The Collateral Conundrum: A US$11 Trillion Opportunity?

New Basel III norms and margin requirements, along with growing risk aversion, are driving up demand for high-quality collateral. The market appears ripe for innovative solutions that transform and optimize this new currency in today’s financial market.
Executive Summary
As regulators shape the post-Lehman global financial market, high-quality collateral has emerged as the new reserve currency underpinning global financial markets.

An environment of heightened risk aversion, plus stringent regulations to restore trust and ensure transparency, underline the need for high-quality collateral. Further driving the demand are factors such as centrally cleared, standardized derivative contracts on exchanges, central banks' need to bolster their balance sheets and the new margining standards for non-centrally cleared derivatives.

The cumulative demand for the forces shaping the collateral field is pegged at US$11 trillion at the higher end - even as the supply shrinks and becomes unevenly distributed. This demand-supply imbalance will make high-quality collateral costly, and incentivize custodians and large broker dealers to boost its supply.

In our view, the market is ripe for innovative solutions for collateral transformation and optimization. Firms can look to profit from prudent and optimal use of high-quality collateral for regular trading, and garner additional securities-lending revenue by seeking higher economic rent for these assets in an otherwise low-yield environment.

In this paper, the first in our three-part series on collateral management, we examine the dynamics that increase the need for collateral, and suggest best practices for overseeing it.

The second paper presents a roadmap for optimizing collateral, while the third examines the crucial nature of margin requirements.

The Future of Financial Markets: The Role of High-Quality Collateral
One of the key drivers of the 2007-2009 financial market crisis involved large, insufficiently collateralized counterparty trade exposures. When a few major counterparties failed to settle trades on time, including those involving large exposures not backed by high-quality collateral, the trust deficit amplified - causing a systemic meltdown.

In the post-Lehman world, the industry is seeking to bridge the trust deficit with trades backed by high-quality collateral.

From unconventional monetary policies of central banks to a raft of regulatory interventions such as Basel III, Dodd Frank, European Market Infrastructure Regulation, to the emerging collateral highways championed by custodians, a series of factors will fundamentally alter the demand-supply scenario.

In the emerging rewired financial environment, high-quality collateral will be the new currency for safeguarding against counterparty risk, meeting regulatory guidelines and buffering central bank balance sheets.

Navigating the New Currency
High-quality collateral is a money-like asset that doesn’t depreciate with risk - whether tied to credit, duration or liquidity risk. In short, it is

Collateral Quality Grid

Note: The above grid highlights select collaterals to demonstrate how haircut rates range from 0 to 40%. The exhaustive list includes numerous types of collateral, with tenor, risk, liquidity, etc., determining the haircut rate.

Source: CME
http://www.cmegroup.com/clearing/financial-and-collateral-management/#cash

Figure 1
Cash or any other fungible financial stock that can be exchanged for cash credit immediately, with a minimal haircut.

The Chicago Mercantile Exchange (CME), a leading derivatives trade exchange, has segmented the acceptable quality collateral universe into three broad categories: Cash is the top accepted collateral with minimal haircut, followed by the U.S. Treasury and money market funds. (See Figure 1, previous page).

Last year’s margin survey by the International Swaps and Derivatives Association (ISDA) clearly identifies the use of cash and government securities as predominant collateral, constituting 91.1% of collateral received and 97.1% of collateral delivered. In this equation, cash accounts for 80% of the collateral used – reflecting heightened risk aversion.

While cash and government securities play a key role in collateralizing derivative trades, January 2014 statistics from the U.S. tri-party repo market show a balanced collateral demand composition where Treasury (US$571 billion), Agency securities (US$637 billion) and Equities (US$150 billion) constitute 85% of the market, with cost implications for highly liquid treasuries in a stabilizing market.

Demand Drivers to Soak Up US$11 Trillion

According to the Treasury Borrowing Advisory Committee (TBAC), the estimated cumulative incremental demand for high-quality collateral will range between US$2.6 trillion and US$5.7 trillion under normal market conditions, and between US$4.6 trillion and US$11.2 trillion under a stressed market environment over the next five years. (See Figure 2).

The key demand drivers are:

- **Basel III**: According to Bank for International Settlements (BIS) estimates, the liquidity coverage ratio provision under the new Basel III norms is expected to result in a cumulative collateral demand ranging from US$1 trillion to US$2.5 trillion between 2013 and 2019.

- **Derivative Clearing**: According to ISDA and CME, from 2013 in the U.S. and from 2014 in Europe, the initial margining needs of high-quality collateral for mandatory, exchange-based clearing of standardized derivatives will require between US$0.8 trillion and US$2.0 trillion under normal market conditions, and between US$1.8 trillion and US$4.6 trillion under stressed market conditions. In the new emerging (OTC) derivatives clearing environment, variation margins will need to be posted in different currencies. This adds to the complexity of the demand dimension.

- **Margin Requirements**: ISDA estimates the initial margin and variation margin collateral demand for non-centrally cleared derivatives to be between US$0.8 trillion and US$1.2 trillion in normal market conditions and between US$1.8 trillion and US$4.1 trillion in a stressed market.

Shrinking Collateral Supply

The International Monetary Fund (IMF) estimates that between 2007 and 2011, the high-quality collateral made available to the street (large broker dealers) to meet the market demands by commercial banks, hedge funds, money market funds and securities lending operations fell from US$10 trillion to US$6.2 trillion.

### Regulatory Interventions Driving Demand Estimates

<table>
<thead>
<tr>
<th>Drivers/USD tn</th>
<th>0</th>
<th>0.5</th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
<th>3.5</th>
<th>4</th>
<th>4.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margin Requirements</td>
<td>Normal Market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stressed Market</td>
</tr>
<tr>
<td>Derivative Clearing</td>
<td>Normal Market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stressed Market</td>
</tr>
<tr>
<td>Basel III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: TBAC
Figure 2
According to the Treasury Borrowing Advisory Committee (TBAC), there are other factors at play:

- **AAA/AA assets**: The primary issue of AAA/AA assets is estimated to be US$2 trillion annually, for at least the next five years.

- **No rehypothecation**: While the derivatives-clearing and bilateral margining requirements spike the demand for high-quality collateral, the “no rehypothecation” rule crimps supply. This negative impact on supply is estimated to drain between US$1.2 trillion and US$2.4 trillion under normal conditions, and US$3.2 trillion and US$7.6 trillion under stressed conditions.

### The Demand-Supply Mismatch and Resulting Opportunities

While demand for high-quality collateral can be met comfortably in benign market conditions, the situation becomes a material challenge when the market is under duress. Also, in Europe, empirical evidence shows that these assets are unevenly distributed among core and peripheral countries. This resulting imbalance has already created interesting opportunities for collateral custodians such as Euroclear and Clearstream in Europe, and tri-party repo in the U.S., to build collateral highways that address burgeoning demand and seek rent for their collateral under custody.

### Streamlining Collateral Management Practices

This uneven demand-supply scenario will eventually spike the price of high-quality collateral. Costly and in-demand collateral will incentivize custodians and large broker dealers to boost its supply and optimize its use. This will require them to rewire their current internal operations (workflow, technology and staff) to optimize and then transform collateral management practices while creating the capabilities needed for a robust regulatory reporting mechanism.

In our view, firms must establish a comprehensive collateral management infrastructure to address:

- The demand side of collateral management (portfolio margining).
- The collateral demand-supply gap, which can be bridged by first optimizing the collateral portfolio and then transforming the firm’s collateral management practices. By optimizing, we mean deploying advanced analytical tools and smart collateral allocation practices that help assure that the right collateral backs the right trade, and developing the ability to dynamically alter allocations to keep in step with the changing dynamics over a trade’s life cycle. After optimizing the collateral portfolio, the collateral gap (if there is one) must be resolved by strategies for portfolio transformation in areas such as upgrading trades, securities lending, margin financing and other options designed to fully collateralize trade exposures.
- The need for robust recordkeeping and regulatory reporting tools, which play an important role in risk management.
- The need to implement communications standards for managing complex collateral processing and settlements. A robust reference data system is critical to the margin calculation process and a source for resolving disputes.

### Footnotes


3 “Rehypothecation” is an alternative name for “re-pledging.” In other words, a party that receives a pledge of collateral pledges the same collateral to a third party. In the derivatives market, rehypothecation is sometimes called “re-use.”
References


- CGFS Papers No 49 Asset encumbrance, financial reform and the demand for collateral assets.


Credits

Author
Anand Chandramouli, Director, Cognizant Research Center

Subject Matter Expert
Venkata Sista, Sr. Manager (Consulting) in Cognizant Business Consulting

Design
Harleen Bhatia, Design Team Lead
Chiranjeevi Manthri, Designer

About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world’s leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 75 development and delivery centers worldwide and approximately 178,600 employees as of March 31, 2014, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world.

Visit us online at www.cognizant.com or follow us on Twitter: Cognizant.