CONFERENCE DRAFT
30 March 2016

Governing banks in a global economy: Capital requirements after the financial crisis.

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Did the financial crises in the US, UK and the Eurozone lead to a harmonization of national approaches to bank supervision and regulation? The subprime and sovereign debt crises revealed flaws in the existing framework for evaluating bank safety and soundness: banks did have not enough capital to withstand a financial market shock and a number of institutions failed or required extraordinary government support. Crises of this form may trigger deeper international collaboration to learn from failure and contain risks. Or, crises may lead individual nations to pursue distinctive regulatory reform strategies, tailoring rules to local needs. The paper investigates this dynamic with a particular focus on Basel III, the international effort to strengthen and clarify bank capital requirements after the financial crises. The new capital requirements reflect the adaptation of an existing international forum, the Basel Committee, to manage a host of new but related policy problems. But nationally distinctive approaches to the application of capital requirements, which emerged prior to the crisis, have persisted in the implementation post-crisis reforms.

Keywords: policy convergence, transnational governance, bank regulation, capital requirements, Basel III, financial crisis

Prepared for presentation at the 2016 Annual Meeting of the Midwest Political Science Association. Chicago, IL

What was the impact of the financial crisis on national choices about bank regulation? Before the financial crises in the U.S. and E.U., the international adoption of uniform capital standards seemed to be an important indicator of enduring, persistent convergence of national approaches to the supervision and regulation of banks. The implementation of the 2006 version of these rules, Basel II, also signaled an important ideological consensus about the appropriate balance between public sector monitoring and private sector self-discipline. The new rules gave substantial deference to bank managers and relied on internal models for risk assessment and risk management. The financial crises revealed, among other things, that even banks satisfying the new capital standards were grossly undercapitalized and vulnerable to rapid deterioration.

After the crisis a host of reforms were undertaken in the U.S., the U.K. and across the Eurozone. Some of the efforts were a direct result of international collaboration and coordination – updates to the Basel capital standards, new accounting conventions, and new approaches to resolution developed by the Financial Stability Board. Other efforts were nation-specific or region-specific – Vickers Commission structural reforms in the U.K., Liikanen Group initiatives in the E.U., and the Volcker rule and related structural changes in the United States. In what ways did the financial crisis period (2007-2012) reverse the process of regulatory convergence encouraged by the Basel Committee for Bank Supervision and undo years of work to harmonize financial regulation? Under what conditions did actors confronted with instability and failure turn to international forums to coordinate the response, leading to a more tightly integrated network of international standards and rules?

An answer to these questions requires a fine-grained assessment of the operational and administrative details surrounding the regulation and supervision of banks across multiple nations. I focus here on one aspect of bank regulation and supervision – capital requirements – in the US, UK and the 17 nations in the Eurozone by 2013. Capital requirements are a set of rules applied to banks that lie at the intersection of prudential regulation, crisis management, and orderly resolution. What types of capital are banks required to hold? Under what conditions can supervisors require banks to hold additional capital? How can regulators ensure that banks have sufficient capital to undergo an orderly resolution without recourse to taxpayer funds? Capital requirements are particularly useful for understanding how a crisis might disrupt a transnational governance regime with a number of actors and a long legacy. The paper proceeds in three parts. First, I locate the project in broader debates about the pace and process of policy convergence. Second, I describe what exactly bank regulation is and why a particular focus on capital requirements can be fruitful for learning about convergence and crisis. The empirical section of the paper, the third section, addresses three questions. (a) What was the extent of national variation in capital requirement before the crisis, under Basel I and Basel II? (b) What types of international efforts were undertaken to reform capital requirements after the crisis? (c) What is the extent of national variation today? The discussion of national variation settles largely on the what types of financial institutions are subjected to which capital requirements, discretion of

national supervisors to assign higher or lower risk weights to certain assets, the national approach to defining loss-absorbing capital, and the use and calculation of a leverage ratio.

The short answer to the major question at the heart of the paper – under what conditions do we see convergence or divergence? – is that the international framework in place well before the crisis – the Basel Committee on Bank Supervision - served as highly useful platform to negotiate post-crisis reforms. New types of capital requirements were designed to accomplish multiple new objectives: improve bank safety and soundness, prevent systemic financial crisis, manage financial crises, and facilitate orderly resolution. A set of rules originally intended primarily to level the playing field for globally active banks became the source of solutions to a host of problems revealed by the crisis. By leveraging existing commitments to an international capital regime, the Committee could credibly offer specific reforms that would simultaneously come into force in many jurisdictions. (Convergence of this form has not happened in, for instance bank regulation choices related to consumer protection or structural reform), Perhaps to no surprise, many of the national differences that emerged in the implementation of capital requirement prior to the crisis also appeared (or persisted) as the reforms were implemented. Tentatively, it appears that these differences stem from the long US tradition of "two tier" regulation (differentiating small and large banks) and the unique US administrative approach to bank resolution (the Federal Deposit Insurance Corporation). The crisis experience and negotiation of the post-crisis response did not erase these key differences.

Policy convergence and the role of crisis

Questions about policy convergence are in many ways at the heart of research on comparative public policy. Dating back at least to the work of Kerr, Dunlop, Harbison and Myers (1960) on industrial relations, scholars have traced the impact of an increasingly global economy on domestic policy choices. The recognition that convergence has been or is occurring across a number of policy domains and across a wide range of diverse national contexts has inspired an enormous literature. The number of policy areas examined in this work is legion: telecommunications, industrial relations, environmental policy, banking, LGBT rights, tax, trade, finance. In an influential review article, Bennett (1991) sketched out the mechanisms that might cause this type of convergence, focusing on the ways that state actors might influence the pace or path of convergence (emulation, elite networking, harmonization). Drezner (2001) clarified the key dimensions that differentiate various approaches to convergence– the role of economic forces versus the role of ideas and structural versus agent-based approaches. The attention to convergence in the international relations literature reflects the efforts of scholars to highlight the importance of transnational governance structures and ideas that organize the search for policy alternatives (Simmons and Elkins, 2004). A particular focus of work on convergence in the EU

has been an effort to determine whether national choices reflect broader convergence (at the level of the G-20) or more narrow "Europeanization" of public policy (Paetzold and Van Vliet, 2014).

But what happens when shared, global crisis disrupts ideas and understandings about best or ideal policy choices? Do international lessons emerge or do national differences become more salient? Chweieroth (2010) asks exactly this question - when do crises lead to policy change? – and uses insights from an Indonesian financial crisis in the late 1960s to test competing theories about the conditions that lead to policy change. This idea – that crisis, in particular, leads to desperate search for solutions appears directly in literature on the recent financial crisis (Eichengreen 2015, Broome, Clegg, and Rethel 2012). But the idea that crisis and the path of convergence may be linked in important ways is not new. Rose (1993) and Majone (1991) claim that the urgency of crisis is linked to accelerated learning– new problems require immediate attention with few opportunities for original solutions. Foreign models or experiences are among the sources for ideas that inspire these rapid solutions.

Over the last 10 years, the literature on the management and impact of crisis has moved from thinking about crises as a single event to thinking about crisis as a process. Boin, t'Hart, Stern, and Sundelius (2005) sketch out a framework for tracing the steps that governments take to respond to crisis – from "making sense" of events as the crisis unfolds to, ultimately, the complex process of learning from crisis. Each step of the process of proves be highly contentious. Various actors seek to use the lessons of the crisis to advance particular solutions or policy instruments, to define a new era or signal the return to normalcy, and to balance demands for sweeping reform and more pragmatic stewardship of existing expertise and instruments to avert future crises. The crisis-as-process literature suggests a number of ways that crisis might inspire convergence: other countries experiencing similar crises may share ideas or solutions or countries seeking to preempt crisis may learn from countries experiencing crisis. On the other hand, crisis could disrupt a process of convergence, weakening actors who were advocates or proponents of converging approaches and leading to a search for more appealing national variants (Birkland 2006). Responses will reflect existing norms, resources and routines: Rose (1991) poses the problem as "inheritance before choice" - elected officials approach a crisis with the set of agencies, actors and tools in place well before the crisis.

I use the case of bank regulation and the global financial crisis to explore some of the questions raised in this literature. How did the international community use "inherited" forms of coordination to shape post-crisis reforms? Under what conditions will new organizational or administrative forms emerge? In what forums are new ideas likely to emerge? Why do national variations in the implementation or construction of bank regulation persist in the face of new global conventions?

Bank regulation and the role of capital requirements

While the actors and practices varied across countries, garden variety depository institutions played central roles in both the subprime and sovereign debt crises. In the U.S., thrift institutions IndyMac and Washington Mutual failed spectacularly. In the U.K., the failure of Northern Rock and the nationalization of RBS were extremely costly. Outside of the U.K., the failure of banks in Ireland and the financial distress of major banks in Italy, Spain, and Portugal all highlighted how failures of bank regulation could jeopardize national or global economic stability.

Bank regulation covers a range of government functions and rules– consumer protection, capital requirements, permitted lines of business, quantitative supervision, and crisis management. Banks are chartered by national (and local) governments, supervised by public sector regulators, often participants in a deposit insurance scheme, and subject to a variety of reporting and compliance requirements. Bank regulation is also a policy area where we can see an acute tension or clash between international convergence and nationally distinctive approaches (Lavelle, 2014).

The global mobility of capital may create a particularly strong set of incentives for policy convergence. In 1974, disruptions in foreign exchange markets and the failure of a large German bank, Bankhaus Herstatt, and a large American bank, Franklin National Bank, focused attention on the risks of international financial trading and markets (Auerbach, 1975). The crisis triggered an internationally coordinated effort to increase cooperation between regulators across national borders. This effort, headquartered in the Bank for International Settlements, led to the formation of the Basel Committee in on Banking Supervision. The Committee published the 1975 Basel Concordat, a 1983 Statement of Principles, and, ultimately, became the focal point for efforts to establish uniform capital requirements for banks (see Kapstein, 1994, for links between international financial crisis in the 1970s and the establishment of the Basel Committee). The uniform capital requirements, the Basel Accords, were largely a response of representatives of globally competitive financial sectors—from the United States and the United Kingdom in particular—to diminishing capital positions of Japanese banks in the late 1980s. The claim was that Japanese banks were moving into markets without the same types of capital requirements required of local financial institutions, placing the local institutions at a competitive disadvantage (see Barth, Caprio, and Levine, 2006). The Basel Accords reinforced and broadened international cooperation in the area of bank supervision and evaluation, building on the 1975 and 1983 efforts to establish norms and practices for cross-border oversight of financial institutions. For a pre-crisis overview of the global financial regulatory architecture that the Basel Committee inspired, see Alexander et al 2006. More generally, international efforts to coordinate the regulation of finance have been described as the triumph of "soft law" – the development of non-binding but rapidly diffusing standards and practices that guide national

approaches across a range of activity – accounting standards, regulation of derivatives, supervision of internationally active banking groups (for two very different perspectives on the efficacy of soft law approaches, see Brummer 2011 and Avgouleas 2012).

Writing before the financial crisis period, Lütz (2004), describes how broad structural features of bank regulation in the U.S., U.K. and Germany have converged in important ways – with a broader role for federal actors and a pattern of cooperation on standards that is institutionalized in the Basel Committee. But institutional diversity was the norm before the crisis– the U.K. at the time had a single independent financial services regulator, the U.S. has different regulators for bank, insurance, and securities activity, and Germany located the primary regulator in the Finance ministry. And, more broadly, the regulation of banks is a local enterprise. Rules governing the licensing and operation of banks are national or sub-national, statutes that govern these rules are typically national, the actors and norms in the banking sector are nationally distinctive. Banks operating in the U.S. – whether owned by foreign or U.S. interests – are regulated by U.S. agencies, under U.S. rules derived from U.S. statutes, overseen by regulators who are U.S. citizens, typically educated and trained in the U.S. In a typical E.U. member nation, the local situation is similar. Banks operating in the U.K. are regulated by U.K. agencies, under rules derived from British laws, overseen by regulators who are U.K. nationals, typically educated and trained in the U.K. For even the smallest nations in the Eurozone, the situation is also similar: Maltese banks are regulated by Maltese authorities, under rules derived from Maltese legislation, overseen by regulators who are Maltese citizens, typically educated and trained in Malta and abroad. The EU single rulebook and rule making in the EBA will eliminate some of these differences in formal regulation and supervision, but important national features will persist. In order to operate across borders, banks are required to conform to these various locally distinctive regulatory environments. One observer of international efforts to develop consistent supervisory standards concluded: "As a practical matter, however, the diversity of G20 members' banking systems—and the primarily domestic nature of banking regulation—makes … harmonization a major challenge" (Patrick, 2012). This can be particularly problematic if distinctive approaches are an effort to protect the competitive position of a "national champion," large domestic banks that perceived as vital for economic prosperity (classically Boot 1999).

Crises test the commitment of national authorities to national conventions, creating opportunities to craft responses that alter the playing field and amplifying the tension between national action and international collaboration. The crisis period led to a series of controversial and difficult policy choices that shifted the costs of bank failure from bank creditors, bank management, and bank owners, to taxpayers. One central challenge or problem that emerged from the crisis period was the recognition that some financial institutions – large institutions with an often global reach – were identified as adequately capitalized in theory, but in fact quite vulnerable to

rapid and dramatic failures. Capital requirements are arguably at the heart of bank regulation. A central element of firm-targeted prudential supervision – safety and soundness regulation – is an evaluation of the capital position of a bank. If a bank is not "well-capitalized," supervisors in some jurisdictions can requirement actions by bank management – to suspend dividend payments, obtain more capital, or sell assets. Planning for recovery and resolution also implicates capital requirements. If a bank is poorly capitalized, then a bank failure will require funds from outside of the bank to pay secured creditors or depositors – often leading to taxpayer subsidies of failing or failed banks. Capital requirements can be used to make sure that banks have adequate capital to fail without taxpayer support. Capital requirements can also be used to nudge banks toward particular sources of funding (long-term stable funding, avoiding liquidity problems when short-term credit markets are distressed). Capital requirement can also nudge banks to avoid or seek particular types of assets – loans to small or medium size enterprises, residential mortgage loans, or credit default swaps. Capital requirements are a useful tool for addressing multiple policy objectives and the existence of a robust framework for establishing and ensuring compliance with international capital standards, the Basel Accords, meant that capital requirements would be one area of immediate reform attention during and after the financial crises.

While the full compliance with and phase-in of the new requirements will not occur until 2020, the largest internationally active banks are anticipating much higher capital levels as a consequence of the new rules adopted by the Committee. The Deutsche Bank 2015 annual report, for instance, anticipates that required capital will grow from 8 percent of risk-weighted assets in 2013 to a maximum of 20 percent of risk-weighted assets by 2020. Media coverage of bank reform has also identified increased capital requirements as among the more meaningful reforms impacting operations and profits or large banks (see, for instance, "New Rules Spur a Humbling Overhaul of Wall Street Banks" in the 19 February 2015 *New York Times*)

Capital requirements before the crises

First steps towards international standards: Basel I

As a mechanism for international coordination, the Basel framework has been enormously successful, guiding implementation of bank supervision across more than a dozen large industrialized countries. Daniel Tarullo (2008) offers a comprehensive assessment of the successes and drawbacks of the various iterations of the Basel guidelines. The Basel Accords, first introduced in 1988, established simple capital requirements for regulated banks. The approach that specified three accounting conventions: Tier 1 capital, Tier 2 capital, and total risk-weighted assets.[1] Tier 1 capital includes equity—the total amount of common stock and some

[1]Part of this discussion is drawn from Corder (2012).

forms of preferred stock outstanding—and published retained earnings. These forms of capital are distinctive since they do not have to be repaid. Stock only retains value if the firm has assets after other forms of debt are repaid. Tier 2 capital, a less restrictive form of capital, includes other forms of corporate debt—subordinated term debt instruments and hybrid debt capital instruments—and certain types of reserves (see Bank for International Settlements 1988). These forms of capital have a lower priority for repayment than conventional corporate debt. Total risk-weighted assets are calculated by attaching a risk weight to each asset in the bank's portfolio. In the 1988 version of the accord, assets were risk-weighted in way that requires little or no capital for cash or investments in government securities (0 percent risk weight) but higher weights for riskier assets such as home mortgages (50 percent risk weight) and long-term claims on banks incorporated outside of the major industrialized (OECD) nations or securities rated below investment grade (100 percent risk weight). The accord specified the treatment of nearly twenty different forms of assets, focusing mainly on what type of entity is a counterparty (government, bank, government-sponsored enterprise, private sector) and the maturity of the debt (under one year or longer than one year). The accord also specified how to calculate exposure to risk from derivatives and off-balance-sheet entities.

The accord directed official supervisors (bank regulators) to adopt a common "target standard ratio" of at least 4 percent of total risk-weighted assets in the form of Tier 1 capital and 8 percent in total capital (Tier 1 plus Tier 2). Banks were required to demonstrate that they were adequately capitalized by calculating the total amount of risk-weighted assets and applying the simple two-tier capital standard. Banks that meet the specified target standard ratios are considered adequately capitalized (but national supervisors, like the US, may impose higher capital standards). The Basel conventions do not have the force of international law and implementation requires legislation and rulemaking at the national level. Since legislatures and supervisors interpret the Basel conventions, there are multiple opportunities to tailor the guidelines into national approaches to bank supervision.

What does this discretion mean in practice? As part of a larger effort to describe regulatory and supervisory practices across the world, the World Bank initiated a series of surveys of national bank supervisors, the World Bank Supervisory Survey. These surveys provide a detailed assessment of capital requirements in each responding nation. The first iteration of the survey was published in 2001 and later iterations included one survey immediately before the financial crises (responses collected 2005/6, published in 2007) and one survey well after the subprime financial crisis in the US (responses collected 2011/2, published in 2012).

The 2007 survey included 26 specific questions related to capital requirements. The data reveals substantial movement towards the Basel I framework in all of the sample countries: UK, Eurozone and US. Supervisors in each of the 19 nations indicated that minimum capital-asset ratios were risk-weighted consistent with Basel conventions. The minimum capital requirements were also uniform: only Cyprus reported minimums higher than 8 percent and Germany required

new banks to hold higher levels of capital (for three years). But, on several dimensions, national practices varied. For instance, the US and Belgium enforced a minimum leverage ratio (Tier 1 capital / total assets rather than risk-weighted assets). US bank regulators required a 5 percent leverage ratio for a bank to be designated as "well-capitalized" (see Herring, 1996). Regulators varied in how they treated various forms of unrealized losses. Some nations required banks to deduct the market value of loan losses not realized in accounting books, unrealized losses in securities portfolios, and unrealized foreign exchange losses from the book value of capital (the UK and eight Eurozone nations). Other nations required none of these deductions (Belgium and Ireland). Accounting rules also varied. The US followed GAAP principles and, with two exceptions, the Eurozone nations followed IAS/IFRS: Belgium followed neither and German banks conformed to both. The upshot is that even the relatively simple Basel I framework invited a host of national choices and these national responses reflected persistent distinctive features of national banking sector. Some explanations for the origins of the differences are offered below.

The requirements get more complicated: Basel II

Refinements to the Basel Accord after 1988 included broader definitions of capital and a broader variety of risk weights, formal links between risk weights and rating agency evaluations of asset quality, and, in the negotiation of Basel II in 2004, the option to permit large financial institutions to substitute internal ratings for the standard risk weights. Basel II was structured around three "pillars:" capital requirements, prudential supervision, and market discipline. The second pillar highlighted the need for national supervisors to attend to local credit or other risks that might not be captured in the Pillar I requirements. The third pillar was part of a broader effort to introduce more market discipline by permitting banks to develop and disclose their own risk measures and risk management procedures. Implementation of Basel II was completed in the EU in 2006 and implementation was underway in the US at the onset of the financial crisis. An optimistic 2005 World Bank assessment viewed Basel II as an opportunity for countries to develop better supervisory capacity, a wider scope of external credit ratings activity, and improved disclosure at the firm level (see IMF, 2005)

The World Bank 2011 survey indicates that, by then end of 2010, all of sample nations except Ireland and the United States had exclusively adopted the Basel II capital adequacy regime for all institutions. In the U.S., the Basel II conventions were applied to only a handful of large banks ("core" banks). Leverage ratios were only in place in the U.S. and Belgium, but Belgium, the U.K. and Luxembourg also implemented other types of supplementary capital requirements. Other national practices also varied. For instance, the Basel conventions offered four alternative ways that banks could be permitted to calculate or evaluate credit risk. The implementation of Basel I in the US was limited to large internationally active banks, and but the US required all banks to use the same approach (the Advanced – Internal Ratings-Based Approach). The 24 Eurozone nations permitted any of the four approaches. The most important difference in

implementation of the new rules was arguably the choice of the US to only apply the rules to the largest globally active banks (the "bifurcated" approach).

Reforms after the crisis: Basel III

A sweeping package of post-crisis reforms, known as Basel III, was published by the Committee in December of 2010. The reforms introduced a more complex, ambitious and expensive set of capital requirements. More than a dozen new standards were highlighted by the Committee (BCBS, 2011b). The most important changes fall into three categories:

> New requirements for **capital loss absorption**: the Committee adopted requirements that capital instruments include clear contractual language or other provisions that require creditors to take losses before taxpayer funds are used in a resolution or bail-out.
>
> New **supplementary capital requirements**: on top of regulatory minimums for Tier 1 common equity capital. Basel III includes a capital conservation buffer (a 2.5% buffer that, if breached, can trigger suspension of dividends or other distributions), a countercyclical buffer (up to 2.5%, to be imposed by national authorities when credit is rapidly growing), and a buffer (up to 2.5%) to be applied to global Systemically Important Financial Institutions.
>
> New types of capital requirements. A **leverage ratio** (based on total assets, not risk-weighed assets) and **liquidity standards (**a liquidity coverage ratio designed to guarantee banks have at least 30 days of operating funds in the form of capital and a net stable funding ratio that discourages heavy reliance on short-term funding sources).

The scope of these new rules gives some indication of the way that the international response leveraged or used the Basel framework to handle new problems. Basel I level playing field concerns gave way to problems related to taxpayer funded bail-outs, pro-cyclical capital shortfalls, global interconnectedness or financial contagion, and growing reliance on short-term sources of funding. These are all discrete and well-known challenges related to prudential bank supervision, but the international community elected to use address all of these problems in one forum and in a coordinated way.

National variation under Basel III: what and why?

The national implementation of Basel III is largely a story of convergence, with rapid adoption of complex new capital requirements in multiple jurisdictions in a short period of time. The scope of the reforms was ambitious and the technical complexity of the proposed reforms required a variety of national choices – at the level of statutes/directives, rules/regulations, and supervisory practices. The US implemented Basel III as part of the agency rulemaking process,

completing most of the work by July, 2013 (Getter, 2014). Within the EU, two sets of rules implement Basel III: a Capital Requirements Directive (CRD IV) and a Capital Requirements Regulation (CRR). The CRD includes elements of Basel III that must be transposed into national law; the CRR develops EU law that is directly applied to banks. The EU capital requirements were groundbreaking financial market reforms since part of the requirements – the CRR- are implemented in ways that bypass national lawmaking. The CRR applies directly to member banks. The CRD requires that the European Banking Authority develop Binding Technical Standards for national supervisory authorities, an effort to reduce national disparities in application of the new requirements.

The primary areas where we observed divergence in implementation was in choices about scope and proportionality (what rules are applied to which institutions), the approach used to comply with total loss absorption capacity, and deliberate national deviations in risk weights. As with Basel II, the number and types of opportunities for national variation are impressive: the EBA maintains a list that describes the 70 different "options and discretions" that national supervisors have exercised in the implementation of the European rules (EBA, 2015b).

Scope and proportionality

The EU capital requirements apply to all financial institutions, regardless of size or complexity. In the United States, Basel III requirements apply only to the largest, most complex globally active firms. The US implementation is clearly proportional – firms associated with potential systemic risks face higher capital requirements. The largest US banks (firms designated as GSIBs) will be required to hold more capital than smaller firms. The new regulations, scheduled to be fully in place by January 2019, are estimated to require these large banks to add between 1 and 4.5 percent additional capital. In the US, a bank must hold 10% of risk-weighted assets in the form of total capital in order to be consider "well-capitalized" – exceeding the Basel III minimum standard of 8%. But, by 2019, the Basel minimum will exceed 12% for US institutions with the addition of the GSIB capital surcharge (1.5%) and a capital conservation buffer (firm-specific, but 2.5% for a complex firm like Goldman Sachs)) (Goldman Sachs 2014 Annual Report, page. 59) On top of the Basel minimums, the Board of Governors of the Federal Reserve System, adopted an "expected impact framework" that requires banks to use the higher of the internationally adopted standard or a US standard based on dependence on short-term funding sources. The second standard appears to subject US firms to a higher surcharge than comparable EU firms.

The broader application of the Basel III rules in the EU has created concerns about the impact of the new rules on small banks. Th EU approach was explicitly identified with an effort to shift from a 2006 framework of 'minimum harmonization" to a post-crisis form of "maximum harmonization" (McPhilemy, 2016). CRD IV and CRR were seen as fully describing bank capital requirement and national efforts to deviate (through weaker or stronger requirements) was

explicitly discouraged. In this context, the Bank of England has persistently raised issues of proportionality – or lack of it – under the EU capital requirements regime. Complex rules targeting risky activities of globally active large banks add up to high compliance costs for smaller local institutions. And internal models for evaluating risk – the advanced approach adopted by complex banks – often leads to lower capital requirements for similar instruments treated under a standardized approach. [2] This also create a competitive disadvantage for smaller, simpler banks (see BoE, 2014).

The differentiation between large and small banks extends to the application of supplemental capital requirements as well. For instance, the US applies the countercyclical buffer to a subset of institutions , to " banking organizations that are subject to the advanced approaches capital rules, generally those with more than $250 billion in assets or $10 billion in on-balance-sheet foreign exposures, and to any depository institution subsidiary of such banking organizations." (FRS, 2015) In the EU, national authorities have the discretion to set country-specific countercyclical capital buffers, but those buffers apply to all firms operating in the jurisdiction. Data published by the European Systemic Risk Board indicates that two EU countries (Norway and Sweden) imposed capital buffers in 2015.

Overall, the differences observed in application of Basel II – only large firms in the US, all firms in the EU – persisted under Basel III. In the United States, smaller domestically focused banks will likely not have to meet the supplemental capital requirements outlined in Basel III. The US choice reflects a long legacy of differential treatment for large globally active banks and bank holding companies (federally supervised, often by the Federal Reserve or the Office of the Comptroller of the Currency) and the smaller community and regional banks (supervised by the National Credit Union Association or state regulators). Similar dual banking structures exist in EU nations, but the large "national champions" have occupied a privileged position.

Approaches to loss absorbing capital? Contractual or statutory?

Under the Basel III conventions (and later guidance), any Tier 1 or Tier 2 capital that is not common equity must include clear contractual language that indicates that the debt will be written off or converted to equity in the case of a triggering event such as a bank resolution or a recovery action (BCBS, 2011a). The Financial Stability Board sets out international conventions for bank resolution, and the Basel III capital loss absorption requirements are designed to ensure that banks have sufficient capital to be resolved without a taxpayer funds. Countries may opt-out of these requirements if a resolution authority has the power to write-down claims of creditors

[2] As in Basel II, there were important national differences in the ways that banks could evaluate credit risks. The narrowly applied US implementation of Basel III targets large complex banks and requires advanced internal ratings based approaches. The broader EU approach means that banks can choose among several alternatives, some using standardized risk weights and some using external ratings agencies.

(the statutory approach). The US follows the latter (BCBS, 2014b). The US choice of the statutory approach reflects US reliance on an extraordinary administrative process to resolve failing institutions. The Federal Deposit Insurance Corporation (FDIC) has the power to close a failing bank, sell assets, reimburse depositors, and make decisions about the priority of creditors. All of this takes place outside of traditional bankruptcy proceedings. Before the crisis, the UK and the Eurozone nations were much more likely to use traditional bankruptcy procedures to resolve a failing bank and administrative resolution authorities were weak or non-existent (Corder, 2015). While recent EU law requires each nation to establish or designate a national resolution authority, the EU has adopted the contractual approach to capital loss absorption. Securities issued by EU banks must include language which clearly communicates to investors the possibility that a recovery action or resolution will result in a total loss. Deutsche Bank spelled out the (negative) implications of this approach to the FSB in a 2015 comment: EU banks would have to issue a large volume of new and risky debt instruments in a difficult capital market, jeopardizing financial stability (Deutsche Bank, 2015). Ultimately, the historical legacy of very different approaches to the resolution of banks across nations spilled over into choices about the types of secured debt that banks can use to satisfy capital requirements.

Risk weights for assets

The maximum harmonization approach compels national authorities to justify any type of extraordinary capital requirement and for the EBA to specifically approve those requirements. Recently the National Bank of Belgium, for instance, received permission to increase the risk weights assigned to residential mortgages by banks using internal risk models (IRB banks). An EBA opinion on the new weights, while supportive of the measures, makes it clear that the EBA sees risks of distortions in financial markets from piecemeal modifications to capital requirements (EBA 2016a). The publication of the proposed change and the EBA opinion improves the quality of information about the application of capital requirements and can encourage imitation (as Dutch authorities, for instance, implemented higher risk weights for mortgages following the Belgian notification) (also EBA 2016a). Over the long haul, the publication of EBA opinions related to these national choices will provide a means to assess how much or how little variation we see across nations.

In addition to permitting variation at the national level the EU chose to modify the Basel III framework in ways that reflected the bank-centric structure of EU capital markets. A member of the European Commission explained: "We adjusted some of the rules to recognise the specificities of savings and cooperative networks, and included favourable risk weightings for loans to SMEs. We also took different needs into account when setting liquidity coverage ratios." (Hill, 2015). Risk weights for loans to small and medium sized enterprise were reduced by nearly ¼ in order to minimize the impact of the capital conservation buffer on firms that have a large portfolio of SME lending (EBA, 2012).

The leverage ratio

In the earliest supervisor surveys, the US stood out as one of handful of nations that implemented a leverage ratio. Support for a simple leverage ratio in the US – a measure of capital adequacy that relies on the simple sum of assets rather the risk-weighted sum of assets – comes directly from the FDIC. As the ultimate backstop for the US banking system, the FDIC consistently advocates for capital adequacy requirements that will protect the solvency of the bank insurance fund (Kane 2007). If a bank uses some form of regulatory arbitrage to artificially lower risk weights or internal models fail to adequately assess risk, then bank failures could result in deficits for the bank insurance trust fund. Since the US is unique in the presence of a long-standing powerful resolution authority, US advocacy for strong leverage ratios is also somewhat unique. Not surprisingly US banks argue that the leverage requirements place them at a competitive disadvantage to EU banks operating in the United States (Herring 2007). While early versions of the Basel III reforms contained US-like leverage ratios, EU resistance and demands for exemptions of particular types of assets led to substantial concessions from the Basel Committee. FDIC Vice Chair Thomas Hoenig took to the op-ed pages of the Financial Times to argue the merits of a robust leverage ratio (Hoenig, 2013). But, when the Basel Committee released updated guidance on the leverage ratio in January 2014, the changes implied lower capital requirements for the large EU banks and the new rules were seen as much more favorable to the banking industry (see "Banks win Basel concessions on debt rules" *Financial Times*, 13 January 2014.)

Part of the EU/US conflict over the leverage ratio hinges on accounting rules. The US rules, GAAP, permit fairly liberal "netting" of derivative exposures when a bank has hedges or other transactions where it is on both sides of a derivative, perhaps with different counterparties. The EU rules, IFRS, typically count gross exposures. So EU banks using IFRS would report higher levels of assets, which imply higher required levels of capital to satisfy a leverage ratio. In addition, the European Commission specifically exempted a number of assets in the calculation of total assets. The EBA resisted these exemptions in a proposed rule on the evaluation of credit risk, and the pushback was notable. One group representing 31 public banks in the EU member states, the European Association of Public Banks and Funding Agencies, outlined concerns that EBA proposals violated the letter of the CRR, which carved out specific exemptions for some assets held by public banks [Article 382(4] (EAPB, 2016). Similar reservations were communicated by the other trade associations: The Euroepan Banking Federation comments indicated particular concern over the inclusion of "intra-group" transactions in the evaluation of credit risk – EBF argued that an existing exemption for these transactions was firmly negotiated in the CRD and that reversing this decision would undermine the competitiveness of EU banking groups (EBF, 2016).

Conclusion

The most striking features of changes to capital requirements after the financial crisis are the speed and comprehensive of the reforms. The speed was mainly in the development of the new conventions and national action to act on the Basel implementation of the alternatives, and less the actual application to individual banks, which was phased in over several years.

Assessment of the effects of the new rules is ongoing. The EBA publishes a comprehensive assessment of bank-level compliance with capital requirements, including the new leverage ratio, a liquidity coverage ratio (30 day funding test) and the net stable funding ratio. The assessments consistently indicate that EU banks are adequately capitalized, even as the new and higher capital requirements are phased in (EBA, 2015a). Two sources of data suggest a more comprehensive, systematic assessment of national convergence or divergence may be possible: EBA opinions and the EBA catalog of national exceptions. As national supervisors report exceptions or request permissions for changes in risk weights, observers can learn how EU nations vary in the implementation of capital requirements.

National implementation of Basel II presaged a number of the persistent differences under Basel III – the US reliance or insistence on a robust leverage ratio, the adjustment of risk weights and exemptions to tailor rules to national capital markets and the narrow US and broad EU application of the rules. In this sense, the crisis response did not fundamentally alter national approaches to bank regulation and supervision, as the basic national differences observable before the crisis can also be found in the crisis response. This finding is in stark contrast to national reforms regarding bank resolution urged by the Financial Stability Board. EU nations have adopted wholesale changes in approaches to bank resolution and recovery, moving closer to the US administrative resolution strategy.

The development of Basel III suggests the ways that pre-existing organizational forms can take on new public purposes. In many ways, this observation aligns with metaphors used to describe domestic policy change (layering, in particular). A variety of new missions and objectives – consumer protection, systemic risk, and housing finance - were outlined for the U.S. Federal Reserve System after the subprime crisis (Corder, 2012). International policy changes seem to follow a similar logic. At the Basel Committee, level playing field concerns were joined with concerns about credible resolution, stability of funding sources, and systemic risk as new capital requirements were developed. Radical new changes were undertaken in an entirely new administrative form (the Financial Stability Board). But a broad menu of ambitious reforms were negotiated, articulated, and phased in using a set of actors, expertise, and tools that were created in response to a bank failure – in 1974 – and useful - forty years later – to respond to a much more severe and far-reaching financial crisis.

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