Collateral and new offers for an optimised management: an industrial revolution

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The more cautious approach of market participants together with initiatives by regulators regarding the structure of the derivatives market have accentuated the use of collateral to secure market exposures over the past years and will probably continue to do so for many more to come.

This article examines the actual and rapid mobilisation of the eligible collateral, irrespective of where it is held and in what form – either to meet a permanent need or to respond to crisis situations. To address this question, the author considers a market place comprising a central securities depository, such as Euroclear, and the community of domestic and international banks that are also its clients. Indeed, this approach provides for a large, open and neutral market for mobilising collateral and sets out to dismantle the technical and commercial barriers that fragment and raise the costs of its management. This infrastructure is known as a collateral highway, as opposed to the narrower concept of a collateral hub. The aim is to be able to exchange, in different places (not just one recognised place) and among participating depositories, collateral in the form of any asset provided that it is recognised as eligible by private lenders, clearing houses or central banks.

It will take time to create this large market place but significant steps will have been taken before the end of the year. Already, all securities held with Euroclear, or with a national or international depository, can be mobilised and easily substituted.
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1| THE MOVE TOWARDS BORDERLESS COLLATERAL

The current financial crisis has led to radical changes in risk management, be it at the initiative of financial institutions themselves or, through regulatory changes. One feature of this renewed caution is the increased use of collateral to secure market and interbank credit exposures in bilateral trading activity. New regulations requiring the central clearing of over-the-counter (OTC) derivatives will likely accentuate this trend.

An ongoing debate exists as to whether this growing demand for collateral represents a structural problem which could result in a shortage of quality assets. Other parties are perhaps better qualified to assess this risk. The view presented in this article, is that one should not overestimate nor exaggerate its urgency. As private sector restructuring and policy actions take hold, markets can be expected to find innovative ways to balance supply and demand, including through better pricing of collateral.

The key point however is the following: before the theoretical supply of collateral can be exhausted, other practical constraints will restrict the availability of collateral. The impossibility to track, source and mobilise a significant part of the theoretical pool as a result of existing barriers, which prevent efficient collateral management, will likely play a pivotal role.

Pools of securities collateral exist in many repositories, each under their own jurisdiction. This fragmentation prevents the mobilisation of the required assets at the required speed i.e. at the time required by markets.

The larger theoretical pool of collateral may prove to fall short of market needs in the medium term, but the problem faced by financial institutions today is that the freely available pool of collateral is already much smaller. And this, because of its fragmentation. Lifting the barriers which create this fragmentation is both urgent and possible.

1|1 Scarcity – which scarcity?

Collateral is not a scarce resource today in absolute terms. Pools of high-grade securities collateral do exist; for example: the International Monetary Fund (IMF) estimated the total global pool in 2011 at approximately EUR 51 trillion. The conclusion one draws is that there is enough to meet current levels of demand.

As demand for collateral grows, it could become scarce in the sense that pools of collateral are often segregated, held in silos, difficult to track accurately and burdensome to mobilise efficiently when needed.

The capital market’s growing appetite for collateral stems from two main developments:

• increased regulatory focus in the aftermath of the Lehman Brothers collapse in 2008;
• the wholesale changes in the capital market’s risk appetite. Even bilateral trades between counterparties, now more often than not, are being done on a secured basis. Unsecured lending – for the time being – is a thing of the past.

Chart 1
Global outstanding amount of high-grade securities (%; total = EUR 51 trillion; December 2011)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA/AA OECD government securities</td>
<td>50</td>
</tr>
<tr>
<td>Covered bonds</td>
<td></td>
</tr>
<tr>
<td>Corporate debt (investment grade)</td>
<td>12</td>
</tr>
<tr>
<td>ABS, MBS, other securisation</td>
<td>20</td>
</tr>
<tr>
<td>US agency debt</td>
<td>4</td>
</tr>
<tr>
<td>Supranational debt</td>
<td>8</td>
</tr>
<tr>
<td>A/BBB OECD government securities</td>
<td></td>
</tr>
</tbody>
</table>

Source: IMF

To put the shortage into a tangible context, estimates of the increase in collateral required following the implementation of Dodd-Frank Act and the European Market Infrastructure Regulation (EMIR) vary depending on the source. But the figure is likely to be somewhere between USD 200 billion and USD 2 trillion.\(^3\)

Conversely, the recent debt downgrade of a number of sovereign states has added further pressure by restricting the supply of high-grade collateral. This reduction in supply, with the increase in demand as a result of the tough capital and liquidity ratios imposed by the Basel Committee in the banking industry (and Solvency II in the insurance industry), mean that some institutions are finding themselves with a collateral imbalance. In other words, the collateral previously set aside to cover a bank’s regulatory requirements is now no longer sufficient, either in quantity or quality.

Collateral scarcity is compounded by the way in which institutions currently manage their securities inventories. Collateral management operations historically have been organised in silos with separate pools of collateral being managed independently, by business line and often by geographic location. The growing scarcity of quality collateral, coupled with the increasingly global nature of clearing for an expanding range of transactions and the international reach of most banks and financial institutions, mean that there is a powerful need for cross-regional access to collateral.

The hereafter figures from the European Central Bank (ECB) are a good illustration of the problem of collateral fragmentation.\(^4\)

According to the ECB, the Eurosystem currently houses a pool of almost EUR 14 trillion of eligible securities collateral. Only EUR 1.9 trillion of these available securities are currently pledged as collateral.

A closer look at these securities shows that of the EUR 1.9 trillion, EUR 0.7 trillion is made up of non-marketable securities. Since the credit crisis non-marketable securities have been increasingly used as collateral in the Eurosystem despite the relative difficulty associated with their trading. Equally surprising are the figures from the ECB suggesting that over 80% of the pool of marketable securities\(^5\) is theoretically still available\(^7\) for use as collateral to secure exposures.

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\(^3\) Tabb Group – Optimizing Collateral: In Search of a Margin Oasis, June 2012.


\(^5\) Any type of security that is difficult to buy or sell because it does not trade on a normal market or exchange. These types of securities trade OTC or in a private transaction. Finding a party with which to transact business is often difficult, in some cases, these securities can’t be resold due to regulations surrounding the security.

\(^6\) Any equity or debt instrument that is readily salable and can be converted into cash, or exchanged with ease.

\(^7\) European Central Bank – Download lists of eligible marketable assets (January 2013), www.ecb.int/paym/coll/assets/html/list.en.html.
And this brings us to the main driver behind the potential scarcity of high-grade securities collateral, fragmentation.

Of this Eurosystem pool of EUR 14 trillion, a large part is held by “buy and hold” investors. These buy-side firms are typically pension funds and insurance companies that will buy the securities and hold them until maturity. A recent IMF report estimates that almost 50% of all government securities worldwide are held by such investors. Another considerable portion of this pool is held by non-European investors who do not have access to the Eurosystem for liquidity purposes, hence the relatively small percentage of marketable securities freely available to be pledged as collateral.

But, of course, the potential collateral scarcity problem is a global one and not restricted to the Eurosystem alone. Fragmentation in collateral pools exists in all major markets and this is due to two main factors.

The first is based on regulation and eligibility criteria. Central banks are governed by different laws and regulations, resulting in different strategies and policy decisions. The ECB for example will not accept US Treasury bills as collateral and conversely the Federal Reserve will not accept European government debt. Likewise when looking at clearing houses and their activity, one can observe differences in the way central counterparties (CCPs) operate. Some accept mortgage backed securities as collateral, while others do not.

The second factor comes down to technology. At present there is no “all-encompassing” network between financial institutions to interconnect all the collateral givers and all the collateral takers in an efficient way, tailored to meet market needs. Collateral assets are almost always held locally. Mobilising them to meet the increasingly global nature of the markets poses a considerable challenge. At present this process is both time consuming and heavily manual for financial institutions, resulting in high operating costs, making the current process unsustainable in the medium to long term.

1/2 Moving to a secured environment

Looking at the financial institutions that are actively involved in the exchange of collateral, one thing is clear. The last twenty years have seen a dramatic increase in the number of participants on both sides of the collateral equation.

The practice of collateralisation has expanded significantly both in absolute terms, but also in the type of transaction to which it is applied. More importantly the type of financial institutions involved in the exchange of collateral is also evolving rapidly. An increased number of collateral takers and collateral givers have appeared and moved into the world of secured transactions. For the purpose of this article it is interesting to look in more detail at a selection of the protagonists.

Figure 1
Increase in the number of participants

Source: Euroclear.
1|3 Central banks

One of largest consumers of high-grade securities collateral are the central banks. These institutions are inherently risk averse, acting as the stabilising force in a country's economy. When, as in present times, markets are distressed, the central banks are the solution that financial institutions turn to in order to borrow cash. Providing liquidity to keep an economy afloat is one of many weapons that a central bank possesses in its arsenal, but this activity can carry with it considerable risk. This risk of extending credit to the market is mitigated through the use of collateral to back up the exposure.

For central banks, managing the collateral they hold is crucial to their existence. They need a reliable method to ensure that exposures are always fully collateralised, meaning regular mark-to-market valuation of collateral positions, with related margin calls if necessary. They also need a flexible system to ensure that they can change their eligibility criteria as and when the market needs additional liquidity.

1|4 Bilateral interbank trading and the role of central counterparties

The most important event for the purpose of this discussion is the decision by regulators to move the bulk of OTC derivatives transactions to clearing houses acting as a CCP to any two trading parties.

The effects of this proposed regulatory change are far reaching. On the one hand, central clearing should eliminate market friction inherent to the current complex web of bilateral transactions. All market participants would now trade with a CCP, and multiple transactions between two participants would be netted down to a single transaction. The over-collateralisation resulting from previously inefficient management of bilateral exposures is likely to disappear.

On the other hand, the flexibility of bilateral agreements (which is also part of their inherent risk) will also disappear. Temporary deviations – such as temporary under-collateralisation – from the terms of a contract, based on bilateral trust and strength of commercial relationships, will be a thing of the past.

It is too early to tell how these two opposite forces will balance, and whether limited friction will reduce the need for collateral or loss of flexibility will, as it is more plausible, increase it.

The apparently chaotic, somewhat opaque and pragmatic design of the English garden of the OTC derivatives market is going to be replaced by the transparent, disciplined and rigid structure of the French garden of central clearing. In this rules based world, all pre-requisite criteria and deadlines have to be met, without exception. But with the added security and structure comes additional constraints – securing immediate access to all available assets will become more important, and the opportunity cost of the fragmentation of assets may well increase.

1|5 Market requirements

There are a variety of solutions available to the market to mitigate the impact of the potential collateral scarcity problem. Financial firms will need to ensure that any solution they opt for either reduces their demand for high-grade collateral, or alternatively, frees up "hard-to-reach" collateral held across product or geographic silos by "optimising" the existing supply.

In essence, optimising collateral usage hinges on three main criteria:

• ensure all exposures are collateralised to the precise level required; follow the golden rule of "no over-collateralisation";

• ensure that no collateral is ever idle in a firm's securities inventory. All assets should be made to sweat. After all, idle collateral generates no return; and

• ensure that collateral is allocated from the bottom up. In other words, ensure that collateral pledged to cover any exposure is at the lowest end of the range of acceptable collateral as defined by each counterparty. This allows higher grade collateral to be stockpiled for when it is needed most.

Many banks already have their own collateral optimisation tools. However, these tend to work on a very basic level, often covering only local securities inventories. Among the recognised providers of
Collateral optimisation services are the central securities depositories. They have an exceptionally comprehensive view of securities movements, including trades that fail to settle.

To achieve maximum collateral optimisation, the collateral management process needs to work across products, markets and depositories. This is the only way that a financial institution with a global presence can efficiently allocate collateral. And the only way this can truly work is if the market infrastructures, including intermediaries, interoperate to the maximum extent possible. Interoperability is needed between the collateral management service providers, and between the collateral takers, but especially between the central securities depositories, as this is where the bulk of collateral resides.

Which way to go

Few institutions have the required scale and financial capacity to manage large collateral pools. Only the largest global custodians and the international central securities depositories (ICSDs) offer such services. These few entities are capable of successfully meeting the needs of their clients, counterparties and CCPs through which they clear their trades, while complying with numerous central banks and respective regulatory requirements. And all of these institutions have pedigrees in the collateral management field, boasting years of experience and vast pools of collateral managed daily.

As the collateral landscape continues to evolve, it will make sense for many market participants to outsource the management of their collateral. Many have the capacity to invest in limited purpose platforms, to manage collateral locally, for domestic trading and business activities. But very few can afford to build an all-purpose platform, able to flawlessly perform the basic collateral management functions, but also meet collateral transformation needs by seamlessly mobilising securities irrespective of geographic location.

Market concentration is thus to be expected around a small number of very large financial institutions, managing very large pools of collateral, according to very demanding standards.

An efficient, market-wide collateral management infrastructure would need a number of key attributes in order to meet the needs of global financial institutions:

- real-time centralised tracking of positions across geographic locations and business sectors;
- ability to pool existing collateral sources;
- automatic selection of appropriate and/or unused collateral to cover needs in multiple locations;
- automatic movement/realignment of the collateral once selected;
- daily collateral substitutions to ensure that pledged collateral is the lowest grade acceptable at all times (ensuring high-grade securities are available for use elsewhere);
- regular mark-to-market valuations of securities pledged as collateral; and
- automatic exclusion of securities with forthcoming corporate events.

Market concentration may result in reduced collateral fragmentation, but it is unlikely to eliminate it completely. There may well be less pools of collateral, and those that remain will be larger and more diverse in nature, but they will remain segregated, unless a market infrastructure is developed to efficiently inter-connect them.

This is where we believe Euroclear adds value by offering a truly global, open solution.

Euroclear’s proposal – the global “Collateral Highway”

Euroclear has already developed a technological solution to allow all of the group entities to interact with one another and access the collateral management infrastructure that has been a staple part of Euroclear Bank’s services for over two decades. This new developments allows the (I)CSDs to exist as if they were one single legal and operational entity. The internal barriers which in the past led to fragmentation of the securities collateral held...
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across the various entities of Euroclear group have now been dismantled. Euroclear clients can now freely pledge their assets as collateral, irrespective of geographic location of their securities.

This initial achievement has guaranteed that one of the largest (previously segregated) pools of securities collateral (EUR 23 trillion of assets are held across the different entities) can now operate as one single pool.

Having witnessed the internal gains in efficiency within the group, Euroclear has now begun the implementation of a project aimed at defragmenting the pools of high grade collateral available across markets. Once fully completed, the global “Collateral Highway” will allow all participants, be they lenders or takers of collateral, to access a very large pool of assets, worldwide, from many points of entry, without restriction or delay.

It will create the first fully open global market infrastructure to source and mobilise collateral across borders and time zones.

In order to cover the business needs of financial institutions, any infrastructure must include the key attributes mentioned previously. But in order to garner their trust, it must also include the below:

- legally robust and reliable infrastructure;
- technological prowess, so that most barriers that currently fragment the available collateral be removed and processes be automated;
- real-time movement of collateral that meets the demands of both the collateral taker and the collateral giver, the standards of the market and the requirements of the regulators;
- neutrality. An infrastructure that would use the technology and services of one market player could not attract its competitors. Therein lies one of the main advantages of a genuine market place such as Euroclear, which only operates marginally (mostly for intraday and overnight liquidity purposes to smooth the settlement process) as a principal in the collateral lending market;
- operating beyond the boundaries of any single nation or market;
- open-ended. In order to operate as the infrastructure of the present but also the future, the system will need to allow access to new partners and participants alike.

Euroclear group’s client base is comprised of many different types of financial and retail institutions. Euroclear Bank alone has 1,300 financial institutions as clients and entity CSDs have many more. Included in

**Figure 2**

Euroclear’s global “Collateral Highway”

Source: Euroclear.
this figure are 93 central banks, supra national and sovereign agencies, all of which play a crucial role in the provision of liquidity, and therefore the supply and demand of high-grade securities collateral. It is this diversity that allows a common collateral management infrastructure to operate successfully.

The key component of this infrastructure is an open architecture model to interconnect collateral pools and make it possible to manage asset positions wherever they are held and, additionally, a collateral transformation functionality to allow different grades of collateral to be freely exchanged between its participants.

2|2 The open architecture model

Euroclear has developed an Open Inventory Sourcing technology that keeps track of clients’ collateral positions deposited across geographic locations. Euroclear Bank’s conventional tri-party collateral management system previously sourced securities for collateral held only in Euroclear Bank. The first building block of the “Collateral Highway” was the integration of the group CSDs onto this system.

Today, this technology enables Euroclear, together with partnering agent banks and CSDs, to search and manage virtually all client asset positions, even if they are not held within the Euroclear group, and to automatically move the right collateral to the right place at the right time. Securities pledged as collateral can be substituted if and when needed during the lifetime of the transaction, and returned to the original place of deposit when they are no longer needed.

Recent agreements with some of the largest global custodians such as BNP Paribas and Citibank allow assets held within these banks networks to be used in tri-party deals at Euroclear Bank. This building block will expand as other banks join.

This open architecture framework is also available to non-Euroclear group CSDs as well as central banks, central counterparties, large corporations and a wide array of banking participants such as global custodians, sub-custodians, investment banks and commercial banks.

Box

A first step – Collateral management for CSDs: Euroclear France

In 2011 Euroclear began the roll out of fully fledged triparty collateral management services in the three ESES CSDs (Belgium, France and the Netherlands), with the objective of facilitating the mobilisation of assets held in the domestic Securities Settlement System (SSS).

Launched in cooperation with Banque de France, the new service:

• collateralises domestic credit operations conducted by the French national central bank;

• allows the French banking community to automate the processing of interbank repos and other securities financing transactions using securities held in the ESES CSDs as collateral;

• uses existing triparty mechanisms to support LCH.Clearnet SA’s upcoming collateral basket with pledge (CBWP) product.

Settlement will be possible in a domestic (ESES) and international environment (Euroclear Bank), allowing both domestic and international counterparties to access liquidity on an anonymous basis (Internal Interoperability between ESES CSDs and Euroclear Bank).

Another important building block is the agreement with Banque de France and LCH.Clearnet to create a liquidity hub in euro (similar to the one developed by Clearstream Banking Frankfurt with the Bundesbank) that will be connected to this global network.

Given the regulatory drive to extend central clearing for an expanding range of OTC and exchange-traded instruments, Euroclear has also been partnering with key CCPs to become active on the “Collateral Highway”. Market participants are now able to utilise Euroclear’s infrastructure in order to mobilise collateral from their securities inventories in order to cover their initial and variation margin calls. Of the 12 largest CCPs globally, six are now lined up as participants on the “Collateral Highway” and Euroclear is working to attract the others, predominantly US-based clearers.
Collateral transformation by accessing the Euroclear network

Euroclear has identified additional pools of high-quality global securities that can be mobilised for collateralisation purposes, but are currently held in the securities inventories of “buy-and-hold” investors. In some cases, these pools are sitting with central banks that are using Euroclear Bank as their depository for fixed-income securities.

Euroclear also offers users of the “Collateral Highway” a lending and borrowing functionality through which the market can potentially “unlock” this sizeable pool of high-quality securities as collateral. Normally, the program serves as a settlement fail coverage facility designed to ensure that adequate securities are available to trading counterparties to ensure timely and efficient trade settlement. Euroclear is now expanding this program to provide “collateral transformation” service, allowing tri-party participants to borrow high-quality government debt securities from Euroclear’s pool against corporate bonds or other lower grade collateral that meets with Euroclear’s collateral eligibility guidelines for transformations.

Answering the collateral conundrum

The problem of managing multiple securities inventories intended for use as collateral poses a considerable challenge. Collateral is abundant but hard and costly to move. The main challenge is therefore to find a way to source collateral easily and use it efficiently.

Today, collateral is fragmented in many silos. It is difficult to track, access and mobilise. There is no real global infrastructure serving as the backbone. Large agent banks present one possible choice with their links to many markets; they are an important part of the solution: they will help reduce fragmentation but, unless they become interconnected in an open and automated market place, collateral fragmentation cannot be eliminated.

Regulatory pressures are real and Dodd-Frank Act, EMIR and Basel III will have an impact. The international capital markets have begun to feel the effects, with major financial institutions already investing considerable amounts of manpower and money in preparation for what lies ahead. But will all be ready for the future, which points to a more risk-controlled financial environment, secured mostly by high-grade securities collateral?

There are clear signs that the markets are looking for solutions to mitigate or avoid altogether the potential problems of collateral management and collateral scarcity. Proposals appear at regular intervals, with service providers attempting to take advantage of new windows of opportunity to fill a niche, particularly as some firms are keen to outsource this potentially expensive and time-consuming activity to qualified third party providers.

The current picture fails to identify a panacea because no single entity looks like it will be able to meet the market’s collateral management needs alone. With continued turbulent market conditions and the related emphasis on cost containment, there is a subtle yet identifiable move towards collaboration among institutions, witnessed by the evolution of Euroclear’s “Collateral Highway”. Former competitors are already turning to their rivals to work together via partnerships. Sharing expertise and utilising existing technology and networks provide attractive cost mutualisation opportunities. Efficient sourcing and mobilisation of collateral will be based on a collaborative approach in the future where proven expertise and global reach will be the primary factors for success.

An ICSD such as Euroclear Bank could provide the solution through the global “Collateral Highway” – the common infrastructure the market needs. It has the technological know-how. It operates proven links to multiple markets, and it boasts relationships with a large majority of the global custodian community. As an ICSD, it also provides a level of comfort through its international reach, but also through its neutrality.

Will this be enough to satiate market demands? Only time will tell. But the future looks promising. Many market participants have embraced the idea of a common infrastructure based on collaboration. Interconnecting traditionally segregated pools of collateral via an open network is a vital step in addressing the collateral scarcity conundrum.