





UNANTICIPATED ADVERSE CONSEQUENCES OF BANK CAPITAL REFORM

Some experts argue that the limitation of securities financing services by global banks is making markets more volatile—and that new restrictions on trade finance services will impede global economic development.

BY ED BLOUNT

There is a broad sense that regulators do not fully understand how the repo market operates, and that this is apparent in a number of regulatory initiatives [conveying] the potential risks of unintended adverse consequences.

—“Perspectives from the Eye of the Storm,”
International Capital Markets Association, November 2015

ON FRIDAY, SEPTEMBER 29, 2008, a few days after Lehman Brothers filed for bankruptcy, the Securities and Exchange Commission (SEC) issued seemingly routine guidance to mutual funds under its supervision: Starting the following Monday, SEC staff would consider all sales of securities that had previously been placed on loan by the funds’ advisors to be equivalent to, and publicly disclosed as, short sales.

Something akin to panic gripped the cash managers of securities lending

agents, who realized that their client funds, few of which had the necessary authority to sell short, would start Monday morning by recalling their loans en masse.

The cash managers knew that when brokers returned the borrowed securities, it followed that their cash collateral on deposit would also have to be returned. And that, in turn, meant that the money market instruments that had been bought with that cash would also have to be sold—en masse—to generate the cash.

It was feared that a resulting fire sale of hundreds of billions of dollars in collateral assets, many of which were temporarily marked-to-market below par value, would trigger a cascade of downward repricings that might well collapse the fixed-income markets.

Thankfully, this did not occur, as the SEC retracted the guidance in an example of a regulator reconsidering and

REGULATIONS THAT FAIL TO ACCOUNT FOR THE COMPLEXITY OF GLOBAL FINANCE MAY CREATE FORCES MORE DAMAGING THAN THOSE THEY WERE TARGETED TO PREVENT.

revising a policy in the best interests of the market.

In November 2012, the European Union banned the purchase of uncovered sovereign credit default swaps, fearing these trades were equivalent to short sales and could depress holdings in the national debt of the weakest European countries.

A few months later, the International Monetary Fund (IMF) called the rule a mistake that could “result in unintended consequences that could negatively affect market liquidity and cause dislocations in other markets.”

By 2015, the IMF had researched the effects of the Eurozone derivative rule—finding “reduced liquidity in the European bond market”—and was calling for a reevaluation.¹

International trade is another domain where some believe new regulations are creating unanticipated adverse consequences. Both earlier versions of the Basel capital rules treated short-term trade finance favorably. But in 2011, Basel III imposed a 100% non-risk-based credit conversion factor for trade finance assets in computing the new leverage ratio.

By 2014, the International Chamber of Commerce had gathered substantial trade finance statistics from a credit risk perspective. Citing the data, the World Trade Organization (WTO) argued that the Basel Committee had overlooked the

key role of collateralization in managing trade finance risks. The WTO showed that the default rate on letters of credit was a mere 0.02%. Even for deals that fail, recoveries are high. “Since over 50% of the loss is recovered through the sale of the underlying merchandise,” explained the WTO, “the total loss on these products is 0.01% or less.”²

After much negotiation, the Financial Stability Board (FSB), an affiliate of the Basel Committee, lowered the conversion factor to 20%, but only for commitments that could be unilaterally canceled by the bank. However, it is the irrevocable letter of credit that is the bedrock of trade finance, and some deemed the concession meaningless.

If global trade is impaired when the leverage ratio takes full effect, leading to greater economic pain, the new regulations may cause social instability in less developed countries—one more unanticipated adverse consequence.

Regulations that fail to account for the complexity of global finance may create forces more damaging than those they were targeted to prevent. The examples above speak to the power of collateral linkages as a risk accelerant (or mitigant) in the global financial system.

In each instance, one financial sector is connected to another through collateral assets: Loaned securities of mutual funds are linked to their reinvested

money market instruments in cash collateral pools; derivative credit default swaps are linked to their related sovereign bonds; and export letters of credit are linked to their trade merchandise.

As regulators continue to study the effects of new rules with respect to collateral linkages, some are recognizing the secondary and tertiary effects of regulations on the global economy. A few are agreeing with critics’ claims that regulators are handicapped in their understanding of global banking because academics can’t create models that consider the totality of bank services, along with unconventional monetary policy, when postulating the effects of reform.

One thought leader among regulatory staff is IMF senior economist Manmohan Singh, who argues that quantitative easing has “interfered with financial plumbing” by forcing the highest quality, most liquid assets out of normal trading channels. In a presentation at the Brookings Institution in February 2015, Singh told policy analysts that a combination of the new regulations with unconventional monetary policy is “likely to lead to unintended consequences.”

RMA data cited by Singh at the March 2016 Pan Asia Securities Lending Conference in Singapore shows that regulations are already having a dramatic effect. The total value of collateral managed through securities lending services fell from \$1.7 trillion in 2007 to \$1 trillion in 2013. Singh presented additional IMF research showing that the movement of collateral through the system has decelerated by at least a third. Slower turnover can make markets more prone to breakdowns.

“The reuse of collateral is fundamental to bridging the gap between supply and demand,” said Singh. “Academia has so far ignored this aspect in their models.”

Modeling the Anticipated Impact of New Regulations

When regulations are imposed on banks to address market-level, systemic risks, rule makers often cite large-scale cost/benefit analyses. Such was the case in 2010, when the Basel Committee published “An

Assessment of the Long-Term Economic Impact of Stronger Capital and Liquidity Requirements,” also known as the LEI Report, its study of the economic impact of the capital solvency rules.³

At the macroeconomic level, benefits included the avoidance of stunted GDP caused by periodic banking crises. Costs included an increase in the net spreads of bank intermediation, all of which would be passed along to borrowers. At the bank level, the new rules were expected to result in lower ROE due to increased shareholder equity and lower debt funding. Leverage would be reduced by increasing the capital required to be held against risk-weighted assets, while constraining total assets against an aggregate, non-risk-sensitive leverage ratio. Liquidity would be increased by adding a liquidity coverage ratio (LCR) and a net stable funding ratio (NSFR). Other risk-reduction steps included counterparty exposure limits.

Models in the LEI Report correlated higher levels of capital with less severe banking crises, but did not consider the possibility of damage to markets from excessively restricted liquidity. Yes, extreme leverage through securitization and off-balance-sheet financing exacerbated market distress. But the positive, diversifying effect of thousands of banks lending assets across dozens of sovereignties was not considered—nor was the role banks play in monitoring collateral movements through financial sectors, the impact of lost risk management services from banks, or the possibility that constraints on banking activities might actually damage the market system. In imposing penalties when collateral moved through a bank’s balance sheet, the new regulations created disincentives for banks to continue providing these low-margin collateral management services that many believe are so important.

The principal objective of the modeling was to define a correlation algorithm: How much more capital would result in what degree of crisis avoidance? It was assumed that the only costs would be felt through higher lending rates, and those



were expected to be more than offset by the socioeconomic benefits of less frequent banking crises. The LEI Report endorsed the academic theory that “the main channel through which changes in capital and liquidity regulation affect economic activity is via an increase in the cost of bank intermediation.”⁴

Limits of the Models

Traditional bank assets are mainly loans, investments, interbank claims, and trading positions. The macroeconomic models on which the regulators relied produced estimates of loans as a function of spreads. However, many assets at global banks are actually by-products of fee-based services. (These services were approved in the 1970s and 1980s by the Federal Reserve and the Office of the Comptroller of the Currency to let banks add a countercyclical buffer to the fluctuations of net-interest earnings.) For example, banks—as contract lending agents—place loans of portfolio securities between brokers and large institutional investors. To protect the

institutional beneficiaries, banks monitor the loans and—in a process known as indemnification—promise to replace any securities not returned by the borrower. The loans allow brokers to avoid operational breakdowns and satisfy short-selling regulations.

The new regulations require banks to reserve capital against the risk of borrower default, even though the loans are over-collateralized by 2% to 5% and marked-to-market daily. No capital had been previously reserved because there had never been a loss from default in 40 years of bank-managed securities lending services.

In light of the new rules, many bankers feel that indemnification will be too expensive going forward, and the service is expected to be abandoned. At present, customers are still deciding whether to continue lending securities. Research shows that markets will become even more volatile if lenders withdraw from the market.

The brokers, many of whom are subject to the same Basel III leverage rules

ECONOMISTS ARE SOMETIMES CRITICIZED FOR GETTING CAUGHT UP IN DETAILS AND MISSING THE BIG PICTURE. WITH CAPITAL REFORM, IT'S THE DETAILS THAT ARE BEING MISSED.

in their new identities as subsidiaries of bank holding companies, are also required to consider any cash collateral provided by their customers as a short-term liability. That counts against their NSFR. As a result, they are turning away customers, including hedge funds that provide price arbitrage services.

The result of both constraints is a loss of market liquidity, as banks and their brokerage subsidiaries shed collateral regarded as a short-term funding source to limit their risk-weighted capital and net stable funding charges. That loss of liquidity results in fragmented and volatile markets, which increase risk not only for the participants, but also for their dependent economies.

The testing template of the LEI report was the balance sheet of an average bank in most of the 20 national members of the Basel Committee. Such a model couldn't possibly have been used to replicate the kind of systemically important global bank that regulators are trying to harness with their solvency rules. Nor could it have alerted regulators to the potential for much greater social risks and systemic costs due to interruption of the collateral linkages and forced abandonment of the services that banks provide to help preserve market stability.

Given the sense of urgency in 2010, regulators had to rely on limited, outdated academic models intended for other purposes. Yet time has not improved the scope and depth of the models. The updates used to test various capital theories, called "quantitative impact studies," continue to be limited. Only

41 banks provided data on their internal desk structures in a December 2014 study used to estimate the impact of new capital charges for the trading book.⁵ Among them, nearly half reported having fewer than 20 trading desks—hardly representative of a too-big-to-fail bank.

Missing the Trees for the Forest

Economists are sometimes criticized for getting caught up in details and missing the big picture. With capital reform, it's the details that are being missed. Macroeconomic models are built using formulas to suggest correlations among economic components; they do not consider the degree to which elements of banks' balance sheets are associated with market services that form the latticework of their infrastructure. For example, regulations that require banks to hold high-quality liquid assets do not consider the degree to which those assets, formerly used as collateral by other market participants, will become warehoused on bank balance sheets. This removes them from the market and slows down the market system's liquidity.

The models available to the Basel Committee in 2010 did not and could not consider the effects of unconventional monetary policies, much less the influence of negative interest rates on bank services. They were not validated before being placed into operation. The same can be said of the new reform regulations. There is no experience in removing massive blocks of collateral. There is also no experience in imposing heavier

capital requirements on trade finance or in removing repo and securities lending from the market infrastructure. And there is certainly no experience with doing all of this at once. No model can predict the effect of these cumulative actions. Now that the effects are being realized, it is time to reevaluate. But it will not be easy.

Missing the Liquidity Streams

In its 2015 annual report, the Office of Financial Research (OFR) at the U.S. Treasury emphasized that "market liquidity risk remains a pocket of vulnerability in the financial system." Among the contributing factors listed by the OFR were new bank capital regulations and structural changes, such as the rise of automated trading systems and the decline of investor risk appetites. However, "the relative importance of these factors is difficult to measure," the report concluded.⁶

Cross-market flows of liquidity are exceedingly complex. In June 2014, the Federal Reserve Bank of New York released a study describing how global banks react to liquidity shocks differently from domestic competitors.⁷ Banks with foreign affiliates move to quickly shift funds internally, shoring up their home markets with available funds from less important (to them) markets. As a result, damage can be magnified abroad, especially in markets with a significant foreign banking presence.

All but two of the 11 sources cited in the study were released after the 2010 justification study and therefore would have been unavailable to the Basel Committee. In retrospect, it seems clear that the original models were unlikely to predict how global banks would respond to tightening—and, perhaps more importantly, how the markets would react to their departure.

The U.S. Treasury has described the conduit role of central banks in providing liquidity during the crisis. In October 2015, the OFR reported that the European banks' U.S. branches were some of the largest beneficiaries of Federal Reserve lending. Additionally, the

OFR described European banks as having drawn down heavily from the FRB-ECB swap line, as well as directly from the European Central Bank.

One wonders how much borrowing in Europe was intended to offset transfers home by American banks, and vice versa from U.S. to European markets. Unfortunately, such a metric remains unavailable. And even though U.S. regulators imposed a new liquidity reporting rule in 2014, the study went on to explain how the underlying ratio could be distorted by the effects of arbitrage positions that can be created by the global banks' trading desks.

That new rule, the aforementioned liquidity coverage ratio, seems vulnerable to innocent maneuvering in the derivatives market by sophisticated banks. That makes it less than reliable, say OFR analysts. According to the Treasury report, "the LCR could have unintended negative effects on interbank funding and interest rates through interactions with monetary policy. Banks' secured funding transactions with the central bank could alter their LCRs and potentially complicate the implementation of monetary policy."⁸

Missing the Firemen

Dealers in repurchase agreements, the repo traders, can provide much-needed liquidity to investors in a turbulent market. A November 2015 study by the International Capital Markets Association (ICMA) presented a chilling forecast of the impact on repo markets once the full weight of capital reform arrives.

Nothing is transforming and reshaping the structure and dynamics of the repo market more than Basel III. Each of its four components—risk capital requirements, leverage ratio, liquidity coverage ratio, and net stable funding ratio—impact the repo market in different, yet cumulative ways, significantly adding to the cost of capital required to run a repo trading book.... Many banks now provide repo liquidity to preferred

*clients as a loss-leader to support other, more profitable businesses and services.*⁹

Participants in the ICMA study included 45 of the largest global financial firms, ranging from banks and broker-dealers to asset managers, tri-party agents, central clearing counterparties, and agency lenders. Their views were affirmed by the IMF's October 2015 "Global Financial Stability Report," in which analysts described the impact on market risk from reduced activity in the repo markets as "less funding available for hedge funds to arbitrage away discrepancies in asset prices; more difficult-to-trade short positions, affecting market efficiency; more difficult-to-hedge market risk; [and] likely sporadic 'snapbacks' in some asset prices as dislocations are corrected."¹⁰

Missing the Dampeners in the Fire Line
"Financial contagion could surface," warned the IMF, "should asset price movements be amplified by low market liquidity and fragile market structures."¹¹ It follows that any regulations that impair market liquidity or make market structures more fragile would also increase the risk of financial contagion.

The IMF bases its views on a model that considers three channels through which turmoil in financial markets can accelerate the destabilization of a country's "real economy":

1. Rising long-term rates along the yield curve cause households to save more, companies to cut investments and raise dividends, and governments to pay more to service debts.
2. Higher targets for risk-adjusted returns put pressure on equity prices, causing households to reduce consumption and companies to curtail investments again.
3. Increases in money market fund rates accelerate the shift of household consumption to savings, and further reduce company investment by raising the cost of bank loans.

Active repo markets can dampen the transmission of risk-premium adjust-

ments by adding liquidity along the yield curve, while active securities lending and collateralized finance markets can also make existing liquidity more resilient by providing safe harbors for money market fund assets in a financial firestorm.

In the absence of such cushioning, banks operate (in the IMF model) to try to pass higher funding costs along to customers. However, falling demand hurts profits and reduces capital buffers. The situation is made worse in emerging economies, since deterioration in currency exchange rates can raise debt servicing costs for commodity producers. As the vicious cycle continues, customers in developing markets start to default at ever-increasing rates, leading to "suppressed economic risk-taking worldwide."¹²

That dark scenario is not inconceivable in today's "anything goes" market system.

The Call for Further Research

In September 2015, William C. Dudley, president of the Federal Reserve Bank of New York, said claims that tighter regulations were hurting markets were only "a noteworthy assertion [not] well-supported by the available evidence." The evidence is "mixed," he said, but "even if higher capital and new liquidity requirements were found to result in greater transaction costs, these costs would need to be assessed against the benefits of having a more robust and resilient financial system and a reduced risk of financial crises in the future."

After mentioning other possible reasons for lower liquidity, Dudley considered that quantitative easing may also have impaired the traditional liquidity tests on which he and others were relying. Recognizing the uncertain realities, he called for more research into the problem of regulatory liquidity:

- *Only through much more careful study and data analysis can we thoughtfully address the two most important questions—not whether regulation should be rolled back in order to return to the liquidity conditions prior to the financial crisis, but instead*

- Whether there is a diminution of liquidity and/or an increase in liquidity risk that is costly or poses risks to financial stability or macroeconomic performance; and, if this is the case,
- Whether financial market regulation could be altered in a way that improves the balance between the benefits of tougher regulation in terms of enhanced financial stability versus the costs of such regulation, including any adverse impacts on market liquidity provision. In addition, whether microstructure reforms aimed at improving the functioning of markets could be promising in that respect.¹³

Five years after most of the capital rules were laid out, the results of compliance are now being felt in the banks and the international economy. Some industry experts argue that the limitation of securities financing services by global banks is making markets more volatile, and therefore riskier, and that new restrictions on trade finance services will soon impede global economic development and increase the risk of social instability.

Ultimately, net social benefit is the key metric for justifying the new regulations, as laid out in the LEI Report. Yet the benefits have been overstated if market risks grew as a result of banks withdrawing capital from their trading and securities lending desks, while curtailing operational services to repo traders and others who stabilize liquidity and pricing. Going forward, any remaining social benefits may be further eroded by the loss in global productivity caused by declining trade finance services.

More research and reevaluation are warranted. The IMF, WTO, and others have raised the alarm. And, as the Basel Committee itself admitted in 2010, “backward-looking correlations may not accurately represent future relationships or causal links.” As mentioned previously, the SEC showed its willingness to reverse course in 2008, even in the darkest, most uncertain days of the crisis. Today, analysts must be equally open to reviewing fundamental preconceptions.

FIVE YEARS AFTER MOST OF THE CAPITAL RULES WERE LAID OUT, THE RESULTS OF COMPLIANCE ARE NOW BEING FELT IN THE BANKS AND THE INTERNATIONAL ECONOMY.



It seems certain that collateral linkages and management services are among the factors that have not been included in past academic and regulatory models. Society will be well served if all parties to the debate join in taking up the research challenge laid out by President Dudley of the New York Fed. [®]

Ed Blount is executive director of the Center for the Study of Financial Market Evolution and senior research fellow at Fordham University's Center for International Policy Studies. He can be reached at ewblount@csfme.org.

Notes

1. International Monetary Fund, “Global Financial Stability Report: Vulnerabilities, Legacies, and Policy Challenges: Risks Rotating to Emerging Markets,” IMF World Economic and Financial Surveys, Washington, D.C., October 23, 2015.
2. See Marc Auboin and Isabella Blengini, “The Impact of Basel III on Trade Finance: The Potential Unanticipated Consequences of the Leverage Ratio,” Economic Research and Statistics Division, World Trade Organization, Rue de Lausanne 154, CH-1211 Geneva, Switzerland, January 20, 2014.
3. Basel Committee on Banking Supervision, “An Assessment of the Long-Term Economic Impact of Stronger Capital and Liquidity Requirements” (LEI Report), BCBS 173, Bank for International Settlements, Basel, Switzerland, August 2010.
4. Ibid.
5. Basel Committee on Banking Supervision, “Fundamental Review of the Trading Book: Interim Impact Analysis,” d346, Bank for International Settlements, Basel, Switzerland, November 2015.
6. U.S. Office of Financial Research, “2015 Annual Report to Congress: Threats, Research and Data, Mission,” United States Treasury, Washington, D.C.
7. See Ricardo Correa, Linda Goldberg, and Tara Rice, “Liquidity Risk and U.S. Bank Lending at Home and Abroad,” Federal Reserve Bank of New York, Staff Report No. 676, June 2014.
8. See Jill Cetina and Katherine Gleason, “The Difficult Business of Measuring Banks’ Liquidity: Understanding the Liquidity Coverage Ratio,” OFR Working Paper, Office of Financial Research, United States Treasury, October 7, 2015.
9. International Capital Markets Association, “The European Repo Market: Perspectives from the Eye of the Storm, An Initiative of the ICMA European Repo Council,” November 2015, London.
10. International Monetary Fund, “Global Financial Stability Report: Vulnerabilities, Legacies, and Policy Challenges: Risks Rotating to Emerging Markets,” 2015.
11. Ibid.
12. Ibid.
13. See William C. Dudley, “Regulation and Liquidity Provision,” remarks before the Securities Industry and Financial Markets Association, September 30, 2015.