

## **A supplementary note on the systemic importance of collateral and the role of the repo market**

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## **1 Executive summary**

1.1 Collateral underpins the security of individual financial transactions and counterparties and thereby the stability of the financial system. The importance of collateral is being re-emphasised by the regulatory impetus under Basel III and legislation such as EMIR towards more extensive collateralisation of both credit and liquidity risks.

1.2 By mitigating credit and liquidity risks, collateralised instruments, principally repo, also facilitate the flow of credit through the financial system to the real economy. The scale and concentration of credit flows, and the weakened state of the banking system, mean that unsecured channels of financial intermediation create exposures that are not tolerable to financial intermediaries nor acceptable to their regulators. The importance of collateralised instruments like repo is such that they are commonly characterised as private money. Without this supplement to public money, it would be impossible to distribute government securities on the current scale and mobilise the wholesale and capital funding required by commercial banks and other lenders financing the real economy. Collateral is also the link between the financial market and central banks, and therefore crucial to the conduct of monetary policy.

1.3 Given the systemic role of collateral, the efficiency of the financial system --- and thus the capacity to lend to the real economy at the lowest cost --- necessarily depends on the ease with which collateral can be accurately priced, readily mobilised and efficiently moved around the system. In other words, there needs to be a market in collateral. That function is currently filled by the repo and securities lending markets, which provide a relatively resilient, operationally efficient, legally secure and generally liquid venue for the exchange of collateral and collateralised credit. These collateral markets also play a key role in sustaining an orderly and stable financial system by providing facilities to borrow securities to support the trading activities that underpin market liquidity and the coverage of delivery failures that enhances the efficiency of market infrastructure.

1.4 Consequently, it should be a matter of the greatest concern for regulators, central banks, financial intermediaries, investors and borrowers (not least governments) that, under the current proposal by the European Commission (EC) for a Financial Transaction Tax (FTT) in 11 of the Member States of the European Union (EU), movements of collateral through a large part of the European repo and securities lending markets would be taxed at a flat rate that would extinguish these markets in and across the borders of these states.

1.5 Contrary to some suggestions, there is no feasible alternative to repo and securities lending. There is also a question mark over why we need to divert resources and risk critical disruption to the financial system by trying to 're-invent the wheel'.

## 2 Introduction

2.1 The current proposal by the European Commission (EC) for a Financial Transaction Tax (FTT) in 11 of the Member States of the European Union (EU) envisages applying a 0.10% charge at a flat rate (ie not per annum) on all transfers of securities beyond the primary market. Among other things, this is expected to severely impact the economics of using securities as collateral by making collateral movements prohibitively expensive and by extinguishing the repo market in which the supply of and demand for collateral is matched.<sup>1</sup>

2.2 This paper summarises the role of collateral in the financial system in order to illustrate the potential systemic impact of the current FTT proposal.

## 3 The functions of financial collateral

3.1 Collateral is an asset that has been legally dedicated by one party (eg a borrower) to provide a source of compensation to a counterparty (eg a lender) in the event that the first party defaults on his obligation to service or repay a loan, or fails to perform some other contractual obligation or meet some contractual condition. In other words, collateral is a hedge for credit risk. However, financial collateral --- which takes the form of either securities or cash<sup>2</sup> --- can do more. This possibility gives rise to two classes of financial collateral.

3.2 Firstly, financial collateral in the form of securities can be used as 'investment collateral' in asset-backed securities. In addition to providing a source of contingent compensation to investors in the event that the issuer defaults, investment collateral is also dedicated, sometimes subject to the restructuring of its cashflows, to the funding of the return(s) promised to investors. This class of financial collateral therefore serves both credit and investment functions.

3.3 Alternatively, securities can be used as 'risk collateral', the purpose of which is to provide protection against the credit risk of one party, but which can also be used to provide protection to a counterparty who is a lender against his liquidity risk. Unlike investment collateral, risk collateral has no investment function. This is because the provision of risk collateral is only temporary, whereas investment collateral matures before or at the same time as the asset-backed security to which it is dedicated. Investors in an asset-backed security therefore collectively have the full and final exposure to the collateral. In contrast, instruments hedged with risk collateral --- secured financing transactions (SFT) such as repo, secured loans and securities lending against non-cash collateral --- involve either a forward repurchase or reverse exchange of the collateral (in the case of repos and securities loans) or a discharge of the obligation to provide collateral (in the case of secured loans). This means that variations in the value of the collateral during the term of the instrument remain a risk to the collateral-giver (unless there is a default and the collateral-taker has to liquidate the collateral).

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<sup>1</sup> See the report of 8 April 2013 prepared for the ICMA on *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*.

<sup>2</sup> Financial collateral also includes transferable bank loans (which can be considered as a type of security) and gold or silver (which can be considered as a type of cash).

3.4 SFT such as repo and securities lending against non-cash collateral perform a liquidity function, in addition to a credit function. This is because the collateral in these instruments is provided through the outright transfer of their legal and beneficial title, which means the buyer has a proprietary right of use and can meet any sudden liquidity need by disposing of the collateral at any time.<sup>3</sup>

3.5 SFT such as secured loans (in which a security interest is given in the collateral or in which collateral is pledged) also use risk collateral but traditionally perform only a credit function, as the collateral-taker does not automatically have a right to dispose of collateral in circumstances other than a default. However, it is possible for the collateral-giver to concede a right of re-use or re-hypothecation, which allows the collateral-taker to dispose of collateral at his discretion. This is common for financial collateral and allows secured loans to perform a liquidity function as well as a credit function.

3.6 Cash collateral appears to fall somewhere between investment and risk collateral, as the holder of the cash collateral typically benefits from its reinvestment, but should strictly be seen as risk collateral, given that some or all of the reinvestment return is rebated to the collateral-provider.

3.7 This paper focuses solely on risk collateral.

## **4 How risk collateral is used**

4.1 SFT use risk collateral to hedge the credit risk and sometimes the liquidity risk on a loan of cash or of a security within the envelope of the same instrument. In the case of repo and securities lending, this takes the form of a contract to exchange cash and securities, or to exchange one security against another. In repo, this is achieved by means of an immediate sale and forward repurchase of a security. In securities lending, there is an exchange of legal and beneficial titles. But risk collateral can also be used to hedge the credit risk on an independent risk exposure, most usually, one arising from a derivatives position. This can be done by transfer of title or a security interest/pledging.

4.2 Collateralisation to hedge credit and liquidity risk is central to the current global regulatory framework. The only alternative is a public guarantee, explicit or implicit. The regulatory framework promotes the collateralisation of credit risk through regulatory cost disincentives under the Basel regime on uncollateralised transactions through heavier risk capital charges.

4.3 Another core regulatory safeguard is the mandated use of central clearing counterparties (CCP) to settle standardised derivatives and the discouragement of bilaterally-cleared derivatives by regulatory capital disincentives. While the primary benefit of central clearing is the multilateral netting of exposures, the security and stability of CCP depends on collateralisation through the margining of net exposures.

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<sup>3</sup> The buyer may dispose of the collateral but is obliged to return collateral at the end of the transaction, but only 'equivalent' (same or similar) collateral.

4.4 In addition, the imposition of the Liquidity Coverage Ratio (LCR) under Basel III requires a minimum degree of collateralisation, in the form of a liquidity buffer, to hedge liquidity risk.

4.5 It is therefore clearly essential to the functioning of the current regulatory framework that collateral of sufficient quality and in sufficient quantity should be available wherever it is needed in the financial system.

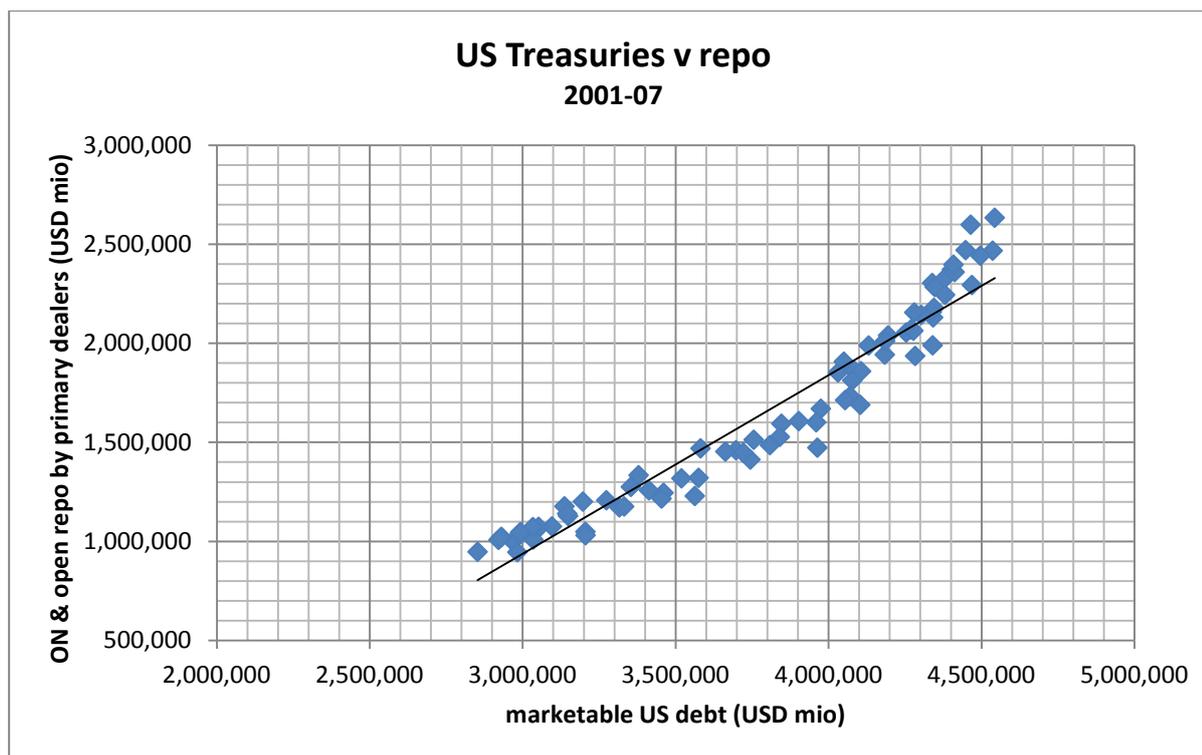
4.6 Beyond the formal regulatory framework, risk collateral also plays an often unheralded but nonetheless important role in supporting an orderly and stable financial system by facilitating more efficient securities settlement and thereby reducing systemic operational risk. Access to risk collateral through repo and securities lending allows financial intermediaries to cover unintentional failures to deliver securities that arise through internal errors, market illiquidity, physical disruption and fragmentation of the settlement infrastructure by borrowing securities to fill delays between the delivery out and receipt in of securities. This facility will be crucial to the success of the European regulatory initiative to accelerate securities settlement 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 a shorter settlement period gives firms less time to identify and rectify mistakes. The facility to borrow securities allows those mistakes to be covered and the flow of settlement smoothed.

4.7 Risk collateral also has a monetary function on a macro-economic scale. SFT in the form of general collateral (GC) repo is used to borrow and lend cash.<sup>4</sup> The flow of risk collateral through the repo market is essential to the flow of credit through the financial system. This is because wholesale investors who need to preserve their liquidity and do not have access to the risk-free deposit facilities provided by central banks (or hold foreign currency) or do not qualify for deposit insurance or public guarantees have no alternative safeguard to collateral, particularly given the weakened and concentrated state of the banking system.<sup>5</sup> And intermediaries who channel money between ultimate lenders and borrowers --- not just short-term funds but also capital investments in longer-term securities --- would be unwilling, if not unable, to tolerate the size of exposures generated by the process of intermediation (as well as their own interdealer liquidity management). The scale of government borrowing alone --- the distribution of which relies on the repo market --- illustrates the importance of risk collateral. The link between government borrowing and repo financing (in normal market conditions) is illustrated for the US in the chart below.

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<sup>4</sup> 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. The antithesis of a GC repo is a 'special' repo. 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. 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/](http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/short-term-markets/Repo-Markets/frequently-asked-questions-on-repo/).

<sup>5</sup> And even investors such as commercial banks who do have access to the risk-free deposit facilities provided by central banks need to earn economic returns.



Sources: Bloomberg, FRBNY

4.8 Risk collateral is so integral to the extension of wholesale credit that it is seen as a form of private money. It is of enormous importance, as indicated by the size of the global repo market, which is probably in the order of EUR15-20 trillion. And recent work by Manmohan Singh at the IMF has estimated that post-crisis deleveraging and the reduction in the implied velocity of circulation of collateral has reduced this component of global credit supply from about USD 10 trillion in 2007 to some USD 6 trillion in 2012.<sup>6</sup> Without sufficient collateral to facilitate wholesale funding and the transmission of financial capital investment, the financing of governments and the real economy is seriously constrained.

4.9 Risk collateral is also what connects the financial market to central banks. The repo market plays a crucial role in the implementation of monetary policy, both routine operations and the provision of exceptional assistance. 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.

4.10 But the use of securities as risk collateral in repo and securities lending is not solely a vehicle to securely transfer cash. It is also a means of borrowing securities in order to cover short positions for a wide range of purposes essential to the liquidity of the financial markets, and their role in price discovery and the efficient allocation of financial resources. These purposes include hedging primary market issuance, secondary market-making, and hedging or arbitraging other securities or derivatives.

<sup>6</sup> [The Nonbank-Bank Nexus and the Shadow Banking System; by Zoltan Pozsar and Manmohan Singh; IMF Working Paper 11/289; December 1, 2011](#) and [Money and Collateral; by Manmohan Singh and Peter Stella; IMF Working Paper 12/95; April 1, 2012.](#)

## 5 The need to trade collateral

5.1 A key challenge for a collateralised financial system is to match the demand for and supply of collateral.<sup>7</sup> Institutions demanding collateral have selective, often restrictive, eligibility schedules. For example, CCP typically require margining in cash collateral and derivatives traders using the ISDA Credit Support Annex (CSA) tend to require cash or high-quality government securities to be posted against their in-the-money exposures. On the other hand, many institutions required to supply collateral have businesses in ineligible collateral. For example, many investment funds have to raise cash to post as collateral with CCP. There is therefore a basic need to trade collateral.

5.2 A market for collateral is also important as a venue for price discovery in order to facilitate the efficient allocation of collateral. Given that different collateral-takers have different collateral eligibility schedules, the value of an asset as collateral varies between uses. The value of collateral will also reflect relative supply and demand.

5.3 Collateral securities can be traded for cash collateral by selling securities in the repo market or lending them in the securities lending market against cash collateral. One type of security can be traded for another by repoing out the first security in one transaction and reversing in the second in another transaction, both against cash.<sup>8</sup> Such back-to-back transactions have traditionally taken the form of 'collateral upgrade' and 'collateral downgrade' trades, which are short-term and in normal market size.

5.4 More recently, the imposition of the LCR has triggered 'collateral transformation' trades, often described as 'collateral swaps' or 'liquidity swaps'. These back-to-back combinations of a repo against one security and a reverse repo against another are long-term (over 1 year, often 2-5 years and as long as 10 years) and very large (typically EUR 500 million but sometimes in billions). They usually involve a bank swapping less liquid securities for cash or highly liquid securities from a non-bank financial institution such as an insurance company or pension fund. The importance of collateral transformation has been manifest in the ICMA semi-annual European repo market survey, which saw the proportion of term swaps (over 1 year) peak at over 13% in June 2012.<sup>9</sup>

5.5 Without the ability to trade collateral securities, it is likely that cash balances would have to increase, either for direct use as collateral or to allow other types of collateral to be purchased when needed. Increased cash balances are an inefficient and potentially risky use of capital. Commercial banks could deposit the cash in their local currency at their central bank but this

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<sup>7</sup> This need has been emphasised by the Collateral Initiatives Coordination Forum (CICF), which published a White Paper on 7 November 2012 elaborating the importance of 'collateral fluidity'. See [http://www.icmagroup.org/assets/documents/Media/Press-releases-2012/Collateral-Initiatives-Coordination-Forum-\(CICF\)-calls-for-urgent-focus-on-collateral-fluidity-7Nov2012v2.pdf](http://www.icmagroup.org/assets/documents/Media/Press-releases-2012/Collateral-Initiatives-Coordination-Forum-(CICF)-calls-for-urgent-focus-on-collateral-fluidity-7Nov2012v2.pdf).

<sup>8</sup> One type of security can be traded for another directly through a securities loan against another security, but non-cash collateral in securities lending has tended to be a basket of collateral securities which have not usually been used in another transaction. However, specific collateral that can be used again is becoming more common in securities lending.

<sup>9</sup> <http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/short-term-markets/Repo-Markets/repo/>.

would reduce their capacity to lend, ultimately to the real economy, and by raising the marginal cost of funding would increase the cost of lending. The alternative for commercial banks, and the only option for other financial intermediaries, would be to take greater credit risk by reinvesting increased cash balances in unsecured bank deposits or money market securities.

## **6 The role of the repo market**

6.1 The repo market is the principal venue for trading collateral. Repo can generate cash collateral directly, while a back-to-back combination of a repo and a reverse repo allows a switch from one security to another, using cash as a vehicle. Back-to-back repo/reverse repo trades are a desirable way of switching between collateral securities, as repo permits delivery of securities versus simultaneous payment of cash (reducing settlement risk in the absence of delivery-versus-delivery settlement) and, being based on outright sales, is legally straightforward in all jurisdictions (which direct exchanges are not). In addition, the use of back-to-back repo/reverse repo trades allows an exchange of two securities to be split between different counterparties. The repo can be done with a cash investor and the reverse repo with a securities investor. As this brings more potential counterparties into the market, it should make it easier to achieve an exchange.

6.2 The repo rate is sensitive to the balance of supply and demand for particular securities. This promotes the efficient pricing and allocation of collateral and, in the case of securities subject to strong demand and trading special in the repo market, mobilises additional supply by incentivising investors to lend those securities to the market.

## **7 Can a security interest or pledge provide a feasible alternative to repo?**

7.1 The current FTT proposal exempts deposits collateralised by means of a security interest or pledge. The question arises as to whether such secured deposits could substitute for repo as a means of trading collateral.

7.2 A secured deposit is an economic analogue to repo. However, although the EU Financial Collateral Directive envisages secured deposits, in the form of Security Financial Collateral Arrangements, that are as secure as Title Transfer Financial Collateral Arrangements such as repo, these have not appeared. Similarly, even in jurisdictions where security interest or pledging are relatively simple, title transfer through repo and securities lending is still preferred for large scale and cross-border interbank/dealer activities (and are generally limited to transactions with central banks or some infrastructure operations). Secured deposits as a substitute for repo and securities lending are therefore untested in law and in the market. Obstacles include the lack of the sort of legal and operational infrastructure that supports repo (including a standard master agreement).

7.3 But there are more fundamental problems. Secured deposits do not carry with them the right of set off following a default. Under a repo or securities loan, upon a default by one party, the other has a contractual right to determine and set off (net) the market value of his exposure to the defaulter 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. This right of set-off is often described a 'self-help' remedy, as the non-defaulting party does not have to go to court to

enforce this right. In contrast, a security interest or pledge on a secured deposit 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 partial 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 and could be subject to challenges and delays. Such legal risk is a fundamental obstacle to the adoption of secured deposits as a substitute for repo and securities lending. The uncertainty would impose a prohibitive liquidity premium on secured deposits used in this way.

## **8 The need to manage collateral**

8.1 An essential feature of collateralisation is the ‘optimisation’ of collateral allocations. Optimisation is the process of continuously and selectively substituting the securities that have been allocated as collateral, in order to ensure that the allocation is always of the cheapest-to-deliver in the collateral-giver’s changing portfolio. It is usually performed by independent tri-party collateral management systems. A major concern with the current FTT proposal is that the substitution of collateral would be treated as a ‘material modification’ of transactions and taxed, which would make optimisation uneconomic. Without optimisation, collateral allocation would be less efficient in that securities would have to be allocated for the whole period of a transaction, even where they ceased to be the cheapest-to-deliver in the collateral-giver’s portfolio during the term of the transaction.

8.2 Concern has also been expressed that margin calls by collateral-takers may also be deemed to be ‘material modifications’ of SFT or underlying independent risk exposures. Taxing margin calls would cripple the efficacy of collateralisation and unwind much of the current global regulatory framework.

## **9 Conclusions**

9.1 Collateral is an integral component of an efficient and stable financial system. This systemic importance is recognised by regulators, who have been reinforcing and extending the use of collateralisation to hedge credit and liquidity risks, through Basel III and legislation such as EMIR and Dodd-Frank. Collateral is also the medium through which central banks implement routine monetary policy and extend exceptional assistance, as currently, in times of stress and market dysfunction. And collateral is the medium through which capital is safely and efficiently intermediated through the financial market to governments and the real economy.

9.2 Collateral itself needs to be priced, mobilised and moved. It also frequently needs to be exchanged, in order to overcome natural mismatches between supply and demand. This means that there has to be a market in collateral. The repo and securities lending markets performs that function.

9.3 Given the systemic role of collateral, it should be a matter of the greatest concern for regulators, central banks, financial intermediaries, and investors and borrowers (not least governments) that, under the current proposal by the European Commission (EC) for a Financial Transaction Tax (FTT) in 11 of the Member States of the European Union (EU), movements of collateral through the repo market, as well as supplementary movements in support of efficient

collateral management (optimisation and possibly margining), would be taxed at a flat rate that would extinguish the repo and securities lending markets.

9.4 There is no feasible alternative to repo and securities lending. It has been suggested that the same role could be played by secured deposits. However, there are fundamental legal and operational obstacles to the use of secured deposits for the same purpose. There is also a question mark over why we need to divert resources and risk critical disruption to the financial system by trying to 're-invent the wheel'.