The Journal of Financial Perspectives

Article:

Rethinking the treasury operating model

EY Global Financial Services Institute

March 2015 | Volume 3 - Issue 1

Building a better working world

Rethinking the treasury operating model

Roy Choudhury
Principal, EY U.S.

Abstract
Traditionally, the corporate treasury function in a bank (often simply referred to as "treasury") is responsible for managing interest rate risk, maturity mismatch, and capital and funding strategy for the bank. The recent global financial crisis (GFC) highlighted deficiencies in the treasury operating model and functional capabilities to effectively manage capital, funding, liquidity, leverage and investments in a crisis scenario. Further, risk management and internal audit primarily focused on the Pillar 1 risks, and provided limited oversight on treasury risks (market risk in the banking book, counterparty credit risk, and funding and liquidity risk). In the aftermath of the GFC, corporate treasury is faced with a challenging market and regulatory environment characterized by low interest rates and margin compression, increasing divergence between lending and deposit growth rates, decline in availability of intraday credit from custody and clearing banks, increase in cash and high quality liquid asset (HQLA) holdings, increase in collateral requirements for derivatives and securities financing, constraints on short-term wholesale funding (STWF) dependency, and heightened prudential standards. The centralized treasury funding model is being challenged with increasing constraints on the mobility of capital, funding, liquidity and collateral across legal entities and jurisdictions. In response, the size of the corporate treasury function at global banks has increased dramatically, and banks are making significant investments in corporate treasury data and IT infrastructure. To ensure that the target state corporate treasury is effective and efficient, and that the investments are channeled toward a well-defined and coherent strategic vision, global banks will need to rethink the treasury operating model. This article highlights the key challenges facing corporate treasury, and the key considerations in redesigning a "best in class" treasury operating model.

1. Role of corporate treasury

To put it simply, the key objective of the corporate treasury function in a bank is to manage the balance sheet of the bank. This description, however, is not particularly helpful, and one needs to define the meaning of "managing the balance sheet of the bank."

The balance sheet of a bank comprises assets, liabilities and off-balance sheet exposures, segregated between banking and trading book, and supported by scarce financial resources, namely, capital, funding and liquidity. Hence, "managing the balance sheet of the bank," may be defined as management and allocation of financial resources of the bank (capital, funding and liquidity) to meet its strategic objectives within a range of market, and regulatory constraints, in normal and stress scenarios.

Firstly, to manage the balance sheet of the bank, corporate treasury focuses on managing the sensitivity of its balance sheet to market risk, primarily in the form of interest rate and foreign currency risk in the banking book. Market risk is managed by matching the re-pricing profile of assets, liabilities and off-balance sheet exposures, and hedging any residual market risk based on the bank's risk appetite and hedging strategy.

For banks with significant capital markets activities, the segregation between banking and trading book is a regulatory concept, and all market risk exposures are identified, monitored and managed based on the market risk framework. While market risk in the trading book is managed by the trading desk, and market risk management, corporate treasury is the primary owner (first line) of market risk in the banking book.

Secondly, one of the key economic functions of a bank is maturity transformation — a key source of funding liquidity risk. The failure of Lehman Brothers, and the liquidity crunch faced by many institutions during the GFC, reinforced the importance of liquidity management, and the need to reduce dependency on short-term wholesale funding.

Funding and liquidity risk is managed by matching the maturity profile of assets and liabilities (structural), and by holding a pool of cash and marketable securities that can be monetized in a crisis. Corporate treasury is responsible for managing funding liquidity risk, market liquidity risk and contingent liquidity risk arising from all assets, liabilities and off-balance sheet exposures; as well as managing the liquid asset buffer (pool of high quality liquid assets).

In addition, treasury is also responsible for managing the bank's short-term funding and long-term debt issuance across all material currencies, managing the capital policy, plan and issuance, and acting as internal "market makers" for funding across all material currencies and tenors, thereby providing an economically competitive, risk-sensitive and transparent cost of funding.

2. Treasury operating model

Before the GFC, corporate treasury primarily focused on managing interest rate risk in the banking book, investments, capital and funding, working in individual silos, and often not aligned with finance and risk. The crisis highlighted the strong inter-dependencies between solvency and liquidity, and across different risk types, and the need to manage the balance sheet of the bank in an integrated manner. The corporate treasury organization and operating model needs to be redesigned based on the lessons learnt from the crisis, and to respond effectively to the new market and regulatory environment. In rethinking the treasury operating model, the bank should reassess governance, organization structure, roles and responsibilities, inter-dependencies, policies, processes, data and IT capabilities to meet the strategic objectives.

2.1 Governance

The corporate treasury function is typically a cost center, led by the treasurer, who reports to the chief financial officer (CFO). The asset liability management committee (ALCO) is the main executive oversight body, with representation from finance, risk, treasury and lines of business (LoB). The Board Risk Committee provides independent oversight on all material risks, including market risk, funding and liquidity risk, and investment risk. In some banks, the role of ALCO has been expanded and re-branded as the balance sheet management committee (BSCO), which is the key senior executive committee to make strategic and tactical decisions related to capital, leverage, funding, liquidity, hedging and investments.

2.2 Independent oversight

Prior to the GFC, risk and internal audit predominantly focused on the Basel Pillar 1 risks, and had limited oversight on corporate treasury. Risk management and internal audit had limited resources, as well as lacking in the appropriate technical skills and knowledge, to provide an effective oversight on risks within corporate treasury. Market risk in the banking book, funding and liquidity risk, investment risk and intraday liquidity risk are material risks

for most banks, and institutions will need to enhance the risk management framework and internal audit capabilities to provide an effective oversight and control environment.[1]

The regulatory reform proposals call for significant enhancements to the risk management framework, including heightened expectations of the risk management committee and the role of the chief risk officer (CRO) in enterprise-wide risk management oversight, policies and framework. In addition, there is an increasing focus on managing model risk within corporate treasury, and ensuring that all key models are catalogued and subjected to model development and validation standards.

More specifically for liquidity risk, the risk management function is expected to review the adequacy and effectiveness of the liquidity risk management process; review and approve the risk appetite statement; provide independent validation of stress testing — scenario, assumptions, methodology and results; and approve the contingency funding plan. Further, any assumptions within treasury that maybe classified as a model should be subject to model development standards, and independent validation in line with the model governance framework. For funding and liquidity risk, banks have struggled to clearly define what assumptions are classified as a model. For example, operational deposit methodology for wholesale deposit is classified as a model for calculating the LCR (Liquidity Coverage Ratio), whereas LCR calculation as a whole is often not classified as a model.

2.3 Global banking, key considerations

For global banks, the operating model should consider the right balance between centralization versus decentralization, and the role of regional, country or legal entity treasury versus corporate treasury. The operating model should define the roles and responsibilities between corporate treasury, LoB and legal entities (LE). Typically, banks are structured by LoB as the primary management layer, and region or country as the secondary layer. However, with increasing regulatory constraints based on legal entity and jurisdiction, corporate treasury will need to rethink its LoB-centric view.

[1] IIF (2007): "Principles of liquidity risk management" recommendation number 7: firms should ensure that funding and liquidity risk management practices are incorporated in a firm-wide, integrated risk-management framework that also includes market, credit, operational and other appropriate risks, International Institute of Finance (IIF), March.

2.4 Impact of structural reform

The structural reform agenda, which includes increasing separation of retail and commercial banking from investment banking and subsidiarization of banking (operating as a subsidiary rather than a branch), will have a significant impact on the treasury operating model. The structural reform agenda will result in a fragmented global banking landscape, resulting in an adverse capital, funding and liquidity impact, wherein a global bank will be required to hold "locked" resources at a legal entity and jurisdiction level, rather than at a consolidated group level. The bank will also face heightened regulatory expectations on risk management and governance at a LE level, and more "heavy-handed" regulatory supervision in the host country.

2.5 Role of legal entity/country treasury

To deal with this new regulatory environment, banks will be required to build their treasury capabilities at an LE level for each significant jurisdiction, led by the LE or country treasurer. The LE treasurer will be accountable to the LE board and LE management team, and should be able to operate independently of the corporate treasury function, especially in a stress scenario. For example, the host country regulator would expect that the LE treasurer has control over the high quality liquid assets (HQLAs) maintained at a LE level, and will prioritize the interests of the LE (versus parent company) in a stress scenario. Further, the host country regulator will expect the LE treasurer to assess the LE capital adequacy requirements before repatriation of profits to the parent company in a foreign jurisdiction. In addition to meeting host country regulatory requirements, the LE treasurer will be accountable for the implementation of corporate treasury and risk management framework and policies within the LE.

2.6 Role of LoB treasury

The LoB treasury should have dual reporting to corporate treasury and LoB management, and be responsible for identification and measurement of market risk in the banking book, and liquidity risk within the LoB, as well as coordinating with corporate treasury on management and mitigation of the risk.

In addition, LoB treasury should have a strong understanding of the contractual and behavioral features of customers, products and financial instruments, and will be well-suited to "own" the key risk metrics — for example, prepayment curve on loans or rollover risk on term deposits. It is important to establish clarity on risk ownership for market risk in the banking book and liquidity risk between corporate treasury and LoBs, and align the funds transfer pricing (FTP) framework with risk ownership.

2.7 Think globally: one treasury

In spite of the increasing balkanization of global banking, global coordination of treasury activities will be critical for ensuring consistent standards and practices across global operations, and efficient use of financial resources (capital and liquidity). For example, funding and interest rate risk hedging for all major currencies should be centrally coordinated by corporate treasury to leverage internal netting, and eliminate internal arbitrage opportunities. Similarly, a global FTP framework is critical for consistent customer experience and pricing for a global conglomerate that has many touch points and interactions with the bank.

3. Functional pillars

Asset-liability management (ALM), FTP, funding and liquidity management, capital management and investment management are the key pillars of a corporate treasury function in a bank. In addition, with the increasing demand on collateral, corporate treasury will have a pivotal role in optimizing collateral across the bank.

Before the GFC, most banks managed the functional pillars on a "silo" basis and failed to capture the inter-dependencies — for example, impact of credit risk on prepayment risk. The CCAR/ICAAP[2] and enterprise stress testing requirements are starting to capture some of cross-functional dependencies across treasury, finance and risk. Nevertheless, banks have a long journey ahead, and the "silo" treasury, risk and finance data and IT architecture continue to be a key impediment to integrated balance sheet management.

[2] Comprehensive capital analysis and review (CCAR)/internal capital adequacy assessment process (ICAAP).

3.1 ALM and FTP

While ALM is relatively matured in banking, FTP is still an evolving discipline, especially for banks with significant trading book operations. One of the key challenges facing ALM is the potential impact of increase in interest rates, now projected to be at some point in 2015. In the last few years, banks have positioned their balance sheets to benefit from an increase in rates, mainly by repositioning their investment portfolios. In terms of emerging issues, the potential development of Pillar 1 capital charges for interest rate and credit spread risk in the banking book is likely to be one of the most significant changes in ALM.

As banks seek to improve their liquidity risk management data and IT capabilities, the ALM solution has been the primary source for contractual and behavioral cash flows for the banking book. Further, the ALM solution is a core component of the CCAR submission, and is the likely source for pre-provision net revenue (PPNR) projections in normal and stress scenarios.

FTP is the process of allocating cost of funding and liquidity, and transferring interest rate risk from the lines of business to corporate treasury at an appropriate level of granularity. Significant improvements are required in the FTP framework, especially for institutions with a significant trading book. The FTP framework should include a granular allocation of the contingent liquidity cost (CLC) based on the results of liquidity stress testing. Liquidity coverage ratio and net stable funding ratio (NSFR) will result in additional constraints on securities financing and prime brokerage business — the FTP framework will need to capture the cost of contingent collateral requirements. Further, the FTP framework should be capable of granular allocation across a range of dimensions, including transactions, positions, products, LoBs, customers and LEs.

3.2 Capital management

The regulatory reform agenda has been successful in strengthening the capital position at global systemically important banks (G-SIBs) by narrowing the list of instruments permissible within the definition of capital, increasing the capital requirements to an effective minimum of 7% and tightening the rules for calculation of RWAs, especially for trading book and counterparty credit risk, and introduction of the leverage ratio as a backstop to risk-weighted capital requirements.

The leverage ratio, due to be effective in 2018, is expected to be a binding constraint on banks with significant securities financing, derivatives and other off-balance sheet activities.

With the increase in regulatory capital (RC) requirements, the importance of economic capital (EC) as a tool for the measurement of overall level of risk or capital has declined.

Regulators have a strong influence on the dividend payout and share buy-back proposals based on the results of annual stress testing (CCAR/ICAAP), and have not been shy of exercising their influence. Although RC is now the key binding constraint for most banks, EC is still used as an internal measurement of risk for capital allocation and risk-based performance management.

Corporate treasury will lead capital planning and allocation, leverage ratio calculation and bank levy surcharges in coordination with lines of business, risk management, finance and tax.

3.3 Funding and liquidity management

G-SIBs have made significant progress in managing the funding and liquidity risk, as evidenced by a significant increase in the holding of HQLAs — estimated to be in excess of U.S.$12.2 trillion across all banks, of which more than 88% is in level 1 assets.[3] Further, banks have significantly reduced their dependency on short-term wholesale funding, by changing the funding mix toward stable deposits, increasing the tenor profile and reducing dependency on funding based on illiquid collateral.

The LCR and the NSFR have been the key regulatory drivers in reducing vulnerabilities to funding and liquidity risk. In addition, banks have also experienced significant changes in the funding markets, such as decline in the size of the tri-party repo markets, lack of intraday credit from tri-party clearing banks (tri-party repo reform) and decline in availability of funding for illiquid securities.

[3] Basel III Monitoring Report, March 2014 (page 35).

Corporate treasury has started to make significant investments in talent, policies, process and infrastructure to deal with the changing regulatory and market environment.

To ensure independence, banks are in the process of segregating the short-term and long-term funding desk (execution) from the liquidity risk management function. The liquidity risk management will be responsible for the definition of liquidity risk appetite, strategic funding plan, stress testing and contingency funding plan, whereas the funding desk will be responsible for executing the funding strategy of the bank based on funding plan and market conditions.

3.4 Collateral management

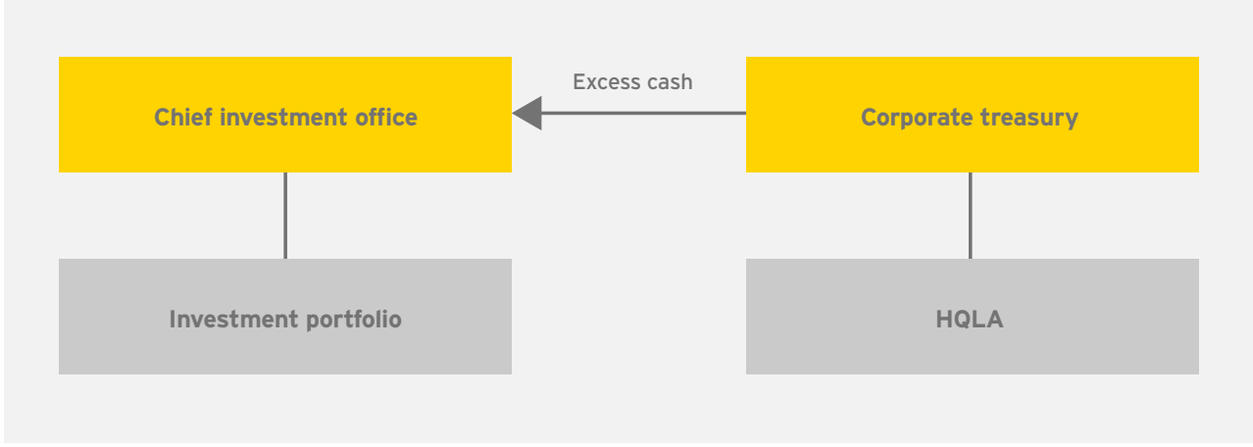
Today, banks are under unprecedented pressure to manage and optimize collateral across their derivatives, secured financing, prime services and corporate treasury activities. The amount of collateral held and posted by financial institutions (FIs) is expected to increase sharply, driven by regulatory and market forces. In addition to the increase in collateral requirements, institutions are faced with increasing operational, legal and regulatory challenges in the movement of collateral across LEs, jurisdictions and LoB. Historically, collateral management has operated in "silos" across business lines, legal entities and jurisdictions, with limited single-ownership for collateral across the firm. FIs are in the process of redesigning the operating model for collateral management to deal with the changing regulatory and market environment, and shifting focus to think of collateral management as a strategic initiative rather than a series of operational issues. Some firms are in the process of setting up a "global collateral management function" to coordinate management, trading and optimization of collateral across the firm. Others are establishing "collateral pricing desks" to facilitate coordinated pricing of collateral into transaction and business activity. Institutions agree on the need for a more holistic and consistent view of collateral across the entire trade life cycle, risk management and operations. In addition, there has been ongoing industry dialogue with the custody and clearing banks on the need to provide an automated, real-time view of the cash and collateral position.

The funding desk within corporate treasury, in coordination with operations, will have a pivotal role in optimizing collateral across the bank.

3.5 Investment management

Most universal global banks take in more deposits than they make loans, and more recently the gap between deposit and loan growth rates have widened, resulting in significant surplus cash available for investments. Cash assets, including cash as well as balances due from central banks and other depository institutions, increased by 55.2% to U.S. $2.5 trillion in 2013 across commercial banks in U.S., and the trend is expected to continue in 2015.[4]

Figure 1



The chief investment office (CIO) is responsible for investing the short-term excess cash and providing a reasonable risk-adjusted return to the bank within the constraints of the "investment policy." Typically, investments are in high-quality fixed income securities and derivatives to hedge balance sheet risk. In addition, corporate treasury is responsible for managing the pool of HQLAs to mitigate liquidity risk. Coordination between the CIO and corporate treasury function is important to avoid any potential conflict of interest between liquidity risk management and profit motives.

[4] Federal Reserve Board (FRB) – H.8. Assets and liabilities of commercial banks in the U.S.

In rethinking the mandate for corporate treasury, the bank should consider the potential conflict of interest between the liquidity risk management and investment management function within corporate treasury.

Leading to the GFC, we have observed cases where liquidity risk management was subjugated by the profit motive within corporate treasury, resulting in investments in high-yielding illiquid securities that could not be monetized in a crisis. This potential risk has been partially addressed by the strict eligibility criteria for HQLAs and regulatory calibration of the size of HQLAs (LCR). However, as the average return of equity (RoE) trends lower, the bank may be tempted to leverage the investment portfolio in corporate treasury as a source of incremental income.

Investment management is faced with a challenging regulatory and market environment, and will need close coordination with ALM, liquidity and capital to manage the overall balance sheet of the bank. Historically low interest rates and quantitative easing has led to low-yield on HQLAs, and increasing negative carry.[5] The LCR rules have imposed additional constraints on the size and composition of the investment portfolio, for example, by limiting holdings of U.S. agency securities that have higher yields than U.S. treasury securities (agency securities are only eligible as a Level 2A security and subject to a 40% cap in LCR). Further, the U.S. Basel III rules have changed the treatment of unrealized gains and losses for the available for sale (AFS) portfolio, resulting in additional capital and liquidity considerations in investment decisions.

[5] Negative carry is defined as the difference between the cost of funding and the yield earned on a security. In some cases, negative carry may also be defined in terms of opportunity cost, i.e., average return on asset less yield earned on the investment (cost of funding).

4. Center of excellence (COE)

In the last few years, the size of the corporate treasury function has increased dramatically, driven by an increasing focus on capital, funding, liquidity and leverage, by both internal and external stakeholders. Further, before the GFC, investments in treasury resources, data and technology capabilities had lagged behind the balance sheet growth and complexity, and geographical expansion.

The size of the corporate treasury function at a large global bank has increased to 250–500 full-time employees, depending on the size of the balance sheet and business profile, and centralized-versus-federated organizational structure. Global banks with extensive international operations have significantly more treasury resources spread across a number of locations to access local currency funding and hedging, thereby making cost and resource rationalization more challenging.

The regulatory reform agenda has been a key driver in increasing the size of the treasury organization, including daily liquidity reporting and stress testing requirements; capital stress testing, planning and allocation; recovery and resolution planning; increasing focus on risk data aggregation and reporting capabilities; and increasing home and host regulatory interaction. Further, heightened board oversight and management reporting requirements have also contributed to an increase in the size of corporate treasury.

With the stabilization of the prudential regulatory environment and increasing maturity of some key treasury processes, global banks are now exploring opportunities to rationalize costs and resources in corporate treasury.

One of the key opportunities to realize cost and resource efficiencies is the migration of mature treasury processes to global or regional COEs, typically in a low-cost center. Differences in operating costs (e.g., human resource, real estate and infrastructure) between key treasury centers (New York, London, Hong Kong, Singapore and Tokyo) and low-cost centers (India, Scotland, Poland and Philippines) are estimated to be in the region of 30%. Further, right-shoring requires standardization, documentation and automation of processes leading to efficiencies, and a more robust internal control environment.

The treasury right-shoring strategy should be aligned to finance, risk and technology right-shoring strategies, including co-location of key treasury processes with finance, risk and technology. For example, the daily FTP allocation and reporting process should be co-located with the finance management reporting process, and liquidity reporting co-located with regulatory reporting.

The key processes that may be suitable for right-shoring typically include, FTP allocation and reporting, liquidity reporting and risk-weighted asset reporting. In addition, treasury data and IT processes should be aligned with the broader data and IT right-shoring strategy (e.g., extract, transform and load (ETL) and data quality (DQ) for corporate treasury).

In developing a treasury COE, the banks should take into account risks, and critical success factors, including, availability of skilled resources in the target location and turnover; training of resources, extended parallel run, communication strategy, as well as well-defined service line agreements to manage operational risk and internal control failures.

5. Data and technology

For many years, investments in corporate treasury data and technology (IT) capabilities have lagged behind balance sheet growth and expansion of business operations. The GFC highlighted a number of deficiencies in treasury IT capabilities, including lack of appropriate granularity and frequency of data and reporting, inability to aggregate data by key dimensions (legal entity), inability to report available cash and collateral position in a timely manner, and misalignment of data and reporting across treasury, risk and finance. Banks lack a strategic solution for funding and liquidity risk, intraday cash and collateral management, enterprise stress testing and capital management.

5.1 Risk data aggregation and reporting

The Basel Committee issued the Principles for Effective Risk Data Aggregation and Risk Reporting (RDAR), which require significant enhancements to governance, infrastructure, data aggregation capabilities and reporting capabilities for all material risks. The treasury data and IT strategy should ensure alignment with RDAR principles; for example, the treasury data dictionary should be aligned with the enterprise data dictionary.

In the last five years, primarily driven by heightened expectations from the regulators, banks have undertaken significant investments, and re-engineering of treasury IT capabilities, in some cases committing more than U.S.$100 million. Banks have mobilized a dedicated treasury IT function, with a dual reporting line to the corporate treasurer and the chief information officer, to design, build, test and operate the treasury technology infrastructure. The treasury IT function is responsible for ensuring that corporate treasury adheres to enterprise data and technology standards.

Funding and liquidity risk management has been one of the most significant areas of IT investment in recent years. The objective of the liquidity solution is to build a single repository of contractual and behavioral cash flows, and collateral across all on and off-balance sheet exposures, legal entities, LoBs, currencies and maturities – refreshed on a daily basis. In addition, the solution will provide analytical and reporting capabilities, such as risk appetite and limit monitoring, stress testing and scenario analysis, management and regulatory reporting. The underlying data should be reconciled to the general ledger on a daily basis with well-defined materiality and exception thresholds, and adjustment process.

Although significant progress has been made in improving treasury IT capabilities across the industry (mostly across the GSIBs), much more needs to be done to address the deficiencies from the crisis. Banks have been forced to deliver solutions, often tactical and manual, to meet aggressive regulatory timelines, such as daily liquidity reporting in the U.K. and U.S. As a result, banks today lack a strategic vision and architectural blueprint for treasury IT that will support the business in the long run.

The definition of this strategic treasury IT architecture should start with the clear definition of business objectives and target operating model, key functional and analytical capabilities, reporting requirements, and data requirements, including, granularity, frequency and timeliness. In addition, the bank should ensure alignment of the treasury IT architecture to the broader risk and finance architecture, and enterprise data management and quality framework.

6. Conclusion

The corporate treasury function in a bank is at the epicenter of a challenging market and regulatory environment. The traditional treasury operational model will need to evolve, and corporate treasury will need to play a more strategic role in managing the forward-looking balance sheet of the bank, and optimize the use of scarce financial resources across lines of business, legal entities, products and customers. Although the key building blocks of the market and regulatory framework are now well-defined, a number of uncertainties and emerging risks still remain. Further, the lack of harmonization in structural reform agenda across U.S., U.K. and Europe, may lead to additional challenges for corporate treasury, and inefficiencies for banks.

6.1 Key emerging issues

Intraday liquidity risk management framework is weak across the industry, and although the Basel Committee has published a consultative paper on this topic,[6] regulatory expectations on this topic are not well-defined and leading practices are still evolving. Intraday liquidity risk is a key risk for G-SIBs, more so for the financial market infrastructure organizations (FMIs) such as central clearing counterparties. Traditionally, intraday liquidity risk has been managed by operations, and the role of corporate treasury and risk management is not well defined.

Significant progress has been made in reducing the funding liquidity risk and fire-sale risk in the STWF markets, including tri-party repo infrastructure reform, regulatory constraints on securities financing activities (e.g., LCR, NSFR and leverage ratio), improvement in the collateral quality and increase in funding tenor, especially for illiquid collateral. Nevertheless, fire-sale risk in the STWF markets is an ongoing regulatory concern, especially with the increasing prominence of shadow banking. In recent discussions, regulators have explored the option of additional capital surcharges based on a bank's reliance on STWF.[7]

[6] Basel Committee on Banking Supervision, 2013, "Monitoring tools for intraday liquidity management," April.
[7] Tarullo, D. K., 2013, "Shadow banking and systemic risk regulation," Governor Daniel K. Tarullo, November 22, http://www.federalreserve.gov/newsevents/speech/tarullo20131122a.htm.

6.2 Treasury, going forward

Finally, going forward, corporate treasury will be required to play a strategic role, with a seat at the table on strategic issues, such as strategic business planning, customer strategy, pricing, new product approval, acquisitions and performance management. Treasury will be expected to take a leading role in managing the balance sheet of the bank, dynamically, in an integrated manner, in coordination with LoBs, LEs, corporate finance and risk management. Hence, a well-defined treasury operating model will be crucial to the strategy of a bank in this new environment.

Editorial

The EY Global Financial Services Institute brings together world-renowned thought leaders and practitioners from top-tier academic institutions, global financial services firms, public policy organizations and regulators to develop solutions to the most pertinent issues facing the financial services industry.

The Journal of Financial Perspectives aims to become the medium of choice for senior financial services executives from banking and capital markets, wealth and asset management and insurance, as well as academics and policymakers who wish to keep abreast of the latest ideas from some of the world's foremost thought leaders in financial services. To achieve this objective, a board comprising leading academic scholars and respected financial executives has been established to solicit articles that not only make genuine contributions to the most important topics, but are also practical in their focus. *The Journal* will be published three times a year.

gfsi.ey.com

About EY
EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

EYG No. CQ0146

ey.com

Accredited by the American Economic Association
ISSN 2049-8640