

**Collateral damage:
the impact of the Financial Transaction Tax
on the European repo market
and its consequences for the financial markets
and the real economy**

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1 Executive summary

1.1 In addition to its headline fiscal objective, the FTT also aims to change the structure and operation of the EU11 financial market by creating ‘appropriate disincentives’ to financial intermediation, much of which is seen as rent-seeking. This non-fiscal objective fundamentally changes the basis of the debate about the FTT, which is therefore not simply about the impact of the tax on the financial market, but about the basic utility of the market itself.

1.2 The specific intention of the authors of the FTT, DG Tax, is to sweep away the current system of financial intermediation by primary dealers and secondary market-makers, and build an entirely new financial system, in which new issues would be distributed directly from issuer to investor. Investors would be taxed out of the secondary market, which means they would be confined to passive investment strategies such as buy-and-hold. This alternative financial model appears to have been inspired by the order-driven, exchange-traded equity market.

1.3 FTT would be levied on both ends of a non-derivative transaction at a flat rate of 0.10%, regardless of its term. To recover the tax, a repo market-maker would have to charge a spread on an overnight GC repo of 7205bp. The nearest horizon at which the tax might be economically tolerable to the repo market is likely to be beyond one year. The market in anything shorter will disappear. But even if repo activity beyond six months survived, the estimated total contraction in the European repo market would still be at least 66%.

1.4 DG Tax expects repo to be replaced by central bank repo and secured loans. But neither option is feasible. Central banks cannot and are unlikely to want to substitute for the money market. Secured loans do not provide the same legal protection in a default as repo.

1.5 The shrivelling of the repo market and the lack of viable alternatives would pose serious problems to institutional and corporate investors. They would be forced into unsecured bank deposits or into seeking to escape the FTT by transferring funds out of the EU11 through the untaxed channel provided by unsecured deposits. Such a capital flight would cut EU11 bank funding and thus lending to the real economy, as well as exacerbating the fragmentation of the eurozone, undermining the Single Market and complicating the conduct of monetary policy. Bank lending in the EU11 would also suffer because, without repo and money market securities (which would also be rendered uneconomic by the FTT), access by EU11 banks to non-bank financial investors such as money market mutual funds would be severely constrained, forcing a disorderly acceleration of the current process of deleveraging. The problem would be exacerbated by the difficulties faced by EU11 banks in managing their marginal liquidity in the interbank market, where would be restricted to seeking and making unsecured deposits.

1.6 The FTT would also disrupt capital-raising in the fixed-income market. DG Tax’s alternative financial model is ill-suited to fixed-income securities. It would not be able to efficiently price or distribute illiquid securities, such as the corporate bonds, ABS and MBS that

directly finance the real economy. Nor would it be able to cope with the massive volumes of public debt that governments have to issue.

1.7 The difficulty of raising working and investment capital would impose a competitive disadvantage on EU11 financial institutions and corporates. The EU11 would also suffer from the relocation of many financial services, which is not as difficult as DG Tax seems to believe.

1.8 The FTT will cause monetary conditions in the EU11 to systematically diverge from those in the rest of the Eurozone, complicating the conduct of monetary policy. The conduct of monetary policy will be even more challenged by the disappearance in the EU11 of the repo market, which provides the framework of collateralised transactions through which policy is transmitted.

1.9 Although DG Tax state that the FTT would complement regulatory measures, financial stability would be in fact compromised by the tax, as it would make the movement of collateral in the EU11 prohibitively expensive, thereby reversing the trend towards the collateralisation of financial transactions, which is one of the pillars of the new global regulatory framework being constructed under the Basel regime. Secured financing transactions would be replaced by unsecured deposits. Liquidity buffers would be harder to build up, other than in cash. The loss of short-term repo (and securities lending) would exacerbate systemic operational risk by removing the means of borrowing securities to prevent delivery failures, which would undermine the proposed acceleration of securities settlement in Europe from T+3 to T+2. Issuers and investors forced to participate directly in the primary market would have to take greater operational risk or tolerate higher levels of financial risk.

1.10 Greater consideration needs to be given to the transitional disruption that would be caused by the rapid, radical and experimental change being proposed in market structure.

1.11 The impact of the FTT would spill over from the EU11 into the rest of the EU, causing political and legal frictions, which would be exacerbated by aggressive application of the FTT anti-avoidance regime.

1.12 It is essential that secured financing transactions such as repo and securities lending are exempted from the FTT, given the essential role these instruments play in the collateralisation of the financial market and the efficient functioning of the money and securities markets. An exemption should also be applied to primary dealers and market-makers in fixed-income securities markets, in order to preserve the efficient pricing and distribution of debt capital.

2 The current scope of the FTT

2.1 The proposed Financial Transaction Tax (FTT) is intended to cover ‘all actors, all instruments and all markets’ within the group of the 11 EU Member States (EU11) who have signed up under the ‘enhanced co-operation’ regime of the European Union treaties.¹ In contrast to the FTT regimes currently in operation in some countries, including some of the EU11, few exemptions are proposed for the EU11 FTT.

2.2 DG Tax of the European Commission, who are the authors of the proposal, argue that this will avoid the distortion of competition through tax-induced shifts to exempt entities, transactions or locations, and will preclude double taxation or ‘unintentional/unwarranted double non-taxation’. The exemptions proposed to date apply to the implementation of monetary policy, capital-raising, the funding of the real economy, the financial activity of households and the operation of market infrastructure such as central clearing counterparties (CCP) and central securities depositories (CSD).²

2.3 Given the limited number of exemptions currently proposed FTT would be levied on most financial institutions in respect of most financial transactions --- as well as any subsequent ‘material modifications’ to taxable transactions³ --- which involve:

2.3.1 At least one party which is a financial institution,⁴ where that party is:

- located or deemed to be established in an EU11 state, whether it is acting for its own account, for the account of a customer or in the name of a customer;
- transacting for the account of a customer (whether financial or non-financial institution) or in the name of a customer located/established in the EU11, regardless of where the financial institution is located;⁵

¹ The EU11 are Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovenia, Slovakia and Spain.

² Exempted activities would include: primary market issuance (including underwriting); certain restructuring operations; the issuance of units or shares in UCITS and Alternative Investment Funds (AIF); policy transactions with the ECB and EU national central banks; policy transactions with the EU and EU bodies such as the EFSF, ESM and EIB; policy transactions with other international organisations within the agreed conventions (but not regional development banks); instruments of payment such as deposits; spot FX transactions (taxing these would constitute an illegal restriction on capital movements); spot commodity transactions (but not commodity derivatives); spot transactions in gold and silver; sales of real estate; day-to-day financial activities in the real economy such as insurance contracts, mortgages, business loans, consumer credit and payments; central clearing counterparties (CCP) when clearing; CSD (central securities depositories) and ICSD (international CSD, ie Clearstream Luxembourg and Euroclear) when settling transactions.

³ A non-limitative list of material modifications is to be published by the European Commission.

⁴ ‘Financial institution’ is widely defined and includes (1) credit institutions, (2) investment firms, (3) organised markets, (4) insurance and reinsurance undertakings, (5) UCITS and their managers, (6) pension funds and their managers, (7) holding companies, (8) financial leasing companies and (9) SPVs. In addition, any non-financial institution with significant trading in financial instruments (50% or more of overall average net annual turnover) will be deemed to be a financial institution for the purpose of the FTT. On the other hand, EU Member States and public debt managers when managing public debt, as well as CCP, CSD and ICSD performing their primary functions are not included.

- transacting between distinct legal entities of the same group.

This rule is called the ‘residence principle’ or ‘principle of establishment’. It is the priority determinant of where the FTT would be paid. Establishment is widely defined to include:

- the state of the registered seat, or permanent or usual address;
- the state where a branch carrying out a transaction is located;
- the state where a party carrying out a transaction has been authorised to conduct that transaction in the Single Market.

This means that the FTT captures financial institutions which are:

- branches of firms headquartered inside the EU11 that are located outside the EU11;
- branches of firms headquartered outside the EU11 that are located inside the EU11.

2.3.2 Any of the following transactions:

- sales or purchases⁶ of assets⁷ issued in an EU11 state or of derivatives of such assets when traded on markets or cleared on CCP located within the EU11;
- deliveries of assets on the exercise or expiry of taxable derivatives (which means derivatives with physical delivery will be taxed more than once);
- exchanges of assets issued in EU11 states;
- secured financing transactions such as repo and securities lending in assets issued in EU11 states;
- intra-group transfers equivalent in economic substance to sales or purchases of assets issued in EU11 states.⁸

This rule is called the ‘issuance principle’ and it is the main defence against the relocation of financial activities outside the EU11 in response to the FTT. However, this rule does not capture derivatives in EU11 assets traded between non-EU11 parties in markets located outside the EU11, although the European Parliament has proposed the inclusion of such derivatives.

2.3.3 Any market located in an EU11 state.⁹ This rule is called the ‘place-of-transaction principle’. It is intended to capture financial institutions located within the EU but outside the EU11, and financial institutions located outside the European Economic Area (EEA) who hold a MiFID passport from a non-EU11 state, when trading on an EU11 market in a non-EU11 asset.

⁵ For example, in the case of a derivative transaction between a US-based bank and a UK-based bank which is acting for a German client, both the US and UK-based banks would be subject to FTT by virtue of the client of the UK-based bank being located in Germany. Note that derivatives are not taxable unless they are traded in an EU11 market. It is only the involvement of the German client that leads to taxation.

⁶ Purchase and sale are defined to include not just transfers of legal ownership but transfers of risk.

⁷ The definition of a ‘financial instrument’ for the purpose of the FTT follows MiFID and includes (1) transferable securities, (2) money market instruments, (3) structured products, (4) units or shares in UCITS and AIF, (5) options, futures, swaps and CFDs, (6) FX derivatives (meaning FX swaps) and (7) depository receipts which the parties cannot demonstrate were not created with the essential purpose of avoiding the FTT.

⁸ A taxable intra-group transaction is defined as (1) the right to dispose of the instrument as owner or (2) any equivalent operation implying a transfer of the risk on the instrument.

⁹ A market is defined to include both organised markets (eg exchanges, multilateral trading facilities and systematic internalisers) and OTC markets.

2.4 The sectoral coverage of the FTT is mapped in the diagram below.

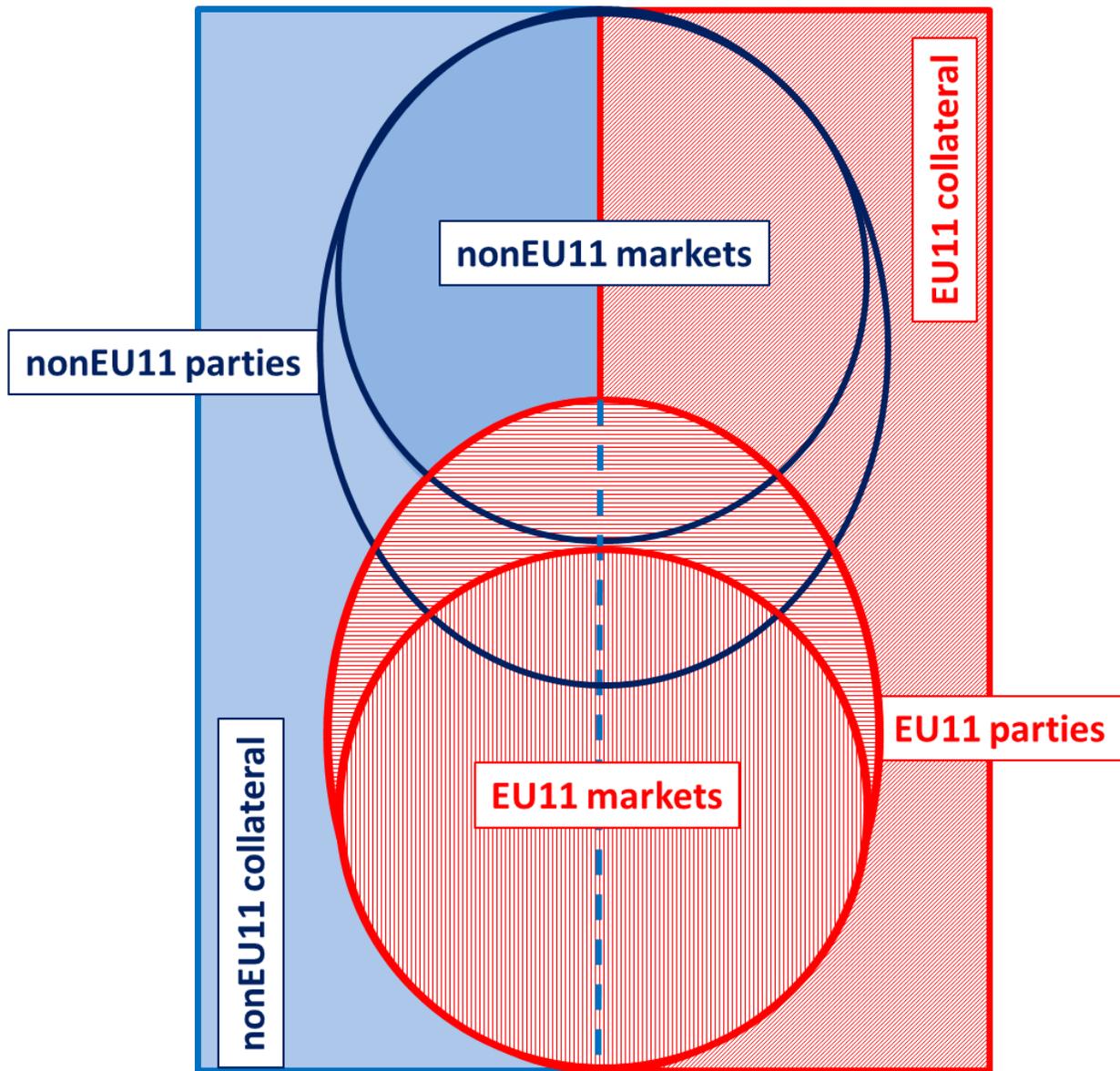


Figure 1 --- Parties are mapped by ovals, pools of collateral by rectangles; and markets by circles. EU11 parties, collateral and markets are bounded and hatched in red. Non-EU11 parties, collateral and markets are in blue. Parties include customers and markets include CCP. Any nonEU11 party, collateral or market overlapped by one or more red shapes would be subject to the FTT.

2.5 In essence, a transaction would be taxable under the FTT if one of the parties to that transaction --- whether it is a financial institution or a non-financial customer --- is located in the EU11.

2.5.1 In the case of a non-financial customer located in the EU11, the financial institution acting for the account of or in the name of the customer will be deemed to be established in the EU11 and therefore liable to pay the FTT, regardless of where it is actually located and even if the transaction is in non-EU11 assets and on a market outside the EU11.

2.5.2 In the case of a non-financial customer located outside the EU11, the financial institution acting for the account of or in the name of the customer will be deemed to be established in the EU11 only if it is located there --- unless the counterparty with whom it transacts on behalf of the customer is financial institution located in the EU11, but also if the transaction is in an EU11 and/or takes places in an EU11 market.

2.6 In other words, the FTT would apply to both ends of a taxable transaction, even if only one party is a financial institution actually located in the EU11. A non-EU11 party would be deemed to be established in the EU11 for the purpose of the FTT if it trades with an EU11 counterparty (even if trading in non-EU11 assets and on a market outside the EU11).

2.7 There is an exemption where a financial institution acting for the account or in the name of another financial institution --- in other words, as an agent to another financial institution. In this case, only the second financial institution would be liable to the FTT. This rule is called the 'disclosed client provision', which means that, although the location of the first financial institution would trigger the tax, the second financial institution (the one closest to the transaction) would be liable to pay it.

2.8 There is a general get-out clause to the FTT for financial institutions located outside the EU11, where they can prove that there is no link between the economic substance of a transaction and the territory of an EU11 state. The example given by DG Tax is the sale by the French branch of a US bank of US shares in Zurich to the French branch of another US bank for their US customers. The banks 'may' be able to argue that there is no link between economic substance of the transaction and France.

2.9 The FTT would apply to the gross market value of cash transactions at a minimum flat rate of 0.10% (not 0.10% per annum) and to the notional principal value of derivatives before netting and settlement at a flat rate of 0.01% (not 0.01% per annum). EU11 Member States would be at liberty to charge higher rates. As a flat rate, the FTT would fall disproportionately on shorter-term transaction.

2.10 Although CCP would not pay the FTT on transactions they are clearing, the tax would still have to be paid by the pre-novation counterparties who register their transaction with CCP for the purpose of clearing. As CCP-cleared repos traded on an automatic trading system (ATS) are anonymous, the CCP would have to provide sufficient information to the parties to calculate their tax liability.

2.11 Each party to a transaction would be held jointly and severally responsible for the failure of one of the parties to make timely payment of the FTT.

2.12 EU states outside the EU11 would be obliged under existing EU legislation to give mutual administrative assistance to EU11 states in the collection of the FTT.

3 The aims of the proposed FTT

3.1 In addition to the aims of ensuring that (1) national FTT within the Single Market are harmonised and (2) financial institutions make a 'fair and substantial' contribution towards the costs of the crisis and reducing fiscal deficits,¹⁰ a key aim of the FTT is to change financial market structures and market behaviour. Thus, the FTT is also intended by DG Tax to create 'appropriate disincentives' to:

3.1.1 Discourage transactions that 'do not enhance the efficiency and stability of financial markets', as well as excessive risk-taking or leveraging, 'thereby complementing regulatory measures to avoid future crises'.

3.1.2 Roll back 'redistributive internalisation' in favour of the financial market itself at the expense of its non-financial clients. 'Redistributive internalisation' is excessive financial intermediation that is undertaken purely to extract rents from the non-financial economy, even at the price of generating higher risk exposures, in contrast to financial intermediation undertaken to create wealth and values.

3.2 'Redistributive internalisation' is seen by DG Tax as including some market-making. The benefits of market-making --- 'high liquidity' and 'minimal spreads' --- are described as means to the ends of minimizing volatility and matching marginal supply and demand at an equilibrium price, and DG Tax appear to believe that there are better ways of achieving these ends than market-making. Thus, DG Tax question to what extent the liquidity provided by market-makers, as well as by other intermediaries and market users such as high-frequency traders (HFT), is genuine liquidity, given the risk of bouts of market illiquidity. DG Tax also question whether the minimisation of bid/offer spreads between different market users has not been offset by the widening of spreads between bid and offer prices by the market-makers, broker-dealers and proprietary traders for their own benefit, so-called 'internalisation-of-spread' trading.

3.3 Through the elimination of 'redistributive internalisation', DG Tax expect that the proposed FTT would result in a reduction only in 'virtual liquidity', by crowding out certain transactions and business models, such as HFT and those building on very tiny margins or characterised by high leverage between the amount of capital invested and the notional value of underlying. DG Tax estimates that the FTT would reduce securities trading by 15% and derivatives volumes by 75%. The expected overall result is that the 'efficiency of the financial market...would be improved'.

3.4 The impact on the real economy and household investment of reduced intermediation is expected by DG Tax to be limited. Negative knock-on effects on the real economy are to be avoided by ring-fencing ordinary banking transactions such as providing capital to enterprises and private households, and payment services.

¹⁰ DG Tax calculates that the financial sector in the EU is undertaxed by some EUR 18 billion a year. The FTT is estimated to recover EUR 30-35 billion a year.

3.5 DG Tax has stated that ‘only in case financial institutions were able to pass of the tax on to their enterprise clients, some minor increases in the cost of [transactions] could materialise. However, these should remain rather limited as most effects will have to be swallowed by the financial sector itself as 85% of all transactions take place amongst financial institutions with no outside client in sight’.

3.6 DG Tax’s econometric model estimates an overall economic cost of 0.28% of GDP in long run, although they claim that ‘smart recycling’ of additional public revenues back into the economy could recover 0.2%. They have also estimated that the cost of capital in the EU11 would rise by 7bp and would also rise marginally in non-EU11 Member States. However, the cost to firms issuing securities is expected to be offset by spread contraction. The hedging costs of global industries (eg energy, investment goods and global trade-intensive sectors) are projected to rise by 1bp but this extra cost is expected to be offset by the squeezing out of excessive intermediation. No negative employment effects are expected, as it is argued that the main impact of the FTT would be on non-labour intensive activities such as HFT. Moreover, DG Tax argue that ‘the relative attractiveness of financial instruments will edge down as compared to investing in the real economy’, so ‘some of the capital presently locked in financial market activities might be re-channelled to finance additional investment in the real economy’.

3.7 As regards the proposed taxation of trading and hedging by pension funds, DG Tax suggests that ‘an effect of the FTT could be to deter high turnover in pension funds, and encourage a move towards more long-term handling of funds’. It is posited that pension funds ‘might’ be compensated by:

3.7.1 A reduction in volatility through the crowding out of spread internalisation and the activities of HFT.

3.7.2 A reduction in the ‘substantial’ management fees of active investment managers through the discouragement of churning.

3.7.3 The possibility of ‘better deals’ for pension funds as market-makers and broker-dealers are forced to compete harder for their business having lost the revenue from spread internalisation and HFT.

3.8 Across an even wider canvas, DG Tax questions the motives and benefits of the whole of ‘modern’ investment banking, which it contrasts unfavourably with ‘traditional’ investment banking, which is seen as having ‘tried to facilitate the raising of capital, restructuring of companies or mergers and acquisitions’.

3.9 Among the specific predictions by DG Tax of the impact of the FTT on the financial markets are:

3.9.1 Pure brokers will replace broker-dealers.

3.9.2 Market-makers, broker-dealers and HFT will be deprived of some rents and forced to abandon their current business model wherever the 'internalised spread' is less than the FTT. 'Internalisation' proprietary trading will be replaced by 'true intermediation'.

3.9.3 Taxing the notional principal amounts of derivatives, rather than their net replacement cost, and also taxing delta hedging and the physical delivery of the underlying upon expiry or exercise, will make most derivatives uneconomic. It would not be worth delta-hedging less than 0.10% of a contract or, if hedging by closing the position, 0.01%. The expense and difficulty of hedging means it will become 'more passive and conservative'. Risk exposures will be reduced. There will only be net risk.

3.9.4 Tax-free primary markets will gain at expense of taxed secondary markets.

3.9.5 Overnight repo will disappear, to be replaced by secured loans and central bank repo.

4 The impact of the FTT on repo transactions

4.1 Repo and securities loans would be treated as one instrument for the purposes of the FTT, whereas other exchanges would be treated as two taxable instruments. However, it must be assumed that undocumented sell/buy-backs would be taxed on both legs, as they consist of two legally independent transactions.¹¹

4.2 It seems that the FTT would apply to the market value of the collateral rather than the value of the cash side of the repo (purchase price). In other words, haircuts and initial margins in repo would be taxed (but not in securities lending, where cash collateral is higher than the market value of the loaned securities). This is a consequence of the provision in the FTT that, if the consideration is lower than the market price of an asset, the latter would be used.

4.3 However, the main impact of the FTT on repo would arise from the fact that it is levied at a flat rate of 0.10% regardless of the term of the repo, whereas market-making revenues are earned on a per annum basis. However, long-term repo would be affected by the time value implications of the requirement that the FTT is paid at the start of a transaction, where interest is typically in arrears.

4.4 Unhelpfully, the 'material modification' of a repo seems likely to include (1) substitutions for the purpose of optimising collateral and (2) in the case of sell/buy-backs, the early termination and Repricing/Adjustment procedure typically used in sell/buy-backs in place of margin maintenance, even though these are simply collateral management operations. On the other hand, it is assumed that margin transfers and payments and interim interest payments, would not be deemed material modifications.

4.5 It would also appear that:

4.5.1 Open repos would be taxed only at the start (on the purchase date), not at each daily rollover or rate refixing.

4.5.2 Floating-rate repos would be taxed only at the start (on the purchase date), not at each rate refixing.

4.5.3 Forward repos would be taxed only at the start of the forward period (on the forward purchase date), although this needs to be confirmed.

4.5.4 Synthetic repos would be taxed three times: (1) at 0.10% on the cash sale; (2) 0.10% on the non-contractual unwinding of the cash sale and (3) 0.01% on the notional principal amount of the associated derivative. They would therefore be much more expensive than real repo.

¹¹ But documented sell/buy-backs should be treated, like repurchase agreements, as being one contract.

5 The cost impact of the FTT on the European repo market

5.1 Quantifying the impact of any new tax on any market is challenging. We have no idea of the cost elasticity of demand for repo. However, analysis of the impact of the FTT is somewhat simplified by the fact that the increase imposed on the cost of intermediation is of an order of magnitude that allows some reasonably confident general predictions.

5.2 Consider the direct cost impact on a market-maker. The typical bid-offer spread for an interdealer GC¹² repo against core eurozone collateral is 5bp (but can be as little as 2bp) and against peripheral eurozone collateral from an issuer like Italy is 10-15bp. For core eurozone collateral on special¹³, the spread is about 5-10bp and for peripheral eurozone collateral on special is some 5-15bp. Such spreads imply market-making revenues per EUR million of collateral of between EUR 1.39 (for 1-day core GC) and about EUR 1,520 (for a 1-year peripheral special).

| | bid/offer spread | | |
|-----------|------------------|---------|---------|
| repo term | 0.05% | 0.10% | 0.15% |
| 1D | 1.39 | 2.78 | 4.17 |
| 1W | 9.72 | 19.44 | 29.17 |
| 1M | 43.06 | 86.11 | 129.17 |
| 3M | 126.39 | 252.78 | 379.17 |
| 6M | 252.78 | 505.56 | 758.33 |
| 12M | 506.94 | 1013.89 | 1520.83 |

Table 1 --- value of various bid/offer spreads on repos of various terms per EUR million

5.3 Against these returns, the FTT would be a flat rate of at least 0.10%, costing EUR 1,000, on each side of the market-maker, which totals to EUR 2,000, regardless of the term of the transaction. The amounts are compared in the chart below. It is clear that the tax liability of a market-maker would dwarf his revenue. Even at one year, the tax liability on a GC repo is four times the typical revenue. A repo deal with a customer might add 5bp to the spread, but this would do little to offset the tax.

¹² A 'GC repo' is a transaction against any of a range of securities between which the majority of buyers in the repo market are indifferent. The GC repo rate is therefore driven by the supply and demand for cash, rather than a particular security, and is a measure of the general cost of secured funding. For more information about the repo market, see the ICMA's *Repo FAQs* at www.icmagroup.org/Regulatory-Policy-and-Market-Practice/short-term-markets/Repo-Markets/frequently-asked-questions-on-repo/.

¹³ A security trades 'on special' in the repo market when demand exceeds supply in both the repo and underlying cash market in that security. This scarcity causes potential buyers to bid for the security in the repo market by offering cash to sellers at a rate below the GC repo rate (see above). A special repo rate is therefore driven by the supply and demand for a particular security and is a measure of the cost of borrowing that issue.

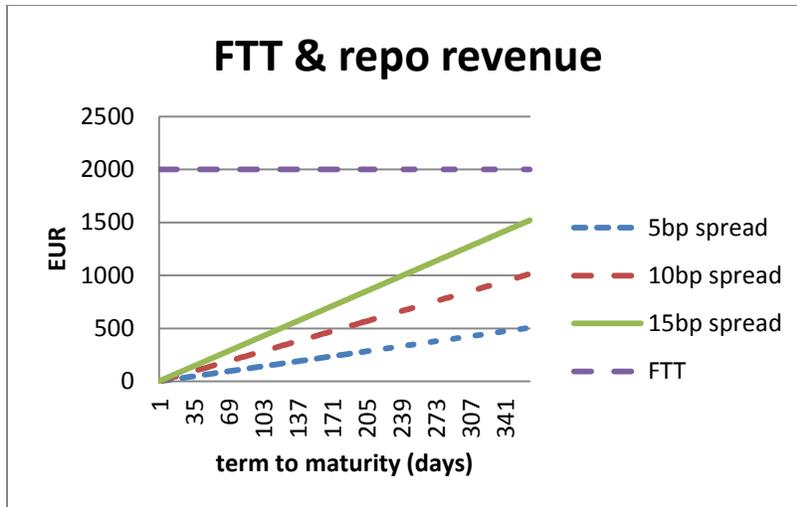


Figure 2 --- value of various bid/offer spreads on repos of various terms compared to the FTT liability for a market-maker

5.4 The impact of the FTT can also be illustrated by calculating the bid/offer spreads needed by a market-maker to recover the tax. These implied break-even spreads are summarised in the table below. They are clearly uneconomic for all terms out to one year. 1-day GC repos would need to trade at a spread of as much as 7205bp.¹⁴ Even 1-year GC repos would be 25bp, some five times the current average spread.

| repo term | normal bid/offer spread | | |
|------------|-------------------------|--------|--------|
| | 0.05% | 0.10% | 0.15% |
| 1D | 72.05% | 72.10% | 72.15% |
| 1W | 10.34% | 10.39% | 10.44% |
| 1M | 2.37% | 2.42% | 2.47% |
| 3M | 0.84% | 0.89% | 0.94% |
| 6M | 0.45% | 0.50% | 0.55% |
| 12M | 0.25% | 0.30% | 0.35% |

Table 2 --- implied break-even bid/offer spreads that a market-maker would have to charge to recover the FTT and make his normal bid/offer spread on repo-reverse repo matched positions for various terms

5.5 However, the cost of the FTT to an end-user could be higher, depending on the length of the chain of intermediation between the ultimate buyer and seller. For financial institutions at the either end of a chain, the cost would be their own FTT payment plus a share of the costs of the intermediaries. For example, in a chain of three GC repos against core eurozone collateral, the financial institutions at either end would each be liable to pay the FTT (EUR 1,000 per EUR

¹⁴ 7205bp is tax of EUR 2,000 plus a typical bid/offer of EUR 1.39 expressed as an annualised one-day percentage of EUR 1 million.

million of collateral) plus a share of the costs of the two intermediaries between them, ie a share of EUR 4,000 per EUR million of collateral.

5.6 As the FTT is expected to apply to the market value of collateral rather than the value of the cash side (purchase price), the impact of the tax would be amplified by haircuts/initial margins. At the extreme, the implied break-even spread for a 1-day GC repo would rise by an additional 75bp for a 1% haircut and 800bp for a 10% haircut.

5.7 It also needs to be remembered that, if repo market volumes were to collapse, overheads would rise for the residual market and there are likely to be other second-round impacts, including dynamic negative feedback from the initial reduction in liquidity (liquidity tends to attract liquidity and vice versa)

6 How would the FTT change the European repo market?

How much of the European repo market is liable to pay the FTT?

6.1 The FTT would apply to:

6.1.1 All repos of collateral issued in the EU11 (Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovenia, Slovakia and Spain). According to the December 2012 ICMA repo survey, collateral issued in the EU11 accounted for 51.3% of total outstanding repo contracts.

6.1.2 All repos with a counterparty located/established in the EU11 (including branches of financial institutions headquartered in one of these states) in both EU11 and non-EU11 collateral. The latest ICMA repo survey suggests that EU11 institutions account for about 31% of the European repo market. Their share of non-EU11 collateral may be lower than their share of EU11 collateral, but it would be prudently cautious to use the figure of 31% for both pools of collateral. Given that repos of non-EU11 collateral accounted for 48.7% of total outstanding repo contracts in the December 2012 survey, the assumption that EU11 institutions account for 31% of repos of non-EU11 collateral would mean that the taxable share of the repo market would be increased by 15.1% (31% of 48.7%).

6.1.3 All repos traded across Eurex Repo, MEFF and MTS, and all repos against EU11 collateral and with EU11 counterparties traded across ICAP/BrokerTec. It can be assumed that all EU11 collateral and taxable non-EU11 collateral is subsumed within the estimates in the previous bullet points.

6.1.4 All repos cleared across CC&G, Eurex Clearing, LCH-Clearnet SA and MEFF given that they located in the EU11, and all repos against EU11 collateral and with EU11 counterparties cleared by LCH-Clearnet Ltd, even though it is a UK-based subsidiary of a UK-based holding company. It is not known what share of European repo business is cleared by EU11 CCP, but it would not be unrealistic to assume that all EU11 collateral and taxable non-EU11 collateral is also subsumed within the previous estimates.

6.2 It is estimated therefore that the FTT would cover some 66% of the European market. The analysis is illustrated in the diagram below. Although analyses of the impact of the FTT should be measured against turnover, since the tax would apply to new transactions, there is no reason to believe that the share of repo turnover of the EU11 is much different from the share of repo outstandings.

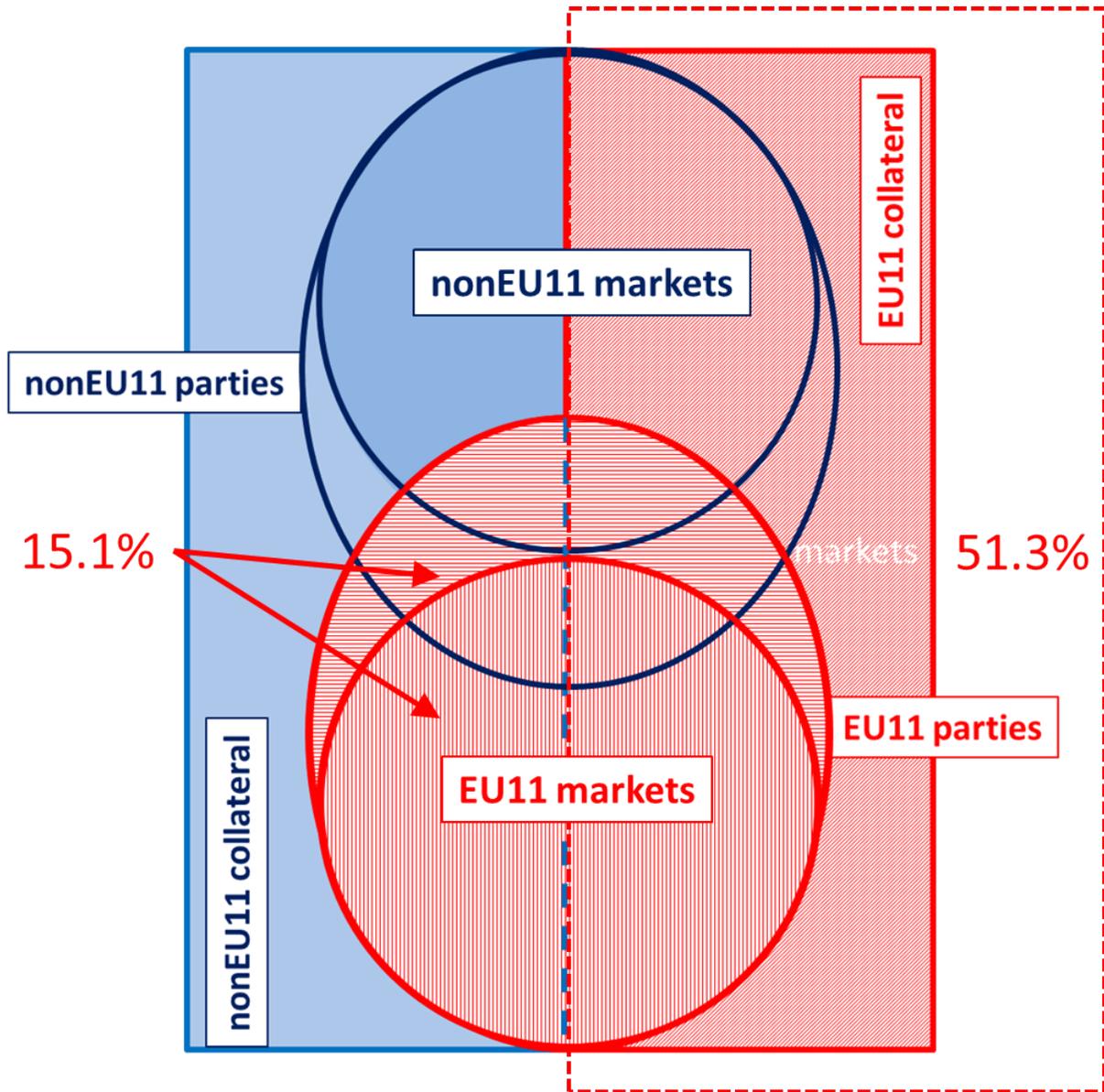


Figure 3 --- Analysis of the share of the European market liable under the FTT.

The impact of the FTT on the European repo market

6.3 DG Tax expects the FTT to destroy the overnight repo market. However, given the scale of the cost increases (see Table 2), other things being equal, it is difficult to see how repo would be economic out to at least one year.

6.4 Making a conservative assumption that only repos for terms shorter than six months would be taxed out of existence and, given that repos out to six months account for 88.3% of the market, the expected contraction would be about 59% of the European repo market (88.3% of 66%). However, the ICMA survey measures the value of outstanding repos, whereas the FTT would apply to each new transaction and its impact should therefore be measured against turnover. Whereas repos out to six months account for 83.3% of outstanding repos (as measured by the ICMA repo survey), they account for 99% of turnover (according to the ECB money market survey). Adjusting to take account of this, **the estimated total contraction in the European repo market is likely to be at least 66%.**

6.5 What would be left of the repo market would, at best, be a customised high-cost rump. As now, the function would probably be collateral transformation to meet regulatory liquidity requirements.

6.6 It should be noted that any calculation that may have been made by DG Tax of the impact of the FTT on the size of repo market would be an underestimate, because they have used the ICMA repo survey as their base for calculations, apparently unaware that the ICMA survey measures the value of outstanding repos, whereas the FTT would apply to each new transaction and should therefore be measured by turnover. The difference between shares of outstandings and shares of turnover can be significant. The table below gives some idea of the difference by comparing the maturity distribution of the December 2012 ICMA European repo survey (outstanding transactions in all currencies analysed by remaining term to maturity) compared with the ECB 2012 euro money market survey (new transactions in euros only analysed by original term to maturity).

| | ICMA 12-Dec-12 | ECB 2012 |
|-----------|-------------------|-------------|
| ON + open | 63.2% | 18.40% |
| TN to 1M | | 78.25% |
| 1-3M | 16.0% | 2.48% |
| 3-12M | 7.0% | 1.04% |
| 12M+ | 5.9% | 0.08% |
| forward | 7.8% | n/a |

Table 3 --- maturity distributions in terms of the value of outstanding contracts on 12 December 2012 compared with the turnover of repo over 2012

6.7 It is also unlikely that DG Tax have factored in the impact of the extra cost of collateral movements such as substitutions of collateral. These would count as 'material modifications' to a repo and so would attract additional tax. Consequently, tri-party repo and GC financing systems (such as Eurex Repo's Euro GC Pooling system), in which frequent substitution is a key feature, would become even more uneconomic than bilateral repos, where substitutions are rare. Triparty repo, including GC financing, accounts for about 10% of the European repo market (of which almost 61% is against EU11 collateral).

6.8 One area of the European repo market that is likely to survive the FTT would be repos between non-EU11 parties against non-EU11 collateral, as these transactions would be untaxed, but to survive this sector would have to relocate to financial centres outside the EU11, probably London, given its existing market share and capacity.

7 Analysis

7.1 This study was not commissioned to look at the principle of taxing financial transactions. There is no dispute that the financial sector should make a fair contribution to public finances. The object of the study is instead to consider the non-fiscal objectives of the FTT (changing market structure and behaviour) and the probable consequences of the proposed rates of taxation and scope of imposition on the repo and related markets and ultimately on the real economy.

7.2 In assessing the impact of the FTT on the repo market, it is essential to understand the role played by that market in particular and the financial market in general in financing the real economy. DG Tax does not seem to either fully understand and/or accept that role, and proposes to use the FTT to reshape the structure and operation of the financial market, essentially, by the fiscal suppression of financial intermediation.

7.3 DG Tax's misunderstanding of the functioning of the financial market is apparent in its proposition that 85% of all the transactions that take place between financial institutions are irrelevant to clients. It ignores the fact that many interdealer/bank transactions take place purely to hedge customer transactions. It is commonplace for several interdealer/bank transactions to be required to hedge one customer transaction. For example, an outright forward FX transaction for a customer requires an opposite spot FX transaction and an FX swap, which itself is a combination of spot and outright forward FX transactions. In other words, 2-3 interbank transactions are required for the single packaged transaction seen by the customer.

7.4 A similar process takes place in the fixed income market. Thus, a market-maker buying an off-the-run government or other less liquid security from an investor would typically finance the purchase until he can sell on the security with a repo and also hedge the interest rate exposure with an off-setting short position in an on-the-run government security borrowed through a reverse repo. And the same process is undertaken by primary dealers at auction.

7.5 The servicing of customers therefore results in a multiplier between the number of interdealer/bank and the number of customer transactions. The transaction multiplier is larger where, in order to meet a customer's particular set of circumstances, objectives and preferences, the transaction has to be customised. The transaction multiplier represents a process which is similar to 'mass customisation' in manufacturing, where customised products are assembled from components that are standardised and therefore benefit from economies of scale in their production and distribution.

7.6 Taxing interdealer/bank transactions out of existence would compel investors and firms in the real economy to undertake the purchasing and assembly of instruments that is currently delegated to specialist financial intermediaries. This would mean end-users devoting more time and resources to financial management or having to tolerate greater financial risk. Banks and dealers would therefore simply be replaced by larger corporate treasuries but without the same economies of scale. It is also likely that specialist agents would emerge to service customers, which would be a pointless reinvention of the market.

7.7 DG Tax's apparent failure to consider the consequences of suppressing financial intermediation is not simply because it misunderstands the mechanics of the market. Rather, it is because DG Tax does not accept the need for financial intermediaries. It is proposing a fundamentally different financial structure to connect investors to borrowers. The question is whether DG Tax's proposed structure is a practicable alternative to the current system of financial intermediation, in which the repo market plays a pivotal role. Can it efficiently perform the same functions as the money and securities market? What are the implications for the implementation of monetary policy and regulation? And what would be the impact on the financing of the real economy?

Repercussions from the impact of the FTT on the repo market on the **money market**

7.8 Both financial institutions and firms in the real economy need to be able to make liquid investments. They maintain routine operational balances from which to make planned payments and prudential balances to cover unexpected payments. Exceptional balances are built up in anticipation of large payments such as dividends, loan repayments and acquisitions, and following sudden receipts from sales or the disposal of assets. All this money needs to be kept liquid and secure in anticipation of urgent use.

7.9 The repo market currently provides a secure home for liquid cash investment for institutional and corporate investors, who (1) do not have access to risk-free deposit accounts at a central bank, (2) have sums of money to invest that are too large to be protected by deposit insurance or (3) wish to limit the concentration of their credit exposure to commercial banks (even ones that are 'too big to fail'). For these investors, collateral is the only insurance available.

7.10 And just as investors require collateral, so borrowers have to provide it. Collateral is therefore essential to the flow of credit. Repo is the primary vehicle for collateralised credit. If the movement of collateral is impeded by the suppression of the repo market, the flow of credit would suffer. Financial institutions and firms in the real economy would find it harder and more expensive to raise working capital.

7.11 Without access to a repo market, or even money market securities (such short-term securities would also be taxed out of existence by the flat-rate FTT), investors who do not have access to central bank deposit facilities or who need to earn a market rate of return would be forced to invest in commercial bank deposits. In view of the uninsured and unsecured nature of

this exposure, its concentration in a shrinking number of 'too-big-to-fail' banks and the suspicions created by the handling of the Cyprus crisis, this money would largely be deposited overnight, increasing the vulnerability of banks to runs and the moral hazard faced by the authorities. The more likely scenario, however, is that the EU11 would experience capital flight through using the untaxed escape route to banks outside the EU11 provided by deposits. This would drain liquidity from the domestic financial markets of the EU11, which would aggravate the structural frictions created by the FTT, and drive fault lines across the monetary landscape of the eurozone between the EU11 and the rest of the zone, with operational implications for the implementation of monetary policy. Such financial and monetary divergence would also undermine the integrity of the Single European Market.

7.12 The loss of the repo market and unsecured money market securities such as commercial paper and certificates of deposit would also impact bank lending in the EU11, including the provision of working capital to the real economy, by cutting off a major source of bank funding. Repo has become a major source of wholesale funding for banks as the unsecured market has shrivelled in the face of risk aversion and regulatory pressure. If the repo market were to disappear, banks would therefore face severe structural funding problems. Without repo and even money market securities, banks would have no source of short-term funding left other than customer deposits and central bank liquidity. There would probably be a disorderly acceleration of the deleveraging which the banking sector is already undergoing, as part of the G20's macro-prudential efforts to build higher capital ratios, causing an even sharper reduction in lending to the real economy than is currently being seen. It may be worth noting that the disappearance of money market securities would cause particular problems for the US dollar funding of EU11 banks, given the role played by US money market mutual funds, who have an exposure well in excess of USD 300 billion to EU11 banks (mainly, French and German).

7.13 The funding problems of banks would be exacerbated by the difficulties faced by EU11 banks in managing their marginal liquidity in the interbank market, where they would be restricted to seeking and making unsecured deposits. Unsecured overnight deposits have been the traditional tool of interbank liquidity management function because of the ability to settle in deposits late in the day. However, the desire to mitigate credit risk has encouraged banks to increasingly switch into repo. And bodies such as the ECB's Cogesi group have been facilitating this trend by encouraging and co-ordinating efforts to improve the efficiency of the settlement infrastructure to allow the use of repos later in the day. The suppression of the repo market would force banks to shift back to using riskier unsecured interbank transactions. If banks are constrained from borrowing in the interbank market to quickly supplement the supply of customer deposits and capital, which are relatively inflexible sources of finance, they would be less able to respond to unexpected or temporary demands for credit from customers. Less flexibility in the interbank market therefore means reduced capacity to extend credit to the real economy.

7.14 However, DG Tax expects the EU11 money market to shift to central bank repo and secured loans, because these instruments would not be taxed. For a number of reasons, this is very unlikely to happen.

7.15 As regards the use of central bank repos, permanently elevated use of central bank liquidity by EU11 banks is unlikely to be welcome by the ECB, which is currently seeking to reduce the reliance of the eurozone banking system on official financing and return banks to the money market. Nor could a central bank efficiently act as a substitute for the money market. Its facilities are not designed to perform the function of monopoly market intermediary. Nor would a central bank wish to take on this role, which would be a costly distraction to its core mission of managing monetary policy and expose it to systemic credit risk. Moreover, access to central banks is restricted to domestic commercial banks. Without a money market, foreign commercial banks and non-bank financial institutions would find access to short-term liquidity severely restricted.

7.16 The proposal to replace repos with secured loans is also problematic. A secured loan is an economic analogue to repo, being a loan collateralised by a security interest rather than the transfer of legal title to collateral, but is being exempted from the FTT because of the need to avoid taxing deposits, given their role as instruments of payment and legal obstacles. Although Security Financial Collateral Arrangements are envisaged under the Financial Collateral Directive, they are untested in the market and lack the infrastructure of repo (including a standard master agreement). But, more fundamentally, security collateral arrangements do not carry with them the right of set off following a default. Under a repo (or securities loan), on a default by one party, the other has a contractual right to determine and set off (net) the market value of the exposure against the market value of the collateral (with only the balance payable by one party to another). As the defaulting party has sold all property rights in the collateral, its liquidator or administrator should not be able to interfere in this process. In contrast, a security collateral arrangement has to be enforced, usually by way of exercising the attendant power of sale. But as the security interest is a property right (ie the collateral-giver retains a proprietary interest in the collateral and gives only a limited property interest to the collateral-taker), enforcement can get caught up in the insolvency proceedings of the defaulting party.

7.17 The use of security interests also raises the issue of how far many financial institutions can continue to encumber their balance sheets. Asset encumbrance is an issue of major concern to regulators. A repo does not encumber the balance sheet, as it is an outright sale of an asset for cash.

Repercussions from the impact of the FTT on the repo market on the **implementation of monetary policy**

7.18 Under normal conditions, the repo market plays a crucial role in the implementation of monetary policy. The collateral provided to central bank is mobilised in the interbank/interdealer repo market, and credit flows back through the interbank and then the interdealer repo market, ultimately influencing the extension of credit to the real economy. As argued above, liquid collateral is essential to the flow of credit in the modern financial system and repo is the primary vehicle for collateralised credit. If the movement of collateral through the market is impeded, the flow of central bank credit would also be adversely affected. The suppression of the EU11 repo market by the FTT would therefore destroy the framework of

collateralised transactions through which monetary policy is transmitted to this segment of the eurozone. As noted already, this would create problems in co-ordinating the implementation of a consistent monetary policy across the eurozone.

7.19 The loss of the repo market would also reduce the ability of central banks to monitor the expectations of investors and borrowers in the EU11, and the efficiency with which they can signal changes in their policy stance in order to influence these expectations. In other words, the ECB would become partially blind and mute.

7.20 It must also be remembered that central banks lend against collateral for the same reason as everyone else: to mitigate their credit risk. If a bank that has tapped central bank liquidity fails, the central bank can sell its collateral in the market. But the collateral can only be sold, if the market in that security is liquid. There would be no liquidity without an active repo market, given the pivotal role that this market plays in supporting intermediation in the securities market. The loss of the EU11 repo market would therefore expose the ECB to increased credit risk in its lending to EU11 banks. This would argue for exceptional haircuts on EU11 collateral.

Repercussions from the impact of the FTT on the repo market on the **securities market**

7.21 The repo market also exists to service other financial markets, in particular, the market in securities and their derivatives. The role of repo in secondary markets is reasonably well understood. It allows market-makers to efficiently fund inventory and borrow securities in order to cover the short hedges needed to allow investors to buy and sell at optimum moments and without risky delays. It also performs the vital but mundane, and often overlooked, function of allowing securities to be borrowed by market-makers and others in order to ensure timely delivery and avoid accidental settlement failures. In the derivatives market, repo allows the funding and covering of hedge and arbitrage positions, and facilitates timely delivery on bond futures and option contracts. Consequently, no security or derivative can be liquid without a repo market.

7.22 But even in the primary market, repo plays a critical role. The basic mechanics of primary dealing and syndication are not dissimilar to secondary market-making. Primary dealers and underwriters need to fund holdings of new issues and borrow to cover the short positions needed to hedge their underwriting risk. Consequently, repo is also critical for the distribution of new issues.

7.23 In DG Tax's alternative financial model, new issues would be distributed directly from issuer to end-investor, the implication being that there would be no need for primary dealers or syndicates. The FTT is seen as a disincentive to force investors to migrate out of the secondary market and into the primary market. A very limited secondary market is expected to linger but would operate, not through market-makers and other broker-dealers acting as principal intermediaries, but through pure agency brokers.

7.24 DG Tax's vision appears, in effect, to be a purely exchange-traded market that investors would access directly. This vision may have been inspired by the example of order-driven, commission-paying, exchange-traded markets in equity. The problem is that such markets are, in practice, limited to standardised instruments, such as equity, that trade in small size.¹⁵ And this model is not even universal for equity. It would be totally unsuitable for fixed income. This is a much larger, faster market in a more diverse set of often more complex instruments (there are some 200,000 issues in Europe, ranging from plain vanilla default-free government bonds through to heavily-structured credit products such as CDO). As a result of the diversity of issues, the complexity of many securities and the larger transaction size required by the typical issuers and the largely institutional investor base, buying and selling orders for many fixed-income securities are too infrequent to allow supply and demand to be efficiently matched on an exchange or similar order-driven venue. Other issues are traded in transactions that are too large to be exposed to such a public market. In both cases, efficient distribution requires the active participation of market-makers in order to function smoothly.

7.25 And in contrast to the order-driven pricing typical of equity, fixed-income securities are priced in both the primary and secondary markets in terms of spreads against benchmarks provided the secondary market prices of the most liquid issues. Efficient price formation in the benchmark issues in turn depends on active trading in these issues by market-makers, while spreads against their prices depend for validation on hedging and arbitrage by market-makers and other broker-dealers. This means that the secondary market is more crucial for the pricing of illiquid securities such as corporate bonds, ABS and many MBS --- and the efficient financing of the real economy --- than even for more liquid securities such as government bonds. It is noticeable that, prior to the establishment of repo markets, yield curves tended to be distorted by anomalies arising because of the difficulty of funding and covering hedging and arbitrage transactions without a repo market. Distorted yield curves make the pricing of new issues difficult and primary markets less efficient. They also preclude the accurate valuation of portfolios.

7.26 If investors are forced to switch to direct participation in the primary market, rather than also buying in the secondary market, the absence of underwriting by primary dealers and issuing syndicates would mean issuers taking the risk of pricing new issues and investors taking the risk of bidding in auctions directly upon themselves. It would also be difficult for such market users to structure issues to match their unique risk profiles and preferences. Managing the issuance of their own securities would be a particular problem for smaller issuers, including typical corporates, and smaller investors.

7.27 Reliance upon primary issuance also raises the question of how investors would be able to buy between auctions or syndications, which tend to be infrequent events, even for government bonds? And, given that issuance is a one-way flow, how would investors be able to sell when they needed to?

¹⁵ Ironically, small transaction size is one of the reasons behind the emergence of high frequency trading (HFT), which is one of the prime targets of DG Tax.

7.28 DG Tax believes the solution is ‘a move towards more long-term handling of funds’ by investors, in other words, a wholesale switch to buy-and-hold investment strategies. Unfortunately, the world is an uncertain place and circumstances change. Investors can also make the wrong choices. It is therefore important for them to be able to react swiftly to news and to correct mistakes by reallocating their portfolios. This is the function of the secondary market. And market-makers exist to minimise the risks of reallocation by allowing investors to buy and sell when they want to. Without repo, they cannot do this.

7.29 DG Tax appears happy to see an estimated 15% reduction in the size of the securities market. However, given the typical chain of transactions involved in the distribution of fixed-income securities, this would seem a gross underestimate of the impact of the FTT. The cascading of tax charges down the chain to the ultimate buyer would render much of the secondary market in fixed-income totally uneconomic. The damage would be compounded by the loss of the repo market, on which the securities market depends for funding long positions and covering short positions. In the US, the growth in the stock of marketable government debt is demonstrably correlated with the growth in turnover in the repo market. This relationship can be expected to work in reverse.

Repercussions from the impact of the FTT on the repo market on **financial stability and regulation**

7.30 One of the pillars of the new global regulatory framework being constructed under the direction of the G20 and within the Basel process is the collateralisation of financial transactions, directly and through mandatory clearing across of standardised transactions across CCP (in Europe, under legislation such the European Market Infrastructure Regulation or EMIR). Collateral needs to be traded because collateral requirements differ between collateral-takers such as central banks, CCP, payment systems and lenders, and mismatches inevitably arise between particular collateral requirements and the holdings of collateral-givers. The repo market is the principal venue for trading collateral. It is where, for example, securities can be converted into the cash collateral typically required by CCP or where a security not eligible as collateral in a payments system can be exchanged for another security that is eligible. Without the ability to trade collateral, it is likely that cash balances would have to increase, for direct use as collateral or to allow other types of collateral to be purchased when needed. Increased cash holdings are inefficient. They also assume that firms have access to a secure money market in which to place this money. This would not be the case if the short-term repo market is taxed out of existence by the FTT.

7.31 Forcing the money market back onto an unsecured basis would not, as DG Tax claim, be consistent with regulatory measures to avoid future crises. The de-collateralisation of the financial market through the suppression of repo and secondary market bond trading runs completely counter to the direction of travel of the G20 and Basel regimes. It also ignores the lessons of the recent crisis. Although at times stressed, the repo market was far more resilient than the unsecured money market, which simply evaporated beyond overnight. And it cannot be conducive to financial stability to force institutional and corporate investors to accept the

risk of a higher concentration of uninsured, unsecured overnight exposures to a shrinking number of commercial banks.

7.32 As the FTT would not discriminate between movements of securities on the basis of whether they were for trading, investment or collateral management, it would have the effect of making collateral management uneconomic. The problem would be exacerbated if collateral substitutions were classified as taxable 'material modifications' of a transaction. Optimisation of collateral portfolios, a key functionality of tri-party collateral management systems, would become impractical, which would impair the efficiency of collateral usage.

7.33 Fiscal suppression of the repo market would also undermine regulatory initiatives seeking to ensure that financial intermediaries maintain adequate liquidity buffers. New liquidity regulations are predicated on the assumed existence of a liquid short-term repo market. For example, the liquidity of government bonds, the prime example of a liquid asset for regulatory purposes, depends on an active secondary market, which in turn depends on an active repo market. Indeed, one of the regulatory criteria for identifying liquid assets is the existence of an active repo market. Another example of the regulatory presumption of the existence of a liquid short-term repo market is the investment limits being imposed on money market mutual funds, which assume there would be secure, short-term markets in which funds can invest with minimal credit and liquidity risk.

7.34 The loss of the short-term repo (and securities lending) market would also exacerbate systemic operational risk by removing the means of borrowing securities to prevent delivery failures. The FTT therefore conflicts with regulatory initiatives such as the acceleration of securities settlement in Europe from T+3 to T+2. Accelerated settlement reduces credit and liquidity risk, but at the cost of increasing operational pressure on settlement processes and infrastructure. Slight mismatches between deliveries and receipts of securities can burgeon into settlement logjams and firms have less time to rectify mistakes. An efficient short-term repo (and securities lending) market is an essential means of smoothing settlement and covering those mistakes.

7.35 The fundamental problem with the non-fiscal objective of the FTT is that tax is a very blunt and uncertain tool for financial regulation. And it inherently suffers from a classic mismatch between the number of policy objectives and the number of policy tools: trying to hit several targets at the same time. Optimum calibration is impossible in these circumstances. Indeed, the rate of the FTT has been set to generate a certain amount of revenue and with no consideration as to its 'regulatory' impact. Taxes should be designed solely to achieve fiscal objectives. Prudential problems such as excessive risk-taking should instead be targeted through prudential regulation. Similarly, concerns about the 'churning' of customer portfolios and the size of management fees charged by active investment managers should be addressed through the regulation of the conduct of business and by enhancing competition.

Repercussions from the impact of the FTT on the repo market on the **real economy** --- according to DG Tax

7.36 The impact on the real economy and household finances of reduced intermediation is expected by DG Tax to be limited. They hope to avoid negative knock-on effects by ring-fencing ordinary banking transactions such as providing capital to enterprises and private households, and payment services. Moreover, they argue that ‘the relative attractiveness of financial instruments would edge down as compared to investing in the real economy’, so that ‘some of the capital presently locked in financial market activities might be re-channelled to finance additional investment in the real economy’.

7.37 DG Tax’s econometric model estimates an overall loss of 0.28% of GDP in long run, although they claim that the ‘smart recycling’ of additional public revenues back into the economy could be worth 0.2%. They also estimate that the cost of capital in the EU11 would rise by 7bp and that the cost of capital in non-EU11 Member States would also rise, albeit marginally. However, the cost to firms issuing securities is expected by DG Tax to be offset by spread contraction. The hedging costs of global industries (eg energy, investment goods and global trade-intensive sectors) are projected to rise by 1bp but this is expected to be offset by the squeezing out of excessive intermediation. No negative employment effects are predicted, as it is argued that the main impact of the FTT would be on non-labour intensive activities such as HFT.

7.38 DG Tax does not believe that the massive increase in the cost of financial intermediation would feed through to the real economy and households. It stated that ‘only in case financial institutions were able to pass of the tax on to their enterprise clients, some minor increases in the cost of [transactions] could materialise. However, these should remain rather limited as most effects will have to be swallowed by the financial sector itself as 85% of all transactions take place amongst financial institutions with no outside client in sight’.

Repercussions from the impact of the FTT on the repo market on the **real economy** --- possible unintended consequences

7.39 DG Tax’s econometric model makes a number of simplifying assumptions, including a closed economy (ie no relocation). It also applies FTT only once to each transaction, rather than to both sides of each transaction undertaken by an intermediary, and does not taken account of the rapidly cascading cumulative impact of the FTT along a chain of intermediaries. The result is to underestimate impact of the FTT on the market and the end-cost to borrowers.

7.40 DG Tax’s expectation that the real economy can be insulated from the impact of the FTT on the financial market is very optimistic. They appear to be working on the basis of an implicit assumption that the financial market has a separate and largely irrelevant existence to the real economy. In practice, the financial market exists because the principle of the division of labour, specialisation and economies of scale applies as much to the management of money and

financial risk as it does to the production and distribution of goods and services in the real economy. If the financial market did not exist, firms in the real economy would have to devote more resources and managers would have to devote more time to functions that are strictly ancillary to the specialist activities in which they have a comparative advantage.

7.41 It has been argued already that the suppression of the repo and secondary bond markets by the FTT would impose serious inefficiencies on firms investing cash and create obstacles to others raising working capital. It would have a stultifying impact on the issuance of securities and therefore on the ability of firms in the real economy to raise capital. And it would impede the ability of investors to implement flexible investment strategies and allocate capital efficiently, damaging long-term growth potential of the economy and eroding the return on investors' savings. Immediate and serious damage would be inflicted on the real economy of the EU11 through the disruption to the flow of credit caused by the cessation of the flow of collateral, as this would create a shortage of working capital. In the long term, there would be serious reductions in investment in the real economy because of the increasing cost and risk of capital-raising.

7.42 The additional cost of raising working and investment capital within the EU11 would disadvantage EU11 financial institutions and corporates against their EU competitors and even more so against competitors in non-EEA countries. And the EU11 would also see a reduction in economic growth through an exodus of financial services, notwithstanding DG Tax's confidence that relocation can be prevented. Regional corporate treasuries can be relocated without much difficulty. And as explained already, funds in the form of (untaxed) deposits can be transferred to non-EU11 subsidiaries to invest in untaxed and undamaged money markets elsewhere in the eurozone or offshore in London. There is also no reason why global funding subsidiaries could not be set up outside the EU11 or even the EU, in order to shield non-EU11 investors from the FTT and reduce the cost of funding.

8 Conclusions

8.1 Much of the debate about the proposed FTT has been focused on its possible ‘unintended consequences’ in terms of damage to the financial market, for example, through the impact of the flat rate of taxation on short-term transactions such as repo and secondary market bond trading. However, the declared objectives of the tax make it clear that the dismantling of the market is in fact a very intentional consequence. In addition to its fiscal objectives, the FTT is designed to radically re-engineer the financial market. The paradigm of financial intermediation is to be suppressed and an alternative financial system fostered which largely dispenses with primary dealers, market-makers, broker-dealers and other principal intermediaries. The focus of the debate is therefore whether the FTT would damage the real economy.

8.2 Whether one believes there would be damage to the real economy hinges on whether one believes that the alternative financial system sketched out by DG Tax is practicable. At this point, the debate about the FTT risks becoming ideological. However, there are sufficient questions about the viability of the post-FTT financial world envisaged by DG Tax to justify fundamental amendments to the proposal, especially given the catastrophic consequences of this experiment.

8.3 The inspiration for the alternative financial model being proposed by DG Tax seems to be drawn from the equity market, although the particular form envisaged would be radical even there. In the money and fixed-income markets, that model is completely unworkable. That it has been proposed hints at a lack of familiarity with these markets. There would also appear to be a lack of appreciation of the essential nature of collateral in the modern financial market, particularly its importance to investors too large to be eligible for deposit insurance and with no access to central bank deposit facilities. Collateral is essential to the supply and flow of credit in a modern financial system. DG Tax’s proposal would therefore certainly have unintended consequences for the real economy, but it would also have serious adverse consequences for the issuance of public debt, the implementation of monetary policy and financial stability.

8.4 The destruction of the market in repo and money market securities by the flat rate of taxation would force institutional and corporate investors back into the unsecured deposit market, probably at the overnight end and in banks considered ‘too big to fail’, making the financial system more vulnerable to runs, increasing the moral hazard faced by the authorities and ramping up systemic risk by unravelling the process of collateralisation that has become a central policy in the evolving global regulatory framework being driven by the G20 and the Basel regime. The elimination of term funding in the money market would seriously undermine the ability of commercial banks to build liquidity buffers. Collateral management would be made too expensive and the infrastructures designed to enhance the efficiency of collateral management --- ATS, CCP and tri-party systems --- would cease to be viable. Issuers and investors would have to take greater operational risk or tolerate higher levels of financial risk through direct participation in the primary market. The claim by DG Tax that the FTT would complement regulatory measures to avoid future crises is therefore simply untenable.

8.5 With the loss of repo and other money market instruments, there is the real risk of capital flight from the EU11 by institutional and corporate investors, using the untaxed escape route to banks outside the EU11 provided by deposits. This would cause liquidity problems inside the EU11 and drive fault lines across the monetary landscape of the eurozone between the EU11 and the rest of the zone, with operational implications for the implementation of monetary policy. It would also undermine the integrity of the Single European Market. Cross-border financial market fragmentation has recently been highlighted by ECB President Draghi as impeding the transmission of ECB monetary policy into lending rates to the real economy and sustaining higher cost of funding faced by small-medium enterprises in particular.

8.6 Given that the repo market provides the framework of collateralised transactions through which monetary policy is transmitted, the loss of that market would seriously hinder the implementation of monetary policy and raises the question of how the ECB would address the credit risk in lending to banks against collateral that would be illiquid because of the lack of a secondary market.

8.7 Without a repo market, or indeed a market in short-term securities, EU11 banks would find it difficult to borrow from institutional and corporate investors. This loss of wholesale funding would severely reduce their capacity to lend to the real economy and is likely to trigger a disorderly acceleration of the deleveraging which the banking sector is already undergoing. Bank lending would also be hindered by the constraints on efficient liquidity management imposed by the enforced regression of the interbank market back to unsecured deposits. DG Tax's suggestions that central banks substitute for the money market and secured loans be substituted for repos are not realistic.

8.8 The loss of the ability to fund through the issuance of money market instruments such as commercial paper and the reduction in bank lending would make working capital for corporates much more expensive and difficult to access. The shortage of working capital could deliver an immediate shock to economic activity. Over the longer-term, the FTT would seriously hinder capital-raising by firms in the real economy, by making the issuance of bonds a more cumbersome and riskier process (there are also questions about the impact of the FTT on the rate of return demanded by investors). As a result, the EU11 economies would suffer an increasing loss of competitiveness. But the biggest losers would be the largest issuers of fixed-income securities, which are governments, who would face insuperable obstacles to selling the massive volumes of public debt that they have to issue. At a time of fiscal weakness, such disruption could destabilise sovereign borrowing programmes.

8.9 The impact of the FTT on the EU11 would spill over into the rest of the EU through the taxation of EU11 investors buying non-EU11 securities and non-EU11 parties trading or investing in the EU11 or on EU11 markets. This is likely to generate political and legal frictions, which would be exacerbated by aggressive resort cross border to anti-avoidance measures. For example, each party to a transaction (including non-EU11 parties) would be held jointly and severally responsible for the failure of one of the parties to make timely payment of the FTT. Although this type of provision is included in equivalent national taxes, notably UK Stamp Duty

Reserve Tax, it is more likely that the same provision of the EU11 FTT would have to be invoked cross-border. SDRT is collected automatically by the UK CSD. That would not be possible for FTT within the three months proposed by DG tax. It took a couple of years for SDRT collection to be plumbed into the UK CSD and SDRT is a much simpler tax. In addition, there are practical and legal issues in trying to collect through CCP and (I)CSD outside the EU11. Although this type of provision has been included in equivalent national taxes, such as UK Stamp Duty Reserve Tax, it is more likely that the EU11 FTT's joint-and-several liability provision would be invoked cross-border, since it would be far easier to pursue an EU11 person for collection than someone elsewhere in the world (particularly outside the EU).

8.10 Little consideration appears to have been given to the dynamics of implementing the seismic change in market structure that would be unleashed by the FTT. Indeed, it appears to be assumed that the transitional costs and disruption would be minimal. But with so little time to prepare and so many uncertainties as to the shape of the financial system that would actually emerge, the risk is enormous.

8.11 Finally, comment has to be made about the highly speculative and ad hoc economic philosophy on which the FTT's non-fiscal objectives appear to be based. Highly generalised and unsubstantiated assumptions are made about the social value of financial markets. Some propositions are puzzling, for example, that the reduction in liquidity caused by the withdrawal of traders would improve volatility. Concepts such as 'redistributive internalisation' and 'virtual liquidity' have no little or no foundation in academic research, regulatory analysis or market experience. DG Tax clearly has particular targets in its sights (eg HFT), but there is a broader underlying agenda. This is apparent in the hostility towards 'modern' investment banking that has engendered nostalgia for a 'golden age' of 'traditional' investment banking, which is seen as having 'tried to facilitate the raising of capital, restructuring of companies or mergers and acquisitions'. This is ironic, given the massive rents that characterised the protected financial franchises that existed before the liberalisation and deregulation of the 1980s and 1990s. In the opinion of many, that process may have run too far but turning the clock back to a world that never existed is not the answer. Policy initiatives on this scale require deeper research and a lot more debate over a much longer period of time.

9 Recommendations

9.1 The question now is how respond to the FTT proposal. Recognising that the views of DG Tax differ so fundamentally from those expressed here, there is little to be gained from getting into an argument over the structural damage to the financial market that would be caused by the current FTT proposal. The only realistic strategy is to spell out the implications of the current FTT proposal for public finances, monetary policy, financial stability and economic policy to those responsible for these policy areas, and seek to have the FTT recast as a purely fiscal instrument and not a tool for restructuring the financial market.

9.2 As it is unlikely that the FTT will be abandoned or replaced by an alternative such as financial activity tax, realistic modifications need to be proposed that would avoid the extreme outcomes of the present proposal. These modifications should include:

9.2.1 The **exemption of secured financing transactions such as repo and securities lending from the FTT**, and all movements of securities during the term of a transaction pursuant to the management of collateral (eg substitution), in order to support the collateralisation of the financial market.

9.2.2 The **exemption from the FTT of primary dealers and market-makers** in fixed-income securities markets, in order to preserve the efficient pricing and distribution of capital.