

# BANKING PERSPECTIVE

The Quarterly Journal of *The Clearing House*

## **THE SOCIETAL BENEFITS OF LARGE BANKS**

by Brittany Baumann, Ph.D Bob Chakravorti, Ph.D  
and Alessandra Shaaya  
*The Clearing House*

## **THE LEVERAGE RATIO AS A MICROPRUDENTIAL TOOL**

by Michel Araten, Ph.D  
*Credit Risk Capital Advisory*

## **SECURITIES FINANCING: A CRITICAL BUSINESS HEADING TO THE SHADOWS?**

by Karen Shaw Petrou  
*Federal Financial Analytics, Inc.*

## **BANK STRUCTURE REFORM: DIVERGENT NATIONAL APPROACHES WITH GLOBAL IMPLICATIONS**

by Gregg Rozansky and Jennifer Scott  
*The Clearing House*

## **PAYMENTS IN THE 21<sup>ST</sup> CENTURY**

by Jim Aramanda and Steve Ledford  
*The Clearing House*

## **REASONABLE AND PROPORTIONAL: THE FORGOTTEN CONCEPT IN THE DURBIN AMENDMENT**

by Seth Waxman and Noah Levine  
*WilmerHale*

# STATE OF BANKING

**AN INTERVIEW WITH RICHARD DAVIS**  
Chairman, President, and CEO of U.S. Bancorp



The  
Clearing House®

At the Center of Banking Since 1853®



# Celebrating 160 years of leadership, collaboration and innovation.

For 160 years The Clearing House and its owner banks have together addressed the most critical issues facing the banking industry and created innovative solutions to common problems. And our accomplishments are many—from helping shape banking policy and regulation to the creation and operation of safe and sound payment systems.

The legacy of working together is a framework that will provide the banking industry with great new possibilities and success in the future.



*Banco Santander  
Bank of America  
BB&T  
BNY Mellon  
Capital One  
Citi  
Comerica  
Deutsche Bank  
HSBC  
JPMorgan Chase  
KeyBank  
PNC  
RBS  
TD Bank  
UBS  
Union Bank  
U.S. Bank  
Wells Fargo  
City National  
Fifth Third  
First-Citizens  
M&T*







# Time drives change. People drive success.

U.S. Bank was established on July 13, 1863. Since that time we've been establishing ourselves in cities and communities all over America. Focused on serving you... with good, honest, old-fashioned trust backed by the innovation and progress that moves us ahead, together. Old and new combine. Values rooted in history. Advancements untethered by possibility. We were established to lend. To volunteer. To lead. To serve. All 63,000 U.S. Bankers are committed to establishing relationships with people, not numbers or SIC codes. Relationships that will help establish the course of the next great chapter in our continuing story.

All of **us** serving you®

EST. 1863 | **us bank**®

# BANKING PERSPECTIVE

4th Quarter 2013 | Volume 1, Issue 1

The Quarterly Journal of *The Clearing House*

## FEATURED ARTICLES

### 10 **THE SOCIETAL BENEFITS OF LARGE BANKS**

When considering structural reforms, the benefits to consumers, businesses, and the overall economy from the scale and scope of large banks should not be ignored.

by **Brittany Baumann, Ph.D., Bob Chakravoti, Ph.D., and Alessandra Shaaya**  
*The Clearing House*

### 22 **THE LEVERAGE RATIO AS A MICROPRUDENTIAL TOOL**

To consider how leverage ratio requirements can contribute positively to prudential and economic goals, the evolution of risk measures, the tradeoffs between risk-differentiated measures and non-risk-differentiated measures, and the consequences of an imperfect balance are examined.

by **Michel Araten, Ph.D.**  
*Credit Risk Capital Advisory*

### 36 **SECURITIES FINANCING: A CRITICAL BUSINESS HEADING TO THE SHADOWS?**

The array of pending rules meant to address risks associated with securities financing transactions could have the unintended effect of exacerbating shortfalls in high-quality assets held by regulated institutions, creating renewed systemic risk in unregulated corners of the market.

by **Karen Shaw Petrou**  
*Federal Financial Analytics, Inc.*

### 44 **BANK STRUCTURE REFORM: DIVERGENT NATIONAL APPROACHES WITH GLOBAL IMPLICATIONS**

A deepened understanding of the potential risks posed by the diversity of bank structural reforms being considered around the world is critical, as they could have far-reaching consequences for global financial institutions and markets.

by **Gregg Rozansky and Jennifer Scott**  
*The Clearing House*

### 32 **STATE OF BANKING: AN INTERVIEW WITH RICHARD DAVIS**

Richard Davis is the Chairman, President and Chief Executive Officer of Minneapolis-based U.S. Bancorp. In this interview with TCH Association President and General Counsel Paul Saltzman, Richard provides his views on the state of the banking industry, the impact of regulation, areas where the banking industry needs to do better, and the future of the industry.





54

**PAYMENTS IN THE 21<sup>ST</sup> CENTURY**

Without active industry leadership in building payment systems that will support safe and sustainable innovation, nonbanks will increasingly operate the most profitable services while banks shoulder the cost of aging core systems.

by **Jim Aramanda** and **Steve Ledford**  
*The Clearing House*

62

**REASONABLE AND PROPORTIONAL:  
THE FORGOTTEN CONCEPT IN THE  
DURBIN AMENDMENT**

The D.C. district court's recent ruling on interchange fees diverges from a long-standing precedent allowing providers of goods or services to recover their costs plus a reasonable return, with important effects on merchants, banks, and consumers.

by **Seth Waxman** and **Noah Levine**  
*WilmerHale*

**DEPARTMENTS**

6

**WELCOME**

Jim Aramanda, Chief Executive Officer of The Clearing House, welcomes you to the inaugural issue of *Banking Perspective*.

8

**FOR THE RECORD**

In this issue, TCH Association President and General Counsel Paul Saltzman offers his take on macroprudential regulation and the new bank regulatory landscape.

70

**RESEARCH RUNDOWN**

Highlights from academic and policy research on issues in the banking and payments industry.

78

**BY THE NUMBERS**

A quantitative look at U.S. bank liquidity.

80

**STATE OF THE INDUSTRY**

Key performance metrics for TCH Owner Banks.

82

**FEATURED MOMENTS**

Visual highlights from recent TCH events.

86

**IN THE VAULT**

Early images from TCH's 160-year past.



The  
Clearing House<sup>SM</sup>

*At the Center of Banking Since 1853*

*Banking Perspective* is the quarterly journal of The Clearing House. Its aim is to inform financial industry leaders and the policymaking community on developments in bank policy and payments. The journal is a forum for thought-leadership from banking industry executives, regulators, academics, policy experts, industry observers, and others.

Established in 1853, The Clearing House is the oldest banking association and payments company in the United States. It is owned by the world's largest commercial banks, which collectively employ over 2 million people and hold more than half of all U.S. deposits. The Clearing House Association is a nonpartisan advocacy organization representing—through regulatory comment letters, amicus briefs and white papers—the interests of its owner banks on a variety of important banking issues. The Clearing House Payments Company provides payment, clearing, and settlement services to its member banks and other financial institutions, clearing almost \$2 trillion daily and representing nearly half of the automated-clearing-house, funds-transfer, and check-image payments made in the U.S.

Copyright 2013 The Clearing House Association L.L.C. All rights reserved. All content is owned by The Clearing House Association L.L.C. or its licensors. The views expressed herein are not necessarily those of The Clearing House Association L.L.C., its affiliates, customers or owners. Any use or reproduction of any of the contents hereof without the express written permission of The Clearing House Association L.L.C. is strictly prohibited.

**The Clearing House**

450 West 33rd Street  
New York, NY 10001  
212.613.0100

1001 Pennsylvania Avenue, NW  
Washington, DC 20004  
202.649.4600

# Welcome



**JIM ARAMANDA**

President and Chief Executive Officer  
of The Clearing House Association  
and Payments Company

Five years after the collapse of Lehman Brothers, the banking industry has reached a pivotal point as it faces unprecedented levels of new and proposed regulations. Some of you may be surprised to learn this environment is nothing new to The Clearing House in our historical role throughout cyclical crises. Established in 1853 as the nation's first central exchange to clear and settle payments, we also served as a quasi-central bank decades before the Federal Reserve was formed: setting monetary policy, issuing a form of currency, and even storing vaults of gold to back settlement.

Along the way, The Clearing House has stayed true to its core mission—160 years later, we're still working with banks to advance safe payment systems and leading the debate on critical issues affecting the industry.

As an extension of our central role in policy advocacy and payments, I introduce *Banking Perspective*, the quarterly journal of The Clearing House. *Banking Perspective* will serve as a forum for thought-leadership on bank policy and payments, and aims to foster debate among industry leaders, policymakers, regulators, and academics with its research-driven articles, interdisciplinary analyses, and fresh perspectives.

Given the current regulatory environment, there is a breadth of topics to explore. In Europe, the United Kingdom, and the United States, regulators and critics of banks are challenging the existing economic model on issues ranging from highly technical arguments on capital and liquidity to broader, more populist efforts to break up the banks. On the payments side, regulators are increasingly using payments systems to achieve policy or law-enforcement objectives without understanding the effects on costs and efficiency. Banks also now find increased competition as

nonbank entities, without the same levels of regulatory oversight, seek to take on roles that have traditionally been provided by banks. Finally, new digital advances will surely reshape payments as profoundly as paper checks and electronic transfers have.

In this issue, the contributors cover a broad number of topics, including an examination of the intrinsic value of large banks; the cumulative impact of reforms to the securities financing transaction market; the future implications of efficient and safe payments systems; and the potential consequences of global bank structure reform efforts.

Similar to the industry it covers, *Banking Perspective* will continue to evolve over time in order to remain constantly relevant, insightful, and thought-provoking. Paul Saltzman and I hope that you enjoy this inaugural issue! ■

Jim



*“We’re ready to expand our business and we need a partner with the capabilities to help us get there.”*



WHOLESALE  
BANKING

Asset Management  
Capital Finance  
Commercial & Corporate  
Commercial Real Estate  
Government & Institutional  
Insurance\*<sup>†</sup>  
International  
Investment Banking  
& Capital Markets\*<sup>‡</sup>  
Treasury Management

When you need someone to strategize with, we’ll be ready to talk. Our relationship managers take the time to learn your business and gain a deeper understanding of your expansion goals. We’ve successfully partnered with mid-sized to large corporations to help them meet their global business needs. With our full suite of products backed by our time-tested strength and stability, we’ve never been more ready to support your business today and for years to come. To learn more about how our capabilities can work for you, visit [national.wellsfargobank.com/TCH](http://national.wellsfargobank.com/TCH).

Together we’ll go far



\* Investment and insurance products: NOT FDIC-Insured • NO Bank Guarantee • MAY Lose Value

<sup>†</sup> Insurance products and services are offered through non-bank affiliates of Wells Fargo & Company including Wells Fargo Insurance Inc., Wells Fargo Insurance Services USA, Inc., and Wells Fargo Insurance Services of West Virginia, Inc.

<sup>‡</sup> Wells Fargo Securities is the trade name for the capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including Wells Fargo Securities, LLC, a member of FINRA, NYSE, NFA and SIPC, Wells Fargo Institutional Securities, LLC, a member of FINRA, NFA and SIPC and Wells Fargo Bank, N.A.

# For the Record

Welcome to the inaugural issue of the *The Clearing House's* quarterly publication, *Banking Perspective*. Each quarter, a different thought leader from our industry will share his or her perspective on vital issues impacting the U.S. banking system. In this issue, TCH Association President and General Counsel Paul Saltzman shares his viewpoint on a macroprudential regulatory framework.



**PAUL SALTZMAN**

*President of The Clearing House Association, EVP and General Counsel of The Clearing House Payments Company*

There are endless topics one could write about given the degree of change now occurring in the banking industry. What perspective could I offer that hasn't already been written about? What new and insightful revelation could I suggest that would change minds, influence policymakers, and bring about positive change in our bank regulatory system?

I could go positive. Yes, take the high road. I could use the launch of *Banking Perspective* as an opportunity to champion the significant progress we've made in

implementing Dodd-Frank's heightened prudential standards for systemically important banks (SIFIs). Perhaps I could point out the myriad of microprudential and macroprudential regulations and new supervisory practices that are in place, or being put in place, to mitigate both the likelihood and consequences of a SIFI's failure. (Financial stability, after all, is the primary purpose of our reform efforts). Or I could emphasize that the United States has nearly completed the world's first resolution framework that allows a troubled SIFI to be safely resolved without any loss to the taxpayer. Better yet, I could provide a litany of factual metrics demonstrating that our banking system is safer and sounder—increases in both the quantity and quality of capital, stricter liquidity standards, enhanced compliance systems, and improved risk-management and governance practices. For a policy discussion that's so critical to the economic well-being of our country, the facts should matter.

But would anyone really listen? Too often, the dialogue about banking regulation isn't really about banking regulation. That's just the surface manifestation of what has become an ideological exchange in which policy arguments about banking regulation become proxies for some underlying political objective—in this case, about the proper role of banks and government in credit extension and risk management decisions. Some even question the very social value of our current financial system. In such a debate, the facts don't seem to matter.

So perhaps I should go negative. Yes, that's the ticket. I could emphasize the risks



of an untested macroprudential regulatory paradigm through which regulators employ a one-size-fits-all approach to addressing systemic risks with little regard to the idiosyncratic differences among those risks. Perhaps I could also question the empirical foundation underlying many of the prescriptive rules designed to micromanage banks' balance sheets, pricing structures, and operating models. Maybe I should call attention to the scholarship that postulates the use of macroprudential regulations to bring about industrial policy, an agenda increasingly filled with "Pigouvian" taxes, surcharges, and attempts to manage "excessive" credit extension and "normative" asset prices.

I've got a good one—"negative externality creep." I could raise concerns about the many well-intentioned regulators, legislators, economists, and academics who have a propensity to muse about second- and third-order tail risks, but who more often than not understate the *benefits* of the activities they seek to discourage or the true costs of their policy prescriptions. But that's somewhat overstated and likely to generate a good deal of criticism. It wouldn't contribute to a reasoned debate, so it's probably not the right way to go.

So where does that leave me? Worried and concerned.

I worry that, like military generals so often do, our regulatory policymakers are fighting the last war. I'm concerned that too much of our debate is infused with economically populist tendencies borne from (quite understandable) misperceptions and hindsight judgments about crisis-era actions. Very real and transformational changes are now being wrought to our banking system without sufficient deliberation or a true appreciation of the impact these changes are having on real consumers, economic growth, and our

prosperity. This is particularly true for the less economically-fortunate among us who need to be enfranchised in the banking system, not channeled away from it.

Macroprudential policy has *macroeconomic* consequences. Subtle and iterative change can be sequentially and cumulatively transformational. Maybe these trends are more self-evident than I can appreciate. We seem to be shrinking and deleveraging our banking system (while ignoring the resulting effects on growth) and limiting interconnectedness (while ignoring the impact on liquidity) in an attempt to limit contagion and risk. Some appear to want banks to be public utilities, either implicitly through the supervisory process or explicitly through regulations that dictate returns in ways that would be unacceptable in almost any other industry. And ironically, we seem to be doing all this while understating the impact of regulatory arbitrage and the shift of core credit creation and intermediation functions—and systemic risks inherent in those functions—to significantly *less* regulated parts of our financial system.

I worry that bank executives are spending less of their time on the business of banking—creating customer value, managing risk, and identifying threats that could harm their stakeholders. Isn't the best defense a good offense? Isn't the best approach to a safe and sound banking system one that promotes banks that are both *safe and profitable*?

While policymakers debate structural change to our banking system—Volcker, Vickers, Liikanen, Glass-Steagall, and, of course, the "break-up-the-big-banks" proposals—long-lasting and very consequential change is happening all around us. Is anyone addressing the cumulative, big-picture impact of all these reforms? More often than not, questioning the direction

of reform gives rise to accusations of an anti-consumer and anti-regulation mindset. Notwithstanding the rhetoric around regulatory capture, the dialogue has simply become too one-sided. Public discourse and private conversation need to *merge* into a transparent, multidisciplinary, and respectful public discussion. Closed feedback loops generate self-fulfilling results, and I'm worried that our bank regulatory policy is being developed in such a way. The comment process seems to be pro forma. Things seem predetermined.

I don't have all the answers, and I'm not sure anyone does. There's little doubt that the banking industry has a public credibility gap to close with nearly every one of its stakeholders. Perhaps too often we cry wolf and fail to properly calibrate the extent of our concerns. Perhaps too often we forget, as an industry, the purpose and sanctity of the banking charter.

I get paid to worry. It's my nature to channel that anxiety, so I'm not going to abandon ship. Hope lies in the simple fact that most policymakers and practitioners are smart, well-intentioned, and agree on what we're all trying to accomplish. No one wants shocks to the system that require extraordinary government action. No one wants a handout, a subsidy, or an unfair advantage that promotes moral hazard and irresponsible behavior. No one wants banks, or any financial institutions, that are "too-big-to-fail".


So where do we stand? To borrow a phrase from Churchill, we're not at the "beginning of the end. But it is, perhaps, the end of the beginning." Simply acknowledging that we all want the same thing and are all in this together seems like a good place to begin.

*A version of this article with supporting citations can be found at: [theclearinghouse.org/bankingperspective](http://theclearinghouse.org/bankingperspective) . ■*

# The Societal Benefits of Large Banks

■ By **BRITTANY BAUMANN**, Vice President and Economist  
**BOB CHAKRAVORTI**, Managing Director and Chief Economist  
and **ALESSANDRA SHAAYA**, Research Analyst  
The Clearing House





## Introduction

The safety and soundness of the largest banks and the ability to resolve them without major systemic disruptions are key concerns emerging from the 2008 financial crisis. Authorities have responded by proposing and implementing substantial changes to the regulatory framework governing financial institutions. Despite these reforms, calls to break up the largest and most complex banks remain a part of the current policy debate. Yet, the significant benefits that large and complex banks offer to customers, businesses, and the economy are often absent in this post-crisis discussion. In this article, we examine the benefits that large banks provide to society.

We concur that these banks should be more resilient to financial shocks and that every bank should be allowed to fail in an orderly manner. There are two ways to achieve this objective. One alternative is to require increases in loss-bearing debt and equity capital, enhanced liquidity that can be available even under stressed financial conditions, and greater reliance on sources of stable funding. Calibrated correctly, these measures should encourage banks to adjust their scale and scope in ways that reduce their systemic risk contribution while maximizing returns for their shareholders. The second alternative is to impose “structural limits” on financial firms that address their size, scope, complexity, or interconnectedness in order to reduce systemic risk. In the United States, recent reforms rely predominantly on the first approach as being more likely to bring about desired prudential improvements while balancing systemic stability and economic efficiency. Recent reforms in the United States have gone a long way in addressing these issues and changing the perceptions that any bank is “too-big-to-fail” (TBTF).<sup>1</sup>

We must note that the definition of ‘large’ varies. The Basel Committee on Banking Supervision (2013) designated eight U.S. Global Systemically Important Banks (G-SIBs), which include the six largest U.S. bank holding companies (BHCs), each with over \$500 billion in assets, along with two custodian banks.<sup>2</sup> Meanwhile, the Board of Governors of the Federal Reserve System (2013) identified 18 banks required to participate in the Comprehensive Capital Adequacy Review (CCAR) “stress tests,” suggesting that these banks are also systemically important.<sup>3</sup> The Dodd-Frank Act (Dodd-Frank) defines systemically important financial institutions (SIFIs) as those with greater than \$50 billion in assets. Policymakers also classify financial institutions as systemically important based on other characteristics,

- 
- 1 TBTF in this context implies that a bank will not be closed by authorities at, before, or after its insolvency because of its systemic importance.
  - 2 The six largest bank holding companies are JPMorgan Chase, Bank of America, Citibank, Goldman Sachs, Morgan Stanley, and Wells Fargo. The custodian banks are Bank of New York Mellon and State Street.
  - 3 Of the 18 CCAR banks, those that are not G-SIBs are Ally Financial, American Express, BB&T, Capital One, Citi, Fifth Third, PNC, Regions, SunTrust, and U.S. Bancorp.

such as interconnectedness, the lack of readily available substitutes or financial institution infrastructure for the services they provide, global (cross-jurisdictional) activity, and complexity (Basel Committee on Banking Supervision, 2013).

In this context, one of the key building blocks in the decision process is a clear understanding of the economic benefits derived from large bank activities that are passed on to consumers, businesses, and the overall economy. Economists and policymakers have voiced their concerns about breaking up financial institutions without first conducting sufficient research on the benefits of large banks. Daniel Tarullo (2012), Federal Reserve Governor, stressed the need for further research on the structure of large banks, noting that “relatively little research has been undertaken” in regards to “scale and scope economies, especially as they relate to policy proposals directed at the too-big-to-fail problem in financial markets.” In addition, William Dudley (2012), President of the Federal Reserve Bank of New York, emphasized that “with respect to size limitations, it is important to recognize that a new and much reduced size threshold could sacrifice socially useful economies of scale and scope benefits.”

Literature examining the economic benefits of large banks focuses prominently on economies of scale. Recent studies suggest that economies of scale are present even at the largest banks. One academic study finds that breaking up the banks by imposing a \$1 trillion size cap would cost society \$79.1 billion annually (Wheelock and Wilson, 2012). An industry study estimates that the scale and scope benefits of large banks provide an estimated \$50-\$110 billion to society (The Clearing House (TCH), 2011). While additional research is warranted to fully quantify the value of large banks, these benefits would go a long way to offset the benefits of bank restructuring. Furthermore, there are various regulatory improvements that will continue to strengthen individual banking organizations and make the financial system more resilient to shocks.

In this article, we will first explore the recent academic and industry literature on the benefits of large banks from the perspective of economies of scale and scope along with the benefits of a large, diverse set of products and services provided by a large bank.

Second, we will explore how large banks are able to leverage their broad customer bases to increase the pace and spread of innovations. Third, we will discuss how risk diversification is a key benefit of large banks that augments their resiliency and stability. Finally, we will examine the policy implications of our findings.

Our analysis finds the following:

- The most recent academic and industry research confirms significant scale and scope economies exist in even the largest banks.
- Scale and scope benefits are passed on to customers in the form of cost savings, technological advancements, increased convenience, and global reach.
- Given the continued progress in regulatory reform that increases financial stability and provides a more clearly articulated resolution process for any bank regardless of size, we find that the societal benefits of large banks should not be ignored when considering structural reforms.

## Economies of Scale

A key characteristic of large firms, including banks, is the existence of economies of scale. Economies of scale exist when an increase in cost results in a more than proportional increase in total output. This can be accomplished by the spreading of fixed costs across a large consumer base. Economies of scale not only benefit the producer, customers, and shareholders but also the economy as a whole. Until recently, research could not confirm the existence of scale economies in banks with assets above \$100 billion. More recent research, however, finds evidence of economies of scale of all sizes, including the largest banks.<sup>4</sup> These findings are in part due to structural and technological changes in banking, such as the removal of branching restrictions and

<sup>4</sup> See Berger and Mester (1997), Bossone and Lee (2004), Dijkstra (2013), Feng and Serlitis (2009), Hughes and Mester (1998) and (2013), Hughes, Lang, Mester and Moon (1996) and (2000), Hughes, Mester and Moon (2001), McAllister and McManus (1993), and Wheelock and Wilson (2001) and (2012).



advancements in information processing, respectively, along with improvements in empirical techniques.


In a recent study using contemporary bank cost-modeling, Hughes and Mester (2013) estimate a cost function to measure how banks' costs change with outputs in a sample of 842 top-tier BHCs in the United States in 2007. If a bank exhibits economies of scale, its estimated inverse cost elasticity with respect to output would be greater than one.<sup>5</sup> Costs include interest and non-interest expenses, cost of equity capital, and non-performing loans, while outputs include loans, liquid assets, securities, trading assets, and off-balance-sheet activities. Their model is more comprehensive than those in prior studies because they incorporate capital and off-balance activities and control for bank risk-taking. In particular, they show that the relevant factor of risk diversification (in addition to the spreading of fixed costs of information technology) can explain scale economies in banking by improving a bank's risk-expected-return tradeoff.<sup>6</sup> The intuition behind this result is the following: as bank scale increases, risks are also better diversified, and better diversification of risk means that the same expected return can be produced at lower risk. Not accounting for this factor can result in scale economies being underestimated.

Hughes and Mester (2013) find evidence of significant economies of scale in all bank sizes. In estimating inverse cost elasticities they find that when including the cost of equity capital and controlling for risk, scale economies intensify for banks of all sizes. Specifically, the average value of scale economies for banks with assets less than \$50 billion is in the range of 1.13-1.18. For banks with assets between \$50 billion and \$100 billion, average scale economies is 1.23, while for banks with assets over \$100 billion average scale economies increases to 1.35. Thus, the study finds scale economies in all banks in the sample, and these economies increase with bank asset size.

Like Hughes and Mester (2013), Wheelock and Wilson (2012) utilize an improved methodology of estimating

5 Many econometric studies estimate economies of scale by computing inverse cost elasticities, i.e., the percentage change in output due to a percentage change in cost.

6 Indeed, diversification is also relevant to scope economies and overall bank soundness and will be discussed in later sections.



One academic study finds that breaking up the banks by imposing a \$1 trillion size cap would cost society \$79.1 billion annually.

scale economies that involves nonparametric estimation of cost elasticities for banks of different sizes.<sup>7</sup> The authors examine a large panel dataset of U.S. banks and BHCs from 1984 to 2006 using a model of production that controls for the book value of equity capital and incorporates off-balance sheet activities.<sup>8</sup> They find evidence of increasing returns to scale in all but one of the banks with assets greater than \$100 billion. In particular, they find that inverse cost elasticities lie above one for almost all banks, indicating increasing returns to scale in these banks. Their results are consistent across time and across asset size such that they have evidence of scale economies in each sample year and in each asset size quartile for nearly all banks. In a panel study of European banks covering a period from 2002 to 2011, Dijkstra (2013) also finds significant scale economies.

using these costs, and find that economies are even larger on average for banks with assets greater than \$100 billion. Finally, they study whether the potential funding cost advantages of larger banks is a factor by re-estimating the model using the funding costs of smaller banks. They find that scale economies remain significant and still increase in size, implying that the funding cost differentials between small and large banks do not explain economies of scale in larger banks. In another study that finds evidence of economies of scale in the largest banks, Anderson and Joeveer (2012) also conclude TBTF factors do not drive their findings.

Although these studies explain increases in bank size on an overall cost basis, they do not suggest how specific products and services are impacted. As highlighted by Hughes and Mester (2013), greater attention should be given to a bank's product mix when considering the measurement of scale economies. Anderson and Joeveer (2012) examine the product mix in large banks and identify wholesale banking activities as an important factor in explaining economies of scale. Additional empirical analysis on specific products is useful and offers insights on the effects of bank restructuring policies, such as caps on non-deposit funding.

Using a different approach, TCH (2011) examines the value of large banks by quantifying economies of scale by product.<sup>9</sup> The four main product categories are retail banking, payments, commercial banking, and capital markets. TCH (2011) finds that of these areas, payments and capital markets offer the highest estimated scale benefits of \$10-20 billion and \$5-15 billion, respectively. In aggregate, economies of scale deliver an estimated \$25-45 billion of total annual value.

Given evidence of scale economies in banking, it is important to discuss how cost savings can be passed on to banks' customers. Competition among banks would suggest that the benefits of scale economies are passed through to customers in the form of lower prices and higher product quality including greater convenience and access. These findings of the incremental scale benefits of

---

## Until recently, research could not confirm the existence of scale economies in banks with assets above \$100 billion. More recent research, however, finds evidence of economies of scale of all sizes, including the largest banks.

---

An important question in these studies is whether TBTF perceptions of large banks explain economies of scale in large banks, as such factors may impact bank funding costs. Hughes and Mester (2013) conclude that large banks' technological efficiency in the transformation of inputs into outputs, rather than their status as TBTF institutions, accounts for scale economies for three reasons. First, they find evidence of scale economies in banks with assets lower than \$100 billion. Second, they re-estimate the cost model without the largest banks, re-compute the scale economies

---

7 New methods include nonparametric estimation, which uses rank statistics rather than directly assuming the data. Non-parametric methods help avoid the problem of misspecification in cost functions.

8 In this context, panel data is comprised of a set of firms over a period of time, allowing for analysis across firms and across time.

---

9 This study is one of the first to examine scale and scope benefits by product category. Because the study examines a cross-section of a limited number of banks, a necessary extension to this work would be a panel data analysis with a greater number of banks.



large banks provide evidence of the societal benefit of large banks and pave the way for future research in this area.

## Economies of Scope

Bank scope, or a diverse set of financial products offered by the largest banks, has production-side benefits, such as distribution of costs across multiple products, and demand-side benefits, such as product bundling and global footprint. Unfortunately, there are few studies that estimate the production- and demand-side scope benefits in banking.<sup>10</sup> Some studies, including a recent study of eurozone banks, report evidence of economies of scope, i.e., lower costs of joint production of goods within a firm than if a firm produced a single good.<sup>11</sup> Common intuition and recent research suggests that some product bundles provide benefits to consumers and businesses. For example, the spreading of costly information technology platforms, overhead, and monitoring costs over a large customer base suggests economies of scope may exist in large banks (Saunders and Walter, 2013). Moreover, the prevalence of cross-selling through a large and diverse client base is evidence of scope economies in financial intermediaries that are diversified across wholesale and retail activities (Saunders and Walter, 2013).

Calomiris (2009) also finds that the gains from increased scope accrue to customers “in the form of cheaper and better financial services” and of “savings in marketing costs and in the costs of information production.” In a recent debate on breaking up big banks, Calomiris (2013) notes that the value of global universal banks comes from their geographic scope and scale; large banks add value to multinational businesses “from the perspective of their global customers” through their “unprecedented combination of products and services, global reach, IT platforms, and capacity to provide strategic financial advice and transactional execution.”

As large banks provide a diverse set of products

10 See Clark (1988) for a review of the literature. Though the studies reviewed do not present overwhelming body of evidence, some findings confirm cost complementarities between specific products and one study even finds global economies of scope for certain product mixes.

11 These studies include Dijkstra (2013), Kim (1986), and Pulley and Humphrey (1993).

and services, one can quantify the aggregate benefit of these products and services by estimating the value of each product that large banks provide compared to the product provided by a smaller competitor—in other words, the benefits from the products and services that only large banks currently provide. TCH (2011) uses this methodology to quantify the incremental value of large

---

## ...large banks' technological efficiency in the transformation of inputs into outputs, rather than their status as TBTF institutions, accounts for scale economies...

---

banks' products and services. Similar to its analysis of the benefits of scale economies, TCH (2011) estimates the benefits of scope in four areas of banking: payments, capital markets, commercial banking, and retail banking.<sup>12</sup> As expected, the former two areas provide the largest portions of the total benefits. The total estimated benefit of scope in large banks is \$15-35 billion annually, with banks larger than \$500 billion in assets providing \$10-20 billion of the total value. These values include not only cost benefits, but the benefits of accessing products and services not available at smaller banks. While aggregate values are informative, the study identifies specific products and services generating these benefits. Overall, customer benefits range from convenience and cost savings to liquidity and risk management.

The area providing the highest level of benefits is capital markets, in which large banks play an essential and dominant role in helping companies and governments raise capital and in facilitating mergers and acquisitions of firms. Large banks can offer these services due to geographic and product scope as well as scale in markets and in their balance sheets. Large banks hold over 90 percent

12 The total value of direct benefits to customers can be measured by estimating the number of customers using specific products in each area, the benefit each customer receives, and the fraction of this benefit that is uniquely provided by large bank. Moreover, the study attempts to account for activities that can be provided by bank consortiums.

of investment banking services in the United States and underwrite nearly 90 percent of short- and long-term debt for state and local governments.<sup>13</sup> More than half of deals in this sector involve more than one large bank, emphasizing the importance of several large players being present. Due to their size and scope, large banks can make large issuances and underwrite large deals as desired by their clients.<sup>14</sup>

Geographic scope, scale in custody, and scope in related products allow large banks to provide securities services for payments and clearing. Sophisticated IT platforms that large banks can afford play an important role and explain why large scope benefits lead to lower financing costs and overhead. Customers that benefit include large institutional investors who rely on securities services and analytics. In particular, custodian banks serve this function by optimizing investors' returns on portfolios across multiple asset classes, geographies, and jurisdictions.<sup>15</sup>

Scope in products and services creates value to customers in commercial and retail banking. Although small banks provide a multitude of benefits in retail banking, a large bank ecosystem provides numerous additional benefits to retail customers. For example, due to geographic reach and penetration, large banks provide easier access to branches, a larger network of no-fee ATMs, and cost savings to customers moving or traveling.

Large banks' presence in commercial banking is also important for international trade and commerce. As companies continue to become more global, large banks help promote the growth of the international economy through their role in supply chain management and intermediate goods production (Calomiris, 2009). Services, such as international cash management in different currencies and across countries, international lending,

financing expansion of operations abroad, facilitating payments to suppliers, and guaranteeing liquidity all are essential to greater access to trade and international capital markets.

## Accessing Large Customer Bases and the Spread of Innovation

For the past several decades, large banks have aided in the spread of technological innovations, particularly in the areas of retail banking and payments and clearing. Large banks' extensive footprint and large, diverse, and dense customer base allow them to contribute to innovation. These attributes enable large banks to spread fixed costs associated with investments in new products and technologies. Hence, economies of scale are a relevant driver to the spread of innovations. Investment in technology is crucial to rendering the "economic benefits to size and scope" of banks, which are "likely to grow further with increasing globalization, complexity, and improved information and management systems" (Bailey and Elliot, 2013).

More specifically, large banks can adopt technologies that are in their early, costly stages, while smaller banks may prefer to wait until prices decline. The high customer density of large banks allows for greater sharing of costs among customers. Eventually, the provision of new technologies spreads to smaller banks, thereby benefiting the rest of the economy. The spread of technological innovations aided by large banks is a vital factor of technological growth.

What are the specific benefits implied by the spread of innovation? TCH (2011) identifies benefits in the same four product areas discussed earlier. Examples of innovations spread by large banks include ATMs, online and mobile banking, securities services development, and cash management and trade finance platforms—all of which provide direct benefits to customers in the form of improved convenience, heightened transparency, more efficient risk management, and reduced overhead. The spread of innovation such as fraud prevention and credit modeling results in more effective data aggregation, greater credit access, and reduced risk and fraud. Finally, the study

---

13 Investment banking activities include financing customers through equity and bond markets, enhancing firm value through M&A transactions, and providing larger loans or lines of credits by forming larger syndicates of lenders.

14 Other benefits include expertise across equity and debt product combinations, international and cross-market presence and experience, and high deal flow and faster execution across deals in multiple markets.

15 Specific benefits are processing a range of domestic securities, cross-border settlement and holding, global reporting and compliance, and related-product offerings.

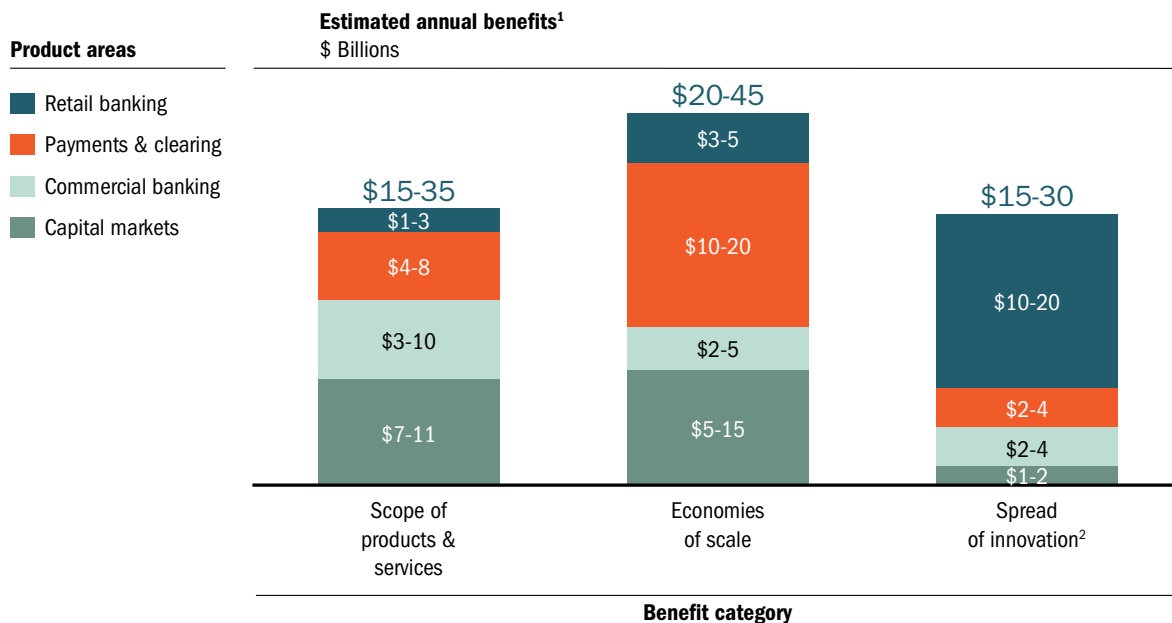


quantifies these benefits.<sup>16</sup> In aggregate, the contribution of large banks to the spread of innovation is \$15-30 billion annually, with benefits found in retail banking constituting over half of this estimate. In aggregating the benefits for scale, scope, and the spread of innovation, the total benefit of large banks to society is an estimated \$50-110 billion. The accompanying chart shows the product-by-product breakdown of benefits. Although these are initial estimates and additional research in this area is encouraged, these findings provide critical insights to the policy debate and future lines of investigation.

of products can lead to a lower risk profile, resulting in enhanced stability and a lower likelihood of failure. Moreover, the complexity of large banks allows them to better manage balance sheet risks, reduce systemic vulnerabilities, and increase resilience during crises.

Generally, during financial crises, less diversified banks are more likely to fail or face distress than well-diversified banks. The Savings and Loan (S&L) crisis resulted from stress to mainly one asset class—primarily mortgages supported by one major source of funding,

## BENEFITS FROM LARGE BANKS ARE DISTRIBUTED ACROSS PRODUCT AREAS



<sup>1</sup> Numbers may not sum due to rounding

<sup>2</sup> Based on analysis of historical benefit from spread of innovations over the past 30 years  
SOURCE: TCH large bank study participant data

## Risk Diversification

One important and overlooked benefit arising from large scale and scope is the diversification of risk. As highlighted earlier, better risk diversification can improve the risk-return tradeoff and enhance scale economies. In effect, diversification reduces a large bank's expected probability of failure. The intuition is that diversification

deposits.<sup>17</sup> The 2008 crisis has demonstrated that more diversified, universal banks such as JPMorgan Chase, BNP Paribas, HSBC, and Banco Santander were more resilient in comparison to monoline financial institutions, such as Bear Stearns, Lehman Brothers, Washington Mutual—all of which failed. As concluded by financial market experts, “diversification of [banks’] activities

<sup>16</sup> TCH (2011) quantifies the overall value of the spread of innovations by estimating the product of the average annual benefit per innovation and the average number of innovations spread by large banks in a given year.

<sup>17</sup> S&Ls made long-term loans at fixed interest rates using short-term funding with fluctuating interest rates. The monoline business of these S&L banks made them especially vulnerable to increasing interest rates. About 747 S&Ls failed during the crisis, at a total cost of \$370 billion.

has been a key component of their resilience” and allow banks to be “more resilient to harsh credit cycles than a series of monoline credit institutions” (van Steenis, 2013). A banking system without large universal banks is not necessarily safer.

As confirmed in recent economic analysis, larger banks are more resilient during crises and are safer because they hold relatively more capital (Benick and Benston, 2005; Loechel, Brost and Li, 2009; Masciantonia and Tiseno, 2013). Large banks also tend to have stronger, more independent risk management, resulting in greater resilience during crises as indicated by lower tail risk, lower non-performing loans as a proportion of assets, and higher return on assets (Ellul and Yerramilli, 2012). Given negative correlation of returns among different products, greater diversification can result in lower overall risk (Nurullah and Staikouras, 2008; Allen and Jagtiani, 2001; Saunders and Walter, 2003). Although greater diversification can lead to less efficient management and conflicts of interest, risk diversification and its implications on the safety and soundness of the banking sector remains an important factor in the policy discussion.

---

...large banks can adopt technologies that are in their early, costly stages, while smaller banks may prefer to wait until prices decline.

---

### Policy Implications

Some financial market commentators have argued that banks should be broken up without careful regard to the tradeoff between economic efficiency and systemic stability. On the basis of efficiency, studies on scale and scope benefits along with those on bank risk diversification reveal the potential adverse effects of policies such as setting size caps or restructuring bank activities. On the basis of stability, Dodd-Frank has made

important improvements to the soundness and resiliency of banks as well as to their resolvability.<sup>18</sup> Though many provisions have yet to be fully implemented, the current regulatory environment has also contributed to a change in market perceptions. In recent years, expectations of implicit government guarantees have diminished, as indicated by credit rating agencies placing large banks’ ratings under review for downgrade, and by findings in academic studies on credit default swap (CDS) markets. Schafer, Schnabel, Di Mauro (2013) find positive impacts of Dodd-Frank announcements on CDS spreads and negative impacts on stock returns in large banks, while Kroszner (2013) finds that CDS spreads in 2012 price much closer to ‘standalone’ than to ‘with support’ credit ratings.

Despite these regulatory improvements, would size limitations be effective in reducing the likelihood of banking crises and contagion? Calomiris (2013) claims that breaking up banks by asset class or activity would not eliminate systemic risk “as the bail-out of Continental Bank in 1984 illustrated—even medium-sized banks with narrow scope...that fail will probably be bailed out by risk-averse bureaucrats spending someone else’s (that is, the taxpayers’) money.” According to Calabria (2013), such a policy would create a “more fragmented and less diversified” banking system of small banks, and as history shows, such a system is not a safer one.

Moreover, breaking up banks is “not necessary for avoiding TBTF because there are other less draconian measures—which have not been tried and which are very likely to work” (Calomiris, 2013). Paul Krugman (2010) echoes these views in affirming that “breaking up the big players is neither necessary nor sufficient to protect us against financial crises” because banks of all sizes are inherently risky. One fully-implemented Dodd-Frank provision limits bank concentration by prohibiting consolidations that exceed 10 percent of aggregate consolidated U.S. banking liabilities; this

---

18 Enhanced capital requirements are an important post-crisis regulation that has substantially increased capital in large banks. For a discussion on capital regulations, see Araten (2013). Other provisions include limits on bank concentration and activities, “living wills,” and semi-annual large bank stress tests. Another provision mitigating systemic risk while also helping to eliminate any TBTF perception is Title II of Dodd-Frank and the Orderly Liquidation Authority (OLA) to resolve banks in crisis, which have made bailouts illegal.



regulation is essentially an implied cap on bank asset size as it effectively limits a bank's asset growth and expansion. Upon close consideration of the regulatory impact on large banks' systemic risk and TBTF status, additional regulations affecting size and structure have limited necessity.<sup>19</sup>

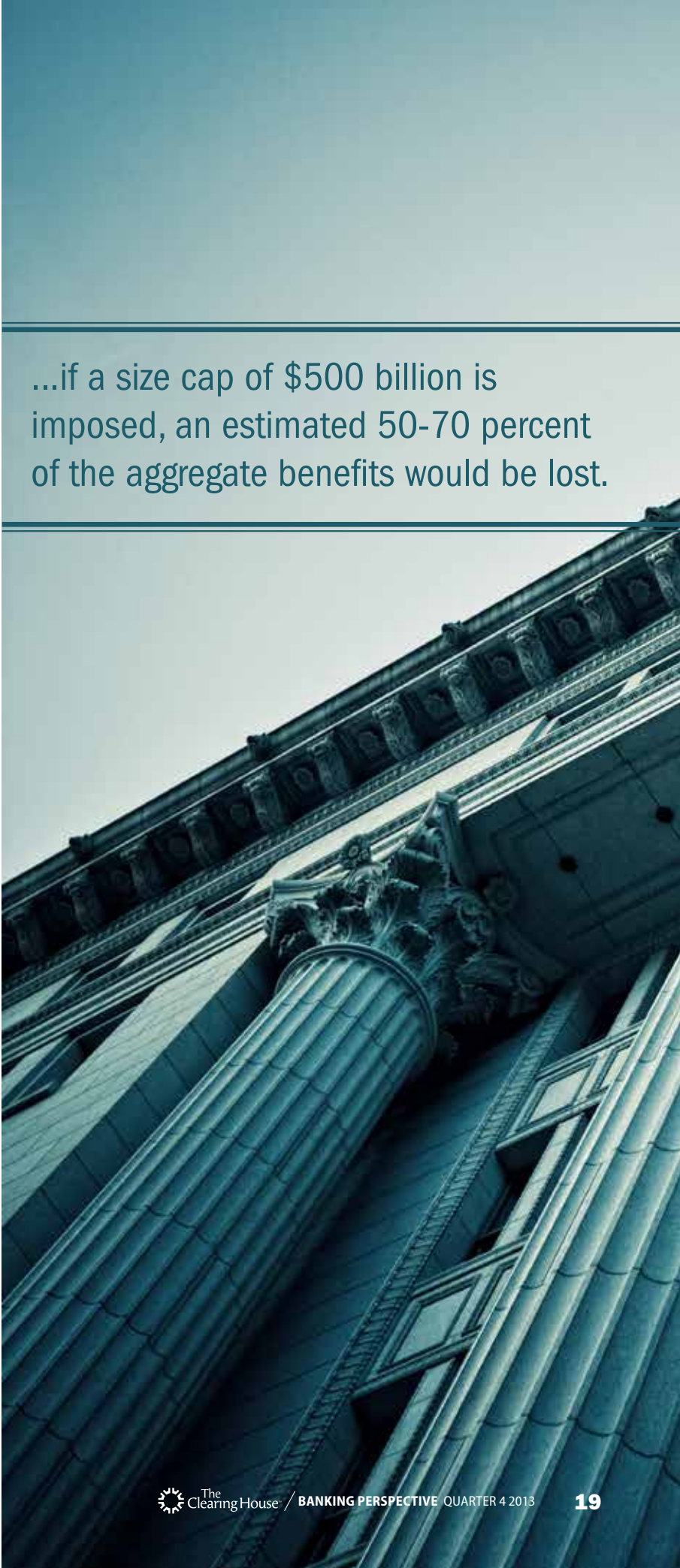
Any policy aimed at breaking up banks must consider the financial and economic impact. How would the economy function without large banks? As captured by TCH (2011), if a size cap of \$500 billion were to be imposed, an estimated 50-70 percent of the aggregate benefits would be lost. In regards to more targeted measures, recent research on scale and scope suggests that caps on non-deposit funding would be costly in forcing a bank to "sacrifice certain economies of scope or scale to meet a cap" on such funds (Tarullo, 2012). According to Peter Wallison (2013), a world without large U.S. banks would gravely impact the U.S. economy and its global competitiveness: "millions of existing relationships between banks and their individual or company clients would have to be renegotiated; lines of credit that were possible with large banks but not with smaller ones would have to be terminated; employees of large banks engaged in activities that smaller banks would not be able to pursue would have to find other things to do; U.S. companies operating abroad that rely on the assistance of U.S. banks may have to find that assistance, if available at all, from foreign banks." Overall, breaking up banks and their activities would have harsh and unforeseen consequences to the U.S. economy.

## Conclusion

The debate on whether or not to break up the largest banks crucially centers on a tradeoff between economic efficiency and financial stability. To add completeness to this debate, we have examined scale and scope economies in banking and how these efficiencies translate into benefits to society. Our evidence on bank scale and scope benefits emphasizes that market forces should determine optimal bank size and complexity in an environment where all banks are allowed to fail. Though these benefits are difficult to measure, economists have made enormous

---

<sup>19</sup> For more details, see Rozansky and Scott (2013).



...if a size cap of \$500 billion is imposed, an estimated 50-70 percent of the aggregate benefits would be lost.

progress in estimating economies of scale. These studies find that economies of scale not only exist for the largest banks, but that they intensify with size. Although research estimating economies of scope is limited, recent work suggests that society benefits from large bank scope as well. Overall, size caps and limitations on bank activities imply that economies of scale and scope would be lost, resulting in higher costs to consumers, businesses, and governments. Given the recent regulatory reforms and changing perceptions of banks' TBTF status, the societal costs associated with the systemic risk of large banks have been substantially reduced. The ongoing debate over whether or not to shrink large banks requires a more comprehensive perspective before drastic restructuring of the banking system is contemplated. As regulation fundamentally cannot prevent the failure of a firm, bank regulation going forward should ensure that any bank can fail without systemic disruption while also preserving the products and services critical to maintaining financial stability and economic growth. ■

## References

- Aliber, Robert, and Charles Poor Kindleberger (2011), *Manias, Panics, and Crashes: A History of Financial Crises*, 6th ed. New York: Palgrave Macmillan.
- Anderson, Ronald and Karin Joeveer (2013), "Bankers and Bank Investors: Reconsidering the Economies of Scale in Banking," London School of Economics, mimeo.
- Araten, Michel (2013), "The Leverage Ratio as a Micro-Prudential Tool," *Banking Perspective*, 1 (1).
- Authority to Require Supervision and Regulation of Certain Nonbank Financial Companies (2012), 77 Fed. Reg. 21637, April 11.
- Basel Committee on Banking Supervision (2013), *Global Systemically Important Banks: Updated Assessment Methodology and the Higher Loss Absorbency Requirement*, Basel: Bank for International Settlements, July.
- Berger, Allen and Loretta Mester (2003), "Explaining the Dramatic Changes in Performance of US banks: Technological Change, Deregulation, and Dynamic Changes in Competition," *Journal of Financial Intermediation*, 12 (1), 57-95.
- Board of Governors of the Federal Reserve System (2013), *Comprehensive Capital Analysis and Review 2013: Assessment Framework and Results*, Washington D.C.: Board of Governors of the Federal Reserve System, March.
- Bossone, Biagio and Jong-Kun Lee (2004), "In Finance, Size Matters: The 'Systemic Scale Economies' Hypothesis," *IMF Staff Papers*, 51 (1), 19-46.
- Calabria, Mark (2013), "An End to Bailouts," *National Review*. January 28.
- Calomiris, Charles (2013), "Debate: Big Banks, Should Big Banks Be Broken Up?" *The Economist*, May 14.
- Calomiris, Charles (2009), "In the World of Banks, Bigger Can Be Better," *The Wall Street Journal*, October 19.
- Clark, Jeffrey (1988), "Economies of Scale and Scope at Depository Financial Institutions: A Review of the Literature," Federal Reserve Bank of Kansas City *Economic Review*, 73 (September/October), 16-33.
- Demsetz, Rebecca, Marc Saidenberg, and Philip Strahan (1996), "Banks with Something to Lose: The Disciplinary Role of Franchise Value," Federal Reserve Bank of New York *Economic Policy Review*, 2 (2), 1-14.
- Dijkstra, Mark (2013), "Economies of Scale and Scope in the European Banking Sector 2002- 2011," Amsterdam Law School Research Paper.
- The Dodd-Frank Wall Street Reform and Consumer Protection Act (2010), Pub. L. No. 111-203, 124 Stat. 1376.
- Feng, Guoha and Apostolos Serlitis (2009), "Efficiency, Technical Change, and Returns to Scale in Large U.S. Banks: Panel Data Evidence from an Output Distance Function Satisfying Theoretical Regularity," *Journal of Banking and Finance*, 34 (1), 127-138.
- Hughes, Joseph and Loretta Mester (2013), "Who Said Large Banks Don't Experience Scale Economies? Evidence from a Risk-Return-Driven Cost Function," *Journal of Financial Intermediation*, forthcoming.
- Hughes, Joseph and Loretta Mester (1998), "Bank Capitalization and Cost: Evidence of Scale Economies in Risk Management and Signaling," *Review of Economics and Statistics*, 80 (2), 314-325.
- Hughes, Joseph, William Lang, Loretta Mester and Choon-Geol Moon (1996), "Efficient Banking under Interstate Branching," *Journal of Money, Credit, and Banking*, 28 (4), 1045-1071.
- Hughes, Joseph, William Lang, Loretta Mester, and Choon-Geol Moon (2000), "Recovering Risky Technologies Using the Almost Ideal Demand System: An Application to U.S. Banking," *Journal of Financial Services Research*, 18 (1), 5-27.
- Hughes, Joseph, Loretta Mester, and Choon-Geol Moon (2001), "Are Scale Economies in Banking Elusive or Illusive? Evidence Obtained by Incorporating Capital Structure and Risk-taking into Models of Bank Production," *Journal of Banking and Finance*, 25 (12), 2169-2208.
- Kroszner, Randall (2013), "A Review of Bank Funding Cost Differentials," University of Chicago, mimeo.
- Krugman, Paul (2010), "Too Big to Fail Fail?" *The New York Times*, January 11. Can be found at: [http://krugman.blogs.nytimes.com/2010/01/11/too-big-to-fail-fail-2/?\\_r=0](http://krugman.blogs.nytimes.com/2010/01/11/too-big-to-fail-fail-2/?_r=0).
- McAllister, Patrick and Douglas McManus (1993), "Resolving the Scale Efficiency Puzzle in Banking," *Journal of Banking and Finance*, 17 (2-3), 389-405.
- Pulley, Lawrence and David Humphrey (1993), "The Role of Fixed Costs and Cost Complementarities in Determining Scope Economies and the Cost of Narrow Banking Proposals," *Journal of Business*, 66 (3), 437-62.
- Rozansky, Gregg and Jennifer Scott (2013), "Bank Structural Reform: Divergent National Approaches with Global Implications," *Banking Perspective*, 1 (1).
- Tarullo, Daniel (2012), "Industry Structure and Systemic Risk Regulation," Speech given at Brookings Institution Conference on Structuring the Financial Industry to Enhance Economic Growth and Stability, December 4.
- The Clearing House (2011), *Understanding the Economics of Large Banks*, New York: The Clearing House.
- Van Steenis, Huw (2013), "Debate: Big Banks, Should Big Banks Be Broken Up?" *The Economist*, May 14.
- Wallison, Peter (2012), "Breaking Up Big Banks: Is Anybody Thinking?" American Enterprise Institute, *Financial Services Outlook*, August-September.
- Walter, Ingo and Anthony Saunders (2013), "Financial Architecture, Systemic Risk, and Universal Banking," *The Journal of Financial Perspectives*, 1 (1), 1-15.
- Wheelock, David and Paul Wilson (2001), "New Evidence on Returns to Scale and Product Mix Among U.S. Commercial Banks," *Journal of Monetary Economics*, 47 (3), 653-674.



# *It becomes clear*

Your current situation. The path forward. Your real options. Your needs and responsibilities. When you have quality, integrity and trust as the foundation for doing business, the issues become clear and often so do the answers.

Through our global network of firms with more than 180,000 people in 157 countries, we provide quality advisory, assurance and tax services to many of the world's most successful companies. For more information on how we can help you address your business challenges, visit us at [pwc.com](http://pwc.com), [pwcregulatory.com](http://pwcregulatory.com) or contact:

Dan Ryan  
Financial Services Advisory Leader  
[daniel.ryan@us.pwc.com](mailto:daniel.ryan@us.pwc.com)  
(646) 471 8488

**pwc**

# ***THE LEVERAGE RATIO***

*as a Microprudential Tool*

■ by **Michel Araten**

Managing Director, Credit Risk Capital Advisory



**T**he objectives of risk-management controls and capital-adequacy rules are inherently the same: balance prudential risk with the flow of capital. However, some recent regulatory initiatives that emphasize the leverage ratio could, if not properly designed, disable banks from meeting the needs of the global economy.

Over the past several decades, banks have improved the quantification of the risks they assume when they extend credit or take market positions. In response to the 2008 financial crisis, regulatory bodies and agencies have introduced a significant number of macro- and microprudential initiatives to reduce risk-taking activities in the financial sector, improve the risk measurement of these activities, and provide sufficient capital to avoid conditions that could contribute to a similar crisis.

Much emphasis to date has been on risk-differentiated measures of various exposures against capital, but recently the Basel Committee on Banking Supervision (BCBS) and U.S. regulatory agencies have proposed using the leverage ratio, a non-risk-differentiated gauge, as a key component in capital-adequacy rules. An improperly calibrated leverage ratio could stall economic growth, without significantly lowering the risk of a future crisis.

To consider how leverage-ratio requirements can contribute positively to prudential and economic goals, this article examines the following: how risk measures have evolved; the tradeoffs between non-risk-differentiated measures and risk-differentiated measures; the consequences of an imperfect balance; and recent estimates of how the proposed rules would affect banks.

**By MICHEL ARATEN**

*Managing Director, Credit Risk Capital Advisory*

*In his 40-year career at JPMorgan Chase, Mr. Araten focused on regulatory issues and risk assessment methodology, developed credit risk capital models for global retail, wholesale, and capital markets, and completed a number of historical studies supporting these models. Previous assignments included Manager, Management Science, Real Estate Finance, Credit Policy Committee, Insurance Income Products, and Mezzanine Finance. He has published widely and is a frequent speaker at conferences.*

*Previously, he was Manager of Operations Research at Celanese and Lever Brothers. He has been an Adjunct at Columbia, Fordham, and Polytechnic and holds a Ph.D in Operations Research from Columbia.*

## RISK METRICS EMERGE

Bankers Trust originated the first economic-capital model for banks in the mid-1970s when it introduced the risk-adjusted return on capital metric for measuring the profitability of trading and credit risk assets. Return was measured against the riskiness of the assets (Guill, 2008).

---

*...after the onset of the recent crisis critics argued that risk-based measures were flawed and leverage ratios should be enacted as a backstop...*

---

Extensions of economic capital to credit risk were facilitated by the work of Kealhofer, McQuown and Vasicek (KMV), a consulting firm that developed option-theoretic models to estimate default probabilities of borrowers and correlations. By the mid-1990s, KMV's Portfolio Manager model was employed at a number of institutions and served as the basis for assigning economic capital to individual exposures based on their contributions to overall portfolio risk. Other credit portfolio models including CreditMetrics, CreditRisk+, and internal, non-vendor developed models followed. The industry made substantial investments in forensic analysis of defaults in order to better establish the basis for estimating default rates associated with credit ratings, exposure at default, and loss severities. The capital assigned to individual exposures served as the basis for judging whether transactions met their economic hurdle expressed as return on risk-adjusted capital.

## REGULATORY FRAMEWORKS AND REVISIONS

On the regulatory side, Basel I was established in 1988 as a capital framework for international banks. It classified each asset or off-balance sheet exposure

into one of five risk buckets and assigned different levels of capital to each risk category. New products developed by banks in the 1990s, such as derivatives and securitizations, did not fit neatly into these buckets and the banks argued that the framework did not accurately measure risk. Regulators raised concerns that banks were beginning to off-load high quality assets and retain poorer quality assets as a way to reduce their capital requirements.

Basel I clearly needed replacement with more risk-differentiated measures. In introducing the Basel II framework in 2004, the BCBS (2006) noted that it "sought to arrive at significantly more risk-sensitive capital requirements that are conceptually sound."

Banks had also argued that their internal risk measures should find a parallel in a regulatory framework. However, in designing Basel II, regulators examined economic capital across firms and realized that there were wide variations in approaches and these needed to be constrained when applied to regulatory capital. Along with haircuts, add-ons, and floors, Basel II introduced somewhat prescriptive methodology directives that emphasized empirical data and minimized the use of judgment.

As capital was more narrowly defined under Basel II, and as additional requirements were introduced in the forms of capital conservation and countercyclical buffers, banks began to scrutinize those activities and assets that had high risk-weights. In making transactional and portfolio decisions, banks sought to balance the return on economic capital against the contribution to risk-weighted assets with the constraints on regulatory capital.

Basel II did not contain a leverage-ratio requirement. The common view before the 2008 crisis was that risk-based assessments were sufficient to monitor bank risks. However, Basel II reserved the right for individual jurisdictions to adopt a leverage ratio as a supplementary capital measure, but at that time only the United States and Canada had implemented such rules. In the United States, the leverage ratio established in 1990 was relatively simple and straightforward, expressed as a minimum ratio of Tier 1 capital to total average adjusted





# What's in our wallet? **BIG DEALS**

**\$425,000,000**  
JOINT BOOKRUNNER  
Senior Secured Credit Facility  
Software Provider

**\$150,000,000**  
SOLE LEAD ARRANGER AND BOOKRUNNER  
Senior Secured Term Loan  
NY Office Refinance

**\$120,000,000**  
CO-DOCUMENTATION AGENT  
Senior Secured Credit Facility  
Outsourced Healthcare Services

**\$220,000,000**  
SOLE LEAD ARRANGER AND BOOKRUNNER  
Senior Secured Revolver/Term Loan  
NY REIT

**NEW YORK STATE**

Make Capital One® your banking partner for customized financing solutions. We offer the expertise and financial strength of a top-10 U.S. bank, and together, we'll help you realize your next big opportunity.

**MEMBER FDIC** Subject to credit approval. Products and services offered by Capital One, N.A., Member FDIC. © 2013 Capital One. All rights reserved.

[capitalonecommercial.com](http://capitalonecommercial.com)

assets. The minimum leverage ratio was 3 percent, but banks needed to maintain a leverage ratio of at least 5 percent to be considered well-capitalized.

For the most part, U.S. banks were able to operate under risk-based capital requirements without being constrained by the leverage ratio. However, after the onset of the recent crisis, critics argued that risk-based measures were flawed and leverage ratios should be enacted as a backstop for imperfect risk-measurement models.

---

*...an under appreciated lesson of the financial crisis is that harmonization has its own distinct perils. It can drive firms in the same direction...*

---

### **THE ROLE OF CAPITAL IN THE FINANCIAL CRISIS: RESEARCH AND RESPONSES**

Kalemi-Ozcan, Sorensen, and Yesiltas (2011) reviewed leverage patterns across firms, banks, and countries before 2007 and after 2009. They concluded that excessive risk-taking before the crisis was not easily detectable in aggregate data because pre-crisis increases in leverage were mainly limited to investment banks and broker-dealers in developed countries. Large banks also took large risks, although this mainly became clear after the crisis started. These institutions grew their balance sheets aggressively by increasing debt and assets during asset booms—this pattern was prevalent in the United States and present to a lesser extent in Europe.

However, Acharya and Schnabl (2009) argued that defining leverage to include better estimates of off-balance sheet exposures, particularly asset-backed commercial paper conduits and AAA-rated asset-backed securities, could yield different results. Measured this

way, the effective leverage of commercial banks was significantly larger from a regulatory standpoint than implied by their on-balance sheet leverage or their capitalization.

Under great pressure to revise and introduce new capital requirements to strengthen the global banking system's ability to withstand shocks, the BCBS devised new requirements in Basel III, including the introduction of a binding global leverage ratio, set at 3 percent, that incorporates off-balance sheet exposures and credit derivative exposures beyond those reflected by a derivative's fair value on the balance sheet. The BCBS (2013b) has proposed revising the leverage ratio, mainly in terms of how derivatives and securities financing transactions should be taken into account for purposes of the denominator. In the U.S. version of Basel III, the proposed rule calibrates a Basel III supplementary leverage ratio in a manner that is broadly similar to the original version of the Basel III leverage ratio, agreed upon by the BCBS at the end of 2010.

However, the U.S. banking agencies have proposed higher leverage requirements for the eight U.S. bank holding companies, "covered BHCs," that have been identified as "global systemically important banks" and their insured depository institution subsidiaries (Federal Reserve System, 2013). The higher leverage capital requirements would require their depository subsidiaries to maintain a Basel III supplementary leverage ratio of at least 6 percent to be considered well-capitalized under the prompt corrective action framework.

Covered BHCs would also need to maintain a leverage buffer that would function in a similar way to the capital conservation buffer in the U.S. Basel III final rule. A covered BHC that does not maintain a Basel III supplementary leverage ratio of greater than 5 percent, i.e., a buffer of more than 2 percent on top of the 3 percent minimum, would be subject to increasingly stringent restrictions on its ability to make capital distributions and discretionary bonus payments.

The U.S. banking agencies have stated that they will consider whether to revise the Basel III supplementary leverage ratio once the BCBS has finalized its revisions.



## THE REGULATORY VIEW OF BANK RISK MODELS

A key motivation for the introduction of a leverage ratio has been the concern with the accuracy and appropriateness of risk-based models. Given the breakdown of models in anticipating the impact of defaults in the subprime housing market on structured finance vehicles and the consequent systemic contagion felt in the financial system, it is understandable that several methods of measuring risk and associated capital need to be considered as backstops.

Regulators have had an opportunity to view the consistency of the risk-weighted assets (RWAs) across firms from several years' worth of European banks' Basel II advanced internal ratings-based estimates and from some U.S. banks operating Basel II in parallel with Basel I. Results from a range of studies pointed to significant differences across banks in their estimates of probability of default, loss given default, and exposure at default (Araten, 2013).

The BCBS conducted its own study of differences using hypothetical portfolios for both market and credit risk. They found for credit risk that 60 percent of the differences were due to asset class mix and jurisdictional issues in which different standards had been implemented (BCBS, 2013a). However, a significant number of differences remained that were associated with modeling choices and input parameter estimates. The Committee noted that although banks agreed on the relative ranking of the risk of the exposures, there was significant variability as to the level.

Rather than trying to standardize risk assessment across firms, supervisors need to have a better understanding of the sources of these differences. These can legitimately arise from differences in risk measurement, risk management, and data systems capabilities across firms (Araten, 2012). Romano (2010) observed that an underappreciated lesson of the financial crisis is that harmonization has its own distinct perils. It can drive firms in the same direction in an effort to avoid regulatory charges. When the common set of business strategies employed prior to the last crisis failed catastrophically, the crisis was not restricted

to one nation and a few institutions, but was instead felt worldwide. The absence of meaningful regulatory diversity resulted in banks' converging their strategies, which exacerbated their financial difficulties as many institutions simultaneously sought to sell similar assets to shore up their capital, and institutional investors panicked, seeing little to distinguish among vulnerable financial institutions.

---

***A leverage ratio policy reduces the credit supply and penalizes the safest banks, even though these banks do hold an adequate level of capital as measured by risk weights.***

---

Romano explained that there is considerable uncertainty regarding how best to measure institutions' and instruments' risk and contribution to systemic risk, particularly because such risk dynamically changes over time as the business environment changes. "The bottom line is this: when regulators make an error in a globally harmonized framework, they, in fact, can dramatically increase systemic risk" (Romano, 2010).

In advocating a leverage ratio as a supplementary measure of capital adequacy, regulators are introducing a non-risk-based measure that in combination with the other risk-based measures (e.g., economic capital, Basel III regulatory capital, Comprehensive Capital Analysis and Review stress tests) is designed to provide the necessary counterbalance to errors in measuring risk. A number of researchers have questioned the compatibility of these two types of measures for two different styles of banks: those that invest in low-risk assets and those that invest in high-risk assets. When it comes to model "errors," Blum (2008) suggested that the issue is whether bank supervisors have the ability to discern when banks

may not be “truthful” in describing and modeling their risks as the criterion. If supervisors have a limited ability to identify or to sanction dishonest banks, an additional risk-independent leverage ratio may be necessary. (Perhaps a more charitable characterization other than truthfulness is that neither banks nor regulators may realize that their risk models are error prone.)

---

## *As asset choices are narrowed, firms will tend to concentrate their exposures into those assets whose risk is elevated.*

---

Spinassou (2013) showed that the response of banks and the impact on the credit supply is a function of the level of the leverage ratio and the ability of bank regulators to discern inaccurate risk measurement. He found that a high leverage ratio incites some banks to shift to risky projects. A leverage ratio policy reduces the credit supply and penalizes the safest banks, even though these banks do hold an adequate level of capital as measured by risk weights. Such banks are not hazardous to the stability of the banking system. Rather, banking instability is caused by the riskiest banks, which do not hold an adequate level of capital. The implementation of a leverage ratio can improve banking industry stability when the national regulator is unable to incent the riskiest banks to report their true risk. On the other hand, a bank’s incentive to finance a safe project is, for the most part, reduced by the implementation of a leverage ratio, and a bank’s risk-taking increases with a higher leverage ratio. We can conclude from Spinassou’s analysis that in weak regulatory environments, the leverage ratio should be higher than in those jurisdictions where regulatory scrutiny is strong.

Kiema and Jokivuolle (2011) echo Repullo and Suarez (2004), who showed that when the internal ratings-based requirements are the only capital requirements in the model, banks have an incentive to specialize in either

low-risk or high-risk lending. When the leverage ratio requirement is introduced, they found different effects depending on where the ratio value falls between the capital requirements for low-risk loans and high-risk loans. Even a relatively mild leverage ratio requirement turns out to be a binding capital constraint on low-risk portfolio banks, making specialized low-risk lending unprofitable in the competitive banking sector. The number of specialized high-risk portfolio banks is reduced and more banks start granting both low-risk and high-risk loans. However, the reshuffling of low-risk and high-risk loans across banks may have important implications for bank stability. If there is an unanticipated increase in the default probability of the low-risk assets (like there seems to have been in the case of the subprime crisis), then the number of bank failures may either decrease or increase, relative to the Basel II world, depending on the size of the shock. An increase in the number of banks granting low-risk loans helps to diversify the shock across the banking sector if the shock is not too big. However, if the shock is sufficiently high, then a larger number of banks will fail.

The greatest concern associated with the leverage ratio is that by its very nature it is not risk-differentiated. If it is not a binding constraint, but only a fallback constraint, then it will not affect onboarding and portfolio management decisions. Banks need to consider economic capital parameters alongside their Basel III capital requirements, stress risk results, liquidity ratios, and the effect on their leverage ratio.

Most banks will not formalize their strategies into a non-linear programming type of problem, but behind the scenes the problem can be stated as follows: Find a set of weights for the exposures that maximizes the sum of the return of these assets relative to their economic risk contribution, subject to (1) the sum of the RWA weights relative to the banks’ capital satisfying the Basel III capital requirements, (2) the sum of the assets’ contribution to the stress risk weights satisfying the Basel III capital requirements under stress scenarios, (3) the sum of the liquidity weights satisfying the liquidity ratio, and (4) the sum of the exposures relative to their capital satisfying the leverage ratio requirements.

As constraints are added to portfolio management





## SULLIVAN & CROMWELL LLP

*Sullivan & Cromwell LLP is a global law firm with the preeminent financial institutions practice, focusing on M&A, finance and capital raising, complex regulatory issues, corporate governance, legislative developments, significant litigation and enforcement matters, corporate investigations and tax matters. Founded in 1879, Sullivan & Cromwell LLP has approximately 800 lawyers on four continents.*

*[www.sullcrom.com](http://www.sullcrom.com)*

NEW YORK · WASHINGTON, D.C. · LOS ANGELES · PALO ALTO  
LONDON · PARIS · FRANKFURT  
TOKYO · HONG KONG · BEIJING · MELBOURNE · SYDNEY

decisions, assets which otherwise might be attractive for their economic return, return on Basel III regulatory capital, or positive contribution to liquidity requirements, may not be attractive due to their relatively high contribution to the leverage ratio. Banks will respond to these additional constraints through increased pricing or a reduced credit appetite. These effects will essentially be the shadow prices or the costs of the constraint.

---

## *The leverage ratio needs to be set at true fallback values or else it will adversely impact the credit demands of various sectors of the economy.*

---

Risk contribution weights for regulatory, stress, and liquidity may not be in complete alignment with the economic risk capital weights, but at least they are directionally correct, unlike the weights that contribute to the leverage ratio. Similar concerns are relevant to other capital add-ons, such as the countercyclical buffer. Federal Reserve Board Governor Daniel Tarullo (2013) describes the buffer as a blunt tool and noted its limitations, “the increase in capital requirements does not differentiate between those sectors which are building up asset bubbles since the increased capital will also apply to the less risky sectors.” This criticism is plainly applicable to the leverage ratio.

### **CORRECT CALIBRATION**

The leverage ratio needs to be set at true fallback values or else it will adversely impact the credit demands of various sectors of the economy. Meeting a high target level for the leverage ratio will also conflict with the objective of having available large amounts of high-quality assets that contribute to the liquidity resources of

firms. As asset choices are narrowed, firms will tend to concentrate their exposures into those assets whose risk is elevated.

Further efforts should be made to ensure that the elements of the leverage ratio make economic sense. All three components of the leverage ratio—the denominator (exposures to be included), the numerator (classes of capital in scope), and the target level—need to be carefully reviewed. Though admittedly it requires a fair amount of work, the measurement of each element needs to be evaluated as to how it contributes to a properly designed safety net. In particular, changes to the elements of the denominator are critical in determining the appropriate level.

For example, the BCBS proposed that the leverage ratio assesses unconditionally cancellable exposures (advised lines) at 10 percent of their notional amount, recognizing that not all of an advised line is likely to be drawn at the time of default or stress. The Committee also proposed a further study of this factor. Given that it is an appropriate recognition of the need to develop a realistic and accurate measure of the relative likelihood of a draw on advised facilities, then it is also appropriate to assess legal commitments at less than their full notional values since there is a significant amount of data that demonstrates that not all of the unused commitments are drawn at time of default or stress.

While the leverage ratio elements are still in a proposal stage, it is helpful to determine whether it can be fairly characterized as a fallback value or as a binding constraint. A group of banking associations led jointly by The Clearing House (TCH) and the Global Financial Markets Association (2013) analyzed more than 80 percent of banking institution assets in North America, Europe, and Asia, including 18 G-SIBs. For more than half of the institutions included in the analysis, the study found that the leverage ratio of the proposed framework, rather than the “all in” Basel III risk-based capital requirements that include applicable buffers and surcharges, would become the binding capital ratio. Moreover, as the leverage ratio increases from 3 percent to 5 percent, the leverage ratio would become the binding constraint for over 90 percent of the institutions included in the analysis.



The results of a related study conducted by TCH (2013) show that if the proposed revisions and the U.S. leverage proposal are both implemented, the U.S. advanced approaches banks would need \$202 billion in additional Tier 1 capital or a reduction in exposures of \$3.7 trillion to be in compliance. To meet the U.S. leverage proposal alone, the banks would need to raise \$69 billion in additional capital or reduce exposures by \$1.2 trillion. For U.S. banks that have been identified by the Financial Stability Board as G-SIBs, the proposed revisions would result in the supplementary leverage ratio becoming the binding constraint for 67 percent of the aggregate total consolidated assets of those eight banks.

## SUMMARY

In tracing through the evolution of risk-measurement

approaches by banks and their use of these measures in portfolio management, we see that a great deal of progress has been made. Basel I regulatory measures of risk were found to be deficient and were replaced by more risk-differentiated Basel II regulatory measures. Following the financial crisis, a significant number of regulatory macro- and microprudential initiatives were enacted in the financial sector to reduce risk-taking activities, improve the risk measurement of such activities, and increase minimum capital requirements. The proposals to add a non-risk differentiated leverage ratio appear to be a binding constraint on the risk-based capital measures of most of the banks, and such an addition is a step back to the days of Basel I. Unless properly re-calibrated, it invites sub-optimal behavior by banks that might seek higher risk assets and presents a conflict to the objective of improving their liquidity resources. ■

## References

- Acharya, Viral and Philipp Schnabl (2009), "How Banks Played the Leverage Game" in *Restoring Financial Stability: How to Repair a Failed System*, New York University Stern School of Business, New Jersey: John Wiley & Sons, 83-100.
- Araten, Michel (2013), "Coping with Inconsistencies in Bank Risk Weighted Assets," *Journal of Risk Management in Financial Institutions*, 6 (3).
- Araten, Michel (2012), "Sources of Inconsistencies in Risk Weighted Asset Determinations," *Journal of the Risk Management Association*, (July-August).
- Basel Committee on Banking Supervision (2013a), *Regulatory Consistency Assessment Program, Analysis of Risk Weighted Assets in the Credit Book*, Basel: Bank for International Settlements, (July).
- Basel Committee on Banking Supervision (2013b), *Revised Basel III Leverage Ratio Framework and Disclosure Requirements*, Basel: Bank for International Settlements, (June).
- Basel Committee on Banking Supervision (2006), *International Convergence of Capital Measurement and Capital Standards*, Basel: Bank for International Settlements, (June).
- Blum, Jürg (2008), "Why 'Basel II' May Need a Leverage Ratio Restriction," *Journal of Banking and Finance*, 32 (8), 1699 - 1707.
- Federal Reserve System (2013), "Notice of Public Rule-Making: Regulatory Capital: Enhanced Supplementary Leverage Ratio Standards for Certain Bank Holding Companies and their Subsidiary Insured Depository Institutions," 12 CFR Parts 208 and 217 Regulation H and Q Docket No. R-1460.
- Guill, Gene (2008), "Bankers Trust and the Birth of Modern Risk Management," Wharton Financial Institutions Center, (February).
- Kalemli-Ozcan, Sebnem, Bent Sorensen and Sevcan Yesiltas (2011), "Leverage Across Firms, Banks, and Countries," *NBER Working Paper*, 17354, (August).
- Kiema, Ilkka and Esa Jokivuolle (2011), "Leverage ratio requirement, credit allocation and bank stability," *Bank of Finland Research Discussion Papers*, 10 (2011), April 21.
- Repullo, Rafael and Javier Suarez (2004), "Loan Pricing under Basel Capital Requirements," *Journal of Financial Intermediation*, 13, 496-521.
- Roberta Romano (2010), "Against Financial Regulation Harmonization: A Comment," *University of St. Gallen Series in Law and Economics*, 3, November 20.
- Spinassou, Kevin (2013), "Basel III Capital Requirements and Regulatory Power: The Impact on Bank Risk-Taking and Credit Supply," August 3.
- Tarullo, Daniel (2013), "Macroprudential Regulation," Speech given at Yale Law School Conference on Challenges in Global Financial Services, September 20.
- The Clearing House Association (2013), *Comment Letter on Basel Committee Consultative Document: Revised Basel III Leverage Ratio Framework and Disclosure Requirements*, New York: The Clearing House, September 20.
- The Global Financial Markets Association, American Bankers Association, Financial Services Roundtable, Institute of International Bankers, Institute of International Finance, and the International Swaps and Derivatives Association (2013), *Comments in Response to the Consultative Document on the Revised Basel III Leverage Ratio Framework and Disclosure Requirements*, New York: The Global Financial Markets Association, Institute of International Bankers, Institute of International Finance, and the International Swaps and Derivatives Association, Washington D.C.: American Bankers Association, Financial Services Roundtable, September 20.

# State of Banking

Interview with **Richard Davis**, Chairman, President, and CEO, U.S. Bancorp and Chairman of The Clearing House's Supervisory Board

TCH Association President and General Counsel Paul Saltzman sits down with Richard Davis to discuss the state of the banking industry, major progress on industry reforms, and the potential unintended consequences of rising regulatory costs.

**Paul:** *Let's get right to it. Do banks, in order to be competitive five years from now, need to reinvent themselves or just do a better job of what they are doing today?*

**Richard:** The economy will greatly influence the view of banks, both inside the Beltway and beyond. In five years, banks will be viewed far more favorably because the economy will be a lot stronger. As the economy strengthens, people are more satisfied and banks become—as we have in the past—more of a solution partner. A rising economic tide means we'll be saying “yes” more often to our customers and engaging with them on proactive future opportunities, instead of just trying to manage the moment.

*Is the banking system safer than it was five years ago?*

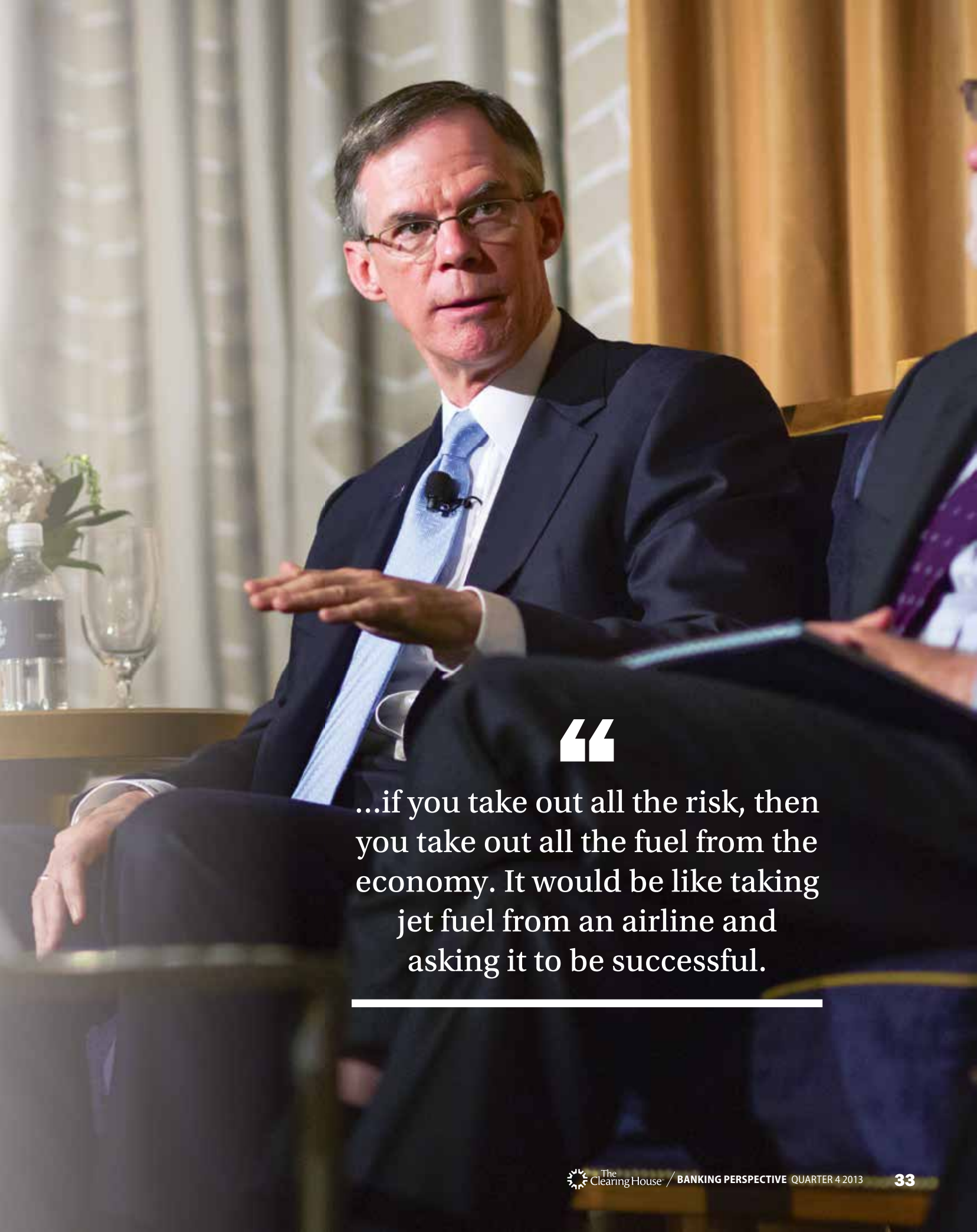
Absolutely. I firmly believe that “too-big-to-fail” has substantially been ring-fenced. “Substantially” may not

mean 100%, but it's pretty close.

Ending “too-big-to-fail” has been accomplished on a number of fronts. Here are just a few examples: Capital levels have roughly doubled from what they were pre-crisis. We also have more progressive liquidity rules, many of which came out just recently. Loan-loss reserves are strong. The living wills that are now moving through the system mean banks must demonstrate that they've thought through what would happen in an Armageddon scenario. We also have regular stress tests, which are based on a variety of dire economic scenarios over multiple years. Finally, we have significantly increased board and regulator oversight and authority that supplant anything we've ever had before.

However, until the time comes when elected officials believe that “too-big-to-fail” has ended, then it hasn't. Regulators can't simply say it and run the risk of being wrong. At some point the legislators that passed





“

...if you take out all the risk, then you take out all the fuel from the economy. It would be like taking jet fuel from an airline and asking it to be successful.

---

Dodd-Frank and other new laws will need to say, “I substantially believe ‘too-big-to-fail’ has been ring-fenced.” That, along with a stronger recovery, will help us a great deal.

*Is there a reasonable argument that the regulatory scales have tipped a little too far in the direction of over-regulation?*



...I am concerned that one unintended cumulative consequence of all the new regulations is that customers “at the margin” are at risk of not having access to a full range of banking services.

We all are working hard to make banks safer. The missing “a-ha” in that otherwise innocent statement is that making banks safer does not and should not equate with eliminating risk. The fact is that banks are risk managers—we take risks on behalf of our clients—so if you take out all the risk, then you take out all the fuel from the economy. It would be like taking jet fuel from an airline and asking it to be successful. So while I do think the pendulum has over-swung a bit toward attempting to eliminate risk, I also believe that as things start to settle, risk will cease being the only measure of future regulatory success.

*How much of a brake on the economy would you attribute to regulatory uncertainty versus monetary policy,*

*lack of demand, or other macroeconomic factors? Is the concept of regulatory uncertainty overstated?*

I think a key reason for our slow recovery has been the impact of regulatory uncertainty. Additionally, current monetary policy has played an equal role. It's not so much whether quantitative easing or bond buying has to be scaled back, which I'm absolutely sure will be accomplished. My greater concern is that we've introduced hard, date-specific end points upon which rates would begin to move up, and additionally declared a 6.5% unemployment rate target.

Cumulatively, this has changed the dynamic of executive decision-making. At this point in past cycles, CEOs would be getting a knock at their door from their CFO, saying, “Rates are at record lows. They've never been this low, this long. They've never been more assured to go one direction, and it's going to happen any day, so we probably should get on with it. Let's build it, acquire it, fix it, add to it.” Instead, I hear customers everywhere who say, “Look, I'm not in any rush because I'm not going to lose my rate advantage for at least another two or three years.”

*How can banks more effectively represent what they do and their importance before policymakers in Washington?*

We need to have a much more concerted effort on educating the public and legislators. Regulators are almost entirely a reflection of what legislators—and the people those legislators represent—are feeling, sensing, and fearing. So, we need to find ways to educate the public and legislators on the value of banking, how we propel the economy, and what economic issues we should be worried about, and not worried about.

As a starting point, we need to do a better job of explaining what banks do. Here in Minneapolis, Target is next door to me. People know what Target does, and people believe that Target deserves to get paid for the services they provide. Our challenge is people don't really understand what banks do. For example, not enough people understand that our entire balance sheet is other peoples' assets. And that all those deposits, which we have an obligation to give back to customers, we also have permission to lend those same dollars out with the expectation we'll be paid back.



As an industry, we've got to simplify our message and find what it is that unites us and not necessarily let that which divides us dictate our communications strategy.

*What are the potential unintended consequences of the current path that we're on?*

We work hard every day to extend products and services to all customers, including low- and middle-income customers. Financial literacy and providing banking to the unbanked or under-banked are efforts I'm particularly proud of at U.S. Bank. That said, I am concerned that one unintended cumulative consequence of all the new regulations is that customers "at the margin" are at risk of not having access to a full range of banking services. We need to do all we can—the industry, regulators and Congress—to prevent this.

*Talk a bit about the role of The Clearing House, which you chair.*

I've been in the business for more than 35 years. When I started, it was a branch-driven world. Soon after, ATMs entered the process. Then we added more sophisticated call centers. Then came online banking, and now mobile payments. Innovation was slow to begin, but now it's moving rapidly, particularly with mobile options. The Clearing House is keenly aware of its emerging role as a mobile payments leader and should be recognized for the influence it has provided to these developments.

The Clearing House deserves credit for its long-lived role as a thought leader in our industry, the trusted source for investigative reviews, and for the respected analytical work it consistently produces. ■

# CONGRATULATIONS TO Mayor Michael R. Bloomberg for his recognition at The Clearing House Chairman's Achievement Award Dinner

The Clearing House's 3rd Annual Conference  
November 21-22, 2013  
The Pierre, New York City



Wall Street

**SECURITIES FINANCING**

---

# A Critical Business Heading to the Shadows?

■ by **KAREN SHAW PETROU**

*Karen Shaw Petrou is the co-founder and Managing Partner of Federal Financial Analytics, Inc., a privately-held company that, since 1985, has provided analytical and advisory services on legislative, regulatory, and public-policy issues affecting financial services companies doing business in the United States and abroad. Prior to founding her own firm, Ms. Petrou worked in Washington as an officer at Bank of America. She is an honors graduate in Political Science from Wellesley College and was in an honors program at the Massachusetts Institute of Technology. She earned an M.A. from the University of California at Berkeley, and was a doctoral candidate there.*



SS

## Introduction

Securities financing transactions (SFTs), which play a critical role in the financial-market infrastructure, may seem one of the scariest parts of global finance given their complexity and volume—daily turn-overs of as much as \$5 trillion are involved (Toomey and Cummings, 2012). Fears grow even higher when the interconnection between SFT and the tri-party repurchase market is evaluated, with regulators particularly continuing to worry about the potential for fire sales (Begalle, Martin, McAndrews, McLaughlin, 2013) across the sector that could restart a Lehman-style bankruptcy (Dudley, 2013). In this article, we review the array of pending initiatives designed to reduce SFT risk, concluding that there are so many proposals aimed at so many risks that the cumulative result of all these actions may well be to quash SFTs at regulated institutions. Without prioritization and focus, the array of pending rules could have the unintended effect of exacerbating shortfalls in high-quality assets held by regulated institutions, creating renewed systemic risk already—and rightly—worrisome to global regulators (Committee on the Global Financial System, 2013).

## What Are Securities Financing Transactions?

This category of transactions encompasses the lending and borrowing of securities. The lending segment of a SFT is usually from institutional investors (e.g., pension funds, insurance companies) to banks and broker-dealers, backed by collateral (usually cash in the United States and securities in the European Union). These lending institutions use SFTs to enhance return and, sometimes, to heighten leverage.

Securities financing is a huge market, although measuring it is problematic. The market data on total daily transactions are cited above. Total securities on loan were about \$1.8 trillion according to a 2012 estimate by global regulators (Financial Stability Board (FSB), 2012b). However, another study of 2011 data in the United States found \$6 trillion of U.S. lendable assets and \$3 trillion of non-U.S. lendable assets in the securities-lending market (The Risk Management Association, 2012).



Lenders and beneficial owners often invest collateral through “agent lenders” or reinvest it through repurchases, known as “repos.” Agent lenders do not directly participate in SFTs, although the services they offer may put them at risk (usually of less concern than that taken by direct counterparties in this market, especially those using SFTs to heighten leverage). This area is generally segmented into an inter-dealer repo market and a repo-financing sector.

---

...virtually all of these initiatives will govern SFTs only when conducted in regulated banks.

---

Leveraged intermediaries also rely on SFTs for financing through borrowing: banks and broker-dealers deploy SFTs to support funding and securities dealing, and hedge funds use SFTs in a variety of market conduits, especially if they are insufficiently capitalized to attract direct funding. Securities-borrowing activity extends across all of these sectors and is used principally as a funding mechanism, largely replacing unsecured overnight money markets for large financial institutions.

Assets in SFTs are often “rehypothecated”—that is, lent to others while held as collateral. Rehypothecation can take place several times, meaning that, under stress, it may build up systemic leverage and/or make it difficult to identify the beneficial owner. “Collateral mining,” in which banks and broker-dealers use high-quality collateral as efficiently as possible to enhance and increase their own borrowing capacity, is also an important aspect of SFTs, adding transaction volume and potential complexity.

The size, complexity, and potential confusion of SFTs raise many micro- and macroprudential concerns. However, SFTs serve several critical market and monetary-policy needs. The FSB (2012b) has observed

that “liquid securities financing markets are ...critical to the functioning of underlying cash, bond, securitization and derivatives markets.” This results because an SFT meets the demand for money-like instruments, one especially strong for risk-averse investors, including official reserve managers like central banks. SFT demand for sovereign obligations has become a driving force in fiscal policy, ensuring liquidity that helps to reduce taxpayer borrowing costs. Notably, the Federal Reserve plans to use certain reverse repo structures to “taper” its quantitative easing.

## Regulatory Initiatives and Implications

The financial crisis made painfully clear the massive macroeconomic damage that can quickly be wrought by securitization, over-the-counter (OTC) derivatives, and other products once seen as safe ways to diversify risk throughout the financial system (President’s Working Group, 2000). Based on this hard lesson, SFTs now pose a major worry due to the factors cited above, leading to an array of pending U.S. and global reform initiatives. However, virtually all of these initiatives will govern SFTs only when conducted in regulated banks. Regulators have worried about the “shadows,” and indeed have advanced initiatives in this sector again at the September 2013 St. Petersburg Summit (FSB, 2013). However, the bulk of final rules, as well as those most likely soon to be adopted for the SFT market, address only banks. This bank-centric focus creates two potentially serious and perverse results from pending SFT initiatives. First, large banking organizations, especially agent lenders, may need to sharply reduce SFTs, undermining liquidity in key financial and sovereign markets without materially reducing the leverage nonbanks can achieve through a SFT. Second, pending rules may not only unduly limit bank SFT capacity, but could also create a severe shortage of high-quality collateral, which in turn would distort financial markets, create incentives for the use of non-cash and higher-risk collateral, and again favor nonbanks.

Although each of the pending rules has an important purpose and many rightly address flaws in bank operations or regulation, the total impact of these rules

may be to overcorrect for the risks SFTs pose at large banking organizations in the following areas.

## Capital

Big banks are big SFT players. They are dramatically affected not only by the new Basel III rules (Basel Committee on Banking Supervision (BCBS), 2013c), but also by pending U.S. and global proposals to sharply increase leverage requirements (Office of The Comptroller of The Currency et al., 2013). The Clearing House (2013) has estimated that the combination of these leverage proposals will force a reduction of \$3.7 trillion at the twelve largest U.S. banks, with \$720 billion of this coming from the U.S. banks most active in SFTs. Much of this will come from holdings of the sovereign and agency obligations critical to SFTs because these low-risk assets will fall under capital charges disproportionate to their risk, especially after taking net—not gross—exposures into account. The new rules would also impose a capital charge on cash, disproportionately reflecting risk and creating a strong incentive to hold non-cash collateral despite the resulting hike in prudential risk. As Federal Reserve Board Governor Jeremy Stein (2013) has noted, capital requirements along these lines would essentially be a tax on SFT, departing from the longstanding principle of using capital as a prudential tool. Regulatory capital is supposed to capture credit risk, but regulators have said that their chief worry in SFTs is liquidity risk. Thus, the interaction of the capital and liquidity rules complicates a coherent response. None of these capital standards applies to nonbank securities lenders (e.g., money-market funds, insurance companies) despite their systemic-risk potential.

## Liquidity

Global liquidity rules create an incentive for holding large amounts of unencumbered liquid assets that can be sold under stress to meet market demand (BCBS, 2013c). In the absence of such assets, firms may engage in fire sales that create systemic downward spirals in asset values that freeze markets in the manner experienced in 2008. The liquidity rules remain a major challenge, with the BCBS (2013a) recently estimating

that global banks need to raise \$762 billion to meet the short-term liquidity standard and \$2.7 trillion to meet the longer-term one. Fire sales are a particularly acute concern in the repo area. Thus, liquidity is particularly critical in SFTs. These assets are typically sovereign and agency paper. However, the new capital requirements—exacerbated by the requirement to capitalize unrealized gains and losses related to these benchmark assets—creates a disincentive to hold assets essential for prudent SFTs and to reduce SFTs in firms subject to these liquidity requirements. They do not apply to lenders such as money-market funds and insurance companies even though they were subject to runs in 2008 that were partially related to SFT exposures.

---

... the sum total impact of these rules may be to overcorrect for the risks SFTs pose at large banking organizations...

---

## Credit Exposures

The BCBS (2013b) has proposed a significant limit on the exposure large banks may have to individual counterparties. Sovereign exposures would not be exempted, meaning that large holdings in obligations like U.S. Treasuries would be limited in the same way as risk housed in another large bank despite the wholesale difference in real credit-risk exposure (especially when the capital required for sovereign exposures is taken into account). Further, exposures would be measured in a manner that undermines the use of central counterparties and limits recognition of hedging and other risk-reduction mechanisms, significantly reducing the ability of covered banks to support market need. Importantly, the exposure measurements here differ from those used for the capital rules, creating an array of confusing and unintended interactions. Again, nonbanks are not subject to comparable restrictions.

## Margin Requirements

Global regulators are advancing initiatives to transfer OTC-derivatives activities to CCPs (G20, 2013). However, the ability of these entities to handle large volumes of these instruments remains to be determined. In the interim, regulators have imposed significant new margin

---

However, as with other rules, those governing SFTs have a cumulative effect that may well result in a perverse result: a sharp drop in the ability of regulated firms to engage in an activity recognized as critical to the smooth functioning of financial markets...

---

rules requiring counterparties in the OTC market to hold far more high-quality collateral to ensure that credit risk or systemic operational disruptions to derivatives clearing will not result in a crisis. OTC derivatives dealing is heavily concentrated in very large banks. Indeed, the OCC's most recent report (2013) indicates that the four largest U.S. banks control 93 percent of this sector. Thus, bank demand for high-quality assets will need to rise dramatically, increasing regulatory-capital costs, complicating compliance with credit-exposure limits, and potentially leading to market disruption as the supply of eligible collateral shrinks. Collateral demands rise under stress; therefore, a higher demand for encumbered assets could be particularly challenging under stress at an individual bank or across the market, exacerbating procyclicality. Central counterparties (CCPs) may address challenges to banks, but perhaps at the cost of still more SFTs because institutional investors use this product in part to meet variation margins for derivatives trades on CCPs.

## Funding Restrictions

Daniel Tarullo (2013a), Federal Reserve Governor, has proposed applying a limit on the amount of short-term debt large banks may issue in order to reduce their liquidity risk. Focusing in particular on repos and SFTs, he has argued that these limits should be imposed across the financial industry, but states that actually doing so is a “challenging task.” Previously, Governor Tarullo (2013b) noted the complexity of properly calibrating these limits to reduce systemic risk without also “suppressing... [t]he important part of the modern financial system in providing liquidity and lowering borrowing costs.” He nevertheless urges continued action on this issue and suggests a rule governing U.S. banks in SFTs and repos may soon be released by the Federal Reserve.

## Volcker Rule

This Dodd-Frank Act provision not only bars proprietary trading, but also precludes certain fund investments by banking organizations. As proposed by federal agencies (OCC et al., 2011), the rule could bar agent lenders housed in banks from establishing cash collateral pools to support client investment in cash collateral. Depending on the interpretation of the proposed rule, it could also bar borrower-default indemnity, a frequent SFT practice. Arguably, none of these activities is speculative—the Volcker Rule's target—and both may increase the stability and liquidity of SFTs. Certainly, nonbanks will not be subject to any comparable restrictions.

## Orderly Liquidation

The United States and United Kingdom are working hard to establish a “single-point-of-entry” resolution protocol to resolve the largest financial institutions when troubled without resorting to taxpayer bailouts (FDIC and Bank of England, 2012). Key to this framework is the issuance by potentially systemic financial institutions of sufficient amounts of unsecured, long-term debt to provide funding that would recapitalize key operating subsidiaries (e.g., banks, broker-dealers). However, as





Life's better when we're connected



to vision



to growth



to jobs



to each other

At Bank of America, we're connecting local businesses across the country with the resources and support they need to grow, hire and fuel their local economy. Because when local businesses thrive, the whole community gets stronger. See how we're helping local businesses at [bankofamerica.com/local](http://bankofamerica.com/local)



bank balance sheets become increasingly encumbered to meet other rules, their ability to issue unsecured long-term debt is reduced, leading them to focus on short-term or secured borrowings wherever possible. This could, as global regulators have noted, undermine orderly liquidations and lead to renewed bailouts (Committee on the Global Financial System, 2013).

---

## Global regulators have raised concerns that these high-quality collateral shortages could be profound.

---

Only two pending initiatives apply across the spectrum of firms active in SFTs, but both are in only very preliminary form. The first is new resolution standards for those holding client assets (FSB, 2012a). This FSB plan seeks to secure client assets in the event of systemic stress, addressing rehypothecation. It also requires contingency planning that may cover SFTs, but each of these requirements is largely aimed at brokerages and asset managers, and may exempt agent lenders. The FSB has also proposed margin rules that would govern all SFT participants, but the willingness of national regulators—not to mention their statutory authority—to implement these rules is at best uncertain (FSB, 2012b). Describing these FSB proposals as “universal margining” in the speech referenced above, Governor Tarullo also notes considerable difficulties imposing any such standard across the financial industry.

### **Perverse and Procyclical Results**

In 2012, my firm constructed an analytical landscape assessing the panoply of U.S. and global rules, identifying potential unintended consequences when their cumulative effect is considered (Federal Financial Analytics, 2012). With regard to SFTs, one might argue that all of the problems outlined above in the review of pending rules are principally a competitive concern to

large banks active in SFTs, perhaps helping to reduce their “systemic footprint.” The thinking here would be that the need to meet all of these rules will lead banks to rely considerably more on high-quality collateral that, if too expensive, will force them to curtail SFTs or other activities. However, as with other rules, those governing SFTs have a cumulative effect that may well result in a perverse result: a sharp drop in the ability of regulated firms to engage in an activity recognized as critical to the smooth functioning of financial markets and to monetary policy, leading to a growing role of less- or unregulated firms in concert with reduced sovereign-bond liquidity and money-market efficiency.

The risk of this result derives not only from the interaction of all of the rules noted above, but also from the demand they create from regulated firms for the high-quality assets needed to meet capital and liquidity standards and to hold sufficient margin to meet both regulatory and market requirements.

Global regulators have raised concerns that these high-quality collateral shortages could be profound. The Committee on the Global Financial System (2013) estimates a shortfall of \$4 trillion, but some global regulators argued that this number might be conservative and, indeed, financial institutions advising the Treasury Department came up with a still more alarming number, estimating that the shortfall could be as large as \$10 trillion (Securities Industry and Financial Markets Association, 2013). The difference in part results from expectations global regulators have that high-quality asset demand will be met through “collateral transformation”—that is, rehypothecation or SFTs. This collateral transformation has some market efficiency value, such as enhancing the ability of financial institutions to use central counterparties. However, it may also create a vicious cycle in which high-quality asset demand may be met, but only “at the cost of increased interconnectedness, procyclicality and financial system opacity as well as higher operational, funding and rollover risks” (Committee on the Global Financial System, 2013).

In short, pushing too many rules too hard all at once will stress financial markets to the point at which new mechanisms developed to cope pose still more risk. ■

## References

- Basel Committee on Banking Supervision (2013a), *Basel III Monitoring Report*, Basel: Bank for International Settlements, (September).
- Basel Committee on Banking Supervision (2013b), *Supervisory Framework for Measuring and Controlling Large Exposures*, Basel: Bank for International Settlements, (March).
- Basel Committee on Banking Supervision (2013c), *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools*, Basel: Bank for International Settlements, (January).
- Basel Committee on Banking Supervision (2011), *Basel III: A global regulatory framework for more resilient banks and banking systems*, Basel: Bank for International Settlements, (June).
- Begalle, Brian, Antoine Martin, James McAndrews, and Susan McLaughlin (2013), "The Risk of Fire Sales in the Tri-Party Repo Market," *Federal Reserve Bank of New York Staff Report*, 616, (May).
- Committee on the Global Financial System (2013), *Asset Encumbrance, Financial Reform and the Demand for Collateral Assets, CGFS Papers*, 49, Basel: Bank for International Settlements, (May).
- Dodd-Frank Wall Street Reform and Consumer Protection Act (2010), Pub. L. No. 111-203, 124 Stat. 1376.
- Dudley, William (2013), "Introductory Remarks," Speech given at Federal Reserve Bank of New York Workshop on Fire Sales as Driver of Systemic Risk in Tri-Party Repo and Other Secured Funding Markets, October 4.
- Federal Deposit Insurance Corporation and Bank of England (2012), "Resolving Globally Active, Systemically Important, Financial Institutions," December 10.
- Financial Stability Board (2013), *Strengthening Oversight and Regulation of Shadow Banking: Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos*, Basel: Bank for International Settlements, August 29.
- Financial Stability Board (2012a), *Application of the Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions*, Basel: Bank for International Settlements, (April).
- Financial Stability Board (2012b), *Securities Lending and Repos: Market Overview and Financial Stability Issues: Interim Report of the FSB Workstream on Securities Lending and Repos*, Basel: Bank for International Settlements, April 27.
- Federal Financial Analytics (2012), "Strategic Regulatory Landscape: Regulatory Intent versus Policy and Market Risk in the Financial-Services Industry Capital, Liquidity, Risk Management and Related Prudential Requirements," October 22. Can be found at: [http://www.fedfin.com/images/stories/client\\_reports/Regulatory%20Landscape.pdf](http://www.fedfin.com/images/stories/client_reports/Regulatory%20Landscape.pdf)
- G20 (2013), *G20 Leaders' Declaration*, St. Petersburg: G20, (September).
- Office of the Comptroller of the Currency (2013), *Quarterly Report on Bank Trading and Derivatives Activities Second Quarter 2013*, Washington D.C.: Office of the Comptroller of the Currency, September 27.
- Office of the Comptroller of the Currency, Federal Reserve Board, Federal Deposit Insurance Corporation (2013), *Joint Notice of Proposed Rulemaking on Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for Certain Bank Holding Companies and their Subsidiary Insured Depository Institutions*, Washington D.C.: Office of the Comptroller of the Currency, Federal Reserve Board, Federal Deposit Insurance Corporation, August 20.
- Office of the Comptroller of the Currency, Federal Reserve Board, Federal Deposit Insurance Corporation, and Securities and Exchange Commission (2011), *Notice of Proposed Rulemaking on Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds*, Washington D.C.: Office of the Comptroller of the Currency, Federal Reserve Board, Federal Deposit Insurance Corporation, and Securities and Exchange Commission, November 11.
- President's Working Group (2000), "Report on OTC Derivatives - CEA Re-Authorization," Hearing before the Committee on Agriculture, Nutrition, and Forestry, United States Senate, February 10.
- Securities Industry and Financial Markets Association (2013), "Assessing Fixed Income Market Liquidity," (July). Can be found at: [http://www.treasury.gov/resource-center/data-chart-center/quarterly-refunding/Documents/Charge\\_2.pdf](http://www.treasury.gov/resource-center/data-chart-center/quarterly-refunding/Documents/Charge_2.pdf)
- Stein, Jeremy (2013), "The Fire-Sales Problem and Securities Financing Transactions," Speech given at Federal Reserve Bank of New York Workshop on Fire Sales as Driver of Systemic Risk in Tri-Party Repo and Other Secured Funding Markets, October 4.
- Tarullo, Daniel (2013a), "Macroprudential Regulation," Speech given at Yale Law School Conference on Challenges in Global Financial Services, September 20.
- Tarullo, Daniel (2013b), "Evaluating Progress in Regulatory Reforms to Promote Financial Stability," Speech given at Peterson Institute for International Economics, May 3.
- The Clearing House Association (2013), *Comment Letter on Basel Committee Consultative Document: Revised Basel III Leverage Ratio Framework and Disclosure Requirements*, New York: The Clearing House, September 20.
- The Risk Management Association (2012), *Comment Letter on Inappropriate Potential Application of Volcker Rule to Traditional Securities Lending Activities*, Philadelphia: The Risk Management Association, (February).
- Toomey, Robert and Timothy Cummings (2012), "US Repo Fact Sheet 2012," Securities Industry and Financial Markets Association, (July). Can be found at: <http://www.sifma.org/research/item.aspx?id=8589939674>



# Bank Structure Reform

## Divergent National Approaches with Global Implications

■ by **GREGG ROZANSKY**, Managing Director and Senior Associate General Counsel  
**JENNIFER SCOTT**, Assistant Vice President and Counsel  
The Clearing House

Over the past few years, a chorus of lawmakers and scholars has argued that the basic structure of banking groups needs to be reengineered by law or regulation. While some of those bank structure proposals, such as the recently proposed 21st Century Glass-Steagall Act (2013) in the United States, face uncertain prospects, others have already been enacted in The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) (2010), and several others appear to have a strong chance of becoming law in the near future, including those recommended by the Independent Commission on Banking in the Vickers Report (2011). A deepened international dialogue and understanding of the potential risks posed by the diversity of structural reforms being considered around the world are critical as the reforms could have far-reaching consequences for global financial institutions and markets.



Post-financial crisis regulatory reforms thus far have made significant progress in stabilizing and strengthening the financial system, and the majority of these reforms have been widely coordinated and agreed upon at an international level (Baily and Elliott, 2013). Nonetheless, policymakers in a number of jurisdictions have considered, proposed, and in some cases adopted bank structural reforms on a national basis outside of, and as a supplement to, the coordinated G20 reform program. These bank structural reforms would, in some instances, require banking organizations to segregate certain activities or businesses into distinct subsidiaries (“structural separation”), or, in other cases, prohibit any entity that is a part of a banking group from engaging in certain activities (“structural prohibition”).

In this article, we explore the potential implications of bank structure reform. First, we provide an overview of the basic forms of bank structural limits. Second, we compare the leading proposed structural reforms in the United States and Europe. Third, we identify and analyze the following three concerns raised by proposed structural constraints imposed broadly across institutions by national law or regulation:

- They fail to take into account the unique and dynamic nature of individual institutions and financial markets.
- They may run counter to, or otherwise may not be well-harmonized with, the implementation of measures to resolve systemic institutions being coordinated on a global basis by the Financial Stability Board (FSB).
- Divergent approaches to structural measures across different jurisdictions may lead to additional structural complexity for globally-active banks and adversely impact the efficiencies gained through more seamless global banking activities.

This article concludes with recommendations for international policymakers to consider in developing and/or implementing structural reform.

The debates surrounding the relative merits of these structural measures are complex and often ignite passionately held views about the appropriate role of banks within the post-crisis financial system. At the heart of the public discussion about these proposals, the question should

be: Are across-the-board structural measures likely to present an effective response to the weaknesses in the financial system exposed by the crisis or otherwise serve important policy aims or would their global costs exceed their benefits?

## Are across-the-board structural measures likely to present an effective response to the weaknesses in the financial system exposed by the crisis...or would their global costs exceed their benefits?

### Basic Forms of Bank Structural Limits

There are two basic forms of structural limits—structural *separation* and structural *prohibition*.<sup>1</sup>

*Structural separation* is a type of limit that requires banking organizations to segregate certain activities or businesses into distinct subsidiaries, typically along either business or geographic lines. *Business line* or *functional separation* allows a banking group to engage in a range of activities, but requires a functional separation of certain activities, frequently referred to as trading and investment activities from retail and commercial banking activities. This can be achieved through legal separation, such as subsidiarization, or economic separation, such as “ring-fencing”, or some combination of both. *Geographic separation* (or geographic ring-fencing) requires the use of a specific organizational structure for banks located within a particular jurisdiction. The interposition of an intermediate holding company (IHC) to own all

subsidiaries operating in a given jurisdiction, as the Federal Reserve has proposed in the United States or local subsidiarization of branches are examples of such geographic separation.

*Structural prohibition* is a more stringent form of a structural limit; it restricts the scope of a banking group’s activities by effectively prohibiting the bank *and* any of its affiliates from engaging in certain activities altogether, forcing a banking group to exit business lines that engage in those activities by selling those businesses or simply shutting them down.

### Overview of Proposed Structural Reforms in the United States and Europe

Bank structural limitations—including various forms of structural separation and structural prohibition—have been part of the legal framework in the United States for many decades. Perhaps the best-known structural limitation is the Glass-Steagall Act (1933), which, when enacted, prohibited banks from being affiliated with entities principally engaged in securities activities and restricted national banks from dealing in or underwriting investment securities. In 1999, the Gramm-Leach-Bliley Act (GLBA) (1999) repealed the structural prohibition provisions restricting affiliations between banks and securities firms, but left in place the broad restrictions on the conduct of securities activities by banks. Today, the structure of U.S. banking groups must conform to certain structural parameters set by a combination of rules embedded in the Bank Holding Company Act, Glass-Steagall, the GLBA, and Sections 23A and 23B of the Federal Reserve Act. As described below, several provisions of the Dodd-Frank Act will also directly or indirectly impact bank structure.

By contrast, the universal banking model with limited structural requirements is the dominant model in many European countries. However, following the financial crisis, several structural limits have been proposed. At the EU level, European Commission Commissioner for Internal Market and Services Michel Barnier set up a high-level expert group in November 2011 chaired by Erkki Liikanen, the Governor of the Bank of Finland, to

<sup>1</sup> This article does not address reforms that would simply cap the size of a bank based on liabilities or some other metric.



examine possible reforms to the structure of the EU's banking sector (2012). The European Commission has yet to introduce EU legislation adopting ring-fencing reforms based on the Liikanen Report but has indicated that it will do so in the coming weeks (Barnier, 2013b). Meanwhile, both France and Germany have jumped ahead of the European Commission by adopting legislation for their own more limited ring-fencing plans. HM Treasury set up the Independent Commission on Banking in June 2010, chaired by Sir John Vickers, to review the structure of the U.K. banking system and recommended a ring-fencing approach to structural reform. HM Treasury drafted two iterations of legislation based on the Vickers Report, and a comprehensive banking reform bill further defining the ring fence approach recommended by the Vickers Report is working its way through the U.K. legislative system. (GOV.UK, 2013).

## Structural Separations

### *Structural Separation (by Business Line)*

The recommendations in the Vickers and Liikanen Reports are based upon the concept of structural separation by business line, although each proposal approaches the concept differently. The Vickers Report would ring-fence retail banking operations and the Liikanen Report would ring-fence investment banking operations. In particular, under Vickers, U.K. banks would be required to establish a separate legal entity within their corporate group structure to provide retail banking services in the United Kingdom. Under Liikanen, the scope of the activities to be separated would include proprietary trading of securities and derivatives, together with all assets or derivatives positions acquired in the process of market-making. Such activities would be required to be assigned to a separate legal entity that could operate within a bank holding company structure. Both the French and German bank structure legislation adopt a ring-fencing requirement similar to the approach contemplated by the Liikanen Report. Unlike under Liikanen, however, the French and German legislation would permit a depository institution to continue to conduct a wide array of market-making activities other than “proprietary trading.”

In the United States, Section 716 of the Dodd-Frank Act prohibits “swaps entities” from being provided “federal assistance,” including FDIC deposit insurance and access to the discount window of the Federal Reserve, effectively requiring insured banks to “push out” certain swap activities, including equity swaps and commodity swaps, into nonbank affiliates (Swaps Push-Out Rule). While not a true ring-fence like the proposals in the United Kingdom and European Union, the Swaps Push-Out Rule is analogous in that certain derivatives trading activities are effectively required to be conducted by an entity that is separate from an insured bank.

### *Structural Separation (by Geography)*

Although historically the United States has not required the U.S. operations of “foreign banking organizations” (FBOs)—i.e., non-U.S. headquartered banking institutions with U.S. banking operations—to take a particular corporate form, the Federal Reserve has proposed a geographic, ring-fencing structural requirement for certain large FBOs. The proposed rule would generally require large FBOs to establish an intermediate holding company (IHC)—or top-tier U.S. holding company—for U.S. operations (U.S. FBO Proposal).<sup>2</sup> If finalized as proposed, the impact would be to ring-fence all U.S. activities (other than U.S. branches and agencies) within the IHC and subject the entity to oversight by the Federal Reserve and enhanced prudential standards that would apply at the IHC level, including capital and liquidity requirements.

## Structural Prohibitions

The centerpiece of the Volcker Rule (Section 619 of Dodd-Frank Act) is a structural prohibition on the ability of U.S. insured depository institutions, FBOs and their affiliates from engaging in “proprietary trading” and sponsoring or investing in hedge and private equity funds subject to some limited exceptions, including exceptions for customer-related activities such as market-making. Final regulations implementing and interpreting the Volcker Rule have yet to be issued, and

2 Enhanced Prudential Standards and Early Remediation Requirements for Foreign Banking Organizations and Foreign Nonbank Financial Companies, (2012) 77 Fed. Reg. 76, 629.

thus, the precise contours of the prohibition are not yet defined.

Although it appears unlikely to attract sufficient support to become law, the recently proposed 21st Century Glass-Steagall Act of 2013 would go even further and effectively reinstate a stricter version of the Glass-Steagall provisions that were repealed by the GLBA, as well as prohibit a U.S. insured depository institution from engaging in, or having any affiliates that engage in, insurance or swap activities.

...international policymakers must carefully consider the **potential consequences of these measures**, particularly in light of other reforms that address the same or similar concerns.

### Potential Implications of Bank Structure Reforms

Proponents of bank structural reforms frequently cite one or more of the following objectives as being furthered through such reforms: restraining excessive risk-taking unrelated to traditional banking activities, promoting financial stability, or improving resolvability (FSB, 2013). While often developed to supplement other reform efforts, international policymakers must carefully consider the potential consequences of these measures, particularly in light of other reforms that address the same or similar concerns. To help inform the analysis, we have identified three critical aspects concerns raised by the proposed structural reforms.

*First, structural limits are less precise than other*

*regulatory tools designed to achieve the same purposes as they fail to take into account or respond to unique and dynamic risks posed by individual institutions or financial markets.*

At the national level, several of the structural reforms under consideration aim to promote financial stability by restraining risk-taking and enhancing the resiliency of banks. Rigid structural specifications, however, have several shortcomings as compared to other existing regulatory tools when used for these purposes.

For the past quarter century, economic crises (e.g., U.S. 2007-2009 and East Asia in the 1990s) have generally originated from common exposures to specific risks (e.g., a fall in housing prices or a currency depreciation). Bank structure reforms erect barriers within firms and create divisions in markets through their activity limits or subsidiary requirements. As a consequence, structure reforms may encourage market distortions, such as “herding” of banks into assets historically deemed to be safe or core banking products (e.g., mortgages and sovereign debt), leading to amplification of the business cycle and associated systemic risks. More specifically, structural restrictions along either geographic or business lines can potentially prohibit broader diversification of revenue streams and investments that could lower a banking group’s exposure to volatility and losses in any one market, thereby making banking groups more susceptible to a systemic crisis.

Even assuming that structural barriers can be carefully designed to protect the stability of a depository institution within a banking group or the group itself (which, as described in the following paragraph, poses significant challenges in its own right), legal or geographic barriers may do little to prevent the transmission of financial distress from outside to inside the commercial banking sector.<sup>3</sup> The fact that a bank is not engaged in a particular activity does not necessarily

<sup>3</sup> In many cases, the bank structural limits that have existed to date and those currently being discussed are based on the assumption that depository institutions conducting “safe” commercial banking should have access to government support (whether in the form of deposit insurance or emergency government facilities) and be kept separate from nonbank affiliates of a depository institution conducting “riskier” activities (e.g., investment banking).

mean that it is not indirectly exposed to risks arising from prohibited activities conducted by third-parties. Efforts are being made to widen the scope of micro- and macroprudential regulation to financial products and institutions outside of the traditional commercial banking sector (the “shadow banking system”) that perform bank-like functions and/or present threats to financial stability. Reducing transmission of risks, however, remains a highly complex task as financial markets evolve quickly and new risks and relationships rapidly develop. Separating out riskier activities into different nonbank entities may increase their own risk of failure which, in turn, could pose a risk to the stability of banking institutions to which they are inextricably linked.

Structural reform boundaries and divisions frequently reflect value judgments that fit into a political or regulatory narrative. In practice, boundaries and divisions—which are static in nature—are exceedingly difficult to define with any level of sophistication given the dynamic nature of institutions and financial markets. The Volcker Rule illustrates the immense practical challenges involved in defining these boundaries—especially, the contours of the critical definitions of “proprietary trading,” “private equity fund,” and “hedge fund.” Separating out “proprietary trading” from valid hedging transactions and market-making will almost certainly prove to be a complex exercise as it will inevitably involve drawing legal distinctions among functionally-similar or complementary activities. For example, depending upon the manner in which it is implemented and applied, regulators may need to second guess the motivation behind specific trades or investments irrespective of whether they ordinarily present a heightened risk of loss (e.g., trading in investment grade corporate bonds).

The regulatory tool-kit includes a wide range of requirements, standards, and procedures that, unlike structural reforms, may be finely calibrated. For example, regulators may intensify or relax capital and liquidity requirements on a bank-specific basis in view of economic conditions, bank growth, or contraction of a bank or a business within a bank. In addition, properly tailored and calibrated large exposure frameworks that limit bank exposures to any one counterparty can serve important prudential purposes and complement

existing risk-based capital requirements. Substantial progress has already been made in both the United States and the European Union in terms of identifying new, heightened prudential measures including stress testing for capital and liquidity, quantitative liquidity requirements, and large exposure limits for systemically important financial institutions. Given that risk is inherent in financial products (including core banking activities such as lending), and is dynamic rather than static in nature, refining and implementing prudential measures, rather than structural reforms, should continue to be the principal means of improving the safety and resiliency of banking groups. Moreover, since structural reforms may exacerbate volatility and susceptibility to losses and impose other costs, their use as a supplement to prudential measures has the potential to be counterproductive.

***Second, enacting structural reform may run counter to, or otherwise be inconsistent with, key aspects of the G20’s regulatory reform agenda, particularly resolution planning and cross-border insolvency frameworks.***

Several of the structural reforms under consideration at the national level aim to make banks and banking groups more resolvable and thereby reduce taxpayers’ contingent liability to support failing banks. This objective is clearly of paramount importance. However, the G20 set of reforms designed to support the implementation of globally consistent cross-border resolution strategies—including resolution planning for major banking groups and broad adoption of insolvency laws based on the FSB’s *Key Attributes of Effective Resolution Regimes for Financial Institutions* (2011)—has provided an effective path to this end.

In the coming year, senior international regulators from home and host country jurisdictions plan to coordinate their assessments of firm-specific recovery and resolution plans of the largest global banking groups and develop necessary cross-border agreements (so called, “COAGs”) to facilitate the development and implementation of effective bank resolution strategies (FSB, 2013). Resolution plans, like many structural reforms being considered at the national level, are intended to reduce the complexity of banking groups and



to improve their “resolvability.” As part of the resolution planning process, institutions may need to take actions to streamline or reorganize legal structures in order to facilitate a resolution under the applicable insolvency regimes. Resolution plans, however, have several inherent strengths relative to bank structure reforms more bluntly applied by national law or regulation. These benefits include:

- Plan preparation on a firm-specific basis taking into account an institution’s unique operations, domestic and foreign laws that apply to the institution, and other institution-specific factors.
- Periodic refinement and review of the plans as businesses, insolvency laws, and financial markets evolve.
- Plan critique and coordination on a multi-jurisdictional basis by key home and host-country supervisors of the banking group (“crisis management groups”) taking into account the complex interplay of international insolvency laws.

If not designed carefully, structural reforms could conflict with or run counter to internationally-agreed upon resolution strategies. This would be true, for example, if reforms create uncertainties in the minds of market participants or regulators regarding the manner in which a banking group would ultimately be resolved (e.g., will a host country regulator seize cross-border operations? how will authorities deal with the trading arm of the banking group?). Since widespread understanding and belief in the path to an effective cross-border resolution is a part of the solution in and of itself, it is critical that structural approaches neatly dovetail with resolution strategies. A particular concern in this regard is the possibility of multiple countries adopting a geographic ring-fencing approach and the corresponding risk that a country could “pull the trigger” on failing local operations of a global banking group. If this were to occur, a successful, rapid, and orderly recapitalization of a globally-active firm under a so-called “top-down” resolution strategy (that involves a single resolution authority applying its resolution powers to the top-tier holding company) may no longer be workable.

As jurisdictions around the world continue to implement the FSB’s *Key Attributes* into law, it is essential that structural changes work together with new insolvency laws and resolution frameworks.<sup>4</sup> For instance, without a full understanding of applicable insolvency laws, it would be impossible to discern how a branch approach, as opposed to a separately-capitalized subsidiary approach, to a group’s cross-border banking activities could impact the group’s resolution were it to fail.

The Swaps Push-Out Rule provides another illustration of the need for structural changes to dovetail with underlying law. A key lesson of The Clearing House’s Resolution Symposium and Simulation (2012) was that, in certain circumstances, the Rule could create a potential impediment to an orderly resolution of banking groups because it requires certain types of derivatives to be “pushed-out” of the bank where the FDIC, as receiver, would have had the ability (e.g., through the power to nullify cross-defaults) to preserve their value in the event of failure, to a nonbank where no such authority may exist under current insolvency law.<sup>5</sup>

***Third, divergent approaches to structural measures imposed by different jurisdictions may lead to additional structural complexity for globally-active banks and adversely impact integration across national or regional markets.***

As described above, national lawmakers have considered, proposed, and/or adopted divergent approaches to structure reform. The complex interplay of diverse national approaches threaten to result in unintended Balkanization or “plains of separation” within a banking group (which could include, but also go well beyond, legal separations at the retail banking-domestic, wholesale banking-domestic, and wholesale banking-international levels) and conflicting requirements for banking groups that operate on a cross-border basis. Directives of home and host countries could

4 The United States is further along than many of its European counterparts in implementing its resolution framework for systemically important financial institutions.

5 Whether or not the Swaps Push-Out Rule would, in fact, be an impediment to an orderly resolution depends upon various factors such as the applicable insolvency regime(s). For example, it should be possible to execute a successful “top-down” resolution approach under Title II of the Dodd-Frank Act notwithstanding the Rule.

not only conflict but also possibly be counterproductive for a number of reasons including the following:

- Forced divestitures, subsidiarization, and ring-fencing requirements could potentially strain international political relationships and have undesirable and/or unintended ramifications from a legal or economic standpoint (e.g., impact on cross-border bank lending).<sup>6</sup>
- Overlapping or conflicting ring-fencing or other structural requirements affecting globally-active institutions may require the establishment of multiple new legal entities to house activities and/or products, potentially resulting in additional structural complexity.
- Even where conflicting rules do not lead management to abandon businesses entirely, it could spur regulatory arbitrage, such as the reshuffling of certain restricted businesses into other jurisdictions without such restrictions.

In light of the foregoing, some formalization in the area of international review or cooperation on structural reform, could potentially be helpful. The FSB has embraced this notion as well. According to a recent FSB (2013) report:

“There is... a risk that diverging structural measures imposed by different jurisdictions may have an impact on integration across national or regional markets. FSB members should therefore monitor and discuss the potential cross-border spill-over effects that may result from different approaches. They should also take account of progress on cross-border cooperation and seek to avoid unnecessary constraints on the integration of the global financial system or the creation of incentives for regulatory arbitrage.”

<sup>6</sup> For example, other jurisdictions have reacted to the U.S.'s FBO Proposal by noting that it may lead to retaliatory actions (Barnier, 2013a; Barnier, 2013c) (expressing dissatisfaction towards the FBO Proposal and threatening retaliatory action if the U.S. pushes forward with the FBO Proposal). If multiple regulators force foreign banks to hold meaningful levels of capital and liquidity locally, significant additional costs would be imposed on global institutions and markets and credit availability to the real economy could be constricted.



“...I am not fully convinced by the proposed [U.S.] approach on Foreign Banking Organization. It seems to me to [be] moving away from cooperation with international partners—a cooperation which I see as absolutely necessary.” Michel Barnier, European Commissioner for Internal Markets and Services at the joint TCH-Atlantic Council luncheon on February 15, 2013. Barnier, who has said recently that the European Commission will move forward on structural reform in 2013, will be central to the direction of such legislation in the EU.

The FSB has indicated that, in collaboration with the International Monetary Fund and the Organisation for Economic Co-operation and Development, it will be undertaking an assessment of the cross-border consistency of structural measures and their financial stability implications by the end of 2014 (FSB, 2013). A holistic assessment of the impact of diverging reforms is a sensible approach considering the potential for spill-over effects across jurisdictions, adverse consequences based on the interaction of structural reforms with other reforms that are underway, and other unintended market distortions impacting cross-border trade and flows of capital. A diversity of bank structures and business models should have a *positive* impact on the stability and strength of the banking system, but a diversity of constraints affecting globally-active firms may well have the converse effect.

## Conclusion

As several senior U.S. and U.K. officials have publicly stated in recent weeks, the banking sector is considerably stronger now than before the crisis, and regulators are well on the path to be able to resolve even the largest global banks safely through a new framework for a coordinated resolution of financial groups (Carney, 2013). In order to ensure continued progress, regulators should continue to implement and refine the existing G20 agenda for effective supervision and resolution of major financial institutions.

Many of the proposed structural reforms reflect “lessons learned” during the crisis, including bad experiences with costly resolutions of failed financial institutions—in some cases domestic institutions, and in others foreign firms operating within their borders. The tendency to look for alternative solutions is understandable. Moreover, in certain cases, an appropriate use of structural measures may be to help make the individual resolution and recovery plan strategies developed by an institution, and vetted by the institution’s regulators, function more effectively and serve to increase the overall credibility of the FSB’s resolution and recovery framework.

On the other hand, structural reforms proposed at the national level that would serve to undermine closer global coordination would almost certainly do more harm than good. More generally, policymakers should recognize that national structural reforms would not be implemented in a vacuum. These reforms would be implemented in the context of global markets and institutions, as well as existing and developing regulatory and resolution frameworks. Thus, structural reforms should be analyzed to determine whether they would address gaps in the broader reform effort, ensure they do not detract from the policy objectives of other reforms, and avoid unnecessary adverse market distortions or cross-border spillover effects across jurisdictions.

As the progress of regulatory reform efforts becomes increasingly apparent, the call by national lawmakers for additional structural reforms may subside. However, especially to the extent the trend towards structural reform continues, policymakers would be well served to avoid acting in haste, and to take into account the ongoing implementation of the G20 agenda and the concerns highlighted above when developing and implementing policy. ■

## References

- 21st Century Glass-Steagall Act of 2013 (2013), 113th Cong. §3.
- Baily, Martin Neil and Elliott, Douglas J. (2013), “Five Years After Lehman, We’re Much Safer,” Brookings. Can be found at: <http://www.brookings.edu/research/opinions/2013/09/09-five-years-after-lehman-safer-baily-elliott>.
- Barnier, Michel (2013a), *Letter to Ben Bernanke, Chairman of the Federal Reserve Board of Governors*, April 18. Can be found at [http://www.federalreserve.gov/SECRS/2013/April/20130422/R-1438/R-1438\\_041913\\_111076\\_515131431183\\_1.pdf](http://www.federalreserve.gov/SECRS/2013/April/20130422/R-1438/R-1438_041913_111076_515131431183_1.pdf). Visited on October 18, 2013.
- Barnier, Michel (2013b), “UK Banks and the EU Single Market: What Now?” Statement at British Banking Association’s Annual International Banking Conference, October 17.
- Barnier, Michel (2013c), “UK banks and the EU single market: What next? Opportunities and challenges,”
- Statement at London School of Economics & Political Science, October 17.
- Carney, Mark (2013), Statement to the International Monetary and Financial Committee, October 12.
- Financial Stability Board (2013), *Progress and Next Steps Towards Ending “Too-Big-To-Fail” (TBTF): Report of the Financial Stability Board to the G-20*, Basel: Bank for International Settlements, September 2.
- Financial Stability Board (2011), *Key Attributes of Effective Resolution Regimes for Financial Institutions*, Basel: Bank for International Settlements, (October)
- Gov.UK (2013), “Creating Safer and Stronger Banks,” September 10. Can be found at: <https://www.gov.uk/government/policies/creating-stronger-and-safer-banks#issue>. Visited on October 18, 2013.
- Gramm-Leach-Bliley Act (1999), §§ 201 and 202, Pub.L. No. 106-102.
- Independent Commission on Banking (2011), *Final Report: Recommendations*, London: The Stationery Office, (September).
- Liikanen, Erkki (2012), *HighLevel Expert Group on Reforming the Structure of the EU Banking Sector: Final Report*, Brussels: European Commission, October 2.
- The Banking Act of 1933 (1933), Pub. L. No. 73-66, codified in various sections of Title 12, U.S. Code.
- The Clearing House (2013), *Report on the Orderly Liquidation Authority Resolution Symposium and Simulation*, New York: The Clearing House.
- The Dodd-Frank Wall Street Reform and Consumer Protection Act (2010), Pub. L. No. 111-203, 124 Stat. 1376.





# CLEARY GOTTLIEB

NEW YORK  
WASHINGTON  
PARIS  
BRUSSELS

LONDON  
MOSCOW  
FRANKFURT  
COLOGNE

ROME  
MILAN  
HONG KONG  
BEIJING

BUENOS AIRES  
SÃO PAULO  
ABU DHABI  
SEOUL

A leading international law firm with 16 offices located in major financial centers around the world, **Cleary Gottlieb Steen & Hamilton LLP** has helped shape the globalization of the legal profession for more than 65 years. Our worldwide practice has a proven track record for innovation and providing work of the highest quality to meet the needs of our domestic and international clients. In recognition of the firm's strong global practice, its effectiveness in dealing with the different business cultures of the countries in which it operates, and its success in multiple jurisdictions, Cleary Gottlieb received *Chambers & Partners'* inaugural International Law Firm of the Year award.

Organized and operated as a single, integrated global partnership (rather than a U.S. firm with a network of overseas offices), Cleary Gottlieb employs more than 1,200 lawyers from more than 50 countries and diverse backgrounds who are admitted to practice in numerous jurisdictions

around the world. Since the opening of our first European office in 1949, our legal staff has included European lawyers, most of whom have received a portion of their academic legal training in the United States and many of whom have worked as trainees in one of the firm's U.S. offices. The firm was among the first international law firms to hire and promote non-U.S. lawyers as equal partners around the world.

Our clients include multinational corporations, international financial institutions, sovereign governments and their agencies, as well as domestic corporations and financial institutions in the countries where our offices are located. Although each of our 16 offices has its own practice, our "one firm" approach to the practice of law offers clients in any office the ability to access the full resources of all of our offices and lawyers worldwide.

# PAYMENTS IN THE 21<sup>ST</sup> CENTURY

■ by **JIM ARAMANDA**, President and CEO  
**STEVE LEDFORD**, Senior Vice President, Product Development and Strategy  
The Clearing House

Payments are a bit like tap water, always there, ever reliable. Payments are also the linchpin of the economy; without them there is no commerce. Yet they are taken for granted by the vast majority of the population, in part because the process of making or clearing a payment has rarely gone wrong over the past century. The incidence of errors or exceptions for high-volume payment systems is expressed in terms of hundredths of a percent. With this ubiquity and reliability comes complacency. Time and time again, the challenges of the payments business have been underestimated.

Most financial institutions have underinvested in essential payments infrastructure because everything continues to work. They have also underinvested because the responsibility for payments is spread across multiple lines of business and back-office functions. Credit cards, consumer checking accounts, emerging payments, treasury management, merchant services, and transaction processing typically report to different executives. Even if a financial institution's senior management decides to pursue an enterprise-wide payments initiative, the ability to execute it is often hindered by unclear lines of accountability. A chief executive cannot simply will it to happen; he or she must organize management to make it happen.

How long can the status quo continue? The internet and mobile technology have raised the expectations of consumers and businesses. E-commerce makes goods and services from around the world accessible anywhere, anytime. Communications through email, text, and social networks are immediate. In a marketplace transformed by the digital revolution, can the backbone of our payments system continue to depend on legacy networks designed in the 1970s?

Over the past few years, the industry has created numerous studies, roadmaps, blueprints, and visions for the evolution of U.S. payment systems, all based on the notion that new models and technologies are needed to address the challenges of the 21st century. The Federal Reserve has published a call to achieve five "desired outcomes" for payments within the next 10 years, the most prominent of which is a call for a ubiquitous "near-real-time" payment network. There has been no lack of ideas. We now need the

industry to take concrete steps to start building the payment systems of the future.

Recent innovations have often used legacy systems in ways that were never intended. For example, the automated clearing house (ACH) network was developed more than 40 years ago to handle routine, recurring payments such as payroll deposits and preauthorized utility payments. The network's batch processing and next-day settlement work well for these uses. Increasingly, however, the ACH is being used for one-time payments initiated over the internet and on mobile devices. These cases often involve parties that do not have an established relationship and may never interact again. The use of legacy systems for unanticipated applications results in new capabilities being "bolted on" to old systems, which diminishes payment system efficiencies and introduces risk.

Meanwhile, nonbanks are investing in payments. They are taking on roles traditionally played by banks in providing payment services, in many cases without the same level of regulatory oversight, and without adhering to the same standards for safety and soundness.

New payments regulations include the Durbin Amendment, which has slashed the fees earned by financial institutions on debit card transactions by 44 percent, a reduction that could be pushed to more than 70 percent based on recent litigation (Federal Reserve Board of Governors, 2013). Such regulations, as well as narrower interest margins on balances, have reduced the return on equity of the traditional retail deposit business from 63 to -2



percent between 2007 and 2012.<sup>1</sup>

Nonbank innovators, however, can earn revenues for niche payment offerings, typically around 3 percent of transaction value, without the cost of providing full-range banking services to the mass market. These players are staking their claim on the highest-margin parts of the retail payments business, while financial institutions bear the cost of providing low-margin deposit accounts and maintaining core payment systems.

New players are also drawn to payments to enhance their role in rapidly growing digital markets. Developments ranging from social networks, mobile marketplaces, and online gaming require new ways of making payments. Unconstrained by heavy regulation and legacy business models, nonbanks are usually the first to offer new payment services for these marketplaces. Non-traditional payment services are expected to account for most of the growth in overall payments revenues by the end of this decade.

The desire to promote payments innovation presents a paradox. Many successful innovators embrace the “move fast, fail fast” culture of Silicon Valley. But failure is anathema to the principles of prudence, safety, and soundness that guide banking. The paramount question is: How do we innovate in payments without undermining the reliability of clearing and settlement, without increasing vulnerability to fraud, or without compromising data privacy?

Be it banks, or new nonbank players, a few simple principles are key in creating the payment system of the future. There is no reason to wait until we build new payment systems—which will be a multi-year journey—to apply these principles. The improvements we make today will form the foundations of the payment systems we create tomorrow.

A successful payment system must:

- Provide superior value in comparison to existing

<sup>1</sup> Data provided to the authors by Novantas.

payment systems.

- Incorporate fraud protections and risk management measures that are appropriate for increased transaction speed.
- Encourage innovation on an open, global-ready platform.
- Keep safety and soundness at the core, experimentation at the periphery.
- Generate a reasonable return on investment for all participants.

These principles are mutually reinforcing. A better user experience creates value that providers can monetize, allowing them to achieve a return on investment. Open systems allow the flexibility for payment system providers to develop novel products that offer a superior user experience. By addressing risks in existing payment systems, the industry will gain experience and build utilities that can be adapted to prevent fraud as payment speeds increase.

There’s a growing consensus of what needs to improve. We must not wait for future payment systems to address risks encountered in existing payment systems. Revised system rules and standards can mitigate risk in the current environment and serve as a foundation for the future. Let’s look at the imperatives for payments innovation in further depth:

## **New Systems Must Offer a Superior End-User Experience**

In any marketplace, success depends on the ability to produce products and services that customers want. In the payments marketplace, where customer usage patterns are entrenched, any new payment service must be significantly better than existing options. This challenge is doubly hard in payments because every transaction has two customers, the payer and the payee.

Although we have noted some concerns about existing payment systems, we should keep in mind that legacy

systems work very well for many, perhaps most, end-user needs. We do not need to reinvent payment systems that work. For example, debit and credit card networks meet the requirements for most retail sales applications, both point-of-sale and online, with real-time authorization and highly evolved fraud protections.

Also, many of the limitations of current payment systems are fueling innovation. Companies such as PayPal, Square, Braintree, and Intuit have been successful in extending the reach of debit and credit card acceptance for small merchants and mobile and online services. The Clearing House's SecureCloud, a program now in a pilot launch, will provide enhanced privacy and fraud protection for mobile and online payments by eliminating the need to share account numbers with merchants and payment service providers.

In the development of new payment systems, the industry should focus on uses that would benefit from faster clearing, faster notification, and enhanced information exchange. For example, immediate or same-day delivery of payments to billers, with real-time acknowledgment of receipt, would allow banks to provide the convenience of centralized online bill payment with the just-in-time certainty that has driven many consumers to direct payments at biller websites. Likewise, same-day payments could expand the reach of direct deposit to companies that pay their hourly workers at the end of each week.

The greatest demand in payments is for solutions that address these special cases. In meeting this demand we can focus on the capabilities and features that will deliver significant incremental value to users, without having to accommodate legacy requirements that might add unnecessary complexity and cost.

### **Fraud Protections and Risk Management Measures Must Increase with Transaction Speed**

We cannot increase the speed of payments without anticipating and protecting against the corresponding opportunities for fraud. Many of the countries that have

implemented faster payment systems have failed to do so. Faster payment systems are not inherently more susceptible to fraud, but the ability to move funds rapidly increases the ability of fraudsters to abscond with funds once they have compromised online or mobile banking systems.

At a minimum, a faster payment system will require that participants synchronize the speed of their fraud detection and deterrence, anti-money-laundering (AML) efforts, Office of Foreign Asset Control (OFAC) sanctions screening, and liquidity-management processes with the speed of clearing and settlement. For originating financial institutions this would include increasing the speed of systems that validate new payees, enforce volume and value limits, and identify out-of-pattern payments. For payment system operators there may be a need to set volume and value limits; identify unusual concentrations of payment receipt or origination; and increase security around the file submission process. For receiving financial institutions, a faster payment system that allows for debits may require that their customers use positive-pay ("white list") services or that blocked-entity ("black list") services be available.

## ***Time and time again, the challenges of the payments business have been underestimated.***

Alternately, it may be prudent to limit a faster payment system to credit payments. The U.K.'s low-value, real-time payment system is a credit-only service, and immediate payment systems in Denmark, Norway, Sweden, Switzerland, and South Africa are all credit-only systems. A credit, or "push," payment system has several inherent risk management benefits. Payees do not bear default risk arising from returns for insufficient funds. Mass payment fraud is more difficult for criminals to execute, because instead of debiting multiple accounts with a single batch of transactions, the perpetrators must compromise online security for the sender of every payment.



## **A Future Payment System Should Establish an Open, Global-Ready Platform that Encourages Innovation**

In order to encourage innovation and widespread adoption, any future payment system should be open. By this we mean the reach of the network is not limited to customers of a single proprietary payment service. The network should have universal reach, most likely by linking all payment system operators so that any sender can reach any receiver. The system should also provide a safe way for competing payment service providers to create products and services that meet end-user needs. These two characteristics will help ensure the success of a future payment system.

## ***The best way to spur innovation and identify applications that benefit customers is for payment service providers to have attractive financial expectations.***

The first, ubiquity through interoperability, would optimize the benefits of both network effects and competition. The value of a network increases with its reach—the more endpoints, the more valuable the network. In a market of proprietary networks, the only way to maximize network effects is to have a single provider. A monopoly, however, eliminates competition, and competition is necessary to drive customer value and innovation. An alternative is to have interoperability among operators, where they can compete vigorously to provide value for their participants, and all can enjoy the value created by a ubiquitous network, e.g., ATM networks.

The second, a platform accessible by competing payment service providers, would harness market forces to meet end-user needs. Consumers and businesses access payment services through products provided by their financial institutions and non-FIs. The providers of

these products have a much better understanding of their customers than the planners of an industry payment system will ever have. They are far better able to define product elements such as the user experience, integration with other services, pricing, bundling, and promotion. Those who sell payment products to businesses and consumers are able to react quickly to market feedback. If we can provide a platform of basic capabilities for payment service providers to build on and compete with each other, payment products that best fulfill end-user needs will win.

Both interoperability and competitive access depend on standards. Operators must agree on data formats, technical protocols, and processes. To the extent operators agree to use existing, widely adopted global standards, they can take advantage of the current knowledge base and commercial technology. Using global standards makes it easier to integrate U.S. payment systems into cross-border schemes. It also provides a common way for payment service providers to access core services from competing operators, and allows them to use off-the-shelf technology as a base instead of developing everything from scratch.

## **Experimentation Must Stay at the Periphery, Safety and Soundness at the Core**

As noted above, the desire to innovate in a highly regulated environment presents a paradox. Payment systems must be responsive to end-user needs, but they must also be safe and sound. There is a way to resolve this paradox through the design of a payment system.

The core payment system must adhere to strict standards for security, data privacy, reliability, regulatory compliance, and provider solvency. There should never be any question as to whether a transaction will fail to clear or settle, or if there has been any know-your-customer, AML, or OFAC failure. Access to the core must be restricted to those parties that can meet these stringent requirements.

The payment system will also, however, provide a platform that can be used by competing payment service



# Our financial regulatory clients rely on the exceptional, collaborative service we deliver. Their success is our focus.

Davis Polk's market-leading Financial Institutions Group represents many of the most important U.S. and non-U.S. banks, broker-dealers, insurance companies, trading markets and investment managers. Our lawyers are at the forefront of advising financial institutions on how new Dodd-Frank Act and bank capital requirements will impact their businesses.

For more about our financial regulatory services, please visit [davispolk.com](http://davispolk.com) or contact:

**Randall D. Guynn**

Partner and Head of the Financial Institutions Group  
[randall.guynn@davispolk.com](mailto:randall.guynn@davispolk.com) ■ 212 450 4239



New York  
Menlo Park  
Washington DC  
São Paulo  
London

Paris  
Madrid  
Tokyo  
Beijing  
Hong Kong

## Davis Polk

providers to create products and services that meet end-user needs. This platform will have built-in safeguards that ensure these applications do not compromise the safety and soundness of the payment system. Within these bounds, the payment system should leave product design and user experience to financial service providers—to allow innovation, to meet unforeseen customer needs, and to promote competition.

## Participants Should Expect a Reasonable Return on Investment

The ability for all participants to earn an attractive return on investment is not merely a way to justify funding, but is a design criterion that needs to be addressed at every stage of planning and development. Sustainable economics are vital for the long-term health of a payment system. Without the prospect of a reasonable return on investment, participants will find it difficult to justify ongoing investment in a payment system. Underinvestment creates exposure to risk as payment systems fail to keep up with evolving threats.

Profit potential is also the most effective way to harness market forces to achieve desired outcomes. The best way to spur innovation and identify applications that benefit customers is for payment service providers to have attractive financial expectations.

The elements of sustainable economics for a new payment system need to be worked out before, not after, investments are made. We may not be able to predict with accuracy and certainty the economics for all participants. However, we can design a payment system to support mechanisms that allow participants to obtain a return on investment and offer incentives for providers to develop new products. Though the specific approach for achieving sustainable economics will depend on the uses a payment system is designed to address and an understanding of market forces at play, the following

guidelines should apply:

- The business case for the payment system must be incrementally positive (vs. the status quo) for all participants, including financial institutions.
- The business case must produce sufficient benefit for each participant to recover its investment in a reasonable amount of time.
- The business case should be staged to produce net benefits at each phase of deployment, instead of front-loading costs and back-loading benefits.
- The payment system will enable the development of payment products that provide enough incremental benefit for users (compared with legacy payment systems) that at least one party will be willing to pay a reasonable fee for the service.
- The payment system will support interbank compensation to encourage universal participation by financial institutions; promote the development of innovative services; and redress economic externalities such as cost shifting.


The principles addressed in this article do not define an end state, but rather point the way on how to improve existing payment systems and make systems under development sustainable for the long run.

Most important, these principles call on financial institutions to take a leadership role in developing the payments systems of the future. The status quo is not sustainable; payments will evolve. If financial institutions do not lead, the evolution of payments will most likely continue as it has for the past few years, with nonbanks increasingly operating the most profitable services while banks shoulder the cost of aging core systems. Active industry leadership in building payment systems will support safe, sustainable innovation and create new business opportunities for all. ■

### References

Federal Reserve Board of Governors (2013) *Impact of Regulation II on Small Debit Card Issuers*, Washington D.C.: Federal Reserve Board of Governors.

Federal Reserve Board of Governors (2013) *Average Debit Card Interchange Fee by Payment Card Network*, Washington D.C.: Federal Reserve Board of Governors.



**We provide one-stop, high end advice across all major financial jurisdictions and legal systems.**

A cohesive approach to the connections between US, EU and Asian regulation is essential to ensure opportunities and risks are not missed.

With a worldwide team of more than 50 dedicated regulatory partners, we advise on cross-jurisdictional issues across the full spectrum of global financial regulatory matters, including compliance, risk management, bank regulatory, funds regulatory, securities, brokerage, commodities and derivatives, private bank and wealth management, investigations and enforcement, market infrastructure, insurance and reinsurance. We deliver integrated solutions to complex issues, leveraging our broad bench of experienced attorneys worldwide and our close understanding of current and future regulatory thinking.

ABU DHABI | BEIJING | BRUSSELS | FRANKFURT | HONG KONG | LONDON | MILAN | NEW YORK | PALO ALTO  
PARIS | ROME | SAN FRANCISCO | SÃO PAULO | SHANGHAI | SINGAPORE | TOKYO | TORONTO | WASHINGTON, DC



# REASONABLE & PROPORTIONAL

## The Forgotten Concept in the Durbin Amendment

■ by **SETH WAXMAN** and **NOAH LEVINE**

*Seth P. Waxman, former Solicitor General of the United States, is a partner at WilmerHale. He engages in a broad litigation and counseling practice, with particular emphasis on complex challenges involving governments or public policy, intellectual property, regulatory, criminal, and commercial issues. He currently represents The Clearing House in the NACS litigation, and has won landmark rulings in a number of Supreme Court cases, including *Boumediene v. Bush*, *Roper v. Simmons* and *McConnell v. FEC*. Mr. Waxman is the recipient of numerous awards for public service, scholarship, and advocacy.*

*Noah A. Levine is a partner in WilmerHale's Litigation/Controversy and Regulatory and Government Affairs Departments, and member of the Management Committee. He has a diverse litigation practice focusing on matters related to financial institutions, and divided between appellate and trial-level work. He is currently representing financial institutions in consumer credit class actions, state attorney general actions, as well as The Clearing House in the NACS litigation.*



Those who have followed the rulemaking under the Durbin Amendment and the merchants' litigation challenging the final debit interchange fee rule, Regulation II, have been treated to an extended debate about arcane cost issues the likes of which normally occupy ratemaking boards, not the Federal Reserve Board. Starting with the rulemaking, and in large part because of the methodology the Board used in that rulemaking, the debate has been almost exclusively about the costs of debit card issuers. Specifically, the Board, the merchants, and the district court have debated about which costs issuers should and should not be able to recover through interchange fees. The Board's position is that an issuer should not be allowed to recover all of its costs. Compared to the merchants, however, the Board thinks more costs are "in" than "out." Given these disagreements, the public debate has devolved into hyper-technical statutory and economic arguments about covered and excluded costs.

This debate misses the main directive of the Durbin Amendment. That is unfortunate. Congress did not intend to cast the Federal Reserve Board in the role of ratemaking board, nor did it intend the courts to become embroiled in fights about covered and excluded costs. To the contrary, Congress stated its intent plainly and directly. The Durbin Amendment's foundational provision states: "The amount of any interchange transaction fee that an issuer may receive or charge with respect to an electronic debit transaction shall be *reasonable and proportional* to the cost incurred by the issuer with respect to the transaction."<sup>1</sup> Those italicized words are the crux of the Durbin Amendment, yet the phrase earns barely a mention in the Board's rulemaking notices; is virtually absent from the merchants' challenge to Regulation II; and is hardly addressed in the district court's decision.

There is little doubt from the statutory text that Congress never intended the implementation of the Durbin Amendment to degenerate into a cost-counting exercise. And if the text were not itself sufficiently clear, the named sponsor's own words are. As Senator Richard Durbin said at the time the Senate approved his amendment, "The Durbin amendment would not have the Federal Reserve set interchange prices."<sup>2</sup> Rather, the Board would merely "oversee the debit interchange fees set by card networks to ensure that they are 'reasonable and proportional' to cost."<sup>3</sup>

The failure of the Board, the merchants, and the district court to approach the subject of debit interchange fees through the prism of reasonability and proportionality is all the more remarkable because Congress's chosen language has a plain meaning and an established pedigree: Federal courts—including the Supreme Court—have long interpreted price-regulation statutes

---

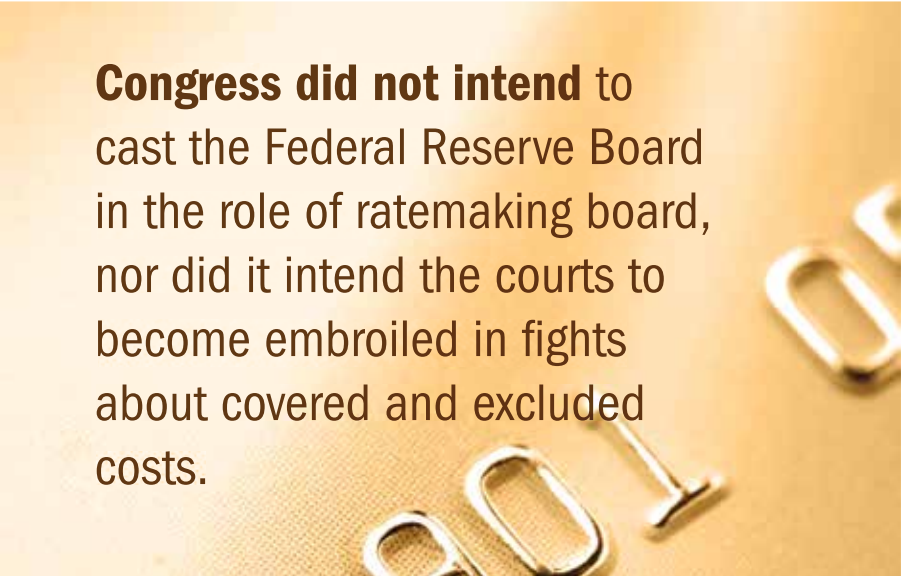
1 15 U.S.C. § 1693o-2(a)(2) (emphasis added).

2 Senator Richard Durbin, *Durbin Statement on His Debit Card Swipe Fee Amendment* (May 13, 2010), <http://www.durbin.senate.gov/public/index.cfm/pressreleases?ID=506e66c9-13bd-455c-ba21-d749148b5d5e>.

3 *Id.*

using similar terms to require that providers of the good or service in question be permitted to recover their costs *plus* a reasonable return.

As the merchants' challenge to the Board's rule moves to the D.C. Circuit, hopefully the focus will return to Congress's true intent: ensuring that debit card issuers, whose substantial investments in the secure and efficient electronic payments system have made this vital form of non-cash payment widely accessible to U.S. consumers, can recoup a reasonable, proportional return on their investments.



**Congress did not intend to cast the Federal Reserve Board in the role of ratemaking board, nor did it intend the courts to become embroiled in fights about covered and excluded costs.**

### **The Durbin Amendment and the Board's Misguided Methodology**

In 2010, in a last-minute addition to the Dodd-Frank Act, Senator Durbin introduced an amendment that inserted the federal government into the pricing of electronic debit card payment services. That payments system had thrived in the decade leading up to the Durbin Amendment's passage. From 1999 to 2009, no form of electronic payment grew more rapidly. In 2009 alone, nearly 38 billion electronic debit card transactions took place in the United States, comprising 35 percent of all non-cash transactions. Consumers and merchants alike benefited from that growth, gaining access to a more secure and efficient payment method. Then Congress stepped in.

The Durbin Amendment's regulation of interchange

fees centers on one overarching directive: "The amount of any interchange transaction fee ... shall be *reasonable and proportional* to the cost incurred by the issuer with respect to the transaction."<sup>4</sup> The statute then directs the Board to issue regulations establishing "*standards* for assessing whether the amount of any interchange transaction fee" meets this reasonable-and-proportional touchstone.<sup>5</sup> Congress instructed the Board, in developing these standards, to "consider[]" certain matters, such as "the incremental cost incurred by an issuer for the role of the issuer in the authorization, clearance, or settlement of a particular electronic debit transaction."<sup>6</sup> Congress also instructed the Board "not" to "consider[]" "costs incurred by an issuer which are not specific to a particular electronic debit transaction."<sup>7</sup> These "[c]onsiderations,"<sup>8</sup> and others set forth in the statute, are subsidiary to, and in the service of, Congress's overarching directive. At the end of the day, the Board's role is to study reasonableness and proportionality in the electronic debit card payments space, taking into account all possible factors relevant to those concepts, and then to develop standards by which interchange fees can be evaluated for reasonableness and proportionality.

The Board issued a proposed rule for comment, offering two alternative debit card interchange fee restrictions, neither of which focused on reasonability and proportionality.<sup>9</sup> Under both alternatives debit card interchange fees, which in 2009 averaged 44 cents per transaction, would have been capped across the board at no more than 12 cents, resulting in revenue losses to issuers of approximately \$12 billion annually. Under the first alternative, an issuer would have been permitted to receive a per-transaction interchange fee up to seven cents. If an issuer could show that its allowable costs per transaction exceeded that amount—again, the focus on costs in the forefront—then the issuer could receive a higher per-transaction interchange fee equal to those allowable costs, but no more than 12 cents. The second

<sup>4</sup> 15 U.S.C. § 1693o-2(a)(2) (emphasis added).

<sup>5</sup> *Id.* § 1693o-2(a)(3)(A) (emphasis added).

<sup>6</sup> *Id.* § 1693o-2(a)(4)(B)(i).

<sup>7</sup> *Id.* § 1693o-2(a)(4)(B)(ii).

<sup>8</sup> *Id.* § 1693o-2(a)(4).

<sup>9</sup> See 75 Fed. Reg. 81,722 (Dec. 28, 2010).



alternative proposed by the Board was simpler, but no less harsh, capping interchange fees at 12 cents per transaction.

As should be evident by this price-cap proposal, the Board developed its alternative approaches by fixating on the enumeration and quantification of “allowable” costs. Per-transaction costs would be determined by taking an issuer’s total allowable costs for the prior year divided by the total number of debit card transactions during that year. The Board limited allowable costs to only costs that an issuer incurs for the authorization, clearance, and settlement of debit card transactions—excluding, by the Board’s own acknowledgement, a substantial amount of costs that issuers incur in effecting electronic debit transactions, such as transaction monitoring, network fees, and fraud losses. Moreover, even within the limited category of “authorization, clearance, and settlement” costs, the Board admitted that the only allowable costs are those that vary with the number of debit card transactions up to an issuer’s existing capacity levels, known as “average variable cost.”


More than 11,000 individuals, financial institutions, and trade associations commented on the proposed rule. Representatives of the financial services industry urged the Board to heed the statute’s directive—the development of *standards* for assessing the *reasonableness and proportionality* of interchange fees—and highlighted the substantial problems that the Board’s cost-centered methodology would have on the financial services industry, consumers, and the electronic payments system overall.

Notwithstanding those arguments, the Board adhered to the same cost methodology in the final rule, though it allowed several additional costs to be recovered through interchange fees.<sup>10</sup> The final rule did not, as Senator Durbin had said was intended, issue standards for assessing whether interchange fees set by the industry in the first instance are reasonable and proportional. The Board instead set a hard, across-the-board debit-card interchange fee cap at 21 cents plus an ad valorem component of five basis points of the transaction’s value. As the Board explained, the 21-cent amount was based

<sup>10</sup> See 76 Fed. Reg. 43,394 (July 20, 2011).

only on “certain costs incurred” by issuers “to effect an electronic debt transaction.”<sup>11</sup> That is, the rule was set based on the Board’s survey of issuer costs and it accounted for only a portion of the costs that issuers incur with respect to a debit card transaction.

To the extent the Board addressed reasonableness and proportionality at all, it was only to state that its uniform price cap was not inconsistent with those concepts.<sup>12</sup> Within its narrow cost-allowance mindset, however, the Board refused to include any calculated rate of return in its price cap.



**More than 11,000** individuals, financial institutions, and trade associations commented on the proposed rule.

### **The Merchants’ Lawsuit and the District Court’s Opinion**

A consortium of merchants and their trade organizations filed suit shortly after the Board issued its final rule. That lawsuit has only perpetuated the cost-centered focus of the debit interchange fee debate. The merchants did not disagree with the Board’s general approach of setting interchange fees and doing so based on cost accounting, but the merchants disagreed that the Board had gotten the implementation right. The gravamen of the merchants’ complaint was that the Board had “vastly expand[ed] the categories of recoverable costs and thus the allowable debit

<sup>11</sup> *Id.* at 43,404.

<sup>12</sup> *Id.* at 43,423.

interchange transaction fee,” and as a result had “exceed[ed] the statutory authority delegated to the Board by the Durbin Amendment.”<sup>13</sup> Focusing their challenge exclusively on the Board’s allegedly unlawful allowance of specific categories of costs, the merchants asked the court to overrule the Board’s inclusion of any cost other than an issuer’s incremental cost of authorizing, clearing, and settling a transaction.

**While the court occasionally recited the phrase ‘reasonable and proportional,’ it did so only when quoting or otherwise referencing the statutory language. The court never engaged with the substantive meaning of the phrase.**

The district court agreed with the merchants on virtually every point, holding that the Board’s final rule “countermand[ed]” Congress’s intent.<sup>14</sup> Again, the court embraced the cost-centered perspective, finding that Congress “bifurcate[d] the entire universe of costs associated with interchange fees,” between (1) incremental authorization, clearance, and settlement costs relating to a particular transaction, which “shall be considered” in establishing the interchange transaction fee standard, and (2) “other costs” that are not specific to a particular transaction, which the Board “shall not” consider.<sup>15</sup> The court had no problem with the Board setting interchange fee prices. Indeed, in the court’s view, the statute commanded such an approach. But to the court, the only valid rule the Board can issue is one

capping interchange fees at the issuer’s incremental cost of authorizing, settling, and clearing a transaction.

While the court occasionally recited the phrase “reasonable and proportional,” it did so only when quoting or otherwise referencing the statutory language. The court never engaged with the substantive meaning of the phrase. Nor did the court address the serious constitutional implications raised by its interpretation of the statute.

### **The Precedent for a Reasonable Return**

When Congress enacted the Durbin Amendment, with its operative phrase “reasonable and proportional,” it did so against the backdrop of the ordinary and customary meaning of recurrent terms, as well as the backdrop of court decisions interpreting and applying those terms. Congress surely knew, understood, and intended, when it told issuers that their fees “shall be reasonable and proportional” to cost, that issuers would be able to recover cost plus a reasonable return.

In regulatory cases dating back decades, the Supreme Court has established a “constitutional requirement that prices determined by a public body rather than the market must comport with standards of fairness and reasonableness.”<sup>16</sup> The Court has made “plain that the ‘power to regulate is not a power to destroy.’”<sup>17</sup> The Due Process and Takings Clauses of the Fifth Amendment to the United States Constitution forbid the government from dictating a price at an amount that has a “confiscatory” effect, meaning a price so low as to be “inadequate to compensate current equity holders for the risk associated with their investments.”<sup>18</sup>

As the Court stated in its landmark 1944 case, *Federal Power Commission v. Hope Natural Gas Co.*, “the fixing of ‘just and reasonable’ rates, involves a

13 First Am. Compl. for Declaratory Relief ¶5, *NACS v. Bd. of Governors of the Fed. Reserve Sys.*, No. 11-cv-02075 (D.D.C.).

14 See *NACS v. Bd. of Governors of the Fed. Reserve Sys.*, — F. Supp. 2d —, 2013 WL 3943489, at \*23 (D.D.C. July 31, 2013).

15 *Id.* at \*13.

16 Harold Leventhal, *Vitality of the Comparable Earnings Standard for Regulation of Utilities in a Growth Economy*, 74 Yale L. J. 989, 991 (1965).

17 *In re Permian Basin Area Rate Cases*, 390 U.S. 747, 769 (1968).

18 *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 307, 312 (1989).



# A CRITICAL BALANCE

For every well-run company, striking the right balance between risk and reward is always critical. Today, unprecedented regulatory changes and obligations make doing so more challenging than ever before. Operational risk management has never been more complex or demanding.

***Promontory can help you achieve  
and maintain the right balance.***



**promontory.com** | T +1 202 384 1200

WASHINGTON, D.C. • ATLANTA • BRUSSELS • DENVER • DUBAI • HONG KONG • LONDON  
MILAN • NEW YORK • PARIS • SAN FRANCISCO • SINGAPORE • SYDNEY • TOKYO • TORONTO



balancing of the investor and consumer interests. ... [T]he investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include the service on the debt and the dividends on the stock.”<sup>19</sup> Thus, “the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.”<sup>20</sup> As Harold Leventhal remarked a year before he became a judge on the D.C. Circuit, the *Hope* Court “elevated” the principle of “a fair rate of return” to investors “from that of featured player to that of star” in its ratemaking jurisprudence.<sup>21</sup>

**Issuers have contributed** massive resources and energy in order to develop a sound, secure, and efficient payments industry; consumers and merchants have reaped the benefits.

Following this precedent, federal courts have decided several cases that hold that price-control statutes must allow the regulated entities to recoup a reasonable return on their investments. For example, in 2000, the Michigan legislature enacted a statute that abolished a fee imposed on telephone customers for intrastate calls and froze

19 *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

20 *Id.*

21 Leventhal, *supra* note 16, at 992.

telephone rates for 30 months. Similar to the Durbin Amendment’s professed aims, the Michigan statute was intended to help consumers and enhance competition—specifically, to ensure that “every person has access to just, reasonable, and affordable basic residential telecommunication service,” and to “allow and encourage competition [in] providing telecommunication service.”<sup>22</sup> Telephone service providers sued the state, challenging the fee-elimination and rate-freeze provisions under the Due Process Clause. Specifically, the providers contended that the statutes failed to provide them with a constitutionally required “mechanism through which telephone service providers may ensure they receive a just and reasonable rate of return on their investment.”<sup>23</sup>

The Sixth Circuit Court of Appeals agreed with the providers, holding that because the rate formula established by statute guaranteed only that the companies would recover their costs, and disallowed any reasonable return above cost, the law “clearly ... does not guarantee the constitutionally-required fair and reasonable rate of return.”<sup>24</sup> Put differently, an enactment that “merely” covers costs without “consider[ing] the need for a return on investment” is “inadequate under well-established due process standards.”<sup>25</sup>

In a similar case, the Ninth Circuit Court of Appeals considered the constitutionality of a 1989 Nevada insurance statute that mandated the rollback of rates for motor vehicle liability insurance to 1988 levels. Among other challenged sections of the statute, one provision stated that the state insurance commissioner could not approve an “inadequate” rate, and specified that “[r]ates are inadequate if they are clearly insufficient, together with the income from investments attributable to them, to sustain projected losses and expenses in the class of business of which they apply.”<sup>26</sup> The Nevada statute thus preserved insurance companies’ ability to recoup the costs of their services, but denied them the ability to earn a

22 *Michigan Bell Tel. Co. v. Engler*, 257 F.3d 587, 591 (6th Cir. 2001) (quoting Mich. Comp. Laws § 484.2101(2)(a), (b)).

23 *Id.*

24 *Id.* at 594-95.

25 *Id.* at 596.

26 *Guar. Nat'l Ins. Co. v. Gates*, 916 F.2d 508, 515 (9th Cir. 1990) (quoting Nev. Rev. Stat. § 686B.050(3)).

profit. The statute was thus unconstitutional. As the court concluded, a statute that “guarantees only that an insurer will break even” is insufficient because the Constitution requires more—precisely, a “fair and reasonable return.”<sup>27</sup>

That reasoning—and the constitutional concerns that animate it—are wholly absent from the district court’s ruling on Regulation II. The Clearing House, together with all the other nationwide bank and credit union trade associations, argued that the district court must interpret the Durbin Amendment against the backdrop of these baseline constitutional requirements. Indeed, as the industry amicus brief explained, one of the elemental canons of statutory interpretation requires courts to interpret congressional enactments to avoid serious constitutional questions where the court can do so while remaining faithful to the statutory text and Congress’s intent. But the court ignored *Hope* and the accompanying line of argument entirely, hewing to the cost-focused approach of the merchants and the Board. The court thus rested its decision on an analysis of the grammatical structure of a mere subsidiary direction to the Board in the Durbin Amendment—the directive that, in developing standards to assess reasonableness and proportionality, the Board must “consider” some costs but not others.

The premise underlying these constitutional decisions in the field of price regulation applies directly to the interchange-fee litigation. Issuers have contributed massive resources and energy in order to develop a sound, secure, and efficient payments industry; consumers and merchants have reaped the benefits. Moreover, issuers bear most of the risks that attend the electronic-payments system. If a purchase is fraudulent, the issuer frequently bears the risk. The Durbin Amendment allows issuers, as investors in the system, a return commensurate with their risks. The Board’s rule breaks that promise, and the district court’s order exacerbates the problem. In both respects, that problem can be traced back to the same failure—approaching the statute as a cost-counting measure, rather than engaging with and seeking to faithfully apply the first-order “reasonable and proportional” mandate of the statute.

27 *Id.* at 515.

## What Might Have Been

Had the Board seriously engaged with the reasonability and proportionality concepts, one could imagine a much different rulemaking under the Durbin Amendment. In the Supreme Court’s first landmark ratemaking case, *Smyth v. Ames*, decided in 1898, the Court identified considerations for determining the “reasonableness of rates” to be charged by a regulated industry. Among other “matters for consideration ... to be given such weight as may be just and right in each case,” the Court mentioned “the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses[.]”<sup>28</sup> One hundred and fifteen years later, these considerations remain apt and would have been fruitful matter for the Board to consider in its Durbin Amendment rulemaking.

Had the Board accorded the “reasonable and proportional” standard its proper, central place, the Board likely would have taken an entirely different approach—one that would have sought, at the end of the day, to understand the best measure of reasonableness and proportionality in the context of the thriving electronic debit card payments system, to ensure that issuers are able to earn a return on their investment. Consistent with the considerations set forth in *Smyth*, the Board likely would have considered factors like issuers’ costs of constructing and improving the payments system; issuers’ operating expenses for the payments system; and issuers’ earning capacity under any rule. Regulation II, and the rulemaking process leading to it, would—and should—have been much different. ■

28 *Smyth v. Ames*, 169 U.S. 466, 546-47 (1898), *abrogated in part by Fed. Power Comm’n v. Natural Gas Pipeline Co. of Am.*, 315 U.S. 575, 586 (1942) (rule set forth in *Smyth* not the only constitutionally acceptable method of fixing rates).



# RESEARCH RUNDOWN



Research Rundown provides a comprehensive overview of the most groundbreaking and noteworthy research on critical banking and payments issues and seeks to capture insights from academics, think tanks, and regulators that may well influence the design and implementation of the industry's regulatory architecture.

## Interchange

***Boston Fed Paper Finds Reg II Caused Large Bank Revenue to Decline, Had Little Effect on Community Banks (July).*** An analysis by Kaili Mauricio of the Boston Fed investigated whether the Durbin Amendment and Regulation II had an impact on interchange revenue for community banks and large banks. Mauricio's preliminary analysis suggested that interchange revenue declined for large banks following the implementation of Regulation II, but that there was no significant impact on community banks.

Mauricio, Kaili (2013), "The Durbin Amendment and First District Banks," Federal Reserve Bank of Boston *Community Development Brief*, 2.

***Federal Reserve: Interchange Exemption for Small Debit Card Issuers Working As Intended (May).*** The Federal Reserve issued a report announcing that the exemption designed to protect small debit card issuers from interchange fee standards applied to large issuers is working as intended. According to the report, depository institutions with less than \$10 billion in assets, which are exempt from the Regulation II interchange fee standard,

received fee revenue of 43 cents per transaction in 2012, approximately the same average per-transaction fee that these issuers received before Regulation II took effect.

Board of Governors of the Federal Reserve System (2013) "Impact of Regulation II on Small Debit Card Issuers," May 23.

## Capital

***Basel Committee Finds Banks Not Reducing Lending Activity to Satisfy Capital Requirements (September).*** The Basel Committee released a quarterly review that found that retained earnings—rather than reduced lending activity—have accounted for the bulk of the increase in risk-weighted assets (RWAs) at banks. The review stated that that bank lending activity, on average, has increased and that banks that emerged from the crisis relatively better capitalized and relatively more profitable than their competitors were able to expand lending more than those that did not.

Cohen, Benjamin (2013), "How Have Banks Adjusted to Higher Capital Requirements?" *BIS Quarterly Review*, September 15.



**Basel Committee Report to G20 on Basel III Implementation Finds Variation in RWA Measurement Across Banks (August).** The Basel Committee released a report to G20 Finance Ministers and Central Bank Governors that provides an update on the progress of the implementation of Basel III capital standards in member jurisdictions. The report noted that, in the six months leading up to December 2012, the average CET1 capital ratio of large internationally active banks rose from 8.5 percent to approximately 9 percent of RWAs. The results revealed material variations in the measurement of risk-weighted assets across banks, even for identical hypothetical test portfolios. The Committee wrote that it is actively considering possible policy reforms to improve the comparability of outcomes.

Basel Committee on Banking Supervisions (2013), "Report to G20 Leaders on Monitoring Implementation of Basel III Regulatory Reforms," Basel: Bank for International Settlements, (August).

**Fed Releases Report Saying Banks Need to Improve Capital Planning (August).** The Fed released a qualitative white paper, entitled *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Range of Current Practice*, which discusses its expectations for internal capital planning at large BHCs and describes the range of practices it has observed at these companies during the past three CCAR exercises. In its evaluation, the Federal Reserve found that firms need to improve a number of aspects of their capital planning processes, including their accounting for risks most relevant to the specific business activities, their methods of projecting the effect of certain stresses on their capital needs, and their governance of the capital planning process.

Board of Governors of the Federal Reserve System (2013), "Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Range of Current Practice," (August).

**Boston Fed Paper: Certain Banks May Have Experienced Losses in Excess of Basel III Capital Cushions (July).** The Boston Fed released an analysis of capital depletion at the largest U.S. financial institutions during the crisis, which found that, while the

evolving approach to capital regulation is a significant improvement over the pre-crisis approach, further enhancements may be necessary.

Strah, Scott, Jennifer Hynes and Sanders Shaffer (2013), "The Impact of the Recent Financial Crisis on the Capital Positions of Large U.S. Financial Institutions: An Empirical Analysis," Federal Reserve Bank of Boston, July 16.

## Liquidity

**Liquidity Requirements Severely Hamper Banks' Maturity Transformation (May).** In a paper entitled *Microprudential Regulation in a Dynamic Model of Banking*, the IMF's Gianni De Nisco et al. found that increased liquidity requirements unambiguously reduce lending, efficiency, and welfare.

De Nisco, Gianni, Andrea Gamba and Marcella Lucchetta (2013), "Microprudential Regulation in a Dynamic Model of Banking," May 10.

## Mobile Payments

**Boston, Atlanta Fed Paper Evaluates U.S. Mobile Payments Landscape (May).** The Federal Reserve Banks of Boston and Atlanta released an updated version of a paper originally published in 2011, which evaluates the evolution of the mobile retail payments industry since this time. Based on the meetings of the Mobile Payments Industry Workgroup (MPIW), the paper finds that, while the market is still in its nascent stages, significant steps are being taken to realize benefits within this space, such as improved security, reduction of fraud, cost efficiencies, new value-added services, new revenue and monetization opportunities, and improved consumer data privacy. However, it identifies the need to generate uniform industry standards to provide for a safe, secure, and cost-efficient ecosystem.

Crowe, Marianne, Susan Pandey, Elisa Tavilla and Cynthia Jenkins (2013), "U.S. Mobile Payments Landscape-Two Years Later," May 2.

## Cost of Funding Differential

**Former Fed Governor Randy Kroszner Releases Study, “A Review of Bank Funding Cost Differentials” (October).** Former Fed Governor Randy Kroszner released a paper, financially supported by The Clearing House, that addressed certain challenges in existing approaches to measuring cost of funding differentials. The study pointed out that large banks enjoy natural funding advantages due to factors unrelated to perceived government support, such as economies of scale, diversification, and the greater liquidity of large debt issuances. It also highlighted the fact that cost-of-funding advantages for large institutions are not a phenomenon unique to banking, and are enjoyed by large institutions across a variety of industries. Finally, the report also showed that studies of this issue to date have used pre-crisis data that fail to reflect the market’s response to enhanced regulations required by DFA and Basel III, with current market data (particularly CDS spreads) revealing that the market is increasingly differentiating among the largest banks based upon creditworthiness.

Kroszner, Randall (2013), “A Review of Bank Funding Cost Differentials,” (October).

**JPMC Working Paper: Market Data Discounts Notion of TBTF Subsidy (May).** Michel Araten published a working paper that argues that, as indicated by market ratings data, the market discounts the notion of government support for G-SIBs.

Araten, Michel (2013), “Credit Ratings as Indicators of Implicit Government Support for Global Systemically Important Banks,” May 31.

**Goldman Sachs Report Debunks Cost of Funding Advantage for Large Banks (May).** Goldman Sachs published a report which evaluates the cost of funding differential experienced by large banks, specifically in the bond market, from 1999-2012. According to the study, the bonds of the six largest banks in the U.S. had a modest funding advantage of 31 basis points on average; however, that advantage reflected a premium enjoyed by large issuers across industries resulting from greater depth and liquidity in their markets. Additionally, the report evaluates the direct losses incurred by the government during the Savings and Loan Crisis and the

# FROM OUR SHOP

Research conducted by The Clearing House

**TCH Study Highlights Significant Impact of U.S. and Basel III Leverage Ratio Proposals’ Inappropriate Treatment of Certain Exposures.**

TCH released a study on the impacts of both the Basel and U.S. supplemental leverage ratio proposals on U.S. G-SIBs. The study found that the U.S. and Basel proposals combined would establish the leverage ratio as a binding constraint, which TCH argues in its comment letter is inconsistent with the stated intent of the Basel Committee to establish the leverage ratio as a “backstop” to risk-based capital measures and would produce perverse financial and economic outcomes. Specifically, if the recent changes proposed by the Basel Committee were combined with the U.S. proposal to raise the minimum leverage ratio to 5-6 percent for U.S. global systemically important banks (G-SIBs), it would make the leverage ratio the binding constraint for 67 percent of U.S. G-SIB assets.

The Clearing House Association (2013), “Assessing the Supplementary Leverage Ratio,” (September).

**TCH Report on Longer-Term Liquidity Finds That NSFR Does Not Reflect Demonstrable Improvements in U.S. Commercial Banks’ Liquidity Position.**

TCH released a report on the NSFR (*Assessing the Basel III Net Stable Funding Ratio in the Context of Recent Improvements in Longer-Term Bank Liquidity*), which finds that the U.S. commercial banking industry has made significant improvements in liquidity since 2010 but that the current Basel III NSFR does not adequately reflect these objective improvements. The report also includes analysis and qualitative recommendations that would make the NSFR more reflective of the industry’s actual liquidity profile and minimize the potential negative impacts on consumers, businesses, and the economy as a whole.

The Clearing House Association (2013), “Assessing the Basel III Net Stable Funding Ratio in the Context of Recent Improvements in Longer-Term Bank Liquidity,” (August).



recent financial crisis and finds that the largest banks actually cost the government less than their smaller peers.

Strongin, Steve et al. (2013), “Measuring the TBTF effect on bond pricing,” Goldman Sachs Global Markets Institute, (May).

## Value of Large Banks

**Business Roundtable Paper: Large Bank Financial Products ‘Essential’ for 70% of Corporate CEOs (October).** The Business Roundtable released a paper that examines the value that globally engaged U.S. companies create for the U.S. economy and the extent to which they rely on large U.S. banks to meet their financial needs. The paper finds that (i) globally engaged U.S. companies are critical to the U.S. economy, generating 54% of private sector gross domestic product and supporting 71.2 million jobs; (ii) globally engaged U.S. companies use U.S. banks of all sizes but particularly rely on large U.S. banks to facilitate their global operations; and (iii) large U.S. banks are likely to become increasingly important to the success of globally engaged U.S. companies in the future. Of the CEOs of large corporates surveyed, 71% reported that at least three large bank financial products were essential to their operations.

Business Roundtable (2013), “Business on Banking: How Large U.S. Financial Institutions Help Companies Create Growth & Opportunity for America,” October 7.

## TBTF

**Treasury Report on State of the Industry Says Financial System “Safer, Stronger, and More Resilient,” Wall Street Reform Ending TBTF (September).** Treasury released a report that summarizes the activities both leading up to and following the crisis and assesses the current state of the financial industry. The report concluded that the financial system is “safer, stronger, and more resilient” and pointed to developments in senior unsecured borrowing costs of large bank holding companies relative to smaller bank holding companies

to argue that Wall Street reform is successfully working toward ending the market perception of TBTF.

U.S. Department of the Treasury (2013), “The Financial Crisis Five Years Later: Response, Reform and Progress,” (September).

**FSB Releases Report to TBTF Progress and Next Steps (September).** The Financial Stability Board released a report on TBTF that asserts that “there are signs that firms and markets are beginning to adjust to authorities’ determination to end TBTF...[as] market prices for credit default swaps for banks have become more highly correlated with equity prices, suggesting a greater expectation...that holders of debt will...bear losses.” The report concludes, however, that “the job is not finished” with regard to ending TBTF and identifies six areas that authorities need to address to do so.

Financial Stability Board (2013), “Progress and Next Steps Toward Ending “Too-Big-To-Fail” (TBTF): Report of the Financial Stability Board to the G20,” September 2.

## Structural Reform

**Brookings Institution: Proposals to Break Up Banks Ignore Benefits of These Institutions (July).** Doug Elliott and Martin Baily of the Brookings Institution released a paper which evaluates the three critical functions that banks provide for the financial system—namely, credit provision, liquidity provision, and risk management services—and assesses structural reform efforts that could force banks to shrink, whether through explicit break up mandates, size limits, costs for size, or credible resolution plans. The authors express that they do not support break up proposals due to “considerable economic benefits to size and scope and [the indication] that these advantages are likely to grow further”. They also debunk the merits of Glass-Steagall-type proposals, arguing that the proposal is anachronistic based on the increasing similarities between loans and securities and that “if we had broken up the big banks a decade ago into 10 or 20 pieces each, they would likely all or virtually all have made the same mistakes.”

Baily, Martin and Douglas Elliott (2013), “The Role of Finance in the Economy: Implications for Structural Reform of the Financial Sector,” The Brookings Institution, July 11.

***BIS Annual Report Offers Guidance on Structural Reform (June).*** The BIS released its annual report, in which it reviewed current progress being made towards financial reform efforts and offered guidance on building a more resilient financial sector, particularly with regard to structural reform and risk modeling. The report cautioned that, with regard to the structural reform, “Structural regulation could lead to different capital and liquidity requirements for the core banking and trading entities within a single banking group...[which] complicates regulation at the consolidated level.” “Hence,” the report notes, “there are limits to the substitutability between structural reform regulation on the one hand, and capital and liquidity regulation on the other. Restriction in bank structure may support the stability of individual firms, but their benefits are less clear for the system as a whole.”

Bank for International Settlements (2013), “83rd Annual Report,” June 23.

## Title II

***Bipartisan Policy Center Report Finds Title II Should End TBTF (May).*** The Bipartisan Policy Center released a report contending that Title II, especially through the FDIC’s single-point-of-entry approach, should end TBTF, as it allows for bailout-free failure that preserves financial stability and removes impediments to cross-border resolution. The report also notes that the Bankruptcy Code has the tools required to resolve SIFIs in an orderly manner in most circumstances and, with certain improvements, could reduce even further the chance that OLA would ever be required.

Bipartisan Policy Center (2013), “Too Big to Fail: The Path to a Solution- A Report of the Failure Resolution Task Force of the Financial Regulatory Reform Initiative of the Bipartisan Policy Center,” (May).

# FROM OUR SHOP

Research conducted by The Clearing House

***Oxford Economics Study Confirms Negative Impact of Higher Bank Capital Levels on the Economy and Job Growth.***

TCH released a study by Oxford Economics that reaffirms the expert consensus that increased capital and liquidity requirements on banks will have a negative impact on U.S. economic growth and future employment. The study analyzed five of the most prominently and frequently cited capital cost studies using the Oxford Global Economic Model—the most widely used commercial international economic forecasting and scenario model in the world. The results demonstrate that while there is a wide range of conclusions on the severity of the impact of increased capital and liquidity requirements, all the studies conclude that there will be an economic and job cost to the U.S. economy.

Oxford Economics (2013), “Analyzing the impact of bank capital and liquidity regulations on US economic growth,” (April).

***TCH Report Outlines Key Reforms, Debunks Myths Around TBTF.***

TCH put together an analysis on the rhetoric and misperceptions surrounding TBTF, which highlights the various reforms in place to end TBTF including Title II, enhanced capital and liquidity standards, and improved ex ante macroprudential tools to identify and monitor potential sources of systemic risk. It also debunks certain narratives created by critics, such as claims that SIFIs are too big, bank break-up would have little economic impact, and others.

The Clearing House Association (2013), “Vanquishing TBTF: Rhetoric Versus Reality and the Value of Systemically Important Banks in the Global Financial System,” (March).

## Risk/Modeling

**Basel Committee Report on RWAs for Credit Risk in the Banking Book (July).** The Basel Committee published its first report on the regulatory consistency of risk-weighted assets (RWAs) for credit risk in the banking book. The Committee found considerable variation across banks in average RWAs for credit risk in the banking book. Most of this variation is explained by broad differences in risk preferences as intended under the risk-based capital framework. The remaining variation, according to the report, is driven by diversity in interpretation and/or practices in various jurisdictions.

Basel Committee on Banking Supervision (2013), “Regulatory Consistency Assessment Programme (RCAP): Analysis of Risk-Weighted Assets for Credit Risk in the Banking book,” (July).

**BIS Annual Report Offers Guidance on Risk Modeling (June).** The BIS released its annual report, in which it reviewed current progress being made towards financial reform efforts and offered guidance on building a more resilient financial sector, particularly with regard to structural reform and risk modeling. On risk modeling and capital requirements, the report offered that a leverage ratio in and of itself is too simplistic to fully capture risk, as it does not provide “information to the market about underlying risk profile,” thus weakening market discipline. The report thus suggested that any regulatory framework incorporate both risk weights and a leverage ratio. Additionally, it recommended that any framework improve the reliability of internal risk measurement in banks through more stringent requirements for model approval and enhance market discipline by improving outsiders’ understanding of risk weight calculations.

Bank for International Settlements (2013), “83rd Annual Report,” June 23.

**Barclay’s Report: Banks’ Risk Weights Miscalculate Risk and Probability of Default (May).** Barclays released a report, entitled *Are Banks Any Good at Forecasting?*, that finds that banks over the last five years on average underestimated their risk by 13 percent

and experienced losses 54 percent greater than those predicted for corporate, institutional and mortgage loans. While the report states that “most of the time” banks’ actual probabilities of default are lower than predicted, it also states the error can be “massive” and thus casts doubt over “the predictability and hence meaningfulness of the resulting RWAs.”

Samuels, Simon et al. (2013), “Are Banks Any Good at Forecasting: A New Angle on the RWA Debate,” Barclays, May 30.

## Financial Crisis

**White House Report Finds State of Financial System Largely Improved (September).** The White House released a report entitled *The Financial Crisis: Five Years Later* that summarizes the key issues at the time of the crisis, the steps taken by the Obama administration, and the progress that these steps have made. The report cites major improvements with regard to the state of the financial system, particularly with regard to bank risk-taking, resolution efforts, short-term funding, capital levels, and derivatives activities.

Executive Office of the President (2013), “The Financial Crisis: Five Years Later,” National Economic Council, (September).

**Dallas Fed on Costs and Consequences of the Crisis (July).** A paper by Dallas Fed staff attempted to estimate the costs of the financial crisis, which could subsequently be weighed against the cost of policies intended to prevent similar crises. The authors estimated that 40-90 percent of one year’s output—or about \$6-\$14 trillion—was foregone due to the 2007–09 recession. They attempted to account for loss of economic output and financial wealth, psychological consequences and skill atrophy from extended unemployment, an increase in government intervention, and other costs.

Atkinson, Tyler and David Luttrell (2013), “How Bad Was It? The Costs and Consequences of the 2007-2009 Financial Crisis,” Dallas Fed *Staff Papers* (20), (July).



**CBO: Government Earned Profit From Banks on TARP, Costs Due to AIG and Auto Industry (May).** The Congressional Budget Office released a report on the Troubled Asset Relief Program that confirms that banks mostly repaid the government at a profit for taxpayers, and estimates that the majority of government costs stems from aid extended to AIG and the auto industry.

Congressional Budget Office (2013), “Report on the Troubled Asset Relief Program,” May 23.

## Cyber

**IOSCO Report: Cyberattacks Increasingly Aimed at Securities Markets Infrastructure (June).** IOSCO released a report warning that cyberattacks present an increasing risk to the financial system and are becoming more sophisticated in nature. Additionally, the report warned of the lack of cross-border coordination, information sharing, and code of conduct for cyber investigations.

Rohini, Tendulkar (2013), “Cyber-crime, securities markets and systemic risk,” July 16, IOSCO *Staff Working Paper*, 1 (2013).

**OCC Highlights Strategic, Cyber, and BSA/AML Risks Facing Banks (June).** In its Spring 2013 *Semiannual Risk Perspective*, the OCC detailed the most serious risks facing the banking industry. The report presented data on the operating environment; condition and performance of the banking system; funding, liquidity, and interest rate risk; and regulatory actions. The report focused on strategic risk, cyber threats, underwriting standards and competition for lending opportunities, interest rate risk, and BSA/AML risks.

Office of the Comptroller of the Currency (2013), “Semiannual Risk Perspective From the National Risk Committee,” (Spring). ■

# FROM OUR SHOP

Research conducted by The Clearing House

## *TCH Argues That Title II Ends TBTF.*

TCH released a report on TCH’s Title II OLA-Resolution Simulation exercise as well as a white paper detailing how Title II and the single-point-of-entry recapitalization (SPE) approach can be used to resolve a large, complex financial institution. TCH’s Title II OLA-Resolution Symposium and Simulation Report details that SPE can resolve a large, complex financial institution in a manner that is orderly and which preserves financial stability and fully protects taxpayers from loss. The white paper provides a more detailed analysis of the workability and benefits of SPE and argues that Title II provides regulators with an important safety valve to use in the event that a large, complex financial institution fails and ordinary resolution frameworks prove inadequate to protect financial stability. The paper asserts that Title II effectively ends the perceived “too-big-to-fail” problem in the United States by requiring that no cost is imposed on the taxpayer.

The Clearing House Association (2013), “Ending “Too-Big-to-Fail”: Title II of the Dodd-Frank Act and the Approach of Single Point of Entry” Private Sector Recapitalization of a Failed Financial Company,” (January).

The Clearing House Association (2013), “Report on the Orderly Liquidation Authority Resolution Symposium and Simulation,” (January).

# Bank Liquidity

Banks are rapidly closing liquidity gaps and are vastly more liquid today than they were before the crisis. It's vital that new rulemakings reflect objective improvements to bank liquidity.



**\$248 Billion**  
The amount by which U.S. commercial banks have reduced their reliance on wholesale funding since 2010.<sup>1</sup>



**\$1.4-2.4 Trillion**  
The U.S. banking industry's aggregate Net Stable Funding Ratio shortfall as of December 2012.<sup>2</sup>



**\$5 Trillion**  
The value of daily turnovers of securities-financing transactions.<sup>3</sup>



**1.6 hours**  
The average time it takes to trade \$50 million in bonds of a bank with more than \$500 billion in assets.<sup>4</sup>



**2.7 months**  
The time it takes to trade \$50 million in bonds of a bank with less than \$50 billion in assets.<sup>5</sup>



**\$584 Billion**  
The amount by which the U.S. banking industry has reduced its reliance on net short-term funding in the aggregate since 2010.<sup>6</sup>



**\$200 Billion**  
The shortfall for the U.S. banking industry to comply with the U.S. Liquidity Coverage Ratio rule, as proposed by the Federal Reserve.<sup>7</sup>

1. The Clearing House (2013), "Assessing the Basel III Net Stable Funding Ratio in the Context of Recent Improvements in Longer-Term Bank Liquidity," New York: The Clearing House, (August).  
2. The Clearing House (2013), "Assessing the Basel III Net Stable Funding Ratio in the Context of Recent Improvements in Longer-Term Bank Liquidity," New York: The Clearing House, (August).

3. Toomey, Robert and Timothy Cummings (2012), "US Repo Fact Sheet 2012," Securities Industry and Financial Markets Association, (July).  
4. Strongin, Steve et al. (2013), "Measuring the TBTF effect on bond pricing," Goldman Sachs Global Markets Institute, (May).  
5. Strongin, Steve et al. (2013), "Measuring the TBTF effect on bond pricing," Goldman Sachs Global

Markets Institute, (May).  
6. The Clearing House (2013), "Assessing the Basel III Net Stable Funding Ratio in the Context of Recent Improvements in Longer-Term Bank Liquidity," New York: The Clearing House, (August)  
7. (2013) "Transcript of the Open Board Meeting," Federal Reserve Board. (October)



J.P.Morgan

## Commitment you can count on

J.P. Morgan is proud to be an original member of **The Clearing House**, supporting its mission for over 160 years.

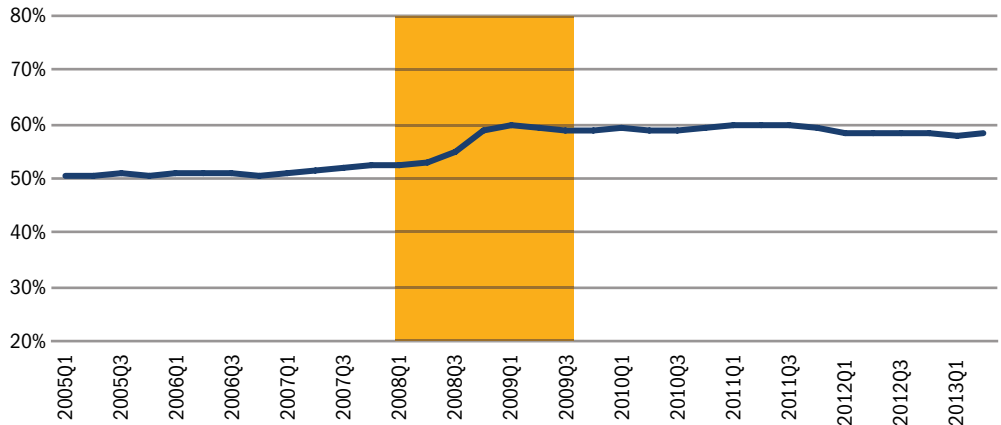
To learn more, visit [jpmorgan.com](http://jpmorgan.com).

A large, elegant cursive signature of "J.P. Morgan" in dark brown ink, positioned at the bottom of the page. The signature is highly stylized, with a large, looping initial "J" and a long, sweeping underline.



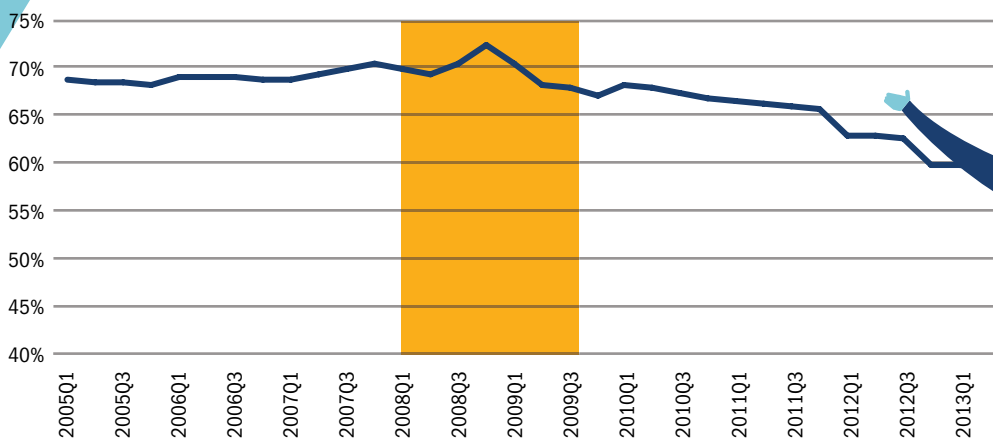
# State of the Industry

SHARE OF TOTAL U.S. BANK ASSETS HELD BY TCH OWNER BANKS



Owner bank asset share remains at approximately 50 percent through 2006 and begins trending upward in 2007, largely driven by M&A activity. The steep increase in 2008 is explained by the government-mandated mergers during the crisis. Following the crisis, the total asset share remains flat due to continued post-crisis economic and regulatory uncertainty, except for a slight downturn at the end of 2011, which is possibly explained by a combination of bank regulatory adjustments and the eurozone debt crisis.

SHARE OF TOTAL U.S. BANK LOANS OF TCH OWNER BANKS

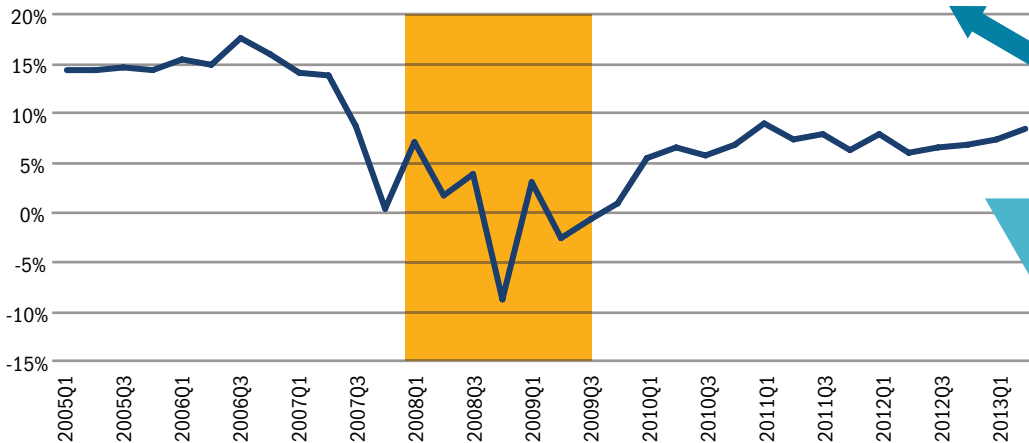


Loan share is roughly constant until a sharp increase during the crisis period due to the crisis-related mergers. Following this peak, however, the share of loans declines and continues its downward course through 2013. Factors explaining this decline include higher capital ratios and post-crisis uncertainty, both of which have contributed to a reduction in bank lending. Greater competition from nonbank lenders, changes to lending standards, and consumer demand may all be contributing factors.

The Clearing House's Owner Banks are the United States' largest commercial banks. They collectively employ over 2 million people and hold more than half of all U.S. deposits.

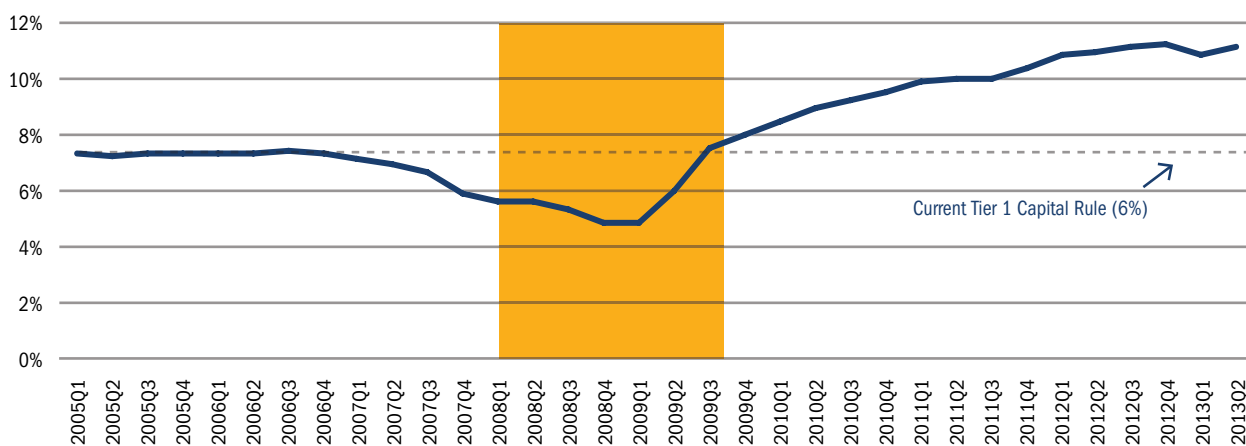


### AVERAGE RETURN ON EQUITY OF TCH OWNER BANKS



Following a period of slight growth, average ROE declines sharply before the crisis. During the crisis period, average ROE declines to nearly -9 percent for one quarter. Following the crisis, bank performance slowly improves and average returns have a steady increase through 2010, after which the trend flattens. Though recently returns have steadily improved, at about 8.5 percent in the second quarter of 2013, they are still far below pre-crisis averages, which can be explained by substantial increases to banks' equity holdings coupled with relatively volatile income trends.

### AVERAGE TIER 1 CAPITAL RATIO OF TCH OWNER BANKS



Preceding the crisis, capital ratios decline on average due to increased risk-taking and leverage. Towards the end of the recession period, capital ratios recover and increase through 2013. Member banks on average have doubled their capital holdings since the crisis and far exceed the Basel III Tier 1 capital ratio requirement of 6 percent.

- TCH Owner Banks included in both samples: Bank of America, Bank of NY Mellon, BB&T, Capital One, Citibank, Comerica, Deutsche Bank, HSBC, JPMorgan Chase, KeyBank, PNC, RBS Citizens, Santander, TD Bank, UBS, U.S. Bank, Union Bank and Wells Fargo.
- The shaded area denotes the NBER recession period, December 2007 - June 2009.
- Source: SNL Financial. Regulatory Filing data at BHC level used for all banks except UBS, which is at the Commercial Bank level.

# Featured Moments

INTELLIGENCE SQUARED DEBATE



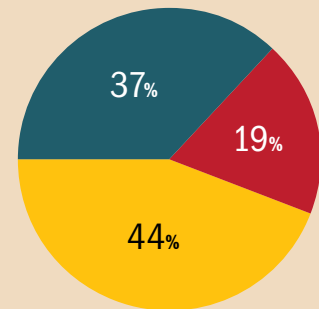
On October 16th, 2013, TCH's Paul Saltzman and Doug Elliott of the Brookings Institution successfully argued against the motion "Break Up the Big Banks" at Intelligence Squared, an Oxford-style debate program that was broadcast on NPR. Paul and Doug took on Richard Fisher, President of the Dallas Federal Reserve, and MIT's Simon Johnson and argued that breaking up large banks would eliminate key societal benefits and would fail to make the system any safer. The audience voted to determine which side won, and Paul and Doug were declared the victors. Pictured below: Simon Johnson, Richard Fisher, John Donvan, Doug Elliott, and Paul Saltzman.

**BREAK UP THE BIG BANKS**

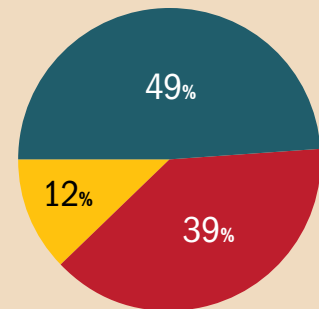
Declared winner: against the motion

■ For ■ Against ■ Undecided

PRE-DEBATE POLL RESULTS



POST-DEBATE POLL RESULTS





## JOINT HOOVER-BROOKINGS CONFERENCE



The Clearing House sponsored a jointly-held conference with the Brookings Institution and the Hoover Institution entitled "The U.S. Financial System—Five Years After the Crisis." Pictured above: George Schultz, with Ken Scott and Kimberly Summe of Stanford University. Pictured right: John Cochrane of University of Chicago and Darrell Duffie of Stanford University. Pictured below: Peter Fisher of BlackRock, Alan Blinder of Princeton University, Michael Helfer of Citigroup, Randall Guynn of DavisPolk, and David Skeel of University of Pennsylvania with Sheila Bair and Larry Summers (October 1st, 2013).





# Featured Moments



SIBOS

The Clearing House and Federal Reserve Bank of New York hosted the High Value Payment System forum on September 16th, 2013 where executives representing payment systems around the world met to debate and take action on areas of shared concern. Discussions on these topics and others continued at The Clearing House stand at Sibos in Dubai. Pictured on the right: George Doolittle and Tim Merrell of Wells Fargo. Above: Michael Montoya and Oliver Banz of UBS and Jim McDade, Hank Farrar, Al Wood, and Russ Waterhouse of TCH.

## LONDON SCHOOL OF ECONOMICS EVENT



TCH and The London School of Economics hosted a conference on "Global Reform of Financial Regulation and Architecture: How to Balance Safety and Efficiency." Leading experts on financial regulation who presented at the event included: Ron Anderson, London School of Economics; James Chew, HBSC; Darrell Duffie, Stanford University; Wilson Ervin, Credit Suisse; Malcolm Knight, Deutsche Bank; Paul Saltzman, The Clearing House; Gillian Tett, Financial Times and Paul Tucker of the Bank of England. (September 16th, 2013)

# Distressed Municipal Financing: Navigating Conflicting Priorities

Friday, February 7, 2014 | Boston University School of Law

A symposium presented by *BU Law's Review of Banking & Financial Law*, the nation's leading banking and financial law journal

Practitioners and leading scholars will discuss key financial issues arising in debt-laden communities across the nation—from historic bankruptcies in Detroit and San Bernardino, to pension obligation conflicts, and the tension between austerity measures and bailouts.

## Keynote Speaker

### Clayton Gillette

Max E. Greenberg Professor of Contract Law, New York University School of Law  
Co-Author of *Municipal Debt Finance Law*

## Speakers and panelists will include:

### Eric D. Roiter

Lecturer in Law, Boston University School of Law  
Senior Vice President and General Counsel, Fidelity Management & Research Company (retired)

### David Arthur Skeel

S. Samuel Arsht Professor of Corporate Law, University of Pennsylvania Law School  
Author of *The New Financial Deal: Understanding the Dodd-Frank Act and Its (Unintended) Consequences*

### Frederick Tung

Howard Zhang Research Scholar and Professor of Law, Boston University School of Law

*Boston University School of Law is a top-tier law school that offers an extensive legal curriculum taught by faculty ranked #1 in the "Best Professors" category in the 2014 edition of The Princeton Review's The Best 169 Law Schools.*



School of Law

### Boston University School of Law

Graduate Program in Banking & Financial Law  
765 Commonwealth Avenue, 15th Floor  
Boston, MA 02215  
Email: [rbfl@bu.edu](mailto:rbfl@bu.edu)  
Phone: 617.353.8935

# BANKING PERSPECTIVE

## HOW TO SUBMIT

*Banking Perspective* welcomes your submissions. Articles should be between 2,500-4,000 words and should support an identifiable position in the context of bank policy or bank payments issues. While technical in nature, articles should be clear, concise, readable, and accessible to individuals with varying degrees of knowledge of the banking industry. Authors should avoid undue focus on any individual financial firm. The Clearing House will copyedit all accepted submissions with the full cooperation of the author. The author will have final approval of all content. Once published, The Clearing House retains the right to publish and distribute material at its discretion.

To submit an article for consideration, please e-mail [submissions@theclearinghouse.org](mailto:submissions@theclearinghouse.org).

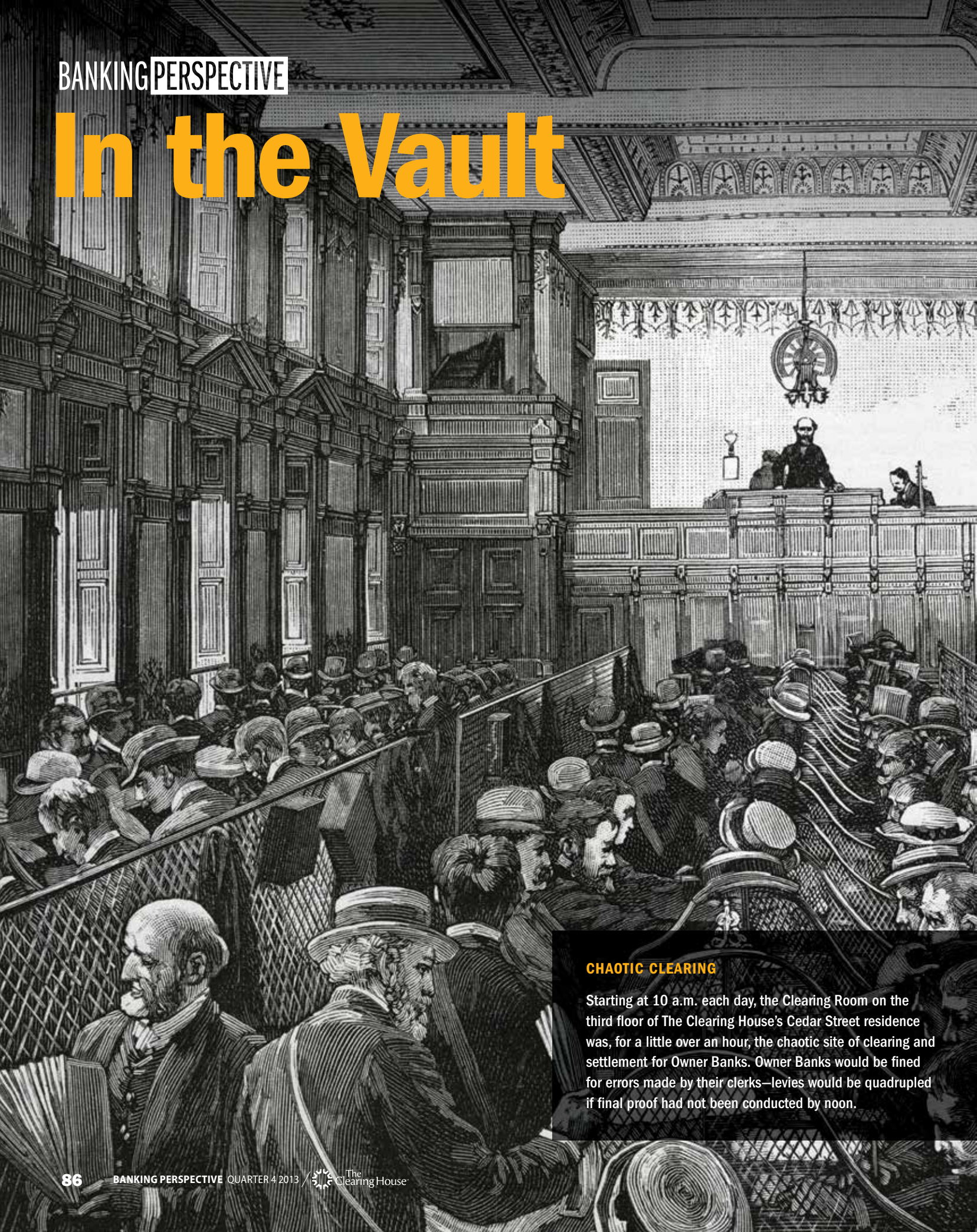
## HOW TO SUBSCRIBE

*Banking Perspective*, the quarterly journal of The Clearing House, is a forum for thought-leadership from banking industry executives, regulators, academics, policy experts, industry observers, and others. Articles focus on themes in the bank regulatory landscape and innovation trends in bank payments, providing timely analysis of the most important issues shaping today's banking industry.

To subscribe please e-mail [subscriptions@theclearinghouse.org](mailto:subscriptions@theclearinghouse.org).



# In the Vault



## CHAOTIC CLEARING

Starting at 10 a.m. each day, the Clearing Room on the third floor of The Clearing House's Cedar Street residence was, for a little over an hour, the chaotic site of clearing and settlement for Owner Banks. Owner Banks would be fined for errors made by their clerks—levies would be quadrupled if final proof had not been conducted by noon.





### THE CLEARING HOUSE LIBRARY

The Clearing House library was not only the site of an impressive collection of books and periodicals relevant to Owner Banks but was also frequently used for committee meetings.

### NEW-YORK CLEARING HOUSE. October 6<sup>th</sup> 1865

NO.	BANKS	BALANCED FOR TO CLEARING HOUSE.	DEBIT	CREDIT	BANKS	CR.	BALANCED FOR BY BANKS.
1	Bk of N. Y. Nat'l Bkg. Assn.	11,459,426.62	11,718,946.17	259,520.55	1		
2	Mechanics' National Bank.	72,865,876	2,048,587.60	70,817,288.40	2		
3	Mechanics' National Bank.	2,662,163.01	2,810,989.49	148,826.48	3		
4	Mechanics' National Bank.	81,669.8	2,987,979.8	2,886,310.0	4		
5	Union National Bank.	582.11	119,216,618	118,634,500.7	5		
6	Bank of America.		1,712,405.85	1,827,076.29	114,670.44	6	
7	Florida National Bank.		3,364,088.16	3,894,730.81	530,642.65	7	
8	National City Bank.		1,702,979.90	1,813,921.84	110,941.94	8	
9	Traders' Nat'l Bk of N.Y.	2,802.71	409,609.77	406,807.06	2,802.71	9	
10	Fulton National Bank.	3,719,373	2,921,087.3	798,285.7	10		
11	Chemical National Bank.	412,463.57	12,865,831.9	12,453,368.33	11		
12	Mechanics' Ex. Nat'l Bank.	89,874.02	8,774,618.1	8,684,744.09	12		
13	Gillette National Bank.	13,863.78	717,452.66	703,588.88	13		
14	Nat'l Bk of N. Y. & Puerto Rk.	15,104.55	3,869,055.4	3,853,950.85	14		
15	Morison & Trust's Nat'l Bk.	10,967.60	1,725,569.7	1,714,602.1	15		
16	Greenwich Bank.	11,049.98	4,777,679.3	4,766,629.3	16		
17	Leather Store Nat'l Bk.	6,702,272	219,668,664	212,966,392	17		
18	Seventh Ward National Bk.		1,181,028.2	1,181,028.2	18		
19	Nat'l Bk of the State of N.Y.	15,042.80	6,036,338.66	6,021,295.86	19		
20	American Ex. National Bank.	16,321,669	2,522,232.62	13,800,436.38	20		
21	National Bk of Commerce.		2,712,291.81	3,036,776.86	324,485.05	21	
22	National Banknote Bank.	5,788,999	6,715,901.2	926,902.2	22		
23	Union National Bank.	15,208,901	16,665,518.0	1,456,617.0	23		
24	Mechanics' National Bank.	9,252,210	4,000,000.11	5,252,210.11	24		
25	Public National Bank.	4,000,000.00	1,421,605.3	2,578,394.7	25		
26	Nat'l Bk of the Republic.	1,212,109.4	3,820,342.89	2,608,233.49	26		
27	Chatham National Bank.		4,112,240.7	4,112,240.7	27		
28	People's Bank.	41,828.11	1,615,741.2	1,573,913.1	28		
29	Nat'l Bk of North America.	15,836,626	2,609,851.0	13,226,775.0	29		
30	Harcourt National Bank.	7,716,483	5,824,512.4	1,891,970.6	30		
31	Irving National Bank.		3,634,412.6	3,781,580.7	147,168.1	31	
32	Metropolitan National Bk.		2,455,442.3	2,826,203.7	370,761.4	32	
33	National City Bank.	55,528.57	2,854,949.9	2,799,421.3	33		
34	Keese Bank.		81,322.80	492,611.5	411,288.7	34	
35	Market National Bank.		302,667.87	491,816.57	189,148.7	35	
36	St. Nicholas National Bank.	78,978.5	4,882,900.0	4,793,921.5	36		
37	Nat'l Bk & Leather Bk.		382,375.3	4,458,662.2	4,076,286.9	37	
38	Core Exchange Bank.	21,450.19	1,874,850.4	1,853,400.2	38		

### NEW-YORK CLEARING HOUSE. TECHNOLOGY OF THE TIME

NO.	BANKS	BALANCED FOR TO CLEARING HOUSE.	DEBIT	CREDIT	BANKS	CR.	BALANCED FOR BY BANKS.
1	Bk of N. Y. Nat'l Bkg. Assn.	11,459,426.62	11,718,946.17	259,520.55	1		
2	Mechanics' National Bank.	72,865,876	2,048,587.60	70,817,288.40	2		
3	Mechanics' National Bank.	2,662,163.01	2,810,989.49	148,826.48	3		
4	Mechanics' National Bank.	81,669.8	2,987,979.8	2,886,310.0	4		
5	Union National Bank.	582.11	119,216,618	118,634,500.7	5		
6	Bank of America.		1,712,405.85	1,827,076.29	114,670.44	6	
7	Florida National Bank.		3,364,088.16	3,894,730.81	530,642.65	7	
8	National City Bank.		1,702,979.90	1,813,921.84	110,941.94	8	
9	Traders' Nat'l Bk of N.Y.	2,802.71	409,609.77	406,807.06	9		
10	Fulton National Bank.	3,719,373	2,921,087.3	798,285.7	10		
11	Chemical National Bank.	412,463.57	12,865,831.9	12,453,368.33	11		
12	Mechanics' Ex. Nat'l Bank.	89,874.02	8,774,618.1	8,684,744.09	12		
13	Gillette National Bank.	13,863.78	717,452.66	703,588.88	13		
14	Nat'l Bk of N. Y. & Puerto Rk.	15,104.55	3,869,055.4	3,853,950.85	14		
15	Morison & Trust's Nat'l Bk.	10,967.60	1,725,569.7	1,714,602.1	15		
16	Greenwich Bank.	11,049.98	4,777,679.3	4,766,629.3	16		
17	Leather Store Nat'l Bk.	6,702,272	219,668,664	212,966,392	17		
18	Seventh Ward National Bk.		1,181,028.2	1,181,028.2	18		
19	Nat'l Bk of the State of N.Y.	15,042.80	6,036,338.66	6,021,295.86	19		
20	American Ex. National Bank.	16,321,669	2,522,232.62	13,800,436.38	20		
21	National Bk of Commerce.		2,712,291.81	3,036,776.86	324,485.05	21	
22	National Banknote Bank.	5,788,999	6,715,901.2	926,902.2	22		
23	Union National Bank.	15,208,901	16,665,518.0	1,456,617.0	23		
24	Mechanics' National Bank.	9,252,210	4,000,000.11	5,252,210.11	24		
25	Public National Bank.	4,000,000.00	1,421,605.3	2,578,394.7	25		
26	Nat'l Bk of the Republic.	1,212,109.4	3,820,342.89	2,608,233.49	26		
27	Chatham National Bank.		4,112,240.7	4,112,240.7	27		
28	People's Bank.	41,828.11	1,615,741.2	1,573,913.1	28		
29	Nat'l Bk of North America.	15,836,626	2,609,851.0	13,226,775.0	29		
30	Harcourt National Bank.	7,716,483	5,824,512.4	1,891,970.6	30		
31	Irving National Bank.		3,634,412.6	3,781,580.7	147,168.1	31	
32	Metropolitan National Bk.		2,455,442.3	2,826,203.7	370,761.4	32	
33	National City Bank.	55,528.57	2,854,949.9	2,799,421.3	33		
34	Keese Bank.		81,322.80	492,611.5	411,288.7	34	
35	Market National Bank.		302,667.87	491,816.57	189,148.7	35	
36	St. Nicholas National Bank.	78,978.5	4,882,900.0	4,793,921.5	36		
37	Nat'l Bk & Leather Bk.		382,375.3	4,458,662.2	4,076,286.9	37	
38	Core Exchange Bank.	21,450.19	1,874,850.4	1,853,400.2	38		

Settling clerks summed long columns of numbers under extremely tight deadlines. Penmanship was as important as accounting, for if one could not read the numbers, "footings" could not be proved.





The  
**Clearing House**<sup>®</sup>  
4<sup>TH</sup> ANNUAL CONFERENCE

JOIN US FOR THE BANKING AND PAYMENTS  
INDUSTRY'S SIGNATURE EVENT

**NOVEMBER 20-21, 2014**  
**THE PLAZA, NEW YORK CITY**

[www.tchannualconference.com](http://www.tchannualconference.com)

