

Capital's Cast-Off: Operational Risk-Based Capital and Its Critical Implications

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Abstract

A pending Basel proposal to revise operational risk-based capital (ORBC) rules appears bent more on fixing perceived flaws in national implementation of Basel II than on ensuring seamless integration with the well-established, demanding Basel III/IV regime. The cumulative impact of ORBC is particularly critical in the U.S. due to the more stringent nature of U.S. capital rules (including those for operational risk). This paper assesses Basel's proposed approach, its impact in the U.S., and potential unintended consequences for safety and soundness and more broadly for financial stability. Although often overlooked, operational risk is a major source of systemic risk, making the ORBC rules a critical plank in the post-crisis framework.

We conclude that revisions to the U.S. operational-risk capital regime along Basel's proposed lines would not materially affect the stringency of U.S. ORBC requirements because large U.S. banks already hold more operational risk-based capital than other global banks. It would, however, significantly distort operational risk-taking incentives. Instead of linking capital to operational risk, the proposal would mimic the risk-blind approach of the leverage rule with added distortions due to the correlation between capital and a bank's gross income in the ORBC proposal. The revised approach could thus make the U.S. financial system weaker under stresses such as cyber-attack and natural disaster.

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In a May 2016 paper,¹ Federal Financial Analytics, Inc. (FedFin) considered the cumulative impact of the post-crisis regulatory framework on the ability of the Federal Reserve to implement effective monetary policy and ensure that macroprudential regulation preserves financial stability. A new paper also addresses the specific implications of the new regulatory framework as a whole on U.S. income inequality,² and a subsequent paper will assess those of new leverage-capital rules.³ Operational risk-based capital (ORBC) figures into all three of these analyses but warrants special attention on its own because it is often overlooked given the size of the rest of the rulebook. However, with the Basel Committee now set to finalize a new framework for ORBC, this research note describes the current framework, proposed changes, and resulting implications for operational-risk mitigation and broader systemic-risk concerns.

ORBC has considerable impact on financial stability as new operational threats such as cyber-attacks and new financial products like algorithmic trading take shape. Operational risk has proven to be a major cause of financial crises, with the links between systems or similar infrastructure failures and systemic risk growing ever more important as finance itself becomes ever more dependent on non-traditional activities accomplished through a rapidly-changing technological infrastructure.

It is thus critical to consider the extent to which emerging ORBC requirements reduce emerging risks. If they exacerbate them, as we shall demonstrate, then the new operational risk-based capital framework requires urgent attention.

We conclude that:

- Operational risk is far harder to quantify than credit or market risk and thus still less suitable for standardized capital requirements premised on averaging and other assumptions not borne out by operational-risk incidents and resulting loss. Interest-rate risk – which is more suitable for quantification – is nonetheless now treated as a Pillar 2 (i.e., supervisory, not quantitative) capital charge. This is even more appropriate for operational risk.
- Operational risk is most potent when it is “fat-tail” – i.e., when it comes in concert with events such as cyber or terrorist attacks such as 9/11 that are low-frequency ones with significant loss severity. Natural disasters such as Hurricane Sandy and the tsunami that caused the Fukushima meltdown are also fat-tailed operational risks that cannot be offset or well mitigated with ORBC.
- Capital charges are ill-suited to damage mitigation and rapid recovery. The back-up systems that do provide systems resilience are costly and capital charges unrelated to risk mitigation create a counter-productive, unnecessary disincentive to meaningful operational-risk reduction.

¹ Federal Financial Analytics, *Square Pegs and Round Holes: The Effectiveness of Monetary Policy and Macroprudential Regulation in the Post-Crisis Regulatory Regime* (May 18, 2016), available at http://www.fedfin.com/images/stories/client_reports/FedFin%20White%20Paper%20on%20The%20Effectiveness%20of%20Monetary%20Policy%20and%20Macroprudential%20Regulation%20in%20the%20Post-Crisis%20Regulatory%20Regime.pdf.

² Federal Financial Analytics, *Income-Inequality: U.S. Monetary-Policy and Regulatory Wealth-Distribution Drivers* (September 19, 2016), available at http://www.fedfin.com/images/stories/client_reports/FedFin%20Paper%20on%20Income-Inequality%20U.S.%20Monetary-Policy%20and%20Regulatory%20Wealth-Distribution%20Drivers.pdf.

³ Federal Financial Analytics, *Mutual-Assured Destruction: The Arms Race between Risk-Based and Leverage Capital Regulation*, forthcoming.

- Only banks come under operational risk-based capital charges even though the risks addressed are system-wide. The cost of ORBC may not only prove counter-productive to bank resilience, but also spur service migration to non-banks often exempt from regulatory recovery-and-resilience requirements.
- Risk arbitrage would have a detrimental impact on efforts to ensure effective macroprudential regulation in areas such as asset management.

Testimony presented by FedFin managing partner Karen Petrou before the U.S. Congress goes into these points in additional detail.⁴ Here, we build on this to bring the analysis up to date and take into account most recent global regulatory actions related to operational risk-based capital.

What does Operational Risk mean?

As defined in the U.S. rules implementing the current Basel II ORBC requirements, operational risk means:

...the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events (including legal risk but excluding strategic and reputational risk).⁵

⁴ Karen Shaw Petrou, Testimony before the U.S. Senate Committee on Banking, Housing and Urban Affairs, Washington, DC: Policy Implications of the Superior Federal Bank Failure and The New World of Financial System Risk (October 16, 2001), available at http://www.fedfin.com/images/stories/press_center/speeches/Policy%20Implications%20of%20the%20Superior%20Federal%20Bank%20Failure%20and%20The%20New%20World%20of%20Financial%20System%20Risk.pdf; Karen Shaw Petrou, Testimony before the U.S. House Committee on Financial Services, Washington, DC: EU FINANCIAL SERVICES ACTION PLAN: Promise and Problems from a U.S. Perspective (May 22, 2002), available at http://www.fedfin.com/images/stories/press_center/speeches/eu_financial_ser.shtml; Karen Shaw Petrou, Testimony before the U.S. House Financial Services Subcommittee on Domestic and International Monetary Policy, Trade, and Technology, Financial Institutions and Consumer Credit, Washington, DC: Basel II: Policy Issues in Complex Proposal Warrant Congressional Scrutiny (February 27, 2003), available at http://www.fedfin.com/images/stories/press_center/ksp_testimony.pdf; Karen Shaw Petrou, Testimony before the U.S. Senate Committee on Banking, Housing, and Urban Affairs, Washington, DC: Basel II: Baby in the Bath Water Worth Saving (June 18, 2003), available at http://www.fedfin.com/images/stories/press_center/Petrous_senate_testimony_061803.pdf; Karen Shaw Petrou, Testimony before the U.S. House Financial Services Subcommittee on Financial Institutions and Consumer Credit and Subcommittee on Domestic and International Monetary Policy, Washington, DC: Basel II Regulation: U.S. Market and Competitiveness Implications (May 11, 2005), available at http://www.fedfin.com/images/stories/press_center/Testimony_Basel_5-11-2005.pdf; Karen Shaw Petrou, Testimony before the U.S. House Financial Services Subcommittee on Financial Institutions and Consumer Credit, Washington DC: Next Steps for the Basel II Rules, 9 (September 28, 2005), available at http://www.fedfin.com/images/stories/press_center/Testimony_Basel_Final_9-28-05.pdf; Karen Shaw Petrou, Testimony before the U.S. House Financial Services Subcommittee on Financial Institutions and Consumer Credit, Washington, DC (September 14, 2006), available at http://www.fedfin.com/images/stories/press_center/Basel_Testimony_091406.pdf.

⁵ Office of the Comptroller of the Currency (OCC), Board of Governors of the Federal Reserve System (FRB), Federal Deposit Insurance Corporation (FDIC), and Office of Thrift and Supervision (OTS), Risk-Based Capital Standards: Advanced Capital Adequacy Framework—Basel II; Final Rule, 72 FR 69288, 69403 (December, 2007) (codified at 12 C.F.R. 567), available at <https://www.gpo.gov/fdsys/pkg/FR-2007-12-07/pdf/07-5729.pdf>.

This same rule states that the federal banking agencies consider operational risk (OR) a “key” risk, noting that OR was increasing at the time this rule was finalized (2007) due to factors such as the proliferation of complex products, growing reliance on automated systems, increased industry consolidation, and out-sourcing.⁶ Since the U.S. rule was adopted, several of these risks have grown still more significant and new ones have joined them. For example, algorithmic trading has now become an increasingly important aspect of the U.S. and global financial market even though aspects of it from both a system-capacity and risk-management perspective are untested under stress. In 2007, cyber-security was at best an after-thought; now it is of course a critical operational risk for all financial-services firms, banks very much included. Fraud is an ever-present financial risk, but one that is also changing with the increased use of mobile-payment products, social-media networking, and other post-2007 developments.

Use of “big data” also poses numerous novel operational risks, as do emerging payment, settlement, and clearing technologies such as distributed-ledger technology. Post-crisis regulations have also concentrated clearing activities in central counterparties (CCPs) and similar entities, many of which are exempt from regulations mandating ORBC or operational-risk mitigation procedures. When U.S. banks trade through these entities, they may be subject to contagion operational risk that did not exist in 2007. In recognition of this risk, global regulators are racing to ensure CCP resolvability and resilience, but years of work remain before this is assured.⁷

But, even in 2007, U.S. regulators recognized that a one-size-fits-all ORBC framework would not address emerging risk well. This seems still more true today, especially if the “size” is premised on standardized assumptions untested under current OR conditions.

OR is structurally very different not only from credit risk, but also from market and interest-rate risk. Indeed, the U.S. rule notes that, “[H]ighly predictable and routine losses appear to be limited to those relating to securities processing and to credit card fraud.”⁸ The U.S. in 2007 thus decided against adopting Basel’s standardized ORBC options, called the basic indicator approach (BIA) and the standardized approach (TSA), which rely principally on assuming that operational losses had some correlation with a bank’s revenues. As discussed below, Basel’s pending rewrite of its ORBC framework is still premised on this assumption despite the lack of evidence that major OR drivers – e.g., natural disasters – are in any way correlated with bank size or income.

The Basel II rules as implemented and the proposed Basel III ORBC ones also do not differentiate between the types of activities that may pose significant operational risk (e.g., providing payment, settlement, and clearing services) versus those where operational risk is a less significant concern well captured by other regulatory-capital and provisioning (i.e., reserving) standards (e.g., making traditional loans). The U.S. rules in contrast do differentiate between activities because bank models are required to reflect them. Nonetheless, as discussed below, this apparent flexibility and model-dependence has resulted in more actual holdings of operational risk-based capital than required under Basel current

⁶ *Id.*, at 69383.

⁷ Financial Stability Board, *Essential Aspects of CCP Resolution Planning* (August 16, 2016), available at <http://www.fsb.org/wp-content/uploads/Essential-Aspects-of-CCP-Resolution-Planning.pdf>.

⁸ OCC, FRB, FDIC, and OTS, *Risk-Based Capital Standards: Advanced Capital Adequacy Framework*, *op. cit.* at 69383.

standardized options. A recent paper from the Federal Reserve Board in fact has found that the AMA on average requires approximately 1.9 times more operational-risk capital than Basel's basic indicator.⁹

This demonstrates that well-designed models which reflect idiosyncratic risk may result in higher capital than simple, risk-blind options. Interestingly, the AMA also requires the largest U.S. banks to hold significantly more ORBC than demanded by stress tests, which include severely-adverse scenarios designed to ensure ample capital regardless of stress.¹⁰ Differences between the types of banks subject to the AMA versus those also subject to the FRB's stress test may account in part for this finding. For example, the largest banks under the AMA bear operational risk related to unique activities such as payment, settlement, and clearing reflected by the AMA and not well captured by averages of stress test results.

It is particularly striking that large U.S. banks hold more ORBC than their global peers under an internal-models based approach when one also takes into account the stringent nature of U.S. contingency-planning requirements.¹¹ These require the largest banks to ensure systems redundancy and resilience, supporting ongoing customer and financial-market servicing even under acute stress in ways a capital requirement – which only reduces the cost of recovery to shareholders – cannot.

How Do Capital Rules Govern Operational Risk?

Based on the understanding that standardized ORBC would not appropriately capture operational risk, the 2007 U.S. rules as noted did not include the Basel II standardized options. Instead, the U.S. drew only on Basel's advanced measurement approach, further differentiating the U.S. approach by applying ORBC only to banks and BHCs with assets over \$250 billion or at least \$10 billion in total on-balance sheet foreign exposure. This approach was selected based not only on recognition that OR has very different risk characteristics even for banks in the same business line, but also that the largest OR risk-drivers are generally associated with fee-based and other activities less likely to be a significant risk at smaller, less-complex banks. The U.S. rules have not changed since 2007, but Basel is now proposing to dispense with the AMA and rely only on a modified version of its prior options that is now called the standardized measurement approach (SMA).¹² This sets up a potential fragmentation of the ORBC framework if the U.S. does not follow Basel's SMA.

As noted, U.S. banks subject to the AMA in fact generally hold higher ORBC than European banks which may pick between the standardized and advanced approaches. ORBC made up 28 percent of U.S. bank capital as of June, 2015, but only twelve percent of capital for Eurozone and U.K. banks.¹³ Further, if the

⁹ Filippo Curti, Ibrahim Ergen, Minh Le, Marco Migueis & Robert Stewart, *Benchmarking Operational Risk Models* (March 2, 2016), available at <http://www.federalreserve.gov/econresdata/feds/2016/files/2016070pap.pdf>.

¹⁰ Filippo Curti, Ibrahim Ergen, Minh Le, Marco Migueis & Robert Stewart, *Benchmarking Operational Risk Models*, *op. cit.*

¹¹ FRB Supervision and Regulation Letter, SR 14-8 (September 25, 2014), available at <http://www.federalreserve.gov/bankinfo/srletters/sr1408.htm>.

¹² BCBS, *Consultative Document: Standardised Measurement Approach for operational risk* (March, 2016), available at <http://www.bis.org/bcbs/publ/d355.pdf>.

¹³ Laura Noonan, *Banks face increased capital requirements under new rule*, Financial Times, March 4, 2016, at <http://www.ft.com/cms/s/0/90897f84-e1eb-11e5-8d9b-e88a2a889797.html#axzz4H25XDMuo>.

Basel SMA is adopted, global banks as a group would need to add approximately \$129 billion¹⁴ in capital, but U.S. banks on average would be only minimally affected.¹⁵ Looked at another way, the median U.S. bank – allowed as noted only to use internal OR models to set ORBC – now holds approximately 31.7 percent of gross income in ORBC, the highest percentage of surveyed global banks.¹⁶

The problem with Basel's AMA may thus well not be with a tailored approach to operational-risk based capital, but rather with the way the AMA has to date been implemented in some nations. The AMA depends on models, but to the extent these are "gamed" by a bank or are otherwise too advantageous, supervisors can and should intervene.

Conversely, regulatory assumptions in the SMA could have significant adverse consequences even when banks fully comply with the new approach. For a standardized capital system to work properly, risk itself must be sufficiently subject to standardizing assumptions as to make capital in fact correlate with risk at individual banks and across the financial system in each nation and around the world. If industry regulatory calculations diverge from risk, they dislocate actual risk from required capital, with this dislocation particularly problematic from a safety-and-soundness perspective when standardization significantly under-estimates an individual bank's risk.

Aspects of operational risk that make standardization problematic, especially for larger banks, include:

- OR conditions vary by factors such as geography and geopolitical risk. As a result, a standard international charge does not reflect on-the-ground factors in individual nations such as higher-than-average risk of natural disaster or more likely targeting for cyber-attack. Individual banks also have varying OR exposures due to factors such as the extent to which operations are diversified across different nations or located in countries with different natural-disaster risk.
- OR is fat-tail – that is, it is characterized by low-frequency, high-severity incidents not well captured by standardized risk models precisely because these risks – often the ones with greatest systemic impact – are hard to model. Using the SMA's assumptions, researchers have found that a bank which has experienced a high-severity incident would see its capital ratios vary dramatically over its own long-term averages.¹⁷ Because many high-severity incidents are beyond a bank's control, this volatility appears to reflect SMA model risk and suggests the approach will not support systemic resilience.
- Operational-risk mitigation practices are generally not standardized. For example, different types of risk require different mitigation – payment infrastructure requires redundancy in terms of capacity and location, while fraud-risk reduction requires enforced limits and related controls. Standardized charges that do not differentiate risk may assume mitigations not actually in effect or calculate capital for mitigations irrelevant to a bank's actual OR. Unlike contingency-and-resilience regulations such as those noted above for the U.S., ORBC does not ensure uninterrupted service, just more shareholder funds with which to absorb operational shocks to preserve earnings and going-concern viability over time.

¹⁴ Converted from capital requirements of €115 billion based on a conversion rate of 1 euro to 1.12 dollars, as of 8/15/2016.

¹⁵ Operational Riskdata eXchange Association (ORX), *Capital Impact of the SMA*, 1 (May 24, 2016), available at <http://www.orx.org/Lists/NewsItems/ORX%20Capital%20impact%20of%20the%20SMA.pdf>.

¹⁶ ORX, *Capital Impact of the SMA*, *op. cit.* at 3.

¹⁷ Gareth Peters, Pavel Shevchenko, Bertrand Hassani, and Ariane Chapelle, *Should AMA Be Replaced with SMA for Operational Risk?* (June 10, 2016), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2788920.

- Typical business-cycle and/or OR loss distributions are, in contrast to other financial risks, only now being modelled in ways that permit banks and regulators to assess likely exposures taking into account different lines of business and related factors. Standardized assumptions wash away precision without offsetting gains in higher capital ratios that might improve resilience and ensure incentive alignment.

How Would Basel's Proposed Approach Work in Practice?

As noted, the Basel Committee is proposing not only to retain the standardized approach for operational risk, albeit in revised form, but now also to dispense with the AMA. This action is part of Basel's broader move to reduce or remove reliance on internal models, one often called "Basel IV" despite strong objections to this characterization by some global regulators and by the Basel Committee, who argue that these standardizing rules will not materially increase regulatory capital. Although Basel has not yet conducted a quantitative impact survey (QIS) of its proposal, the global data above suggest it would result in a very significant capital hike outside the U.S.

However, even if there is no net capital increase for operational risk, structural aspects of the proposal raise significant questions about unintended impact, especially when other regulatory requirements are considered. Cost is not the sole criterion for capital requirements, which instead are best judged on the marginal benefits for safety and soundness at individual banks and for financial stability more generally.

The SMA may make operational risk worse due to the following:

Backward-Looking Focus

As noted, OR is particularly dynamic, changing in concert with factors such as new technology, geopolitical events, and natural disasters. Nonetheless, Basel's proposal bases ORBC on a ten-year retroactive calculation of losses and provisions (reserves) set by each bank. As a result, the more scrupulous a bank is setting its OR provisions or the more demanding a supervisor, the greater the provisions and the higher the resulting ORBC even though provisions are put in place to buffer the bank from operational risk. Perverse incentives to minimize provisioning are thus likely.

By definition, a backward-looking approach does not capture emerging risks – risks which as noted are in fact growing due to external factors such as cyber-attack. It also does not appropriately reflect the cost and long-term benefit resulting from OR mitigations undertaken after an incident, thus penalizing not only banks that are subject to enforcement actions related to operational risk, but also those that self-correct self-identified problems. Retroactive OR calculations also create strong capital incentives to enter new, risky businesses – especially the fee-based ones often not captured in other quantitative capital requirements – because risks adversely affect earnings only well after they begin to materialize in retroactive OR-capital requirements. Although some studies¹⁸ suggest that retroactive losses may have bearing on future OR loss, this research remains preliminary and does not appear suitable for a global regulatory-capital requirement.

¹⁸ Filippo Curti and Marco Migueis, *Predicting Operational Loss Exposure Using Past Losses* (2016), available at <https://www.federalreserve.gov/econresdata/feds/2016/files/2016002pap.pdf>.

In contrast to Basel's proposed OR approach, current and proposed credit- and market-risk capital is based on through-the-business-cycle unexpected losses, not a backward look at loss during an arbitrary time period that may or may not have any bearing on OR for each risk category and with bearing on each bank (for example, likely loss due to natural disasters will differ from that associated with securities fraud).

De Facto "Leverage" Requirements

The "business-indicator" (BI) factor from which ORBC would be derived is essentially income – not risk – based. Although the revised consultation attempts to correct for now-recognized problems in the 2014 one that preceded it,¹⁹ the SMA remains principally based on gross income. This has been found to explain 96 percent²⁰ of the BI's behavior, meaning that the more gross income there is, the greater Basel assumes the risk to be even though income is not actually well correlated with OR.

Further, as defined in the SMA, gross income does not reflect risk mitigations such as expensive back-up systems, costly insurance, and budgeted risk buffers. As a result, the standardized approach is far from a risk-based one and thus can be better described as a leverage requirement for operational risk. However, the BI in the Basel SMA is even more problematic than the risk-blind leverage-capital requirement for credit risk because efforts to mitigate OR not only can be costly, but may also increase the earnings on which the indicator is based. This occurs in cases where banks price for OR – for example, when fees reflect the cost of offering a service to clients that have uncertain systems reliance. This compounds the perverse incentive to avoid costly risk mitigations by also discounting the income resulting from OR-related pricing even though higher pricing has adverse competitive impact. Banks unable to gain new customers or retain business because their pricing reflects OR-mitigation costs may well feel compelled to cut prices and thus take more risk not captured by ORBC.

To be sure, the new Basel consultation seeks to correct for this by adjusting the BI based on the backward-looking loss experience described above. However, the flaws of the backward-looking approach are compounded, not corrected, by the problems inherent in the gross-income indicator, creating a perverse incentive for banks to take risk without deriving from it the earnings needed both for appropriate provisioning and a reasonable rate of return.

Importantly, global and U.S. regulators believe that risk-blind rules should be the floor for capital, with risk-based rules the binding constraint. For example, the U.S. supplementary leverage ratio rule states, "...[T]he agencies believe that the proposed enhanced supplementary leverage ratio standards should broadly preserve the historical relationship [i.e., risk-based capital as the binding constraint] between the tier 1 leverage and risk-based capital levels for covered organizations, rather than fundamentally alter such a relationship..."²¹ It is far from clear why the ORBC "risk-based" rules depart from this policy.

¹⁹ BCBS, *Operational risk – Revisions to the simpler approaches* (October 2014), <http://www.bis.org/publ/bcbs291.pdf>.

²⁰ ORX, *Capital Impact of the SMA*, *op. cit.* at 5.

²¹ OCC, FRB, and FDIC Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for Certain Bank Holding Companies and Their Subsidiary Insured Depository Institutions, 79 FR 24528, 24533 (May 1st, 2014) (codified at 12 C.F.R. §§ 6, 208, 217 & 324), available at <https://www.gpo.gov/fdsys/pkg/FR-2014-05-01/pdf/2014-09367.pdf>.

Would Basel's New Rules Strengthen the Financial System?

A standardized ORBC charge based on gross income – not risk – makes bank investment in operational risk-management and mitigation systems and the cost of risk buffers essentially worthless, forcing reliance solely on the ability of the regulatory assumptions built into SMA to ensure that capital is correctly calculated. Even were this the case, mobilizing capital is often an irrelevant response to an actual operational-risk incident. Capital is a needed and useful buffer if, for example, a “fat-finger” trading error or fraud depletes customer or bank assets, allowing the bank to make clients whole and ensure ongoing operations.

However, in the event of OR incidents such as utility failure, cyber-attack, and natural disasters, redundant, resilient systems are essential – capital would only help rebuild them long after damage has been done. With the SMA compounding the cost of OR mitigation, some banks may choose to let systems resilience go into disrepair or otherwise skimp on risk management and maintenance. Where banks are subject to robust recovery and contingency-planning requirements as in the U.S.,²² systems maintenance may well not suffer despite the added cost of ORBC, but these costs will compound other competitive challenges and make it difficult for banks to attractively price their services. Product migration to non-banks not covered either by ORBC or systems-resilience requirements would thus ensue.

Operational risk across the financial system will also become increasingly correlated under the SMA because capital ratios will depend on like-kind variables. Bank-specific controls will be of little use unless national supervisors rebuild them or require maintenance in tandem with implementing Basel's standardized requirements. Many supervisors are unlikely to do so unless or until risk incidents demonstrate the flaws in the standardized approach.

ORBC in the Regulatory-Capital Equation

As demonstrated, ORBC is a non-trivial element in the overall regulatory-capital regime, especially for U.S. banks. It has also been shown that operational risk is a significant one with systemic implications that warrant careful recognition in regulatory-capital standards to ensure that capital requirements in fact correlate well with risk. Capital is not a clear OR mitigant since capital can only be deployed as an earnings buffer against some losses or as a funding source for rebuilding systems, not as an effective incentive for reducing operational risk when regulatory-capital requirements do not offset the cost of mitigation.

Models or other techniques that afford capital credit for OR mitigation are often considered the equivalent of other model-driven rules that some think should be replaced with simple, risk-blind standards. However, the U.S. experience demonstrates that robust supervision results in larger ORBC holdings than those allowed under current or proposed standardized approaches.

More operational-risk capital therefore does not mean less operational risk. Indeed, it could well mean more operational risk since capital cannot be readily deployed to mitigate damage that occurs because mitigations were not put in place ahead of risk. The post-crisis reform goal of establishing a new, forward-looking, robust capital bulwark that ensures bank resilience and financial stability is thus

²² FRB Supervision and Regulation Letter, SR 14-8, *op. cit.*

undermined by standardized operational-risk based capital charges that do not anticipated forward-looking, bank-specific risk factors.