in October 2012 the governments of 11 Member States decided to introduce the FTT in their respective jurisdictions utilizing the "enhanced cooperation procedure". These countries are Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovakia, Slovenia and Spain (in the following abbreviated as FTTCs). They agreed to implement a FTT based on the proposal of the European Commission.

In February 2013, the EC published a modified version of its FTT proposal to account for the fact that only 11 Member States would participate in implementing the tax (in the following, the proposal of the European Commission is abbreviated as ECP). Besides some technicalities and clarifications, the main adaptation is the following. In order to further impede tax circumvention the "residence principle" which "is maintained as the main principle" is complemented by the "issuance principle" as "a last resort".

Compared to the volume of transactions covered by the residence principle (e. g., all transactions to which one party is established in one of the 11 participating Member States) the additional taxable transactions volume according to the issuance principle will be small (e. g., all transactions in instruments issued in an FTTC carried out by financial institutions established outside the FTT legislation area). Moreover, it is almost impossible to estimate the volume of these transactions (as we shall demonstrate below, there is no sufficient information available to estimate the volume of transactions covered by the residence principle, a further differentiation of "who trades where with whom" according to the origin of the instruments is impossible at present).

The present study shall analyse the main effects to be expected if only a group of 11 Member States implements the FTT according to the residence principle as designed by the European Commission. Hence, the main objectives of the study are as follows:

- Identify the most important issues related to only a partial FTT implementation in the EU. One issue concerns in particular the subsidiaries/branches in London of financial institutions (FIs) established in FTT countries (FTTCs) as vehicles for tax evasion. Another issue is related to the fact that a party to a transaction on an organized exchange does not know who the identity of the other party is. Hence, a FI established in a FTTC can hardly be obliged to pay the FTT for the other party if the latter is established in a Non-FTT country (Non-FTTC) as envisaged by the ECP.
- Estimate the FTT revenues and their distribution among FTTCs under two different conditions. In the first case, the London subsidiaries/branches are treated as part of the parent FI so that it does not pay off for their parent corporations established in a FTTC to channel trading through their affiliates in London. In the second case, the London subsidiaries/branches are treated as British FI because they are already incorporated in the UK or get incorporated in reaction to the FTT in the parent country. In this case, a great deal of trading in the EU would be done between British FIs (including all US and Swiss FIs in London) and, hence, would be FTT free.
- Sketch a concept which modifies the ECP in some respects so as to mitigate the most important issues related to the implementation of a FTT according to the residence principle in only a group of EU countries. In this case, the FTT would only be levied on that side of a transaction which is carried out by a resident of a FTTC (to overcome the problem of the partner's anonymity). The tax rate on transactions in stocks and bonds in spot markets would be set to 0.01%, i. e., to the same (much lower) level as envisaged by the ECP for derivatives transactions (to avoid the discrimination of spot transactions which are in general less speculative and destabilizing as compared to derivatives transactions).
- Estimate the revenues if such a modified FTT at a low, one-sided and uniform tax rate were implemented in all Member States. In particular, quantify the opportunity costs of non-participating in the FTT project for the United Kingdom. Compare these estimates to the revenues which EU member countries would earn if a FTT were implemented according to the territorial principle. Compare both estimates also to the revenue estimates of the European Commission.

The study concludes with some suggestions for improving the data base for estimating the level and the distribution of FTT revenues under different conditions, in particular as regards tax rates and relocation effects. In addition, some completions and modifications of the ECP are proposed which might render the concept of a FTT more attractive to the "coalition of the unwilling".



## 2. Options for implementing the FTT

There are two fundamentally different ways how an FTT could be implemented<sup>1)</sup>:

- According to the "territorial principle", all financial transactions carried out within a certain jurisdiction (i. e., a FTTC) are subject to the FTT. In this case, the optimal way of tax collection would be the centralized approach. The tax is collected at point of settlement, either from the electronic settlement systems at exchanges, or from Central Counterparty Platforms (CCPs) in the case of OTC transactions, respectively.
- According to the "residence principle", all transactions ordered by institutions which are established in a certain jurisdiction (i. e., a FTTC) are subject to the FTT, irrespective where the transaction is carried out (i.e., at home or abroad). In this case, the optimal way of tax collection would be the decentralized approach. The tax is deducted by the banks and brokerage firms which transmit an order to an exchange (on behalf of a customer or as part of proprietary trading) or which carry out an OTC transaction.

The essential difference between the territorial-centralized and the residential-decentralized approach for the implementation of a FTT is as follows (taking transactions on exchanges as example). According to the first approach, any exchange situated in a country where an FTT applies (FTTC) has to deduct the FTT for all transactions ("territorial principle"). According to the residential-decentralized approach, all orders of actors from an FTTC are subject to the tax, irrespective at which exchanges – domestic or abroad - these orders are carried out ("residence principle"). The tax is deducted by the bank or broker placing the respective order to the exchange ("taxing at the source").

Centralized tax deduction would be the optimal form of an FTT implementation according to the territorial principle. At the same time, however, this approach is difficult to realize in practice because it necessitates a broad consensus to introduce an FTT and to force OTC transactions to be settled via Central Counterparty Platforms (CCPs). Such a consensus has to be achieved at least among all important countries in a trading time zone like Europe. Otherwise substantial shifts in market shares of financial centres would occur. E. g., if Germany would introduce an FTT together with some other member countries but the United Kingdom would not, then many transactions would "migrate" from Frankfurt to London.

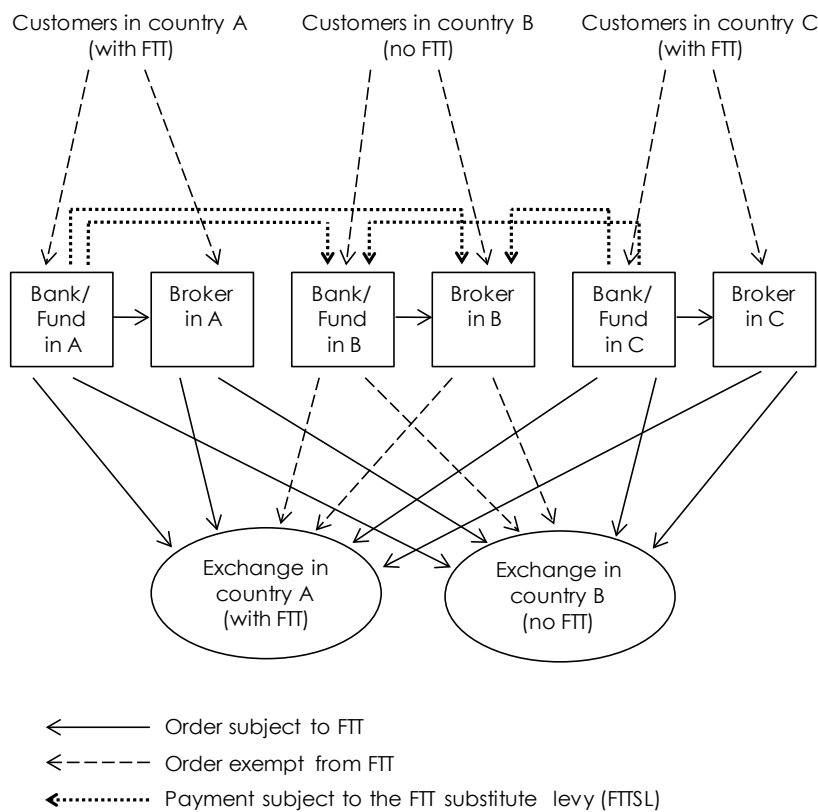
In addition, there is the issue of how to distribute FTT receipts. Due to the concentration of trading on a few market places, the respective governments would get the lion's share in revenues. In the case of the EU27, roughly 65% of revenues would stem from transactions on the London market place, 10% from transactions in Frankfurt and only 25% from transactions in all other 25 countries. However, the tax will effectively be paid by all counterparties who make use of these highly specialized markets (e. g., 85% of all trades made at the derivatives exchange Eurex in Frankfurt stem from non-German traders). Hence, part of the revenues should go to the countries from which the transactions on organized exchanges originate.

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<sup>1)</sup> This chapter draws on *Schulmeister*, 2011.

As regards OTC transactions, a major prerequisite for the centralized solution is the central mandatory clearance of all OTC transactions (standard and non-standard) through Central Counterparty Platforms (CCPs). If such a consensus could be reached, it would be easy to legally force all banks and other financial institutions to centrally clear their OTC transactions. In this case counterparties from countries outside the EU would also be obliged to use the CCPs if they want to do business with financial institutions from EU countries.

Figure 1: Order flows and transactions on organized exchanges



## 2.1 Deduction of the FTT concerning exchange transactions

Figure 1 sketches the different types of order flows leading to a transaction on an organized exchange as well as the way in which they would be affected by a general FTT. If all (three in our example) countries introduce an FTT, the easiest way to implement the tax would be to oblige exchanges to deduct the tax for every transaction. This could be done automatically through electronic settlement systems in the same way as traders are charged with commissions.

If there is no consensus among countries in the same trading time zone about the introduction of an FTT then the residential-decentralized approach is more feasible than the territorial-centralized approach. This is particularly true in a case like the following. Country

A and country B represent large economies with internationally important exchanges (on which a major part of the trades stem from foreign orders). Country A (e. g., Germany) introduces an FTT, country B does not (e. g., UK). Country C represents a smaller economy with comparatively small exchanges, it also introduces the tax.

For each buy or sell order given by a bank/fund or a broker in country A and country C to an exchange (either in the domestic or foreign country), the bank/fund or the broker has to deduct the FTT and transfer the proceeds to the fiscal authorities' account. In the case of a customer order, the FTT costs will be shifted to the customer, in the case of proprietary trading, the bank/fund or broker will have to carry the FTT costs themselves.

Orders stemming from a customer or a FI in country B will not be subject to the FTT even if the order is given to an exchange in an FTT country (for example country A). Hence, the residential-decentralized FTT implementation would not discriminate trading on exchanges in FTTCs relative to exchanges in Non-FTTCs (in contrast to the territorial-centralized approach to implementing an FTT). What the decentralized FTT implementation would change, however, is the competitiveness at the bank, hedge fund and broker level. The short-term trading business of these actors would become more costly in country A and C than in country B.

One consequence of the introduction of an FTT might therefore be that "fast" trading activities (like high-frequency trading) would move from FTTCs to non-FTTCs (long-term portfolio investment as carried out by pension funds is not affected by the FTT if it is sufficiently low). Thus, the big dealer banks ("finance alchemy banks") and hedge funds might shift even more of their short-term trading activities from Frankfurt to London. Given the negative incentive effects of rent-seeking through short-term speculation for entrepreneurial activities in the real economy, such a move would be positive for the German economy as a whole.

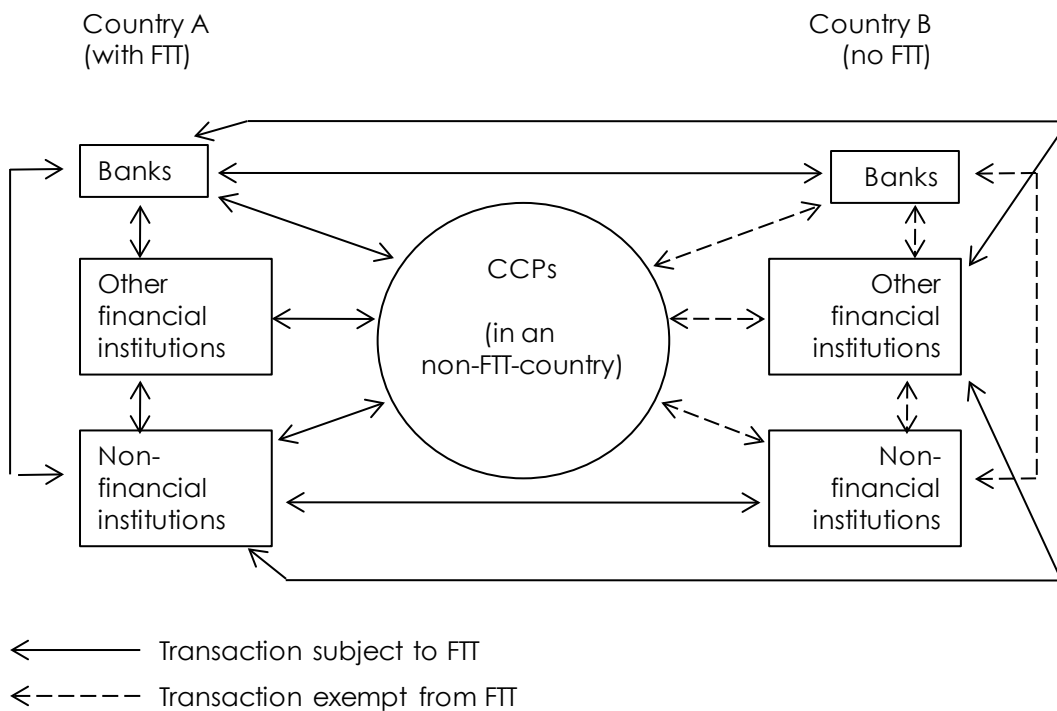
In addition, it might be possible to restrict the emigration of short-term trading activities by introducing an FTT-substitute-levy (FTTSL) in those countries that have introduced an FTT. Once the FTT legislation is valid in a country (A and C, respectively), all residents of this country are obliged to pay the FTT wherever they let a transaction be carried out (in the same way as a resident is obliged to pay the income tax in his home country no matter where his income stems from). This gives an incentive for tax evasion by shifting funds and giving transaction orders to a broker in country B. To impede such tax circumvention, the FTTSL should be charged for any transfer of funds from a bank account in an FTTC to a brokerage firm or a hedge fund in a Non-FTTC.

The FTTSL rate must be several times higher than the FTT rate. At an FTT of 0.01%, for example, the FTTSL could be at least 1%. An FTTSL of 1% would be the equivalent to 100 "round-trip-transactions" (one buy and one sell constitute one "round-trip"). The FTTSL can be seen as a "refundable withholding tax" in the case that the FTT is not being paid because transactions are carried out abroad via a foreign bank/fund/broker. If the transactions and the respective FTT are declared, the FTTSL is taken into account (in a similar way it is possible to prevent

transfers of funds to income tax heavens by introducing an "income tax substitute levy" to be deducted from the bank transfer).<sup>2)</sup>

The extent of FTT evasion could further be restricted by the following regulation. If a citizen of an FTT places an order directly with a bank abroad which is an affiliate of a domestic bank, the latter is responsible for deducting the FTT and transferring the proceeds to the fiscal authorities of the FTTC.

Figure 2: Over-the-counter transactions



## 2.2 Deduction of the FTT concerning OTC transactions

Figure 2 shows in a stylized manner the transactions between banks, other financial institutions and non-financial customers in an "FTT country A" and a "Non-FTT-country B"

As long as there is no agreement among countries in the same trading time zone to introduce a FTT, the decentralized approach enables some countries to implement such a tax while other countries would remain "FTT-free". Similar to the treatment of exchange transactions, any bank in an FTTC, which carries out an OTC transaction, either on its own account (proprietary trading), or on behalf of another financial institution or a non-financial customer, has to deduct the FTT (see figure 2 – the FTTC is country A). If both partners of the transaction are residents of the same FTTC their fiscal authorities receive an FTT payment at the full rate

<sup>2)</sup> The rationale of the FTSL is basically the same as that of „withholding taxes on certain payments to residents of countries that engage in harmful tax competition“, proposed by the OECD (1998).

(e. g., 0.01%). If one of the partners is resident of a Non-FTTC (country B in figure 2) the FTTC gets only half of it (0.005%).

This will also be true for transactions by market participants from FTTCs which are cleared through a CCP since the – privately owned – CCPs will most probably be located in a non-FTT-country (figure 2).

All OTC transactions, be it through CCPs or bilateral ones, are carried out by banks (in the terminology of the "Triennial Central Bank Survey", coordinated by the Bank of International Settlements/BIS, titled as "reporting dealers"). Therefore, the FTT has to be deducted by banks and transferred to an account of the fiscal authorities of an FTTC. If the counterparty is not another bank but "another financial institution" or a "non-financial customer" (resident in an FTTC) the bank has to deduct the FTT for both parties (i.e., at the overall tax rate).

There is one prerequisite – not only for an effective implementation of the FTT but also for any kind of supervision and regulation of financial markets – namely that a standard classification system for all kinds of financial transactions has to be created. In international trade, such a classification system was introduced already decades ago, particularly in order to deal with a great variety of tariffs (Standard International Trade Classification – SITC).

In a similar way, the introduction of an FTT should contribute to the creation of a "Standard Classification of Financial Transactions" (SCFT). If every transaction is classified (i.e., assigned a SCFT code) and if authorities can access the data in case of a serious suspicion of money laundry, tax fraud or terrorist activities, then the very existence of such a data basis will yield "prophylactic" effects. In addition, such a data basis would significantly improve the existing economic statistics.

### **3. Essential features of the FTT proposal of the European Commission**

As regards the scope of the tax and the definition of financial transactions, the ECP states:

"The scope of the tax is wide, because it aims at covering transactions relating to all types of financial instruments as they are often close substitutes for each other. Thus, the scope covers instruments which are negotiable on the capital market, money-market instruments (with the exception of instruments of payment), units or shares in collective investment undertakings – which include undertakings for collective investment in transferable securities (UCITS) and alternative investment funds (AIF)<sup>13</sup> and derivatives contracts. Furthermore, the scope of the tax is not limited to trade in organised markets, such as regulated markets, multilateral trading facilities or systematic internalisers, but also covers other types of trades including over-the-counter trade. It is also not limited to the transfer of ownership but rather represents the obligation entered into, mirroring whether or not the party concerned assumes the risk implied by a given financial instrument ("purchase and sale").

Furthermore, where financial instruments whose purchase and sale is taxable form the object of a transfer between separate entities of a group, this transfer shall be taxable even though it might not be a purchase or sale.

Exchanges of financial instruments and repurchase and reverse repurchase and securities lending and borrowing agreements are explicitly included into the scope of the tax. For reasons of avoiding tax circumvention exchanges of financial instruments are considered to give rise to two financial transactions. On the other hand, by way of repurchase and reverse repurchase agreements and securities lending and borrowing agreements, a financial instrument is put at the disposal of a given person for a defined period of time. All such agreements should therefore be considered as giving rise to one financial transaction only.

Additionally, in order to prevent tax avoidance, each material modification of a taxable financial transaction should be considered a new taxable financial transaction of the same type as the original transaction. It is proposed to add a non-limitative list of what can be considered a material modification.

Also, where a derivatives contract results in a supply of financial instruments, in addition to the taxable derivatives contract, the supply of these financial instruments is also subject to tax, provided that all other conditions for taxation are fulfilled.

For the financial instruments which may form the object of a taxable financial transaction, the relevant regulatory framework at EU level provides a clear, comprehensive and accepted set of definitions. It emerges from the definitions used that spot currency transactions are not taxable financial transactions, while currency derivative contracts are. Derivative contracts relating to commodities are also covered, while physical commodity transactions are not.

Structured products, meaning tradable securities or other financial instruments offered by way of a securitisation can also form the object of taxable financial transactions. Such products are comparable to any other financial instrument and thus need to be covered by the term financial instrument as used in this proposal. Excluding them from the scope of FTT would open avoidance opportunities. This category of products notably includes certain notes, warrants and certificates as well as banking securitisations which usually transfer a large part of the credit risk associated with assets such as mortgages or loans into the market, as well as insurance securitisations, which involve the transfers of other types of risk, for example the underwriting risk." (EC, 2013, p. 9f).

The above quote documents that the EC proposes to apply the FTT comprehensively as almost all transactions in financial instruments are covered. There are, however, three exceptions:

- Spot foreign exchange transactions: "Currency transactions on spot markets are outside the scope of the FTT, which preserves the free movement of capital. However, derivatives contracts based on currency transactions are covered by the FTT since they are not as such currency transactions." (EC, 2013, 9).

- Transactions with official EU institutions: "The imposition of FTT should not negatively affect the refinancing possibilities of financial institutions and States, nor monetary policies in general or public debt management. Therefore, transactions with the European Central Bank, the European Financial Stability Facility, the European Stability Mechanism, the European Union where it exercises the function of management of its assets, of balance of payment loans and of similar activities, and the central banks of Member States should be excluded from the scope of the Directive." (EC, 2013, p. 9).
- Transactions on primary markets both for shares and bonds: "To the extent Directive 2008/7/EC thus prohibits or could prohibit the imposition of taxes on certain transactions, in particular financial transactions as part of restructuring operations or of the issue of securities as defined in this Directive, they should not be subject to FTT." (EC, 2013, p. 9).

Those financial activities which directly serve activities in the "real economy" should not be subject to the FTT: "Further to the exclusion of primary markets explained above most day-to-day financial activities relevant for citizens and businesses remain outside the scope of FTT. This is the case for the conclusion of insurance contracts, mortgage lending, consumer credits, payment services etc. (though the subsequent trading of these via structured products is included)" (EC, 2013, p. 9).

As regards the institutions subject to the tax, the ECP states:

"The definition of financial institutions is broad and essentially includes investment firms, organized markets, credit institutions, insurance and reinsurance undertakings, collective investment undertakings and their managers, pension funds and their managers, holding companies, financial leasing companies, special purpose entities, and where possible refers to the definitions provided by the relevant EU legislation adopted for regulatory purposes. Additionally, other undertakings, institutions, bodies or persons carrying out certain financial activities with a significant annual average value of financial transactions should be considered as financial institutions. The present proposal sets the threshold at 50% of its overall average net annual turnover of the entity concerned. (EC, 2013, p. 9f).

As regards the country to which the tax revenues accrue, the ECP states:

"The territorial application of the proposed FTT and the participating Member States' taxing rights are defined on the basis of the rules laid down in Article 4. This provision refers to the notion of "establishment". In essence, it is based on the "residence principle" supplemented by elements of the issuance principle with a view mainly to strengthen anti-relocation (details regarding this latter aspect are set out further below).

In order for a financial transaction to be taxable in the participating Member States, one of the parties to the transaction needs to be established in the territory of a participating Member State according to the criteria of Article 4. Taxation will take place in the participating Member State in the territory of which the establishment of a financial institution is located, on condition that this institution is party to the transaction, acting either for its own

account or for the account of another person, or is acting in the name of a party to the transaction.

In case the different financial institutions, as parties to the transaction or acting in the name of such parties, are established in the territory of different participating Member States, according to the criteria of Article 4, each of these different Member States will be competent to subject the transaction to tax at the rates it has set in accordance with this proposal. Where the establishments concerned are located in the territory of a State which is not a participating Member State the transaction is not subject to FTT in a participating Member State, unless one of the parties to the transaction is established in a participating Member State in which case the financial institution that is not established in a participating Member State will also be deemed to be established in that participating Member State and the transaction becomes taxable there." (EC, 2013, p. 10).

The residence principle is complemented by the issuance principle: "The residence principle is supplemented also by elements of the "issuance principle" as a last resort, in order to improve the resilience of the system against relocation. Indeed, by complementing the residence principle with the issuance principle, it will be less advantageous to relocate activities and establishments outside the FTT jurisdictions, since trading in the financial instruments subject to taxation under the latter principle and issued in the FTT jurisdictions will be taxable anyway. This applies where none of the parties to the transaction would have been "established" in a participating Member State, on the basis of the criteria set out in the Commission's initial proposal but where such parties are trading in financial instruments issued in that Member State. This concerns essentially shares, bonds and equivalent securities, money-market instruments, structured products, units and shares in collective investment undertakings and derivatives traded on organized trade venues or platforms. In the context of the issuance principle, which also underlies certain existing national financial sector taxes, the transaction is linked to the participating Member State in which the issuer is located. The persons involved in such transaction will be deemed to be established in that Member State because of this link, and the financial institution(s) concerned will have to pay FTT in that State (EC, 2013, p. 11).

As regards the minimum tax rates (above which there is "room for manoeuvre for national policies") the ECP states: "Transactions in derivatives and transactions in other financial instruments are different in nature. Moreover, markets are likely to react differently to a financial transaction tax applied to each of these two categories. For these reasons, and in order to ensure a broadly even taxation, the rates should be differentiated as between the two categories.." (EC, 2013, p. 12). Article 9 concretizes that the tax rates should not be lower than 0.1% as regards financial instruments other than derivatives (i. e., spot transactions of stocks and bonds), and that the rate should not be lower than 0.01% in case of derivatives transactions." (EC, 2013, p. 28).



The key features of the ECP are similar to the WIFO concept of a general financial transactions tax and its implementation (*Schulmeister – Schratzenstaller – Picek, 2008; Schulmeister, 2011*) except for three provisions:

- First, the ECP excludes spot transactions in foreign exchange markets from being subject to the FTT whereas the WIFO concept does not propose such an exemption.
- Second, the ECP burdens spot transactions in the stock and bond markets with a tax rate which is 10 times higher than proposed for derivatives transactions whereas the WIFO concept envisages a uniform rate (0.1%, 0.05% or 0.01%, respectively).
- Third, according to the ECP, each party to a transaction has to pay the FTT at a rate of 0.1% or 0.01%, respectively. If the other party – resident of a Non-FTTC - cannot be obliged to pay the tax, the first party has to pay for both sides, i. e., 0.2%. In the WIFO concept, the tax rate concerns the transaction as a whole so that each party only has to pay half of the rate (0.05% in the case of a rate of 0.1%) even if the other party cannot be taxed (e. g., if it is resident of a Non-FTTC and the FTT is implemented according to the residential-decentralized approach).

The ECP argues that foreign exchange spot transactions should not be burdened by a FTT in order to "preserve the free movement of capital". However, do these transactions really represent capital movements? More than 90% of these transactions are carried out in intraday trading, e. g., most traders close their open positions by the end of the trading day. And the switching between long and short positions during the day can hardly be conceived as capital movements because the capital stays at the end of the day where it was at its beginning.

Also the data from the Triennial Bank Survey of the Bank for International Settlement indicate that currency spot transactions are driven by short-term speculation, they rose between 2007 and 2010 by 48% - in spite of the financial crisis which dampened trading volumes temporarily. This surprisingly strong increase was - at least in part - caused by the use of high frequency trading systems (*King – Rime, 2010*).

If one would explicitly exempt only those spot transactions from the FTT which directly finance trade of goods and services, direct investments and portfolio investments (as well as the transactions necessary to balance the net open position due to the "real-world-transactions") should be sufficient not to conflict with the freedom of goods and capital markets. However, such an approach requires the creation of an obligatory "Standard Classification of Financial Transactions". As long as this is not the case, an exemption of spot foreign exchange transactions is justified as a precautionary provision.

Last but not least one should keep in mind that the legal service of the European Commission considers taxing spot currency transactions as a violation of the freedom of capital movements. Avoiding legal disputes justifies therefore the exclusion of spot transactions from being subject to the FTT even though this exemption might cause short-term currency speculation to move from derivatives to spot markets.

The second issue concerns the difference between the tax rates for spot transactions in stock and bond markets on the one hand, and derivatives transactions on the other hand. The ECP proposes for spot transactions with stocks and bonds a tax rate which is 10 times higher than for derivatives transactions (0.1% and 0.01%, respectively). It is argued that the respective transactions are different in nature and that "markets are likely to react differently to a financial transaction tax applied to each of these two categories". This is certainly true in the sense that derivatives transactions are to a much larger extent driven by short-term speculation than trading of "real" stocks and bonds (only in currency trading are transaction costs in spot markets as low as in derivatives markets). There are at least three reasons for that:

- First, transactions costs are much lower when trading derivatives as compared to trading stocks and bonds in the spot markets.
- Second, leverage effects cause profits (but also losses) to be many times higher than the return of the underlying. E. g., margins for buying/selling futures are in most cases lower than 10%, sometimes even lower than 1% as in the case of the popular German interest futures Bund, Bobl and Schatz. Hence, the leverage factor is higher than 10 in most cases and in some cases even higher than 100.
- Third, stocks and bonds are to a much larger extent bought to hold them as an investment as compared to derivatives. This is not only true for individual investors but also (and in particular) for investment and pension funds.

The ECP implies that the effective tax burden (relative to the cash requirement/margin) would be *lower* for most derivatives transactions than for buying or selling of "real" stocks or bonds. E. g., if one buys German government bonds at a taxable value of 100.000 € he would have to pay a FTT of 100 €, if he buys instead a "Bund" derivatives contract (with German bonds as underlying), he would only pay 10 € (at a margin requirement of 1%, and, hence, a leverage ratio of 100).

If one would tax all transactions at a uniform rate of 0.01% the effective tax burden of derivatives trading – relative to the cash requirement – would be higher than when trading "real" stocks and bonds. In addition, the tax burden rises with the leverage ratio, and, hence, with the riskiness of the transaction – a meaningful (dis)incentive effect. At the same time, lowering the tax rate for stock and bond transactions to 0.01% would strongly mitigate the objections of pension funds against a FTT.

The third issue concerns the following question: How can a party to a transaction on an organized exchange know who is the other party and what is the territory of its residence? This is relevant for calculating the amount of FTT payments.

To give a concrete example: A French bank buys one future at LIFFE (London), (almost) at the same time 9 other traders from the UK buy the same contract. The electronic system adjusts the price until the value of long and short positions is again equal. Let us suppose this is the case due to 10 additional short positions, 3 of which were opened by German traders. If one

could match – according to the sequence in time (milliseconds) – buys and sells then the overall FTT payment could be calculated and paid. E. g., if the French trader buys from one of the German traders 3 transactions would be taxed, if the French trader buys from a British trader, 4 transactions would be taxed.

This would not be a problem for implementing the ECP if the clearing and settlement systems used by organized exchanges, central counterparty platforms or in OTC-trading documented for each transaction the identity of both parties and, hence, the residence of their establishment (the FTT could even be deducted directly from the accounts of the parties to a transaction, if they are subject to the FTT). However, this can hardly be enforced by EU authorities from the providers of the clearing and settlement systems which are established in a Non-FTTC of the EU, not to speak about providers located outside the EU.

To give a concrete example: Suppose, exchanges, clearing and settlement systems as well as (some) political parties and government agencies in the UK hope and plan to profit from the relocation of trading from FTTCs to London in reaction to the FTT implementation. They will then incentivize those relocations at least by obstructing the effectiveness of FTT deduction as regards transactions carried out in the “City”. Of course, such behaviour might not comply with EU law, in particular as regards the duty to help other Member States preventing tax evasion. However, it might take many years to enforce - legally as well as politically - the compliance of those non-participating Member States which hope to profit from the FTT implementation in the 11 FTTCs. For Non-Member States like the US it seems rather hopeless to convince the authorities to cooperate with the deduction of a tax which these states strictly reject.

To get back to our simple example: Suppose, the LIFFE and/or the providers of the respective clearing and settlement systems are not willing to support the FTT deduction which seems rather implausible for exchanges in Non-FTTCs (they want to gain from the FTT implementation in other countries through relocation of trades). Under this condition, the French buyer does not know if the partner is resident of a NFTTC, if the partner is willing to pay the tax anyway, or if the partner refuses tax payment (in which case, the French buyer would be obliged to pay the tax also for the partner).

This problem is relevant for all types of exchanges (including organized spot markets for stocks and bonds), irrespective of their residence. If exchanges in FTTCs would collect the tax for both parties (if one is a FTTC resident) whereas exchanges in Non-FTTCs would not (so that the tax would only be paid by one party, e. g., the buyer or seller from a FTTC), then exchanges in FTTCs are discriminated relative to exchanges in NFTTCs.

An alternative to the ECP would be to implement the FTT as a (uniform and) unilateral tax so that only that side - buy and/or sell - of any transaction is taxed which is carried out by a resident of a FTTC (for systematic reasons this rule should not only apply to transactions on exchanges but also to OTC transactions). Of course, FTT revenues would be smaller in this case as compared to taxing any transaction to which at least one party is resident of a FTTC at the full rate (this effect will, however, become the smaller, the more countries introduce a

FTT – this will probably be a longer lasting, evolutionary process). At the same time, the disincentive to trade with a resident from a FTTC would be weaker, and, hence, the related distortion of “trading partnerships”. Moreover, also the tax administration seems to be simpler if residents of FTTCs have to pay only their part of the FTT.

Both modifications of the ECP, namely, reducing the tax rate on spot transactions with stocks and bonds to the (uniform) level of 0.01% as well as conceptualizing the tax as unilateral, would also weaken the objection of (some) EU countries against joining the “coalition of the willing”. This is so because one of the most popular arguments against the FTT concerns its impact on the wealth of private investors, in particular with respect to their pension capital: As pension funds invest primarily in stocks and bonds and manage their portfolio actively (e. g., they change their portfolio continuously) the value of their assets is substantially diminished by a FTT rate which is 10 times higher for stocks and bonds as compared to derivatives.

For all these reasons we shall complement the estimation of tax revenues and their distribution in the 11 EU according to the ECP with analogous calculations under the conditions that all EU27 jurisdictions would introduce a FTT at a uniform and unilateral tax rate of (only) 0.01% (section 6). These calculations will enable one to gauge the opportunity costs of non-introducing a FTT which are remarkable in the case of UK (certainly higher than the gains from the relocation of trading to London after the FTT has come into power in the jurisdictions of all other important EU economies).

All these estimates will be done under the condition that the FTT is implemented according to the residential-decentralized approach as designed in the ECP. The WIFO concept had originally estimated revenues from a FTT under the assumption that the tax is implemented globally (*Schulmeister – Schratzenstaller – Picek, 2008*). Also if the FTT would be autonomously introduced in the EU27 as a whole, the WIFO concept considered the territorial-centralized approach to be preferable relative to the residential-decentralized approach (the tax administration would be simpler in the former and relocation effects would be limited as there are no important financial centres operating during the European trading time zone – *Schulmeister, 2011*). If, however, only a group of EU countries would implement the tax as “forerunners” then also the WIFO concept considers the residential-decentralized approach more feasible than the territorial-centralized approach.

#### **4. Implementation in 11 countries according to the ECP: Key issues**

In this section we discuss the feasibility of implementing the FTT according to the residential-decentralized principle as designed by the European Commission. We identify and discuss four main issues:

- Have London subsidiaries of banks whose headquarters are established in a FTTC to be considered British financial institutions if they are incorporated in the UK? If yes, to what extent will trading move from FTTCs to the UK via these subsidiaries? How could this type of relocation be mitigated?

- To what extent will the FTT increase the cost of REPO financing and thereby reduce bank profits? How would the tax impact upon the profitability of derivatives trading, in particular of interest rate swaps, as well as of trading government bonds and stocks? These questions were recently raised by a research report of Goldman Sachs which calls for some clarifying comments.
- Will the (complementary) issuance principle prevent potential shifts of trading of instruments issued in FTTCs to market places in Non-FTTCs? Does the issuance principle also apply to derivatives related to an underlying issued in an FTTC?
- How can the transfer of funds from FTTCs to Non-FTTCs be restricted if these transfers are carried out with the (only) objective to circumvent the FTT?
- What will be the main "first-mover-advantages" for the 11 Member States implementing the FTT through the "enhanced cooperation procedure"?

#### **4.1 The role of London subsidiaries of banks established outside the United Kingdom**

Almost all "big players" in international financial markets like Goldman Sachs, UBS or Deutsche Bank have subsidiaries in London. If such subsidiary is incorporated in the UK – as is the case with many "dealer banks" - it would be considered a British FI (e. g., DB UK Bank Limited, the London subsidiary of Deutsche Bank). In other words, these affiliates are not just branches of their parent companies.<sup>3)</sup> In addition, there are many (big) hedge funds which are also incorporated in the UK and, hence, operate as British FIs.

According to the residence principle laid down in the ECP, these subsidiaries would be established in a Non-FTTC (as long as the UK does not join the "coalition of the willing"). This is so because Article 3 of the ECP states:

1. For the purposes of this Directive, a financial institution shall be deemed to be established in the territory of a participating Member State where any of the following conditions is fulfilled:

(a) it has been authorised by the authorities of that Member State to act as such, in respect of transactions covered by that authorisation;

(b) it is authorised or otherwise entitled to operate, from abroad, as financial institution in regard to the territory of that Member State, in respect of transactions covered by such authorisation or entitlement;

(c) it has its registered seat within that Member State;

(d) its permanent address or, if no permanent address can be ascertained, its usual residence is located in that Member State;

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<sup>3)</sup> Tables 1A and 2A in the Annex shows a list of all banks incorporated in the UK and a list of the UK branches of banks) incorporated in the European Economic Area. Table 3A in the Annex documents the size of the biggest financial institutions in international markets based on data collected by the U.S Commodity Futures Trading Commission.

(e) it has a branch within that Member State, in respect of transactions carried out by that branch;

(f) it is party, acting either for its own account or for the account of another person, or is acting in the name of a party to the transaction, to a financial transaction with another financial institution established in that Member State pursuant to points (a), (b), (c), (d) or (e), or with a party established in the territory of that Member State and which is not a financial institution;

(g) it is party, acting either for its own account or for the account of another person, or is acting in the name of a party to the transaction, to a financial transaction in a structured product or one of the financial instruments referred to in Section C of Annex I of Directive 2004/39/EC issued within the territory of that Member State, with the exception of instruments referred to in points (4) to (10) of that Section which are not traded on an organised platform.

2. A person which is not a financial institution shall be deemed to be established within a participating Member State where any of the following conditions is fulfilled:

(a) its registered seat or, in case of a natural person, its permanent address or, if no permanent address can be ascertained, its usual residence is located in that State;

(b) it has a branch in that State, in respect of financial transactions carried out by that branch;

(c) it is party to a financial transaction in a structured product or one of the financial instruments referred to Section C of Annex I to Directive 2004/39/EC issued within the territory of that Member State, with the exception of instruments referred to in points (4) to (10) of that Section which are not traded on an organised platform.

3. Notwithstanding paragraphs 1 and 2, a financial institution or a person which is not a financial institution shall not be deemed to be established within the meaning of those paragraphs, where the person liable for payment of FTT proves that there is no link between the economic substance of the transaction and the territory of any participating Member State.

4. Where more than one of the conditions in the lists set out in paragraphs 1 and 2 respectively is fulfilled, the first condition fulfilled from the start of the list in descending order shall be relevant for determining the participating Member State of establishment." (EC, 2013, p. 24f).

According to points 1(a) and 1(b) in connection with point 4 of this article, London subsidiaries which are incorporated in the UK and operate on the basis of a British bank license have to be considered financial institutions established in the UK. However, if the subsidiary operates only as London branch of the parent bank in a FTTC, it would be considered as part of a financial institution established in a FTTC.

Treating the London subsidiaries of FIs which have their headquarters in a FTTC, as British FIs would have two consequences. First, all transactions of these subsidiaries carried out already now with other FIs which are established in a Non-FTTC would be exempt from the FTT

(provided the traded instruments are not issued in a FTTC). Second, banks with their headquarters in a FTTC would relocate trading activities to London.

The first effect would reduce FTT revenues from trading in OTC markets as well as on organized exchanges - even without/before relocation of trading will take place. E. g., if Deutsche Bank London (DBL) trades with a British, Swiss or US bank (or with any FI established in a Non-FTTC) it would not have to pay any FTT. The same holds true if DBL (or any London subsidiary incorporated in the UK which is owned by a parent bank established in a FTTC) trades on an organized exchange located in a FTTC and if the other party to the transaction happens to be established in a NFTTC (provided the transaction of DBL - be it in OTC markets or on exchanges - is not subject to the tax according to the issuance principle).

The second effect, e. g., moving trading activities from FTTCs to London, might even be more substantial than the first one. This is so because parent banks established in a FTTC as well as British FIs and political agents have strong interests in such relocations, the first to avoid tax payments, the second to profit from the

There are three channels through which trading would move from FTTCs to the UK. First, parent banks established in a FTTC would shift trading activities to their London subsidiaries which are already incorporated in the UK and, hence, operate as British FI (like DBL). Second, many London branches of banks with headquarters in FTTCs would become incorporated in the UK (until now, many big banks in FTTCs like Societe Generale, BNP Paribas, Natixis or Commerzbank only have branches on the London market place - see table 2A in the Annex). Third, banks which as yet do not have a London branch might establish a subsidiary incorporated in the UK. The second and third type of trading relocation could easily be supported by the UK government in order to attract more trading activities to London (e. g., by facilitating the access to British bank licenses etc.).

The consequences could be far reaching. The „dealer banks“ dominate short-term trading in general and they control certain markets in particular (e.g., credit default swaps are exclusively carried out via these banks). If the FTT is implemented in the 11 member states those banks which have their headquarters in a FTTC would shift trading to their affiliate in London. E. g., trading between the biggest German, French, Italian or Spanish banks would then be FTT-free even if the transaction takes place at a market place/exchange in a FTTC (provided the traded instruments are not issued in a FTTC).

This issue would not represent a great problem if all EU member states (with important financial market places) implemented a FTT as implied by the original ECP (because there is no attractive financial centre in the same trading time zone). However, if a country like the UK does not implement the FTT, the ECP needs to be modified. Otherwise the London market place could gain a lot from the implementation of the FTT in the 11 countries (however, these gains would be much lower than the gains from also introducing the FTT - this shall be shown later in section 6).

A possible modification of the ECP could consist in the following rule: All financial institutions in which a parent FI established in a FTTC has an equity stake of more than 50% are deemed to be residents of the territory of the parent company. The latter is responsible for the tax payment.

#### **4.2 Impact of the FTT on the profitability of financial market activities – the assessment of Goldman Sachs Research**

In a recent research report Goldman Sachs tried to assess the impact of the FTT proposal of the European Commission on the profitability of financial market activities (*Goldman Sachs*, 2013)<sup>4</sup>). The main results are summarized as follows:

“On a 2012 pro-forma basis, the FTT would amount to €170 bn (or 92% of 2015E PBT, i. e., profits before taxes) for the 42 European banks we have analysed, on our estimates. By affected balance sheet category, the bulk of the impact stems from the European banks’ REPO books (€118 bn), followed by derivatives (€32 bn), equities (€11 bn) and government bond books (€4 bn). By bank, the impact extends across business models – investment, universal, global and domestic retail banks. Similarly, by geography, it has a reach well beyond the EU-11. Indeed, we show some of the most affected banks would be those in the UK and Switzerland.

Individually, we show that the most affected banks are the French and German institutions. The six French and German banks show a 2012 pro-forma FTT as a percentage of 2015E PBT ranging from 168% (BNP), up to 362% (DBK) and finally 423% (Natixis). But even pure-play retail lenders – the Italian/Spanish domestic banks for example – stand to be significantly impacted (16%-130% of 2015E PBT).” (*Goldman Sachs*, 2013, p. 4).

Goldman Sachs Research arrives at these figures – five times the EC estimate of 34 bn. € – by using the concept of a “pro-forma-effect”:

“The aim of our analysis is to estimate the 2012 pro-forma effect of the FTT proposal on individual banks under our coverage. Essentially, we attempt to gauge what the 2012 FTT (theoretically) payable by individual banks would be, were they asked to apply FTT retroactively, to 2012 balances. This is a theoretical, “all else equal”, exercise. The results, however, allow us to identify the business areas/product lines where the FTT impact would be most pronounced, and operational mitigation therefore most likely.” (*Goldman Sachs*, 2013, p. 16).

Such a procedure is logically flawed because one must not assume “all else equal” if it is clear a priori that such an assumption cannot hold under any circumstance. This is so in the

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4) This study can be regarded the “core component” in a in a unofficial, yet very well organized campaign of financial institutions heavily engaged in short-term trading. Already in April 2013 Citigroup let circulate a study (“A European Financial Transaction Tax – “When good politics make for bad market economics”) warns against the detrimental effects of a FT. On June 5, 2013, Morgan Stanley added a paper (“Europe’s Proposed Financial Transaction Tax: Opposition Mounts”) proposing alternatives which would in any case leave out exchange traded derivatives (the most important vehicles for short-term speculation of these banks). The president of the German Bundesbank, Jens Weidman, helped the campaign by also warning against neglected consequences of the FT as proposed by the European Commission.



case in question because banks and other market participants must react to the additional transaction costs by reducing trading activities. The report of GS Research stresses repeatedly the effect that transaction volume will be the more reduced the more frequently an instrument is turned over. Yet, GS Research uses the "pro-forma-estimates" (implying no reduction in trading) "to gauge what the 2012 FTT (theoretically) payable by individual banks would be". This procedure blows up the "theoretical" or "pro-forma" FTT payables to 170 bn. €.

The degree of seriousness of this procedure can be illustrated using the following example. Trading volume in UK financial markets amounted to 563 times the British GDP in 2010 (even without REPO transactions which are not covered by the BIS data base).<sup>5)</sup> On a "pro-forma" base, a general and uniform FTT rate of 0.1% would generate tax revenues of 56.3% of GDP, at a rate of 1% the British government might even receive revenues amounting to 5.6 times the British GDP....

Intellectual flaws of the dimension of the "pro-forma" estimates of FTT revenues usually occur if one is (too much) interested in getting certain results. The report of GS Research is obviously motivated by the interest to let the FTT burden look as big as possible. This "research interest" causes the researchers to directly relate the purely fictitious FTT payments to the bank's profits before taxes. Even though the report states that the "pro-forma-estimation" is a "theoretical exercise" it calculates the respective estimates as % of the profits of the 42 European banks covered by the report. Under the heading "Pro-forma 2012 FTT effect is large and broad, when analysed in the context of European bank profitability", exhibit 3 of the report shows that the total FTT bill would amount to up to 423% of banks' profits (in most cases more than 20%).

GS Research justifies the "pro-forma" estimation arguing that "the results allow us to identify the business areas/product lines where the FTT impact would be most pronounced....." However, this statement does not hold true for the following reason. The structure of activities and, hence, the sources of profits differ markedly between European banks (as the report also stresses). Banks which are specialized on short-term trading and REPO financing ("finance alchemy banking") will therefore reduce these activities in reaction to the FTT implementation to a much greater extent than the more traditionally operating banks ("boring banking"). As a consequence, the ranking of the "pro-forma" FTT payments of the single banks cannot be used as an indicator of the future ranking of the effective tax burden. For the same reason, also the calculations of the distributions of the "pro-forma" FTT payments by types of banks and by countries cannot serve as indicators of the future distributions of the effective FTT payments. However, the publication of these quantitatively impressive numbers

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<sup>5)</sup> Based on data from the World Federation of Exchanges (WFE) and the BIS overall transaction volume in 2010 on UK markets is estimated at 1,270,4 tn. \$ (the figure in table 2 – 1,096.4 tn. \$ - excludes foreign exchange spot transactions).

might/should strengthen the resistance of banks against the FTT and might/should deepen (potential) conflicts between EU governments as regards the FTT implementation.

The following statement about the (relative) FTT burden of France and Germany is a good example for this (hidden) intention: "French banks are the largest contributors, at €61 bn (36%). Germany (this includes only DBK and CBK) absorbs the second highest hit with €35 bn, mainly driven by Deutsche Bank (€26 bn)" *Goldman Sachs*, 2013, p. 28). These numbers are not only irrelevant as indicators of the future effective FTT payments due to the "pro-forma" methodology, but they are additionally biased due to the much smaller coverage of German banks as compared to French banks (GS Research alludes to this bias as it repeatedly underlines the "all-else-equal" and "theoretical" nature of its "pro-forma" estimates.....).

The "research interest" of the GS report is also reflected by the introduction of the concept of an "effective annual tax rate". The FTT is tax on certain flows, i. e., trades of financial instruments. As there are no flow data available as regards certain transactions, e. g., REPO transactions, GS Research takes the respective stock data from balance sheets, e. g., outstanding REPO positions and makes assumptions about the annual turnover. If, e. g., a bank uses 1-week REPOs of 1 mn. € every week for short-term financing, the annual turnover would amount to 52 mn. € and the annual FTT payment to 52,000 €. GS Research prefers to relate the *annual* FTT payments to the *average* REPO value and calls this ratio "effective annual tax rate". By this "semantic trick" one can document astronomically high "tax rates" as these rates become the higher the shorter the financing period of the REPO is. For tri-party-REPOs which are turned over 3 to 5 times per day, GS Research arrives at an "effective annual tax rate" of the FTT of 360% (*Goldman Sachs*, 2013, exhibit 12 on p. 19).

By relating the annual tax burden not to the annual transaction volume but to the size of the average transaction, GS Research let the effective tax rate appear much bigger than it actually is – in line with the "research interest" of GS. The problematic of this procedure becomes evident if one considers the following example: An US household spends every day on average 100\$ on consumption for which it has to pay 5\$ in sales tax. What sense does it make to calculate an "annual effective sales tax" of 365 times 5% = 1,825% instead of speaking of a general sales tax rate of 5%?

According to GS research report roughly two thirds of the overall "pro-forma" FTT payments from 42 banks covered in the report would stem from REPO transactions. Irrespective of the problematic of the "pro-forma" estimates, focusing in REPO financing sheds light on markets which have as yet been largely neglected when dealing with introducing a general FTT. The reason for that is simple: There are no primary statistics on these transactions available as the Triennial Bank Survey of the BIS does not cover REPO transactions. Therefore also the WIFO estimates (*Schulmeister – Schratzenstaller – Picek*, 2008; *Schulmeister*, 2011) could not take these transactions into account.

Most REPO transactions stem from financing short-term trading activities, in particular also from proprietary trading of banks.<sup>6)</sup> Intraday trading is financed by so called tri-party REPOS where purchasing and repurchasing takes place within hours. At the same time, REPOs facilitate leveraged trading to the extreme in the sense that one can purchase an asset without cash by borrowing money to buy the asset and simultaneously posting the asset as collateral. Also short-selling is fostered by the REPO market. One lends money in the repo market, takes the security one intends to short as collateral, and then sells the security.

The GS report provides indirect evidence for the presumption that REPOs finance in particular short-term and highly leveraged trading: According to the GS Research those banks would have to pay the by far highest amount of "pro-forma" FTT which are known for their specialization in this type of asset trading as Natixis, Commerzbank, Deutsche Bank, Credit Agricole, Societe Generale, BNP Paribas (*Goldman Sachs*, 2013, exhibit 3 on p. 5f).<sup>7)</sup>

It is therefore no surprise that the increasingly short-term REPOs transactions developed in tandem with the increasingly short-term proprietary trading of (certain) banks. This type of trading (the most important component of "finance alchemy") is mostly unrelated to market fundamentals (in particular because it is to a large extent driven by trading systems). It aims at exploiting (very) short-term asset price trends ("runs") and by doing so reinforces the trending pattern of asset price dynamics.

The GS Research rightly expects (very) short-term REPO financing to become unprofitable due to the implementation of a FTT. This, however, might not be a disadvantage but an advantage to the economy as a whole insofar as these transactions finance predominantly short-term and destabilizing asset speculation (*Schulmeister*, 2011, documents how "finance alchemy trading" increases asset price volatility over the short run as well as over the long run). This result just reflects the general impact of a FTT: It dampens trading activities the stronger the more short-term oriented they are and the higher is their leverage.

To put it differently: If banks were focused on financing activities in the real economy like real investment, production and trade of enterprises as well as housing and durables of private households, there would be no need to shortly raise millions or even billions through overnight REPOs. It is one objective of a FTT to change the incentive conditions in favor of real world activities at the expense of the profitability of "finance alchemy".

This hypothesis gets support from studies which analyze the role of short-term REPOs in the recent financial crisis (e. g., *Hördahl – King*, 2008; *Gorton – Metrick*, 2010; *Tuckman*, 2010). Before the outbreak of the crisis, banks and their "special purpose vehicles" created securities from loans which often were backed by subprime mortgages. These securities were then used as collateral for REPOs. At the same time also the main segment of the REPO market

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<sup>6)</sup> According to survey studies of the Bank of England two thirds of REPO turnover concern overnight deals (*Hördahl – King*, 2008).

<sup>7)</sup> Goldman Sachs International would probably also belong to those banks which should make the highest "pro-forma" FTT payments. However, Goldman Sachs Research does not include the own house into their FTT report.

where government securities serve as collateral, boomed. In this way "securitized banking" created liquidity which further fuelled the bubbles in the stock markets, housing markets and in the commodity (futures) markets.

When the confidence in the real value of mortgage backed securities became weaker and weaker and house prices started to decline (this process started in early 2007) the confidence crisis spilled over to the REPO market as a whole. The subsequent run on REPO caused interbank interest rates to shoot up, the bankruptcy of Lehman Brothers in September then accelerated the simultaneous fall of stock prices, house prices and commodity prices dramatically, turning the liquidity crisis into a solvency crisis of the banking system. The strong and simultaneous devaluation of the three types of wealth in turn was a main factor for the spill-over of the financial crisis to the real economy.

The "fastest" type of REPO transactions, the "tri-party REPOS" which finance intraday trading of dealers, represents a specific source of systemic risk. Already in 2010 a paper published by the Center for Financial Stability concluded that "the poor design of the tri-party repo system has the potential to wreck the financial health of a large clearing bank or to contribute to the demise of yet another broker-dealer." (*Tuckman, 2010, p. 1.*). As a consequence, the paper recommended: "Imposing capital requirements and risk charges on intra-day risk would force the industry to address the systemic risk of the system and would level the playing field in the provision of services to the secured funding market (*Tuckman, 2010, p. 7*). However, this problem has not been tackled in the meantime, also the Frank-Dodd Act does not contain provisions against chain reactions in the REPO system triggered by some confidence shocks.<sup>8)</sup>

The FTT as proposed by the European Commission would make the ultra-fast REPO transactions unprofitable (as the GS report shows) and would therefore contribute to mitigating the systemic risk linked to this market segment.

Applying the "pro-forma" estimation method, GS Research arrives at (hypothetical) FTT payments of 32 bn. € for interest rate swaps, 11 bn. € for trading stocks and 4 bn. € for trading government bonds. When calculating the respective "effective annual tax rate", it is, however, concluded that short-term transactions in these instruments would become too expensive would therefore disappear (so that the "pro-form" FTT payments would never materialize).

As regards interest rate swaps (this type of derivatives transactions exhibits the by far highest volume), the GS report calculates that the (annual) "of a 1-month swap would ...rise from 0.005% currently to 0.485%, or by a factor of 97x." (*GS Report, p. 22*). However, it would hardly be a disadvantage for the European economy if short-term interest rate swaps become prohibitively expensive due to the implementation of a FTT since these instruments are

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<sup>8)</sup> For a documentation of the dangers stemming from the still widely unregulated (intraday) REPO system see the website [www.repowatch.org](http://www.repowatch.org)

predominantly used for speculation and not for hedging as the Goldman Sachs report asserts.<sup>9)</sup>

There are two other examples for how the "research interest" of Goldman Sachs shaped the results of its FTT report. The first example is the following. When discussing how the FTT might reduce the profits of European exchanges the report does not stick to its "pro-forma" estimation but applied the assumption of the ECP about the reduction of trading volume due to the FTT implementation. In this way, the GS reports arrives at the following conclusion: "Based on the Commission's volume expectations, we estimate that the average European Exchange & IDB (i. e., interdealer brokers) under our coverage would see pre-tax profits decline by 22% as a result of the tax.....Our analysis suggests that Deutsche Börse would see the largest impact to earnings, with a potential 51% reduction in our forecast pre-tax profits for 2014." *GS Report*, p. 44).

The second example concerns the estimation of the impact of the FTT on retail investors, in other words, you and me. Under the heading "The tax burden would fall most heavily on retail investors" the GS report states: "Our analysis suggests that much of the burden of the FTT would fall on retail investors rather than institutional investors..... we estimate that a typical retail investor from the Euro-11 area could expect to incur an annual FTT charge of 33 bp, while a similar institutional fund manager would incur 11 bp in tax. On this basis, a 30 year-old retail investor in the Euro-11 area who invested €1,000 a year until retirement at 65 could expect to see 14% of the principal investment consumed by the FTT." (*GS Report*, p. 54).

These calculations as well as the conclusions are biased in three respects. First, it is assumed that investors will not take into account the FTT and, hence, would not reduce the turnover of their portfolio (in line with the "pro-forma" approach of GS Research). Second, it is - unrealistically - assumed that the retail portfolio returns over 35 years 6% p. a. on average. This assumption together with the assumption that the portfolio is turned over 3,5 times per year yields a high sum of cumulative tax payments (4,875 €). Third, this sum is then related to the cumulative cash invested (35,000 €), leaving out the interest-compound effect. In exhibit 34 the value of the total portfolio in year 35 is documented which is more than three times higher than the cumulative investment due to the assumption of an annual return of 6% (118,121 €). If one takes into account the interest-compound effect in the nominator as well as in the

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<sup>9)</sup> An opportunity to carry out a swap arises if two parties have different expectations about the future development of two types of interest, e. g. long-term and short-term (the yield curve). Depending on the subsequent development, one party wins and one party loses. If somebody holds a long-term swap position, e. g., speculating, on a rise of the yield curve over the long run, and covers this position by a short-term "counter swap" as he expects the yield curve to fall over the short run, one would call the short-term swap a hedge. In any case, hedging with interest rate swaps almost never covers an open position originating from activities in the real economy (in contrast to hedging future (export) earnings or (import) payments in the foreign exchange or in the commodity derivatives markets. Some examples of interest rate swaps carried out between banks like Goldman Sachs or Deutsche Bank and many European municipalities but also with academic institutions like Harvard University, are summarized in <http://www.bloomberg.com/news/2010-04-14/saint-etienne-swaps-explode-as-towns-in-europe-reel-from-financial-weapons.html>.

denominator then the cumulative tax burdens amounts to only 4.1% of the closing portfolio (this ratio is documented in exhibit 34 but not mentioned in the main text).

The way how the GS report presents the results of their assessment fits perfectly the (hidden) intention to strengthen the resistance of European banks, exchanges, asset managers and individual investors against the FTT. The tone of the report is sober, even modest (formulations like "we believe", "in our view" etc. are used in an almost inflationary manner). In contrast to this semantic modesty is the content of the single messages. The "pro-forma" burden of the FTT is several times higher than estimated by the EC, the burden is not only specified for each group of agents but even for each of the 42 biggest banks in Europe, differentiated by types of business (repos and trading by instruments). It is impressive to get to know that the "pro-forma" FTT payments of Deutsche Bank amount to 362% of their profit, whereas they amount to only 30% in the case of the much smaller Raiffeisen bank.

Exactly because the GS report addresses the single banks, its messages will receive the intended reactions - in spite of the fact that all these figures are completely irrelevant as concerns the actual future FTT payments. It is part of the intellectual flexibility of GS Research that it openly stresses this irrelevance. Even against the objection of a conflict of interest does Goldman Sachs Research a take precautionary measure: The report mentions on page 1 "Goldman Sachs does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report.....".

Not surprisingly, the GS report completely disregards the long-term effects of implementing a general FTT as a first step in changing the incentive conditions from short-term speculation in the financial sphere of the economy to (comparatively) long-term speculation in the real sphere, i. e., to innovation and real investment (we discuss this aspect in section 4.5 below).

### **4.3 The issuance principle and its application**

The issuance principle complements the residence principle in the following way. According to the residence principle trading instruments issued in one of the 11 FTTCs would not be subject to the FTT as long as both partners to the transaction are established in the area outside the FTT jurisdiction. These transactions become taxable under the issuance principle, irrespective, whether they take place in a FTTC or in a Non-FTTC. Hence, the issuance principle is less a measure against relocation of trading but a measure to widen the tax base.

Compared to the volume of transactions which are taxable already according to the residence principle, the additionally taxable spot transactions according to the issuance principle will be small (e. g., all transactions in stocks and bonds issued in an FTTC which are carried out by financial institutions established outside the FTT legislation area). As regards exchange-traded derivatives, the additionally taxable transactions according to the issuance principle could be substantial, in particular with respect to the futures and options related to German government securities (Bund, Bobl, Schatz) and to the DAX stock price

index, respectively. These are the most popular exchange-traded derivatives in the FTT area, also among FIs established outside the FTT jurisdiction.

However, the issuance principle could bring about an incentive to relocate trading of these instruments from exchanges in the FTT jurisdiction to exchanges in Non-FTTCs. To put it concretely: If Euronext/LIFFE offered trading in a “clone” of these derivatives in London and these new instruments would be legally considered as issued in the UK, i. e., in a Non-FTTC, then some portion of the respective trading at EUREX in Frankfurt might move to London.

One should therefore consider to broaden the definition of the issuance principle in such a way that it covers also derivatives which are related to an underlying instrument issued in the area of the FTT jurisdiction, i. e., in one of the 11 participating Member States.

#### **4.4 Transfer of funds as means of FTT circumvention**

A further issue concerns the following question: Is it legally possible to dampen the emigration of short-term trading activities to NFTTCs by introducing an FTT-substitute-levy (FTTSL) on shifting funds from FTTCs to brokerage firms in NFTTCs? The FTTSL would serve as a “refundable withholding tax” - if the transactions carried out abroad via the broker are declared, the FTTSL payment would be offset against the FTT (see also section 2.1).

Background to this proposal of modifying the ECP is the following: There operate a great number of internet/online brokers which carry out almost any kind of financial transactions for private “investors” (amateur traders). Many banks offer these services through online brokers as subsidiaries.<sup>10)</sup>

If a FTT is implemented in 11 member states then these firms will easily move to Non-FTTCs like Switzerland or the UK. In addition, residents of FTTCs will transfer funds to these brokers (or to brokers which already exist in Non-FTTCs like OANDA) and then process their transactions orders via these brokers. In other words, these (amateur) traders would (ab)use the freedom of capital movements to circumvent FTT payments (if they would process their orders via brokers/banks established in their home country, the respective broker/bank would have to pay the tax). If the FTTSL is designed as a “refundable withholding tax”, it can be considered consistent with EU legislation concerning the freedom of capital movements.

#### **4.5 First-mover advantages of implementing the FTT**

There are at least three types of advantages for the 11 Member States which participate in the enhanced cooperation procedure to implement a general FTT. Two of these advantages will be realized over the short run, the third one only over the medium and long run.

The first advantage concerns the fact that the 11 FTTCs - comprising four of the five biggest EU economies, e. g., Germany, France, Italy and Spain – form a “critical mass” necessary to

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<sup>10)</sup> The transactions volume processed through these brokers is enormous (one broker specialized in foreign exchange – OANDA – claims that roughly 20% of worldwide foreign exchange transactions are carried out through their platform)

put through a broad FTT concept. If, by contrast, a transaction tax is introduced only by single states or only by a group of smaller economies, it can only cover one or few types of transactions – those which can hardly be relocated to other jurisdictions (like the British stamp duty or taxes on exchange transactions).<sup>11)</sup> As a consequence, tax revenues remain small relative to the (potential) revenues from a broadly conceptualized FTT. In addition, tax circumvention practices, i. e., substituting untaxed transactions for taxed transactions, often distorts trading activities and relative prices.

The second advantage concerns the tax revenues of the 11 participating Member States from transactions to which one party is established in a state outside the FTT jurisdiction. Even though it is regrettable that the UK as the country with the by far most important financial markets in the EU does not participate in the FTT project, transactions in the UK to which only is established in the EU11 will revenues in the EU11 also for the other party. E. g., if a German FI trades with a British (or US etc.) FI, Germany gets the FTT payment twice (for the German as well as for the UK party). At the same time, relocation of trading from the EU11 to the non-participating EU16 countries – primarily to the UK – will reduce the overall tax revenues. However, without implementation of a FTT, there would be no tax revenue from this source at all.

The third advantage concerns the long-term effects of implementing a general FTT as a first step in changing the incentive conditions from short-term speculation in the financial sphere of the economy to (comparatively) long-term speculation in the real sphere, i. e., innovation and real investment. A sketchy recapitulation of post-war economic history suggests the following.

The remarkable overall performance until the 1970s - high and stable growth, absence of financial crises, full employment, building-up the welfare state, continuous decline in public debt - was achieved mainly because the incentive conditions directed the "core energy" in capitalism, striving for profits, to activities in the real economy. "Real-capitalistic" incentive conditions like stable exchange rates, stable interest rates below the rate of economic growth, (relatively) stable commodity prices and "calm" stock markets, favoured entrepreneurial activities and rendered financial speculation unattractive at the same time.

Over the past decades, by contrast, the incentive conditions changed fundamentally, the system transformed itself from a "real-capitalistic" into a "finance-capitalistic" regime. Unstable exchange rates, commodity prices, interest rates above the rate of growth, booms and busts in the stock market together with financial innovations – in particular the emergence of financial derivatives - progressively fostered "finance alchemy" at the expense of entrepreneurial activities. These systemic changes have strongly contributed to the decline of economic growth from decade to decade, and to the related increase in unemployment as well as in the public debt. This process has caused (many) banks and hedge funds to

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<sup>11)</sup> A survey of financial transaction taxes implemented in single countries over the past decades can be found in *Schulmeister – Schratzenstaller – Picek, 2008*).



transform themselves from institutions serving the real economy to specialists in “finance alchemy” (some aspects of this transformation process is discussed in *Boot – Ratnovski, 2012*).

During the boom phase of finance capitalism, market places which are specialized in providing financial services like the City or the Wall Street, strongly profit from the interest of investors from all over the world to participate in the process of self-referential wealth creation (“Let your money work!”). However, economic history shows that this type of profit-seeking is self-destructing since it produces progressively more financial assets which are not backed by real values – in the first place government debt.<sup>12)</sup>

In this context, one can interpret the development in industrial countries over the past 6 years as part of this process of self-destruction of a finance-capitalistic regime which leads – sooner or later – to changes in the incentive conditions which favour again profit-seeking in the real economy. The implementation of a FTT in the most important economies of continental Europe will be one component in this process towards real-capitalistic incentive conditions.

In this transition period, the UK might profit from the relocation of short-term trading from EU11 Member States. However, one should keep in mind that the emigration of activities which are detrimental for the real economy as a whole is not per se a negative development (even though some financial institutions might suffer and have to change their business towards servicing the real economy).

The extreme specialization of the British economy on services facilitating short-term asset trading - with an overall volume of almost 600 times its GDP - might turn out to be a disadvantage over the long run, in particular during periods when striving for profits in other parts of Europe and the world shifts towards activities in the real economy. In the end, it is the creation of real values which provides the basis for the wealth of nations.

## **5. Estimation of the size and distribution of FTT revenues according to the proposal of the European Commission**

### **5.1 Estimation method**

Estimating the volume and distribution of FTT revenues if the tax is implemented in only a group of EU countries according to the residential-decentralized approach is much more complicated as compared to tax estimates in the case of an implementation according to the territorial-centralized approach. In the latter case one would need just the data on transactions in the FTT jurisdictions together with assumptions concerning the elasticity of transactions with respect to the tax rate and concerning relocation effects.

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<sup>12)</sup> *Arrighi, 2010*, analyses the changes between real-capitalistic and finance-capitalistic regimes since the 15<sup>th</sup> century in the context of the rise and fall of economic and political hegemony (from the Genovese Republic to the Dutch Republics, to the United Kingdom, then to the USA and – most probably – to China in the - relatively - near future). Note that the Chinese economic system is characterized by real-capitalistic incentive conditions.

However, if a FTT is implemented in some countries according to the residential principle, one needs to know not only the overall volume of transactions by FIs established in these countries in all (important) markets of the global economy but also the distribution of these transactions by the nationality of the trading partners (according to the jurisdiction where they are resident/established).

The issue is even more complicated in the concrete case of an FTT implementation in 11 EU countries without the UK. One needs to know also which London subsidiaries of “global players” are incorporated in the UK and how much and with whom they trade in London (and elsewhere!), how many London branches of international banks (and hedge funds) established in a FTTC might become incorporated in the UK in reaction the introduction of the FTT in the country where the parent FI is established, and how much trading would be relocated from the parent company to the London subsidiary.

Within the short period of time available to carry out the present study (2 months) it was impossible to find the data required and to build up a comprehensive data base. We decided therefore to concentrate on the issue of developing a consistent method to estimate the volume of FTT revenues and their distribution among participating countries if the tax is implemented according to the residential-decentralized approach by a group of countries. This method should explicitly take into account the problem of London subsidiaries by simulating two extreme scenarios. In one case all London subsidiaries are treated as part of the parent FI, in the other case they are treated as British FI.

The estimation procedure consists of several steps which are linked to each other through a system of excel files. These are designed in such a way that one can easily modify the assumptions about evasion/reduction factors, tax rates, and relocation effects and gets the adjusted estimates at once. This procedure assures at the same time, that one can gradually improve the underlying data base. In the present version, the quality of the data on the relative shares of FIs in overall transactions on the different market places (needed for steps 3 to 5 as described below) is rather poor (see section 5.1).

The estimation procedure consists of the following steps:

- Step 1: Specify the most important regional market places for transactions of FIs established in the EU (“countries of transaction”). These are the following 7 countries/regions: UK, Germany, France, Other Europe, North America, Asia, Others (= rest of the world). Document the volume of financial transactions on the 7 regional markets, differentiated by main submarkets like exchanges for trading stocks and bonds (spot), derivatives exchanges and OTC markets (total and without foreign exchange spot transactions).
- Step 2: Specify the most important “countries of residence” of the FIs which carry out financial transaction. In this study, we specify the following 13 countries of residence: Germany, France, Italy, Spain, Belgium, Austria, Other EU-FTTCs, United Kingdom,

Netherlands, Other EU-Non-FTTCs, Switzerland, USA, Other Non-FTTCs (i. e., the rest of the world).

- Step 3: Estimate the market shares of the FIs of the 13 countries of residence in each of the 7 regional markets (differentiated by exchanges and OTC markets) under the assumption that all London subsidiaries are treated as FIs of the headquarter country (country of the parent company).
- Step 4: Estimate the share of London subsidiaries in the transactions volume of the FIs of the 13 countries of residence in each of the regional markets (differentiated by exchanges and OTC markets).
- Step 5: Estimate the relocation of transactions from the FTTCs to the London market place in reaction to the introduction of the tax. This estimate has to be done separately for the 6 specified FTTCs of residence (Germany, France, Italy, Spain, Belgium and Austria as well as for the group of the 5 other FTTCs).
- Step 6: The information provided by steps 3 to 5 gives an estimate of the market shares of the FIs of the 13 countries of residence in each of the 7 regional markets (differentiated by exchanges and OTC markets) under the assumption that all London subsidiaries are treated as British FIs.
- Step 7: Estimate a matrix of transactions between the 13 countries of residence in each of the regional markets, differentiated by exchanges and OTC markets (columns = buys, rows = sells – analogous to an input-output-matrix). This matrix has to be estimated for two cases. In the first case, the London subsidiaries are treated as part of the parent company, in the second case as British FI after relocation of trading from FTTCs to London (the informational basis of these buy-sell-matrices are the market shares estimated in steps 3 and 6). These matrices answer the question: Who trades with whom at which markets (exchanges and OTC on the one hand, regional markets on the other hand)?
- Step 8: Create analogous matrices of evasion/reduction factors (0.15 for stocks and bonds, 0.75 for derivatives) and of tax rates for transactions on spot exchanges (0.1%) on the one hand, and on OTC markets on the other hand (0.01%). Using Excel logic, both types of matrices have to be set up in such a way that one can easily modify both variables, i. e., evasion factors as well as tax rates.
- Step 9: Calculate the FTT revenues for each type of transaction (element of the 13x13 matrix) and assign them to the FTTCs of residence. If both parties are established in a FTTC the authorities of the respective countries get half of the revenues, if only one party belongs to a FTTC, the respective country gets the full return, if neither party is established in a FTTC no tax payments are due (the latter will be more often the case if London subsidiaries are treated as British FIs as compared to the case when the subsidiaries are considered part of their parent FI).
- Step 10: Aggregate the revenue data to a “readable”, yet still comprehensive documentation. The final presentation should show FTT revenues of Germany, France,

Italy, Spain, Belgium and Austria as well as of the group of the 5 other FTTCs, differentiated by the 7 regional markets (“from which market places do the revenues stem from?”) and by types of instruments like stocks and bonds, exchange-traded derivatives, and OTC derivatives, respectively (“from which types of transactions do the revenues stem from?”). The results are presented for the two extreme cases concerning the treatment of London subsidiaries of FIs established in FTTCs. In one case, the subsidiaries are considered a part of the parent company, in the other case as British FI.

## 5.2 Data base

The data for step 1 are taken from two sources, the “Triennial Bank Survey” of the Bank of International Settlements (BIS) for 2010 (April) for OTC derivatives and for the country group data on exchange-traded derivatives. The 2010 data of trading volume of stocks and bonds on exchanges as well as the data of trading exchange-traded derivatives in single countries are taken from the data base of the “World Federation of Exchanges” (see *Schulmeister – Schratzenstaller – Picek, 2008*, for a documentation of the data base).

The data for steps 3 to 5 are the most important ones. These data refer to the relative share of FIs established in the 13 specified countries (of residence) in overall transactions on the exchanges as well as OTC markets of the 7 countries (of transaction) where two cases have to be distinguished. In one case, all London subsidiaries are treated as part of the respective parent FI, in the other case they are treated as British FI. These data form the basis for estimating transaction matrices and, hence, the distribution of FTT revenues among the 11 FTTCs.

At the same time, there are no publicly available sources for these data. Of course, exchanges do have the information about the market shares of FIs by the nationality of their parent company. However, when contacting exchanges like the London Stock Exchange or NYSE/Euronext we got only a few pieces of information from the latter and no information from the London Stock Exchange.

We therefore designed a questionnaire to be sent to compliance officers of big FI operating on the most important market places (we first focused our efforts on the market in London). However, first tests showed that such a survey needs much more time than was available for the present study, in particular, because one needs to get into direct/personal contact with the persons to be asked in order to get a completed questionnaire (answering the questionnaire requires some consideration and eventually checks with other experts within the respective FI).<sup>13)</sup>

As a consequence, the data needed for steps 3 to 5 (displayed in tables 2) are based only on some pieces of information from NYSE/Euronext, from the EUREX Factbook 2009, from a few completed questionnaires (referring to the London market place) and some interviews with

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<sup>13)</sup> Table 4 in the annex shows the questionnaires for a survey among market participants in London, Paris and New York. The questionnaires are (fictitiously) completed for a better understanding of their meaning.

traders. As regards the other 6 markets ("countries of transaction"), the figures displayed in tables 2 can only be regarded best guesses/assumptions. In a follow-up research project, the quality of these data could be gradually improved, in particular through a survey study among experts for which the questionnaire might be useful (see table 4 in the annex).

Also the break-down of the transactions data published by Euronext for derivatives traded on their exchanges in Amsterdam, Brussels, Paris and Lisbon is missing (Euronext does not provide such a break-down so that all trades are included in the data for the LIFFE in London – however, this is not a big issue as roughly 99% of all Euronext derivatives trading is actually done in London).

### **5.3 Stepwise estimation of the size and distribution of FTT revenues**

Table 1 shows for the year 2010 the volume of financial transactions on the most important market places in the global economy differentiated by instruments (exchange traded stocks and bonds, exchange traded derivatives and OTC transactions - out of the latter also foreign exchange spot transactions).<sup>14)</sup> The by most important market places are located in the UK and in North America (predominantly in the US). Based on those transactions which are subject to the FTT (i. e., all transactions without spot foreign exchange transactions) 30.6% of global transactions are carried out in the UK and 37.3% in North America. British market places are specialized on OTC transactions, North America on exchange traded instruments.

The shares in taxable transactions of Germany (4.5%), France (2.3%) and the rest of Europe (11.3%) are much smaller than those of the UK (table 1). As the single most important financial centre in the world economy, London provides attractive trading conditions for FIs from all over the world. These FIs either place orders from abroad or trade through their London subsidiaries. As a result, the volume of overall financial transactions (excluding the foreign exchange spot market) in the UK is roughly 485 times the nominal GDP.

In order to estimate FTT revenues of the 11 FTTCs it is necessary to estimate that part of global (taxable) transactions of 3,580 trillion \$ to which at least one party is a FI from a FTTC. Exactly because the ECP is based on the residence principle, all transactions of FIs matter wherever they take place. However, in its first estimate of FTT revenues the European Commission used only transactions data referring to the EU27. In addition, the level of the data used by the EC is somewhat lower than the data of our database (table 1 - for exchanges, we use the data from the "World Federation of Exchanges" whereas the EC uses data from the "Federation of European Stock Exchanges").

We partition the global taxable transactions into those carried out by FIs of the 11 FTTCs on 7 (regional) markets, i. e., UK, Germany, France, Other Europe, North America, Asia, Others (= rest of the world, abbreviated ROW).

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<sup>14)</sup> In our data base all data are expressed in US\$. The final results will be presented also in Euro.

Having specified the most important “countries of transaction” of transactions by FIs from the 11 FTTCs (step 1), we specify the following 13 “countries of residence” of financial transactions: Germany, France, Italy, Spain, Belgium, Austria, Other EU-FTTCs, United Kingdom, Netherlands, Other EU-Non-FTTCs, Switzerland, USA, Other Non-FTTCs (step 2).

We now have to estimate the market shares of the FIs of the 13 countries of residence in each of the 7 regional markets (differentiated by exchanges and OTC markets) under the assumption that all London subsidiaries are treated as FIs of the headquarter country (step 3). Then we estimate the share of London subsidiaries in the transactions volume of the FIs of the 13 countries of residence, again in each of the 7 markets (step 4). Finally, we make assumptions about the relocation of transactions from the FTTCs to the London market place in reaction to the introduction of the tax (step 5).

The information provided by steps 3 to 5 gives an estimate of the market shares of the FIs of the 13 countries of residence in each of the 7 regional markets (differentiated by exchanges and OTC markets) under the assumption that all London subsidiaries are treated as British FIs (step 6).

The meaning of steps 3 to 6 in the estimation procedure gets clear if one takes a concrete example. Table 2–UK shows the assumptions about the shares of FIs from the 13 countries of residence in the UK market as well as the assumptions about the relocation of trading from the 11 FTTCs to the UK in reaction to the FTT implementation. The first block of 5 columns refer to spot and derivatives exchanges, the second block to OTC markets (excluding foreign exchange spot transactions).

If German (French, Italian, etc.) subsidiaries are treated as part of their parent companies (they are considered as being established in Germany, France, Italy, etc.), then German (French, Italian, etc.) FIs hold a share of 7.0% (5.5%, 1.0%, etc.) in overall transactions on spot and derivatives markets in London. The market share of UK FIs in the UK market would only be 30.0% (column 1).

Column 2 shows the assumptions about the market shares of the London subsidiaries, which sum up to 45%. Hence, if the subsidiaries are treated as British FIs, then the share of British FIs in the UK market would amount to 75.0%, whereas the share of foreign FIs would only be 25% (column 3).

It is assumed that German (French, Italian, etc.) FIs will relocate transactions from their home countries to the UK in reaction to the implementation of the FTT. The respective assumptions are displayed in column 4. Under these conditions the share of British FIs in overall transactions on UK exchanges would rise to 80.0%, whereas the share of foreign FIs would decline to 20.0% (column 5).

Similar assumptions are set for transactions on OTC markets in the UK (columns 6 to 10). Then the whole exercise has to be repeated for each of the other 6 markets (tables 2–Germany, France, Other Europe, North America, Asia, Others/ROW).

The matrix of transactions shares between the 13 countries of residence in each of the regional markets, differentiated by exchanges and OTC markets, is estimated under the following simple - yet not overly restrictive – assumption. The share of each country in overall buy transactions equals the respective share in overall sell transactions (the structure of the sum over all rows and over all columns is the same, and, hence, equals the market shares of the respective countries as estimated in tables 2). This assumption implies that the FIs from each country equilibrate their buy and sell transactions over a reasonably long period like one calendar year (since most open positions are closed by the end of each trading day, this assumption might even hold – approximately – over the short run).

By the same token, it is assumed that the structure of the single rows and columns is the same. This assumption implies that the overall market shares of each country are replicated in the structure of its buy transactions (columns) and sell transactions (rows). If, e. g., FIs from the UK hold an overall share in transactions on UK exchanges of 30%, then they also hold such a share in the buy and sell transactions of German FIs. Hence, the share of German buys (sells) from British FIs in the overall transactions on British exchanges amounts to 2.1% (30.0% of 7.0% - table 3 shows the shares of bilateral transactions under the condition that London subsidiaries are considered part of their parent companies). Otherwise the German FIs would persistently buy more (less) from British FIs than they sell to British FIs. Hence, our simplifying assumption does seem plausible.

If the London subsidiaries are treated as British FIs and if relocation effects are accounted for, the shares of all transactions between British FIs gets much higher than if the subsidiaries are treated as part of their parent company (64.0% as compared to 30.0% - tables 3 and 4). At the same time the shares of the other bilateral transactions declines.

The matrix of transactions between the 13 countries of residence in each of the regional markets, differentiated by exchanges and OTC markets (columns = buys, rows = sells – analogous to an input-output-matrix) is obtained by multiplying each element of the transactions share matrix by the value of all transactions in the respective market. E. g., overall transactions of stocks and bonds on British exchanges amount to 8,525 bn. \$ in 2010 (table 1). If London subsidiaries of German FIs are treated as part of their parent companies, buying stocks or bonds by German FIs from British FIs amounts to 2.1% of overall transactions (table 3) and, hence, to 179,0 bn. \$ (as the matrix is symmetric, sells by German FIs to British FIs are estimated to the same amount – table 5).

The same bilateral transactions are estimated at only 1.6% of overall transactions in the British exchanges (i. e., (136.4 bn. \$) if the London subsidiaries are treated as British FIs and if the relocation effects are taken into account after relocation of trading from FTTCs to London (table 6).

These matrices have to be calculated for the 7 market places, for 3 types of instruments and for the 2 cases of treating London subsidiaries, in total 42 matrices (step 7 in the estimation procedure).

We then multiply each element of these matrices with the evasion/reduction factors as predetermined in the impact assessment of the European Commission (0.85 for stocks and bonds, 0.25 for derivatives). This gives 42 matrices of the taxable values of bilateral transactions (step 8 in the estimation procedure).

We calculate the FTT revenues for each type of bilateral transactions by multiplying each element of the 42 matrices of taxable transactions by the respective effective tax rate which is 0.2% for transactions on spot exchanges and 0.02% for OTC transactions, provided that one party to the transaction is established in a FTTC. Otherwise the effective tax rate is 0 (tables 7 and 8 display the matrix of effective tax rates for spot exchanges and for derivatives markets, respectively).

Finally, we assign the FTT revenues to the FTTCs ("countries of residence"). If both parties are established in a FTTC the authorities of the respective countries get half of the revenues, if only one party belongs to a FTTC, the respective country gets the full return, if neither party is established in a FTTC no tax payments are due.

#### **5.4 Main results**

Table 9 shows FTT revenues of Germany, France, Italy, Spain, Belgium and Austria as well as of the group of the 5 other FTTCs, differentiated by the 7 regional markets ("from which market places do the revenues stem from?") and by types of instruments like stocks and bonds, exchange-traded derivatives, and OTC derivatives, respectively ("from which types of transactions do the revenues stem from?"). The results are presented for the two extreme cases concerning the treatment of London subsidiaries of FIs established in FTTCs. In the first case, the subsidiaries are considered a part of the parent company (no relocation effects), in the second case they are treated as British FIs (including relocation effects).

For countries, whose FIs operate to a significant extent through big subsidiaries in London like Germany and France, the FTT revenues differ strongly between the two cases. If the German and French subsidiaries are treated as FIs established in Germany and France, respectively, the FTT revenues are estimated at 30.5 bn. \$ and 25.3 bn. \$, respectively. If the subsidiaries are treated as FIs established in the UK, the FTT revenues of Germany and France are estimated at only 9.0 bn. \$ and 6.9 bn. \$, respectively - table 9). For the other FTTCs, this difference is smaller but still significant.

In this context we want to stress once again three points. First, our assumptions about the transaction shares of London subsidiaries as well as our assumptions about the relocation effects in response to a FTT implementation need a better empirical foundation (this could be done through surveys among experts and practitioners – see tables 4A to 4C in the annex as regards the first issue). Second, also the ECP assumption about the size of the evasion/reduction factors - 0.85 for spot transactions of stocks and bonds, 0.25 for derivatives transactions – needs to be checked, eventually through interviews with practitioners. Third,



the actual amount of FTT revenues will most probably lie somewhere between the estimates for the two cases concerning the treatment of London subsidiaries.

Roughly half of the overall tax revenues of all 11 FTTs would stem from transactions in stocks and bonds (the ECP estimates the respective share at only one third), roughly one quarter from transactions on derivatives exchanges, and from OTC transactions, respectively (table 9). The high contribution of stocks and bonds transactions to overall FTT revenues (the share of these instruments in overall financial transactions in the EU amounts to only 2% - table 1) is due to two assumptions. First, stock and bond trading would decline by only 15% in reaction to the FTT implementation as compared to 85% in the case of derivatives trading. Second, the tax rate on bond trading is 10 times higher than the rate on derivatives trading.

Tables 10A and 10B summarize the results in US\$ and in euros, respectively. If London subsidiaries are treated as part of their parent companies, overall FTT revenues of the 11 FTTs are estimated at 65.8 bn. €, more than estimated by the EC for the EU27 as a whole. Roughly one quarter of these revenues would stem from transactions in North America and Asia (transactions outside the EU by FIs which are established in the EU27 are not taken into account in the impact assessment – see EC, 2011B, volume 12).

The revenues would be distributed among the participating states as follows. The lion's share of FTT revenues would go to Germany (35.0%) and France (28.9%), Italy and Spain would receive 13.5% and 14.8%, respectively. The smaller countries like Belgium, Austria and the 5 other FTTs would get significantly less (3.2%, 1.9%, and 2.9%, respectively – table 10B).

In a recent study, the German Institute of Economic Research (DIW) estimates the distribution of FTT revenues among 9 countries according to two different concepts (*Schäfer – Karl, 2012*).<sup>15)</sup> In one case, the ECP estimate for the EU27 as a whole (57.1 bn. € - this estimate is taken as given) is distributed according to the asset value of the banks established in the 9 countries (including subsidiaries abroad – scenario 1). In the other case, revenues are assigned to the participating countries according to the aggregate value of gross profits minus gross investment plus compensation of employees (scenario 2).

It is interesting to note that the DIW study arrives at similar figures concerning the distribution of FTT revenues if the asset value of banks including subsidiaries abroad is taken as the assignment criterion (scenario 1 – table 4 in *Schäfer – Karl, 2012*). Germany and France would get 30.0% and 28.8% of the overall revenues of the 9 countries, Italy and Spain 14.2% and 13.2%, respectively.

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<sup>15)</sup> The DIW study covers also Finland but does not include Estonia, Slovakia and Slovenia. This difference in coverage should not matter a lot as the respective countries are small and their FIs not exceptionally active in trading (in contrast to countries like Switzerland and Luxembourg). The fundamental difference to the present study concerns the estimation of the overall FTTs of the participating countries. *Schäfer – Karl (2012)* take the revenue estimate of the European Commission for the EU27 (57.1 bn. €) as point of departure and estimate the shares of the 9 FTT countries. By contrast, we start with the transactions data as provided by the Bank of International Settlements and the World Federation of Exchanges and estimate FTT revenues according to the procedure described above.

If London subsidiaries are treated as British FIs, a very different picture emerges as regards the level and the distribution of tax revenues (table 10B). Overall revenues would amount to only 28.3 bn. €, less than half of the sum to be expected when the subsidiaries are treated as part of their parent institutions (65.8 bn. €). The reduction of revenues would be greatest for Germany and France, whereas the revenues of the other FTTCs would only moderately decline (compare table 10B to table 10A).

The main reason for that lies in two types of assumptions, first, the assumptions about the share of the UK subsidiaries of the FIs of the 7 FTTCs of residence in transactions on the 7 specified markets ("countries of transactions"), and, second, the assumptions about relocation of trading from the parent FIs to the UK subsidiaries in reaction to the FTT implementation.

These assumptions differ significantly between the single countries of residence: It is – plausibly – assumed that the importance of UK subsidiaries and, hence, also the relocation effect, is by far greater for German and French FIs as compared to Italian, Spanish, Belgian and Austrian FIs as well as the FIs of the other FTTCs. As a consequence, also the distribution of FTT revenues under the condition that UK subsidiaries are treated as British FIs differs significantly from the distribution under the condition that the UK subsidiaries are treated as FIs of the headquarter country.

Let us take the UK market as concrete example (table 2-UK): Since German and French FIs have already built up comprehensive trading infrastructures in London through their subsidiaries, the share of the latter in transactions on the UK market is much higher – 3.0% and 2.0%, respectively - than the share of the other FTTCs (in total only 1.3%). If UK subsidiaries were treated as British FIs, German and French parent companies would relocate much more transactions to their UK subsidiaries than the FIs of the other FTTCs (see the respective – assumed - figures in table 2-UK).

It is further assumed that both effects – the relative importance of UK subsidiaries already existing and the related relocation of trading – will also in other markets be more pronounced with respect to German and French FIs as compared to FIs from other FTTCs. This means, e. g., that French and German FIs will to a greater extent trade on their home markets via their UK subsidiaries than the FI of the other FTTCs on their home markets (comprised in the country group "Other Europe").

For these reasons, the FTT revenues of Germany and France will be much more affected by treating UK subsidiaries as British FIs than the revenues of the other FTTCs. Under the quantitative assumptions laid down in the tables 2 revenues of Germany, France, Italy and Spain would roughly be the same (between 7 and 9 bn. €), whereas revenues of Germany and France would amount to more than double the revenues of Italy and Spain if UK subsidiaries were treated as FIs of the headquarter country (figure 10B).

## **6. Estimation of the size and distribution of FTT revenues in the EU27 at a uniform and unilateral tax rate of 0.01%**

Finally, we would like to demonstrate the functioning of our estimation procedure by modifying the ECP in two respects:

- The FTT rate is set at a uniform level of 0.01%.
- The tax rate is unilateral so that each party to a transaction has to pay for his side of the trade only.

We discussed the reasons for these modifications already in section 3. A uniform tax rate would burden derivatives transactions the more the higher is the leverage (relative to the cash requirement). At the same time, trading of stocks and bonds would be burdened much less. This differentiation is justified by the fact that trading derivatives is much more destabilizing as compared to spot trading. In addition, a lower tax rate for trading stocks and bonds would weaken the resistance of countries against the FTT where pension funds play an important role.

The main reason why the FTT rate should concern only that side of any trade which is done by a resident of a FTT jurisdiction lies in the simplification of the administration of the FTT deduction. This is so because when trading on organized (electronic) exchanges one party to a transaction does not know the other party if the exchange is not willing to disclose this information (see the discussion of this issue in section 3). This knowledge would, however, be necessary to also pay the tax part of the other party in case the latter is not resident of a FTTC and is not willing to pay the tax.

In order to show the opportunity costs of not participating in the FTT project the tax revenues are estimated under the assumption that all EU27 countries introduce the tax at the low and uniform rate of 0.01%. It is further assumed that the London subsidiaries are treated as British FIs (this seems more realistic than the other case where subsidiaries – even if incorporated in the UK – are obliged to pay the tax to the FTTC where their parent company is established).

Since it is assumed that all EU27 countries implement the modified FTT no relocation takes place within the EU. Hence, the 21 transaction matrices for the 7 market places and 3 types of instruments are derived from the share of “parent companies and UK subsidiaries treated as British FIs” (without relocation) in overall transactions on the 7 market places as displayed in the tables 2 (columns 3 and 8, respectively).

In order to facilitate a comparison between the estimates for the EU27 and for the 11 FTTCs, the assumptions about evasion/reduction factors are kept the same (even though one would expect them to be somewhat smaller in the case of the EU27 simulation as the tax rate of stock and bond transactions is much lower and also the effective tax rate of transactions is lower if only one party is established in the EU27).

Table 11 displays the matrix of effective tax rates if a uniform and unilateral rate of 0.01% is implemented. If both parties to a transaction are residents of a FTTC the effective tax rate is

0.02% (the same as in the ECP for derivatives transactions). If only one party is established in a FTTC the effective rate is only 0.01%. It is clear that this difference becomes the less relevant the more countries participate in the FTT project.

For this reason, the revenues of the EU11 countries from transactions on derivatives exchanges and from OTC transactions are only a little smaller if all EU27 countries implement the FTT even at a unilateral rate (compare columns 2 and 3 in table 12 to the columns 6 and 7 in table 9). However, revenues from trading stocks and bonds would be much smaller (mainly due to the lower tax rate; in addition, the revenues dampening effect of moving from a two-sided tax rate to a one-sided rate is slightly higher than the revenues increasing effect of no relocation to the London market place).

The “big winner” of implementing a FTT in all EU27 countries would be the United Kingdom. Her FTT revenues would amount to 72.1 bn. \$ or 54.3 bn. €, roughly 77% of overall revenues of all EU27 countries (table 13 – FTT revenues would equal 3.2% of the British GDP). At the same time, the UK needs not fear massive relocation to other market places if all EU27 countries implement the tax (the extremely short-term trading cannot easily be relocated to market places in other time zones).

Table 14 compares our estimates based on the residence principle to the estimated revenues which EU member countries would earn if a FTT were implemented according to the territorial principle at a uniform rate of 0.02% - the effective tax rate in the case of an FTT implementation according to the residence principle in all EU27 countries is close to 0.02%; the same evasion/reduction factors are applied. The overall revenues of all EU27 countries when the FTT is implemented according to the modified FTT concept would amount to 70.7 bn. €, somewhat higher than according to the territorial principle (65.4 bn. €). The main reason for this difference lies in the fact that trading of FIs established in the EU (including US and Swiss subsidiaries in London) abroad is higher than trading of FIs established outside the EU on European markets.

Our estimates of overall FTT revenues of the EU27 countries if the modified FTT concept is realized are higher than the estimates of the European Commission (57.1 bn. €) in spite of the fact that the tax rate for trading stocks and bonds is reduced to 0.01%. The main reasons for this difference are as follows. First, the “raw” data on financial transactions according to our data base are higher than those used by the EC. Second, the ECP does not take into account the volume of trading done by FIs established in the EU27 on markets outside the EU.

## **7. Suggestions for further research**

The most important task consists in improving the data on shares of the most important EU27 countries in transactions on the 7 market places, differentiated by types of instruments and to get better information on the relocation effects in case important EU countries continue to reject the FTT project. This could be done through a survey (eventually backed by the EC) as well as through interviews with practitioners.

In order to take also REPO transactions into account when estimating FTT revenues one should improve the respective data base. A first step could be the inclusion of REPO transaction into the Triennial Bank Survey of the Bank of International Settlements.

Another issue to be investigated concerns the relocation of (amateur) trading from FTTCs to internet brokers in Non-FTTCs (like OANDA in Switzerland) and the possible measures to restrict those transfers. In this context, the legal and practical feasibility of a FTT-substitute-levy (FTTSL) as some kind of "refundable withholding tax" needs to be examined.

Finally, one should estimate the additional FTT revenues due to the complementary "issuance principle". To this end one would need the information about "who trades with whom at which market places?" differentiated by instruments according to the issuing country. This is a task for the more distant future as one has to improve in the first place the data base on the transaction matrices by countries of residence. What seems of a higher priority is gauging the probability that popular derivative instruments traded on exchanges of FTTCs (like DAX futures and options as well as Bund, Bobl and Schatz traded at EUREX in Frankfurt) might be "cloned" by exchanges outside the FTT jurisdiction. If such an attempt to shift trading activities to Non-FTTCs seems (highly probable one should explore provisions to prevent it. One option might consist in broadening the definition of the issuance principle in such a way that it covers also derivatives which are related to an underlying instrument issued in the area of the FTT jurisdiction.

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Table 1: Value of financial transactions by regions/countries and types of instruments 2010

	Exchange traded stocks & bonds		Exchange traded derivatives		Foreign exchange spot		OTC transactions		Total without foreign exchange spot		To: without foreign sp
	Bn. US\$	Shares in %	Bn. US\$	Shares in %	Bn. US\$	Shares in %	Bn. US\$	Shares in %	Bn. US\$	Shares in %	
United Kingdom	8,525	8.3	489,793	24.4	174,129	38.0	597,995	40.7	1,096,314		
Germany	2,453	2.4	127,375	6.3	7,527	1.6	31,741	2.2	161,569		
France	1,198	1.2	-	-	6,763	1.5	79,445	5.4	80,644		
Other Europe	20,202	19.8	177,420	8.8	49,400	10.8	206,549	14.1	404,171		
Italy	1,189	1.2	-	-	2,256	0.5	11,712	0.8	12,901		
Spain	11,852	11.6	1,025	0.1	2,068	0.5	12,947	0.9	25,824		
Belgium	49	0.0	-	-	1,977	0.4	8,651	0.6	8,700		
Austria	47	0.0	-	-	1,468	0.3	4,625	0.3	4,672		
Netherlands	783	0.8	-	-	1,270	0.3	18,626	1.3	19,408		
Switzerland	987	1.0	-	-	15,226	3.3	70,120	4.8	71,107		
North America	46,362	45.4	998,093	49.7	122,715	26.8	289,728	19.7	1,334,184		
Asia and Pacific	20,267	19.8	178,686	8.9	89,289	19.5	249,148	17.0	448,102		
Others	3,200	3.1	36,676	1.8	8,252	1.8	14,748	1.0	54,624		
World	102,207	100.0	2,008,044	100.0	458,075	100.0	1,469,355	100.0	3,579,606		
EU <sup>1)</sup>	31,391	30.7	794,588	39.6	237,819	51.9	845,610	57.5	1,671,590		
Memo:											
EU27-Transactions <sup>2)</sup>	27,425	-	621,173	-	215,190	-	784,979	-	1,433,578		

1) Europe as defined in the Triennial Bank Survey of the Bank of the International Settlements without Switzerland. -2) Basis of the estimation of FTI revenues by the European Commission (European Commission, 2011B, Vol. 12, Table (3)).

Table 2-UK: Transactions of financial institutions in the United Kingdom by nationality of their establishment  
Shares in overall trading volume in %

Country of establishment	Transactions on spot and derivatives exchanges				Transactions on OTC markets				
	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI) after relocation	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FT	Parent companies and UK subsidiaries (the latter treated as British FI) after relocation	
Germany	7.0	3.0	4.0	2.0	6.0	4.0	2.0	-1.0	1.0
France	5.5	2.0	3.5	2.0	5.5	4.0	1.5	-1.0	0.5
Italy	1.0	0.5	0.5	0.1	3.5	2.5	1.0	-0.8	0.2
Spain	1.5	0.5	1.0	0.2	4.0	3.0	1.0	-0.7	0.3
Belgium	0.5	0.2	0.3	0.1	0.7	0.2	0.5	-0.4	0.1
Austria	0.3	0.1	0.2	0.1	0.3	0.1	0.2	-0.1	0.1
Other FTICs	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.0	0.5
UK	30.0	-	75.0	80.0	32.5	-	79.0	4.0	83.0
Netherlands	4.0	3.0	1.0	1.0	3.0	2.0	1.0	0.0	1.0
Other EU-Non-FTICs	10.0	8.0	2.0	2.0	5.0	2.7	2.3	0.0	2.3
Switzerland	7.5	5.5	2.0	2.0	8.0	5.0	3.0	0.0	3.0
USA	22.5	16.5	6.0	6.0	25.0	20.0	5.0	0.0	5.0
Other Non-FTICs	9.7	5.7	4.0	4.0	6.0	3.0	3.0	0.0	3.0
Total	100.0	45.0	100.0	100.0	100.0	46.5	100.0	0.0	100.0
Total without UK	70.0	45.0	25.0	20.0	67.5	46.5	21.0	-4.0	17.0



Table 2-Germany: Transactions of financial institutions in Germany by nationality of their establishment  
Shares in overall trading volume in %

Country of establishment	Transactions on spot and derivatives exchanges				Transactions on OTC markets				
	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FIT	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FIT	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation
Germany	21.0	6.0	15.0	-6.0	31.0	10.0	21.0	-10.0	11.0
France	14.0	3.5	10.5	-6.5	10.0	4.0	6.0	-4.0	2.0
Italy	1.0	0.2	0.8	-0.5	1.0	0.2	0.8	-0.6	0.2
Spain	1.0	0.2	0.8	-0.5	1.0	0.2	0.8	-0.6	0.2
Belgium	0.2	0.0	0.2	0.0	0.3	0.0	0.3	0.0	0.3
Austria	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2
Other FTICs	0.6	0.0	0.6	0.0	0.5	0.0	0.5	0.0	0.5
UK	23.0	-	56.4	13.5	17.0	-	54.9	15.2	70.1
Netherlands	6.0	1.0	5.0	0.0	6.0	1.0	5.0	0.0	5.0
Other EU-Non-FITCs	5.0	0.5	4.5	0.0	5.0	0.5	4.5	0.0	4.5
Switzerland	8.0	3.0	5.0	0.0	8.0	3.0	5.0	0.0	5.0
USA	15.0	15.0	0.0	0.0	15.0	15.0	0.0	0.0	0.0
Other Non-FITCs	5.0	4.0	1.0	0.0	5.0	4.0	1.0	0.0	1.0
Total	100.0	33.4	100.0	0.0	100.0	37.9	100.0	0.0	100.0
Total without UK	77.0	33.4	43.6	-13.5	83.0	37.9	45.1	-15.2	29.9

Table 2-France: Transactions of financial institutions in France by nationality of their establishment  
Shares in overall trading volume in %

Country of establishment	Transactions on spot and derivatives exchanges				Transactions on OTC markets				
	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FIT	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FIT	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation
Germany	10.0	6.0	4.0	-2.0	7.0	3.0	4.0	-2.0	2.0
France	30.0	3.5	26.5	-12.0	40.0	10.0	30.0	-18.0	12.0
Italy	1.0	0.2	0.8	-0.6	1.0	0.2	0.8	-0.6	0.2
Spain	2.0	0.2	1.8	-1.5	2.0	0.2	1.8	-0.5	1.3
Belgium	1.0	0.0	1.0	-0.8	1.0	0.0	1.0	-0.8	0.2
Austria	0.2	0.0	0.2	-0.1	0.2	0.0	0.2	-0.1	0.1
Other FTICs	0.8	0.0	0.8	-0.6	0.8	0.0	0.8	-0.6	0.2
UK	16.0	-	49.4	17.6	9.0	-	45.9	22.6	68.5
Netherlands	6.0	1.0	5.0	0.0	6.0	1.0	5.0	0.0	5.0
Other EU-Non-FITCs	5.0	0.5	4.5	0.0	5.0	0.5	4.5	0.0	4.5
Switzerland	8.0	3.0	5.0	0.0	8.0	3.0	5.0	0.0	5.0
USA	15.0	15.0	0.0	0.0	15.0	15.0	0.0	0.0	0.0
Other Non-FITCs	5.0	4.0	1.0	0.0	5.0	4.0	1.0	0.0	1.0
Total	100.0	33.4	100.0	0.0	100.0	36.9	100.0	0.0	100.0
Total without UK	84.0	33.4	50.6	-17.6	91.0	36.9	54.1	-22.6	31.5

Table 2-Other Europe: Transactions of financial institutions in other Europe by nationality of their establishment  
Shares in overall trading volume in %

Country of establishment	Transactions on spot and derivatives exchanges				Transactions on OTC markets			
	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FFT	Parent companies and UK subsidiaries (the latter treated as after relocation)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FFT	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation
Germany	8.0	2.0	-1.0	1.0	5.0	2.0	-1.0	1.0
France	7.0	3.0	-2.0	1.0	4.0	2.0	-1.0	1.0
Italy	9.0	8.5	-0.5	8.0	1.0	8.0	-1.0	7.0
Spain	10.0	9.5	-0.5	9.0	1.0	8.0	-1.0	7.0
Belgium	2.0	2.0	-1.0	1.0	0.0	1.0	0.0	1.0
Austria	1.0	1.0	-0.5	0.5	0.0	1.0	0.0	1.0
Other FTTCs	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
UK	25.0	59.5	5.5	65.0	-	60.0	4.0	64.0
Netherlands	5.0	4.0	0.0	4.0	1.0	2.0	0.0	2.0
Other EU-Non-FTTCs	2.0	1.5	0.0	1.5	1.0	5.0	0.0	5.0
Switzerland	10.0	7.0	0.0	7.0	5.0	5.0	0.0	5.0
USA	15.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0
Other Non-FTTCs	5.0	1.0	0.0	1.0	0.0	5.0	0.0	5.0
Total	100.0	100.0	0.0	100.0	33.0	100.0	0.0	100.0
Total without UK	75.0	40.5	-5.5	35.0	33.0	40.0	-4.0	36.0

Table 2-North America: Transactions of financial institutions in North America by nationality of their establishment  
Shares in overall trading volume in %

Country of establishment	Transactions on spot and derivatives exchanges				Transactions on OTC markets				
	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FFT	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FFT	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation
Germany	3.0	2.0	1.0	0.0	3.0	2.0	1.0	0.0	1.0
France	2.0	1.0	1.0	-0.5	2.0	1.0	1.0	-0.5	0.5
Italy	0.3	0.1	0.2	-0.1	0.3	0.1	0.2	-0.1	0.1
Spain	0.2	0.1	0.1	0.0	0.2	0.1	0.1	0.0	0.1
Belgium	0.1	0.0	0.1	-0.1	0.1	0.0	0.1	-0.1	0.1
Austria	0.1	0.0	0.1	-0.1	0.1	0.0	0.1	-0.1	0.1
Other FTTCs	0.3	0.0	0.3	-0.2	0.3	0.0	0.3	-0.2	0.1
UK	5.0	-	9.4	0.9	5.0	-	9.4	0.9	10.3
Netherlands	0.5	0.1	0.4	0.0	0.5	0.1	0.4	0.0	0.4
Other EU-Non-FTTCs	0.3	0.1	0.2	0.0	0.3	0.1	0.2	0.0	0.2
Switzerland	2.2	1.0	1.2	0.0	2.2	1.0	1.2	0.0	1.2
USA	83.0	0.0	83.0	0.0	83.0	0.0	83.0	0.0	83.0
Other Non-FTTCs	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0
Total	100.0	4.4	100.0	0.0	100.0	4.4	100.0	0.0	100.0
Total without UK	95.0	4.4	90.6	-0.9	95.0	4.4	90.6	-0.9	89.7

Table 2-Asia and Pacific: Transactions of financial institutions in Asia and Pacific by nationality of their establishment  
Shares in overall trading volume in %

Country of establishment	Transactions on spot and derivatives exchanges				Transactions on OTC markets				
	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI) after relocation	Relocation effect due to FIT	Parent companies and UK subsidiaries (the latter treated as British FI)	UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FI)	Relocation effect due to FIT	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation
Germany	2.0	1.0	0.7	-0.3	2.0	1.0	1.0	-0.3	0.7
France	1.0	0.4	0.4	-0.2	1.0	0.4	0.6	-0.2	0.4
Italy	0.3	0.1	0.2	-0.1	0.3	0.1	0.2	-0.1	0.2
Spain	0.3	0.1	0.2	-0.1	0.3	0.1	0.2	-0.1	0.2
Belgium	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Austria	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Other FTICs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UK	5.0	-	11.2	0.6	5.0	-	10.6	0.6	11.2
Netherlands	0.2	0.1	0.1	0.0	0.2	0.1	0.1	0.0	0.1
Other EU-Non-FTICs	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Switzerland	1.6	1.0	0.6	0.0	1.6	1.0	0.6	0.0	0.6
USA	9.5	3.0	6.5	0.0	9.5	3.0	6.5	0.0	6.5
Other Non-FTICs	80.0	0.0	80.0	0.0	80.0	0.0	80.0	0.0	80.0
Total	100.0	5.6	100.0	0.0	100.0	5.6	100.0	0.0	100.0
Total without UK	95.0	5.6	88.8	-0.6	95.0	5.6	89.4	-0.6	88.8

Table 2-Other (ROW): Transactions of financial institutions in other countries (ROW) by nationality of their establishment  
Shares in overall trading volume in %

Country of establishment	Transactions on spot and derivatives exchanges				Transactions on OTC markets			
	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation	Relocation effect due to FTI	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation	Parent companies and UK subsidiaries (the latter treated as FIs of the headquarter country)	Parent companies and UK subsidiaries (the latter treated as British FI)	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation	Parent companies and UK subsidiaries (the latter treated as British FIs) after relocation
Germany	0.7	0.3	0.4	0.3	0.7	0.3	0.4	0.3
France	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Italy	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1
Spain	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1
Belgium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Austria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other FTICs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UK	5.0	-	9.7	9.9	5.0	-	9.7	9.9
Netherlands	0.2	0.0	0.2	0.2	0.2	0.0	0.2	0.2
Other EU-Non-FTICs	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1
Switzerland	0.6	0.3	0.3	0.3	0.6	0.3	0.3	0.3
USA	8.0	4.0	4.0	4.0	8.0	4.0	4.0	4.0
Other Non-FTICs	85.0	0.0	85.0	85.0	85.0	0.0	85.0	85.0
Total	100.0	4.7	100.0	100.0	100.0	4.7	100.0	100.0
Total without UK	95.0	4.7	90.3	90.2	95.0	4.7	90.3	90.2

*Table 3: Matrix of transaction shares of financial institutions in the United Kingdom by the nationality of their establishment  
Parent company and subsidiaries - the latter treated as part of the parent institution  
Shares in %*

	Germany	France	Italy	Spain	Belgium	Austria	Other FTICs	UK	Nether- lands	Other EU- Non-FTICs	Switzer- land	USA	Other Non-FTICs	Total
Germany	0.49	0.39	0.07	0.11	0.04	0.02	0.04	2.10	0.28	0.70	0.53	1.58	0.68	7.00
France	0.39	0.30	0.06	0.08	0.03	0.02	0.03	1.65	0.22	0.55	0.41	1.24	0.53	5.50
Italy	0.07	0.06	0.01	0.02	0.01	0.00	0.01	0.30	0.04	0.10	0.08	0.23	0.10	1.00
Spain	0.11	0.08	0.02	0.02	0.01	0.00	0.01	0.45	0.06	0.15	0.11	0.34	0.15	1.50
Belgium	0.04	0.03	0.01	0.01	0.00	0.00	0.00	0.15	0.02	0.05	0.04	0.11	0.05	0.50
Austria	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.09	0.01	0.03	0.02	0.07	0.03	0.30
Other FTICs	0.04	0.03	0.01	0.01	0.00	0.00	0.00	0.15	0.02	0.05	0.04	0.11	0.05	0.50
UK	2.10	1.65	0.30	0.45	0.15	0.09	0.15	9.00	1.20	3.00	2.25	6.75	2.91	30.00
Netherlands	0.28	0.22	0.04	0.06	0.02	0.01	0.02	1.20	0.16	0.40	0.30	0.90	0.39	4.00
Other EU-Non-FTICs	0.70	0.55	0.10	0.15	0.05	0.03	0.05	3.00	0.40	1.00	0.75	2.25	0.97	10.00
Switzerland	0.53	0.41	0.08	0.11	0.04	0.02	0.04	2.25	0.30	0.75	0.56	1.69	0.73	7.50
USA	1.58	1.24	0.23	0.34	0.11	0.07	0.11	6.75	0.90	2.25	1.69	5.06	2.18	22.50
Other Non-FTICs	0.68	0.53	0.10	0.15	0.05	0.03	0.05	2.91	0.39	0.97	0.73	2.18	0.94	9.70
Total	7.00	5.50	1.00	1.50	0.50	0.30	0.50	30.00	4.00	10.00	7.50	22.50	9.70	100.00

Table 4: Matrix of transaction shares between financial institutions in the United Kingdom by the nationality of their establishment

Parent company - London subsidiaries treated as British financial institutions  
Shares in %

	Germany	France	Italy	Spain	Belgium	Austria	Other FTICs	UK	Neither-lands	Other EU-Non-FTICs	Switzerland	USA	Other Non-FTICs	Total
Germany	0.04	0.04	0.00	0.00	0.00	0.00	0.01	1.60	0.02	0.04	0.04	0.12	0.08	2.00
France	0.04	0.04	0.00	0.00	0.00	0.00	0.01	1.60	0.02	0.04	0.04	0.12	0.08	2.00
Italy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.01	0.00	0.10
Spain	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.01	0.01	0.20
Belgium	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.01	0.00	0.10
Austria	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.01	0.00	0.10
Other FTICs	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.40	0.01	0.01	0.01	0.03	0.02	0.50
UK	1.60	1.60	0.08	0.16	0.08	0.08	0.40	64.00	0.80	1.60	1.60	4.80	3.20	80.00
Netherlands	0.02	0.02	0.00	0.00	0.00	0.00	0.01	0.80	0.01	0.02	0.02	0.06	0.04	1.00
Other EU-Non-FTICs	0.04	0.04	0.00	0.00	0.00	0.00	0.01	1.60	0.02	0.04	0.04	0.12	0.08	2.00
Switzerland	0.04	0.04	0.00	0.00	0.00	0.00	0.01	1.60	0.02	0.04	0.04	0.12	0.08	2.00
USA	0.12	0.12	0.01	0.01	0.01	0.01	0.03	4.80	0.06	0.12	0.12	0.36	0.24	6.00
Other Non-FTICs	0.08	0.08	0.00	0.01	0.00	0.00	0.02	3.20	0.04	0.08	0.08	0.24	0.16	4.00
Total	2.00	2.00	0.10	0.20	0.10	0.10	0.50	80.00	1.00	2.00	2.00	6.00	4.00	100.00



Table 5: Matrix of transactions between financial institutions in the United Kingdom by the nationality of their establishment  
Parent company and subsidiaries - the latter treated as part of the parent institution  
Transactions on spot exchanges (stocks and bonds) in bn. US\$

	Germany	France	Italy	Spain	Belgium	Austria	Other FTICs	UK	Neither-lands	Other EU-Non-FTICs	Switzer-land	USA	Other Non-FTICs	Total
Germany	41.8	32.8	6.0	9.0	3.0	1.8	3.0	179.0	23.9	59.7	44.8	134.3	57.9	596.7
France	32.8	25.8	4.7	7.0	2.3	1.4	2.3	140.7	18.8	46.9	35.2	105.5	45.5	468.9
Italy	6.0	4.7	0.9	1.3	0.4	0.3	0.4	25.6	3.4	8.5	6.4	19.2	8.3	85.2
Spain	9.0	7.0	1.3	1.9	0.6	0.4	0.6	38.4	5.1	12.8	9.6	28.8	12.4	127.9
Belgium	3.0	2.3	0.4	0.6	0.2	0.1	0.2	12.8	1.7	4.3	3.2	9.6	4.1	42.6
Austria	1.8	1.4	0.3	0.4	0.1	0.1	0.1	7.7	1.0	2.6	1.9	5.8	2.5	25.6
Other FTICs	3.0	2.3	0.4	0.6	0.2	0.1	0.2	12.8	1.7	4.3	3.2	9.6	4.1	42.6
UK	179.0	140.7	25.6	38.4	12.8	7.7	12.8	767.2	102.3	255.7	191.8	575.4	248.1	2,557.5
Netherlands	23.9	18.8	3.4	5.1	1.7	1.0	1.7	102.3	13.6	34.1	25.6	76.7	33.1	341.0
Other EU-Non-FTICs	59.7	46.9	8.5	12.8	4.3	2.6	4.3	255.7	34.1	85.2	63.9	191.8	82.7	852.5
Switzerland	44.8	35.2	6.4	9.6	3.2	1.9	3.2	191.8	25.6	63.9	48.0	143.9	62.0	639.4
USA	134.3	105.5	19.2	28.8	9.6	5.8	9.6	575.4	76.7	191.8	143.9	431.6	186.1	1,918.1
Other Non-FTICs	57.9	45.5	8.3	12.4	4.1	2.5	4.1	248.1	33.1	82.7	62.0	186.1	80.2	826.9
Total	596.7	468.9	85.2	127.9	42.6	25.6	42.6	2,557.5	341.0	852.5	639.4	1,918.1	826.9	8,525.0

Table 6: Matrix of transactions between financial institutions in the United Kingdom by the nationality of their establishment  
Parent company - London subsidiaries treated as British financial institution  
Transactions on spot exchanges (stocks and bonds) in bn. US\$

	Germany	France	Italy	Spain	Belgium	Austria	Other FTICs	UK	Nether-lands	Other EU-Non-FTICs	Switzer-land	USA	Other Non-FTICs	Total
Germany	3.4	3.4	0.2	0.3	0.2	0.2	0.9	136.4	1.7	3.4	3.4	10.2	6.8	170.5
France	3.4	3.4	0.2	0.3	0.2	0.2	0.9	136.4	1.7	3.4	3.4	10.2	6.8	170.5
Italy	0.2	0.2	0.0	0.0	0.0	0.0	0.0	6.8	0.1	0.2	0.2	0.5	0.3	8.5
Spain	0.3	0.3	0.0	0.0	0.0	0.0	0.1	13.6	0.2	0.3	0.3	1.0	0.7	17.0
Belgium	0.2	0.2	0.0	0.0	0.0	0.0	0.0	6.8	0.1	0.2	0.2	0.5	0.3	8.5
Austria	0.2	0.2	0.0	0.0	0.0	0.0	0.0	6.8	0.1	0.2	0.2	0.5	0.3	8.5
Other FTICs	0.9	0.9	0.0	0.1	0.0	0.0	0.2	34.1	0.4	0.9	0.9	2.6	1.7	42.6
UK	136.4	136.4	6.8	13.6	6.8	6.8	34.1	5,456.0	68.2	136.4	136.4	409.2	272.8	6,820.0
Netherlands	1.7	1.7	0.1	0.2	0.1	0.1	0.4	68.2	0.9	1.7	1.7	5.1	3.4	85.2
Other EU-Non-FTICs	3.4	3.4	0.2	0.3	0.2	0.2	0.9	136.4	1.7	3.4	3.4	10.2	6.8	170.5
Switzerland	3.4	3.4	0.2	0.3	0.2	0.2	0.9	136.4	1.7	3.4	3.4	10.2	6.8	170.5
USA	10.2	10.2	0.5	1.0	0.5	0.5	2.6	409.2	5.1	10.2	10.2	30.7	20.5	511.5
Other Non-FTICs	6.8	6.8	0.3	0.7	0.3	0.3	1.7	272.8	3.4	6.8	6.8	20.5	13.6	341.0
Total	170.5	170.5	8.5	17.0	8.5	8.5	42.6	6,820.0	85.2	170.5	170.5	511.5	341.0	8,525.0

Table 7: Matrix of effective tax rates in %  
Transactions on spot exchanges

	Germany	France	Italy	Spain	Belgium	Austria	Other FTICs	UK	Nether-lands	Other EU-Non-FTICs	Switzer-land	USA	Other Non-FTICs
Germany	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
France	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Italy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Spain	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Belgium	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Austria	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other FTICs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
UK	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Netherlands	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Other EU-Non-FTICs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Switzerland	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
USA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Other Non-FTICs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0

Table 8: Matrix of effective tax rates in %  
Transactions on derivatives exchanges and OTC markets

	Germany	France	Italy	Spain	Belgium	Austria	Other FTICs	UK	Neither-lands	Other EU-Non-FTICs	Switzerland	USA	Other Non-FTICs
Germany	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
France	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Italy	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Spain	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Belgium	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Austria	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Other FTICs	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
UK	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Netherlands	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Other EU-Non-FTICs	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Switzerland	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
USA	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-FTICs	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00

Table 9: FTT revenues by taxing countries, market places and types of financial instruments  
Bn. US\$

	Subsidiaries in the UK treated as part of parent financial institutions No relocation effects				Subsidiaries in the UK treated as British financial institutions Including relocation effects			
	Exchange traded stocks&bonds	Exchange traded derivatives	OTC without Foreign exchange spot	Total	Exchange traded stocks&bonds	Exchange traded derivatives	OTC without Foreign exchange spot	Total
<i>Revenues of Germany from</i>								
UK	1.86	3.11	3.18	8.15	0.57	0.94	0.58	2.09
Germany	1.42	2.14	0.76	4.32	0.70	1.05	0.32	2.07
France	0.32	0.00	0.41	0.72	0.07	0.00	0.14	0.22
Other Europe	4.45	1.14	1.18	6.77	0.61	0.16	0.18	0.95
North America	4.59	2.87	0.83	8.29	1.56	0.98	0.28	2.82
Other EU-Non-FTCs	1.35	0.35	0.48	2.18	0.48	0.12	0.17	0.77
Other (ROW)	0.08	0.03	0.01	0.11	0.03	0.01	0.00	0.05
World	14.07	9.62	6.85	30.54	4.02	3.26	1.69	8.97
<i>Revenues of France from</i>								
UK	1.46	2.44	2.91	6.82	0.57	0.94	0.29	1.80
Germany	0.95	1.43	0.24	2.62	0.31	0.47	0.06	0.83
France	0.95	0.00	2.32	3.27	0.54	0.00	0.87	1.41
Other Europe	3.89	0.99	1.02	5.90	0.61	0.16	0.18	0.95
North America	3.06	1.91	0.55	5.52	0.78	0.49	0.14	1.41
Asia and Pacific	0.68	0.17	0.24	1.09	0.27	0.07	0.10	0.44
Other (ROW)	0.02	0.01	0.00	0.03	0.01	0.00	0.00	0.01
World	11.01	6.95	7.30	25.26	3.09	2.13	1.64	6.85
<i>Italy</i>								
UK	0.27	0.44	1.85	2.56	0.03	0.05	0.12	0.19
Germany	0.07	0.10	0.02	0.19	0.02	0.03	0.01	0.06
France	0.03	0.00	0.06	0.09	0.01	0.00	0.01	0.02
Other Europe	5.01	1.28	1.52	7.81	4.90	1.25	1.29	7.45
North America	0.46	0.29	0.08	0.83	0.16	0.10	0.03	0.28
Asia and Pacific	0.17	0.04	0.06	0.27	0.10	0.03	0.04	0.17
Other (ROW)	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01
World	6.01	2.16	3.61	11.77	5.23	1.46	1.49	8.18
<i>Spain</i>								
UK	0.40	0.67	2.12	3.19	0.06	0.09	0.17	0.33
Germany	0.07	0.10	0.02	0.19	0.02	0.03	0.01	0.06
France	0.06	0.00	0.12	0.18	0.01	0.00	0.09	0.10
Other Europe	5.56	1.42	1.52	8.51	5.52	1.41	1.29	8.22
North America	0.31	0.19	0.06	0.55	0.16	0.10	0.03	0.28
Asia and Pacific	0.17	0.04	0.06	0.27	0.10	0.03	0.04	0.17
Other (ROW)	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01
World	6.58	2.42	3.90	12.90	5.87	1.66	1.63	9.17

Table 9\_cont: FTT revenues by taxing countries, market places and types of financial instruments

Bn. US\$

	Subsidiaries in the UK treated as part of parent financial institutions				Subsidiaries in the UK treated as British financial institutions			
	No relocation effects			Total	Including relocation effects			Total
Exchange traded stocks&bonds	Exchange traded derivatives	OTC without Foreign exchange spot	Exchange traded stocks&bonds		Exchange traded derivatives	OTC without Foreign exchange spot		
<i>Revenues of Belgium from</i>								
UK	0.13	0.22	0.37	0.73	0.03	0.05	0.06	0.13
Germany	0.01	0.02	0.01	0.04	0.02	0.02	0.01	0.05
France	0.03	0.00	0.06	0.09	0.01	0.00	0.01	0.02
Other Europe	1.11	0.28	0.17	1.57	0.61	0.16	0.18	0.95
North America	0.15	0.10	0.03	0.28	0.08	0.05	0.01	0.14
Other EU-Non-FTTCs	0.03	0.01	0.01	0.05	0.03	0.01	0.01	0.06
Other (ROW)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
World	1.48	0.63	0.65	2.76	0.78	0.29	0.29	1.36
<i>Revenues of Austria from</i>								
UK	0.08	0.13	0.16	0.37	0.03	0.05	0.06	0.13
Germany	0.01	0.02	0.00	0.04	0.02	0.02	0.01	0.04
France	0.01	0.00	0.01	0.02	0.00	0.00	0.01	0.01
Other Europe	0.56	0.14	0.17	0.87	0.31	0.08	0.18	0.57
North America	0.15	0.10	0.03	0.28	0.08	0.05	0.01	0.14
Asia and Pacific	0.03	0.01	0.01	0.05	0.03	0.01	0.01	0.06
Other (ROW)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
World	0.85	0.40	0.38	1.63	0.47	0.21	0.28	0.96
<i>Revenues of other FTTCs from</i>								
UK	0.13	0.22	0.26	0.62	0.14	0.24	0.29	0.67
Germany	0.04	0.06	0.01	0.11	0.05	0.07	0.01	0.13
France	0.03	0.00	0.05	0.07	0.01	0.00	0.01	0.02
Other Europe	0.56	0.14	0.17	0.87	0.61	0.16	0.18	0.95
North America	0.46	0.29	0.08	0.83	0.16	0.10	0.03	0.28
Asia and Pacific	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other (ROW)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
World	1.21	0.71	0.58	2.50	0.96	0.56	0.53	2.06
<i>Revenues of 11 FTTCs from</i>								
UK	4.34	7.24	10.86	22.44	1.41	2.36	1.57	5.34
Germany	2.57	3.87	1.08	7.51	1.13	1.70	0.42	3.25
France	1.42	0.00	3.02	4.44	0.65	0.00	1.15	1.81
Other Europe	21.14	5.39	5.75	32.29	13.18	3.36	3.51	20.05
North America	9.17	5.74	1.66	16.57	2.97	1.85	0.54	5.36
Asia and Pacific	2.44	0.62	0.87	3.93	1.03	0.26	0.37	1.65
Other (ROW)	0.12	0.04	0.02	0.17	0.06	0.02	0.01	0.09
World	41.20	22.90	23.26	87.36	20.42	9.56	7.56	37.55

Table 10A: Overall FITT revenues by taxing countries and market places

Bn. US\$

Subsidiaries in the UK treated as part of parent financial institutions

No relocation effects

From market places	Revenues of									
	Germany	France	Italy	Spain	Belgium	Austria	Other FITC	All 11 FITCs		
UK	8.15	6.82	2.56	3.19	0.73	0.37	0.62	22.44		
Germany	4.32	2.62	0.19	0.19	0.04	0.04	0.11	7.51		
France	0.72	3.27	0.09	0.18	0.09	0.02	0.07	4.44		
Other Europe	6.77	5.90	7.81	8.51	1.57	0.87	0.87	32.29		
North America	8.29	5.52	0.83	0.55	0.28	0.28	0.83	16.57		
Asia and Pacific	2.18	1.09	0.27	0.27	0.05	0.05	0.00	3.93		
Other (ROW)	0.11	0.03	0.01	0.01	0.00	0.00	0.00	0.17		
World	30.54	25.26	11.77	12.90	2.76	1.63	2.50	87.36		
Share in %	34.96	28.91	13.47	14.77	3.16	1.87	2.86	100.00		

Subsidiaries in the UK treated as British financial institutions

Including relocation effects

From market places	Revenues of									
	Germany	France	Italy	Spain	Belgium	Austria	Other FITC	All 11 FITCs		
UK	2.09	1.80	0.19	0.33	0.13	0.13	0.67	5.34		
Germany	2.07	0.83	0.06	0.06	0.05	0.04	0.13	3.25		
France	0.22	1.41	0.02	0.10	0.02	0.01	0.02	1.81		
Other Europe	0.95	0.95	7.45	8.22	0.95	0.57	0.95	20.05		
North America	2.82	1.41	0.28	0.28	0.14	0.14	0.28	5.36		
Asia and Pacific	0.77	0.44	0.17	0.17	0.06	0.06	0.00	1.65		
Other (ROW)	0.05	0.01	0.01	0.01	0.00	0.00	0.00	0.09		
World	8.97	6.85	8.18	9.17	1.36	0.96	2.06	37.55		
Share in %	23.89	18.25	21.79	24.42	3.62	2.56	5.48	100.00		

Table 10B: Overall FTI revenues by taxing countries and market places

Bn. €

Subsidiaries in the UK treated as part of parent financial institutions

No relocation effects

From market places	Revenues of							Other FTIC	All 11 FTICs
	Germany	France	Italy	Spain	Belgium	Austria	Austria		
UK	6.14	5.14	1.93	2.40	0.55	0.28	0.47	16.91	
Germany	3.25	1.97	0.15	0.15	0.03	0.03	0.09	5.66	
France	0.54	2.46	0.07	0.14	0.07	0.01	0.05	3.35	
Other Europe	5.10	4.45	5.88	6.41	1.18	0.65	0.65	24.33	
North America	6.25	4.16	0.62	0.42	0.21	0.21	0.62	12.49	
Asia and Pacific	1.65	0.82	0.21	0.21	0.04	0.04	0.00	2.96	
Other (ROW)	0.08	0.02	0.01	0.01	0.00	0.00	0.00	0.13	
World	23.02	19.04	8.87	9.72	2.08	1.23	1.89	65.84	
Share in %	34.96	28.91	13.47	14.77	3.16	1.87	2.86	100.00	

Subsidiaries in the UK treated as British financial institutions

Including relocation effects

From market places	Revenues of							Other FTIC	All 11 FTICs
	Germany	France	Italy	Spain	Belgium	Austria	Austria		
UK	1.58	1.36	0.14	0.25	0.10	0.10	0.50	4.03	
Germany	1.56	0.63	0.05	0.05	0.04	0.03	0.10	2.45	
France	0.16	1.06	0.02	0.08	0.02	0.01	0.02	1.36	
Other Europe	0.72	0.72	5.61	6.19	0.72	0.43	0.72	15.11	
North America	2.13	1.06	0.21	0.21	0.11	0.11	0.21	4.04	
Asia and Pacific	0.58	0.33	0.12	0.12	0.04	0.04	0.00	1.25	
Other (ROW)	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.07	
World	6.76	5.16	6.17	6.91	1.02	0.72	1.55	28.30	
Share in %	23.89	18.25	21.79	24.42	3.62	2.56	5.48	100.00	



Table 11: Matrix of effective tax rates at a uniform and unilateral rate of 0.01%  
All types of transactions (Spot and derivatives exchanges and OTC)

	Germany	France	Italy	Spain	Belgium	Austria	Other FTICs	UK	Nether-lands	Other EU countries	Switzer-land	USA	Other Non-FTICs
Germany	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
France	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Italy	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Spain	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Belgium	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Austria	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Other FTICs	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
UK	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Netherlands	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Other EU countries	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Switzerland	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
USA	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Other Non-FTICs	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00

Table 12: FTT revenues in the EU27 by taxing countries, market places and types of financial instruments

FTT is implemented at a uniform and unilateral rate of 0.01%

Subsidiaries in the UK are treated as British financial institutions

Bn. US\$

	FTT implemented in all European countries except Switzerland (unilateral taxation, uniform tax rate 0.01%)			
	Subsidiaries in the UK treated as British financial institutions			
	Exchange traded stocks&bonds	Exchange traded derivatives	OTC without Foreign exchange spot	Total
<i>Revenues of Germany from</i>				
UK	0.06	0.97	0.59	1.62
Germany	0.06	0.94	0.33	1.33
France	0.01	-	0.16	0.17
Other Europe	0.07	0.18	0.20	0.45
North America	0.08	0.49	0.14	0.71
Asia and Pacific	0.03	0.09	0.12	0.25
Other (ROW)	0.00	0.01	0.00	0.01
World	0.31	2.67	1.55	4.54
<i>Revenues of France from</i>				
UK	0.05	0.85	0.44	1.34
Germany	0.04	0.66	0.09	0.80
France	0.05	-	1.18	1.23
Other Europe	0.10	0.26	0.20	0.57
North America	0.08	0.49	0.14	0.71
Asia and Pacific	0.02	0.05	0.07	0.15
Other (ROW)	0.00	0.00	0.00	0.00
World	0.35	2.32	2.13	4.80
<i>Revenues of Italy from</i>				
UK	0.01	0.12	0.30	0.42
Germany	0.00	0.05	0.01	0.07
France	0.00	-	0.03	0.03
Other Europe	0.29	0.74	0.82	1.85
North America	0.02	0.10	0.03	0.14
Asia and Pacific	0.01	0.02	0.02	0.05
Other (ROW)	0.00	0.00	0.00	0.00
World	0.33	1.03	1.21	2.57

Table 12\_cont.: FTI revenues in the EU27 by taxing countries, market places and types of financial instruments

FTI is implemented in the EU27 at a uniform and unilateral rate of 0.01%

Subsidiaries in the UK are treated as British financial institutions

Bn. US\$

	FTI implemented in all European countries except Switzerland (unilateral taxation, uniform tax rate 0.01%)			
	Subsidiaries in the UK treated as British financial institutions			
	Exchange traded stocks&bonds	Exchange traded derivatives	OTC without Foreign exchange spot	Total
<i>Revenues of Spain from</i>				
UK	0.01	0.24	0.30	0.55
Germany	0.00	0.05	0.01	0.07
France	0.00	-	0.07	0.07
Other Europe	0.33	0.83	0.82	1.97
North America	0.01	0.05	0.01	0.07
Asia and Pacific	0.01	0.02	0.02	0.05
Other (ROW)	0.00	0.00	0.00	0.00
World	0.36	1.19	1.23	2.79
<i>Revenues of Belgium from</i>				
UK	0.00	0.07	0.15	0.22
Germany	0.00	0.01	0.00	0.02
France	0.00	-	0.04	0.04
Other Europe	0.07	0.18	0.10	0.35
North America	0.01	0.05	0.01	0.07
Asia and Pacific	0.00	0.00	0.01	0.01
Other (ROW)	0.00	0.00	0.00	0.00
World	0.09	0.31	0.31	0.71
<i>Revenues of Austria from</i>				
UK	0.00	0.05	0.06	0.11
Germany	0.00	0.01	0.00	0.02
France	0.00	-	0.01	0.01
Other Europe	0.03	0.09	0.10	0.22
North America	0.01	0.05	0.01	0.07
Asia and Pacific	0.00	0.00	0.01	0.01
Other (ROW)	0.00	0.00	0.00	0.00
World	0.05	0.20	0.19	0.44
<i>Revenues of other FTIs from</i>				
UK	0.01	0.12	0.15	0.28
Germany	0.00	0.04	0.01	0.05
France	0.00	0.00	0.03	0.03
Other Europe	0.03	0.09	0.10	0.22
North America	0.02	0.15	0.04	0.21
Asia and Pacific	0.00	0.00	0.00	0.00
Other (ROW)	0.00	0.00	0.00	0.00
World	0.07	0.39	0.33	0.80

Table 12\_cont.: FTI revenues in the EU27 by taxing countries, market places and types of financial instruments

FTI is implemented in the EU27 at a uniform and unilateral rate of 0.01%

Subsidiaries in the UK are treated as British financial institutions

Bn. US\$

	FTI implemented in all European countries except Switzerland (unilateral taxation, uniform tax rate 0.01%)			
	Subsidiaries in the UK treated as British financial institutions			
	Exchange traded stocks&bonds	Exchange traded derivatives	OTC without Foreign exchange spot	Total
<i>Revenues of UK from</i>				
UK	1.09	18.13	23.32	42.54
Germany	0.24	3.55	0.86	4.64
France	0.10	-	1.80	1.90
Other Europe	2.04	5.21	6.12	13.37
North America	0.74	4.63	1.34	6.72
Asia and Pacific	0.37	0.94	1.30	2.60
Other (ROW)	0.05	0.18	0.07	0.30
World	4.63	32.63	34.82	72.08
<i>Revenues of Netherlands from</i>				
UK	0.01	0.24	0.30	0.55
Germany	0.02	0.31	0.08	0.41
France	0.01	-	0.20	0.21
Other Europe	0.14	0.35	0.20	0.69
North America	0.03	0.20	0.06	0.29
Asia and Pacific	0.00	0.01	0.01	0.02
Other (ROW)	0.00	0.00	0.00	0.01
World	0.22	1.12	0.84	2.18
<i>Revenues of other EU countries from</i>				
UK	0.03	0.48	0.68	1.19
Germany	0.02	0.28	0.07	0.37
France	0.01	-	0.18	0.19
Other Europe	0.05	0.31	0.51	0.87
North America	0.02	0.20	0.03	0.24
Asia and Pacific	0.00	0.01	0.01	0.03
Other (ROW)	0.00	0.00	0.00	0.00
World	0.13	1.28	1.48	2.89
<i>Revenues of EU 27</i>				
UK	1.28	21.28	26.27	48.83
Germany	0.39	5.91	1.47	7.78
France	0.19	-	3.69	3.88
Other Europe	3.16	8.23	9.18	20.57
North America	1.01	6.40	1.83	9.24
Asia and Pacific	0.44	1.14	1.59	3.17
Other (ROW)	0.06	0.19	0.08	0.33
World	6.53	43.16	44.10	93.79



Table 14: FTT revenues according to the residence principle and according to the territorial principle

FTT is implemented in the EU27

	Residence principle 1) Uniform and unilateral rate of 0.01%				Territorial principle Uniform rate of 0.02% per transaction			
	Exchange traded stocks and bonds	Exchange traded derivatives	OTC without foreign exchange spot transactions	Total	Exchange traded stocks and bonds	Exchange traded derivatives	OTC without foreign exchange spot transactions	Total
	Bn. \$							
Germany	0.31	2.67	1.55	4.54	0.40	6.57	1.57	8.54
France	0.35	2.32	2.13	4.80	0.19	-	3.92	4.12
Italy	0.33	1.03	1.21	2.57	0.20	-	0.58	0.77
Spain	0.36	1.19	1.23	2.79	2.06	0.06	0.64	2.75
Belgium	0.09	0.31	0.31	0.71	0.01	-	0.43	0.43
Austria	0.05	0.20	0.19	0.44	0.01	-	0.23	0.24
UK	4.63	32.63	34.82	72.08	1.45	24.26	29.52	55.23
Netherlands	0.22	1.12	0.84	2.18	0.13	-	0.92	1.05
Other EU	0.20	1.67	1.81	3.68	0.91	8.83	3.95	13.69
Total	6.53	43.16	44.10	93.79	5.34	39.73	41.75	86.82
	Bn. €							
Germany	0.24	2.02	1.17	3.42	0.30	4.96	1.18	6.44
France	0.26	1.75	1.61	3.62	0.15	-	2.96	3.10
Italy	0.25	0.78	0.91	1.94	0.15	-	0.44	0.58
Spain	0.27	0.90	0.93	2.10	1.55	0.04	0.48	2.08
Belgium	0.06	0.24	0.24	0.54	0.01	-	0.32	0.33
Austria	0.04	0.15	0.15	0.33	0.01	-	0.17	0.18
UK	3.49	24.60	26.24	54.32	1.09	18.29	22.25	41.63
Netherlands	0.17	0.84	0.64	1.64	0.10	-	0.69	0.79
Other EU	0.15	1.26	1.36	2.77	0.68	6.66	2.98	10.32
Total	4.92	32.53	33.24	70.69	4.03	29.94	31.46	65.43

1) Subsidiaries in the UK are treated as British financial institutions

## Annex Table 1: Banks incorporated in the United Kingdom

Abbey National Treasury Services Plc DB UK Bank Limited	GIB (UK) Plc
ABC International Bank Plc Duncan Lawrie Limited	R. Raphael & Sons Plc
Access Bank UK Limited, The	Rathbone Investment Management Limited
Adam & Company Plc	RBC Europe Limited
ADIB (UK) Ltd	Reliance Bank Ltd
Agricultural Bank of China (UK) Limited	Royal Bank of Scotland Plc, The
Ahli United Bank (UK) PLC	Sainsbury's Bank Plc
AIB Group (UK) Plc	Sanfander UK Plc
Airdrie Savings Bank	Schroder & Co Ltd
Aldermore Bank Plc	Scotiabank Europe Plc
Alliance Trust Savings Limited	Scottish Widows Bank Plc
Allied Bank Philippines (UK) Plc	Secure Trust Bank Plc
Alpha Bank London Limited	SG Hambros Bank Limited
AMC Bank Ltd (Applied to Cancel)	Shawbrook Bank Limited
ANZ Bank (Europe) Limited	Smith & Williamson Investment Management Limited
Arbuthnot Latham & Co Limited	Sonal Bank (UK) Limited
Banc of America Securities Limited	Southsea Mortgage and Investment Company Ltd (In Liquidation)
Bank Leumi (UK) plc	Standard Bank Plc
Bank Mandiri (Europe) Limited	Standard Chartered Bank
Bank of Beirut (UK) Ltd	State Street Bank Europe Limited
Bank of Ceylon (UK) Ltd	Sumitomo Mitsui Banking Corporation Europe Limited
Bank of China (UK) Ltd	DB UK Bank Limited
Bank of Communications (UK) Limited	GE Capital Bank Limited
Bank of Cyprus UK Limited	Habibsons Bank Limited
Bank of Ireland (UK) Plc	HSBC Bank Plc
Bank of London and The Middle East plc	Islamic Bank of Britain Plc
Bank of New York Mellon (International) Limited,	Julian Hodge Bank Limited
Bank of Scotland plc	The HSBC Trust Company (UK) Ltd
Bank of the Philippine Islands (Europe) PLC	Ulster Bank Ltd
Bank Saderat Plc	Union Bank UK Plc
Bank Sepah International Plc	VTB Capital plc
Barclays Bank Plc	Duncan Lawrie Limited
Barclays Bank Trust Company Limited	EFG Private Bank Limited
BIRA Finance Limited	Europe Arab Bank plc
BMCE Bank International plc	European Islamic Investment Bank Plc
British Arab Commercial Bank Plc	FBN Bank (UK) Ltd
Broadcastle Bank Limited (Applied to Cancel)	FCE Bank Plc
Brown Shipley & Co Limited	FIBI Bank (UK) Plc
Butterfield Bank (UK) Limited	Gatehouse Bank Plc
C Hoare & Co	Ghana International Bank Plc
CAF Bank Ltd	Goldman Sachs International Bank
Cambridge & Counties Bank Limited	Guaranty Trust Bank (UK) Limited
Canada Square Operations plc	Gulf International Bank (UK) Limited
Cater Allen Limited	Habib Allied International Bank plc
Charity Bank Limited, The	Hampshire Trust Plc
China Construction Bank (London) Limited	Harrods Bank Ltd
Church House Trust Limited	Havin Bank Ltd
CIBC World Markets Plc	HFC Bank Limited
CIT Bank Limited	HSBC Private Bank (UK) Limited
Citibank International plc	ICBC (London) plc
Close Brothers Limited	ICICI Bank UK Plc
Clydesdale Bank Plc	Intercontinental Bank (UK) Plc
Consolidated Credits Bank Ltd	Investec Bank PLC
Co-operative Bank Plc, The	J.P. Morgan Europe Limited
Coultts & Company	J.P. Morgan International Bank Limited
Credit Suisse (UK) Limited	J.P. Morgan Securities plc
Credit Suisse International	Jordan International Bank Plc
Crown Agents Bank Limited	Kaupthing Singer & Friedlander Limited (In Administration)
Macquarie Bank International Ltd	Kexim Bank (UK) Ltd
Marks & Spencer Financial Services Plc	Kingdom Bank Ltd
MBNA Europe Bank Limited	Kleinwort Benson Bank Ltd
Melli Bank plc	Kookmin Bank International Limited
Methodist Chapel Aid Limited	Lloyds TSB Bank Plc
Metro Bank PLC	Lloyds TSB Private Banking Ltd
Mizuho International Plc	Lloyds TSB Scotland Plc
Morgan Stanley Bank International Limited	Talos Securities Limited
N M Rothschild & Sons Ltd	TD Bank Europe Limited
National Bank of Egypt (UK) Limited	Tesco Personal Finance Plc
National Bank of Kuwait (International) Plc	Turkish Bank (UK) Ltd
National Westminster Bank Plc	UBS Limited
Nomura Bank International Plc	United National Bank Limited
Northern Bank Limited	United Trust Bank Limited
Northern Rock plc	Unity Trust Bank Plc
Northern Trust Global Services Ltd	Vanquis Bank Limited
OneSavings Bank Plc	Weatherbys Bank Limited
Persia International Bank Plc	Wesleyan Bank Limited
PNB (EUROPE) PLC (Applied to Cancel)	Westpac Europe Ltd
Punjab National Bank (International) Limited	Zenith Bank (UK) Limited

*Annex Table 2: Banks incorporated in the European Economic Area with a branch in the United Kingdom*

AB Utkio bankas	DZ Bank AG, Deutsche Zentral-Genossenschaftsbank
ABN AMRO Bank NV	EFG Eurobank Ergasias SA
Allfunds Bank SA	Elavon Financial Services Limited
Allied Irish Banks Plc	Erste Group Bank AG
Alpha Bank A.E.	Eurohypo AG
Banca IMI SpA	ING Bank NV
Banca March S.A.	Intesa Sanpaolo SpA
Banca Monte Dei Paschi di Siena Spa	KAS Bank N.V.
Banco Bilbao Vizcaya Argentaria SA	Lehman Brothers Bankhaus AG
Banco de Sabadell	Triodos Bank NV
Banco Espírito Santo SA	UniCredit Bank AG
Banco Itau BBA International, S.A.	UniCredit S.p.A
Banco Popolare S.c.	Fortis Bank S.A./N.V.
Banco Santander Totta SA	GE Corporate Finance Bank SAS
Banco Santander, S.A.	Governor and Company of the Bank of Ireland, The
Banif - Banco Internacional do Funchal SA	HSB Nordbank AG
Bank Insinger de Beaufort NV	Hypo Public Finance Bank
Bank J Safra (Gibraltar) Limited	ING Direct N.V.
Bank of New York Mellon SA/NV, The	Irish Bank Resolution Corporation Limited
Banque Chaabi du Maroc	KBC Bank NV
Banque Transatlantique SA	Landesbank Baden-Württemberg
Bayerische Landesbank	Landesbank Berlin AG
BLOM Bank France	Landesbank Hessen - Thüringen Girozentrale
BNP Paribas	Merrill Lynch International Bank Limited
BNP Paribas Securities Services	National Bank of Greece SA
Byblos Bank Europe SA	Natixis
Caixa Geral de Depositos SA	Norddeutsche Landesbank Girozentrale
Commerzbank AG	Nordea Bank Finland plc
Confederacion Espanola de Cajas de Ahorros	Piraeus Bank S.A.
Cooperatieve Centrale Raiffeisen - Boerenleenbank B.A	Portigon AG
Credit Agricole Corporate and Investment Bank	Royal Bank of Scotland N.V., The
Crédit Agricole S.A.	Skandinaviska Enskilda Banken AB (Publ) (Applied to Cancel)
Crédit Industriel et Commercial	Société Générale
Cyprus Popular Bank Public Co Ltd	State Street Bank GmbH
Danske Bank A/S	Svenska Handelsbanken AB (Publ)
Deutsche Bank AG	TD Bank N.V.
Deutsche Hypothekbank AG	Ulster Bank Ireland Limited
Deutsche Pfandbriefbank AG	Volkswagen Bank GmbH
Deutsche Postbank AG	Westdeutsche ImmobilienBank AG
DNB Bank ASA	Western Union International Bank GmbH



Annex Table 3: List of the most important financial institutions as compiled by the US Commodity Futures Trading Commission

Futures Commission Merchant / Retail Foreign Exchange Dealer	Adjusted Net Capital
UBS SECURITIES LLC	12,278,665,379
GOLDMAN SACHS & CO	11,422,646,769
JP MORGAN SECURITIES LLC	11,100,234,132
MERRILL LYNCH PIERCE FENNER & SMITH	10,761,042,594
CREDIT SUISSE SECURITIES (USA) LLC	8,413,793,960
MORGAN STANLEY & CO LLC	8,248,535,395
DEUTSCHE BANK SECURITIES INC	8,096,091,854
CITIGROUP GLOBAL MARKETS INC	7,773,386,855
JP MORGAN CLEARING CORP	7,429,640,902
BARCLAYS CAPITAL INC	6,415,675,853
MERRILL LYNCH PROFESSIONAL CLEARING CORP	3,453,901,293
RBS SECURITIES INC	3,168,204,462
NOMURA SECURITIES INTERNATIONAL INC	2,455,113,299
NEWEDGE USA LLC	2,313,980,909
BNP PARIBAS PRIME BROKERAGE INC	2,246,207,500
GOLDMAN SACHS EXECUTION & CLEARING LP	2,100,793,132
WELLS FARGO SECURITIES LLC	2,015,265,498
BNP PARIBAS SECURITIES CORP	1,985,533,776
WELLS FARGO ADVISORS LLC	1,448,731,415
INTERACTIVE BROKERS LLC	1,365,792,737
RBC CAPITAL MARKETS LLC	1,365,027,475
UBS FINANCIAL SERVICES INC	1,181,174,373
HSBC SECURITIES USA INC	1,173,678,113
JEFFERIES & COMPANY INC	974,771,795
MORGAN STANLEY SMITH BARNEY LLC	842,942,107
TIMBER HILL LLC	826,384,613
MORGAN KEEGAN & COMPANY INC	546,477,724
CIBC WORLD MARKETS CORP	500,140,583
CITADEL SECURITIES LLC	460,712,467
STATE STREET GLOBAL MARKETS LLC	435,779,624
MIZUHO SECURITIES USA INC	425,295,200
RAYMOND JAMES & ASSOCIATES INC	362,445,568
NATIXIS SECURITIES AMERICAS LLC	360,313,450
ABN AMRO CLEARING CHICAGO LLC	301,490,207
DAWA CAPITAL MARKETS AMERICA INC	300,214,360
CANTOR FITZGERALD & CO	284,283,098
TD AMERITRADE INC	276,307,123
JEFFERIES BACHE LLC	263,593,000
ADM INVESTOR SERVICES INC	256,605,074
BNY MELLON CLEARING LLC	256,040,725
MTSUBISHI UFJ SECURITIES USA INC	246,365,060
RJ OBRIEN ASSOCIATES LLC	201,729,011
OPPENHEIMER & CO INC	144,404,773
PENSON FINANCIAL SERVICES INC	143,384,895
OANDA CORPORATION	140,452,807
MACQUARIE FUTURES USA LLC	136,089,702
INSTINET LLC	131,271,029
FCSTONE LLC	116,943,999
AMERIFRISE FINANCIAL SERVICES INC	114,975,113
SANFORD C BERNSTEIN & CO LLC	111,339,780
NEUBERGER BERMAN LLC	101,768,984
LPL FINANCIAL LLC	100,944,413
SANTANDER INVESTMENT SECURITIES INC	91,705,651
ROSENTHAL COLLINS GROUP LLC	91,412,560
STEPHENS INC	86,619,522
GLOBAL FUTURES & FOREX LTD	79,672,867
OPTIONSXPRESS INC	79,533,082
RAND FINANCIAL SERVICES INC	74,546,158

Futures Commission Merchant / Retail Foreign Exchange Dealer	Adjusted Net Capital
GUGGENHEIM SECURITIES LLC	63,410,030
TENCO INC	62,124,914
BGC FINANCIAL LP	59,241,089
TRADESTATION SECURITIES INC	54,719,507
ICAP CORPORATES LLC	52,288,042
ROSENTHAL GLOBAL SECURITIES LLC	42,604,041
FX SOLUTIONS LLC	41,409,111
ENSKILDA FUTURES LTD	38,846,228
GAIN CAPITAL GROUP LLC	35,700,900
WELLS FARGO ADVISORS FINANCIAL NETWORK LLC	34,947,904
PEREGRINE FINANCIAL GROUP INC	33,644,888
FOREX CAPITAL MARKETS LLC	31,243,101
VISION FINANCIAL MARKETS LLC	29,815,872
TRADELINK LLC	29,804,251
FXDIRECTDEALER LLC	27,886,601
ALPARI (US) LLC	25,397,941
TRADESTATION FOREX INC	25,235,604
MB TRADING FUTURES INC	25,101,763
XPRESSTRADE LLC	22,972,452
FOREX CLUB LLC	22,923,338
ADVANTAGE FUTURES LLC	20,606,735
ADVANCED MARKETS LLC	20,542,742
COUNTRY HEDGING INC	20,279,150
INSTITUTIONAL LIQUIDITY LLC	20,066,042
MAREX NORTH AMERICA LLC	16,632,577
MCVEAN TRADING & INVESTMENTS LLC	14,363,892
MID CO COMMODITIES INC	12,602,720
CROSSLAND LLC	9,686,832
DORMAN TRADING LLC	9,337,433
GH FINANCIALS LLC	9,316,092
PHILLIP FUTURES INC	9,216,812
IKON GLOBAL MARKETS INC	9,069,658
LEK SECURITIES CORPORATION	8,362,812
STRAITS FINANCIAL LLC	8,175,117
EAGLE MARKET MAKERS INC	6,850,265
MBF CLEARING CORP	6,206,290
CX CAPITAL MARKETS LLC	3,476,105
ITG DERIVATIVES LLC	3,458,875
LINN GROUP THE	3,266,504
CUNNINGHAM COMMODITIES LLC	3,264,255
OPEN ECRY LLC	3,042,332
CAPITAL MARKET SERVICES LLC	3,029,324
IRONBEAM INC	2,954,674
MIYUSU BUSSAN COMMODITIES USA INC	2,872,848
FRIEDBERG MERCANTILE GROUP INC	2,822,365
WHITE COMMERCIAL CORPORATION	2,706,910
PIONEER FUTURES INC	2,457,563
MAREX USA LIMITED	2,354,140
FRONTIER FUTURES INC	1,921,603
AMP GLOBAL CLEARING LLC	1,804,321
STERLING COMMODITIES CORP	1,704,395
EASY FOREX US LTD	1,686,103
VELOCITY FUTURES LLC	1,675,512
YORK BUSINESS ASSOCIATES LLC	1,613,629
FUTURES TECH LLC	1,585,137
INTEGRATED BROKERAGE SERVICES LLC	1,548,446
TRADITION SECURITIES AND FUTURES INC	1,515,705
COMMONWEALTH FOREIGN EXCHANGE INC	1,097,600

Annex table 4A: Fictitious example of a completed questionnaire concerning the London market place:

Home country of financial institutions trading in London	Trading on all organized exchanges in London	Trading over the counter in London
United Kingdom	30	35
Germany*)	8	7
Of which German subsidiaries and branches in London	6	6
France*)	4	6
Of which French subsidiaries and branches in London	4	6
Italy*)	2	2
Of which Italian subsidiaries and branches in London	1	2
Spain *)	1	4
Of which Spanish subsidiaries and branches in London	1	3
Netherlands*)	4	3
Of which Dutch subsidiaries and branches in London	3	3
USA *)	25	25
Of which US subsidiaries and branches in London	22	23
Switzerland *)	6	5
Of which Swiss subsidiaries and branches in London	5	5
Other countries *)	20	13
Of which subsidiaries and branches in London	15	10

\*) All financial institutions the parent corporations of which are incorporated in this country including London subsidiaries and branches. The trading shares of financial institutions from the 7 countries plus "other countries" add up to 100%, the sum of shares in exchange trading of the respective subsidiaries in London is smaller.

Annex table 4B: Fictitious example of a completed questionnaire concerning the Paris market place:

Home country of financial institutions trading in London	Trading on all organized exchanges in Milan	Trading over the counter in Milan
United Kingdom	12	15
Germany*)	8	8
Of which German subsidiaries and branches in London	4	6
France*)	8	10
Of which French subsidiaries and branches in London	4	0
Italy*)	35	22
Of which Italian subsidiaries and branches in London	0	1
Spain *)	4	4
Of which Spanish subsidiaries and branches in London	2	1
Netherlands*)	3	3
Of which Dutch subsidiaries and branches in London	1	1
USA *)	15	20
Of which US subsidiaries and branches in London	14	15
Switzerland *)	6	8
Of which Swiss subsidiaries and branches in London	3	5
Other countries *)	10	10
Of which subsidiaries and branches in London	8	10

\*) All financial institutions the parent corporations of which are incorporated in this country including London subsidiaries and branches. The trading shares of financial institutions from the 7 countries plus "other countries" add up to 100%, the sum of shares in exchange trading of the respective subsidiaries in London is smaller.

Annex table 4C: Fictitious example of a completed questionnaire concerning the New York market place:

Home country of financial institutions trading in London	Trading on all organized exchanges in NYC	Trading over the counter in NYC
United Kingdom	5	7
Germany*)	3	3
Of which German subsidiaries and branches in London	2	3
France*)	2	2
Of which French subsidiaries and branches in London	1	1
Italy*)	1	0
Of which Italian subsidiaries and branches in London	0	0
Spain *)	0	0
Of which Spanish subsidiaries and branches in London	0	0
Netherlands*)	0	0
Of which Dutch subsidiaries and branches in London	0	0
USA *)	80	80
Of which US subsidiaries and branches in London	20	20
Switzerland *)	3	2
Of which Swiss subsidiaries and branches in London	0.5	0.5
Other countries *)	6	6
Of which subsidiaries and branches in London	4	4

\*) All financial institutions the parent corporations of which are incorporated in this country including London subsidiaries and branches. The trading shares of financial institutions from the 7 countries plus "other countries" add up to 100%, the sum of shares in exchange trading of the respective subsidiaries in London is smaller.