

# Paradigms of Financial Regulation: the Transformation of Capital Requirements

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## **Introduction**

To those concerned with the fate of democracy in the age of globalization, global frameworks for financial regulation present an ambivalence. On the one hand, they carry a potential for a bolder exercise of collective power over market activity, unencumbered by the fear of capital flight which haunts national regulatory efforts. On the other hand, if regulatory organizations and tools are used to reinforce the will of powerful market actors, global convergence and technocratic standards backed by “scientific” economic expertise may prove fatal to any attempt at political and democratic control of the market.

The rise of capital ratio requirements as the dominant tool for global financial regulation, first marked by the Basel Capital Accord of 1988, presents a special instance of this ambivalence. As I will seek to show, it had the effect of entrenching a particular outlook – or paradigm – of regulation, one that is strongly market-oriented and that has tended to foreclose alternatives that are considered to be more heavy-handed intervention in the market. Characterizing this paradigm and tracing its intellectual roots are pre-requisites to examining its relevance in the current global-regulatory discourse.

The following is a précis of a work in progress, which focuses on the historical development of the specific institution of capital requirements, as the bearer of a deep historical transformation in banking regulation from the 1970s onward. It starts by explaining why the prevalence of capital requirements among current regulatory efforts is, on its face, troubling. Rather than tracing the shifts from various national regulatory schemes to the global framework, this part of the work takes as its backdrop the US story, with its somewhat idiosyncratic transformation from the New Deal regulatory apparatus towards deregulation / liberalization and new forms of regulation.

The longer paper develops three central themes regarding the recent history and structure of financial regulation, continuing to view it through the lens of the particular regulatory institution of capital requirements. First, it unearths and analyzes an unacknowledged transformation in the regulatory paradigm for finance that took place in the 1970s-1980s. During this period – normally thought of as a “deregulatory” phase – a new theoretical framework *for* regulation was forged, one that established new causes, aims and tools for intervening in financial markets. I call this framework the “corporate finance paradigm.” It was as part of the consolidation of this paradigm that capital ratio requirements became the globally dominant form of banking

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regulation, supported by an emerging theory of their impact on risk-incentives. What makes this framework significant is the manner in which a series of “deregulatory regulatory” assumptions became deeply lodged within financial theory and policy, delimiting the ambit and justifications for regulation as compared to earlier periods and possible alternatives. Second, the paper traces the longer history of capital ratio regulations, bringing out the rather distinct role(s) played by this institution in earlier periods, prior to the entrenchment of the “risk-incentives” rationale. Third, three recent proposals for financial reform centered around capital ratio requirements (risk-based, simplified, or counter-cyclical), are examined, to assess the extent to which post-crisis approaches to regulation diverge from, or continue to operate within, the corporate finance paradigm.

### 1. The Prevalence of Capital Requirements Today Raises A Question

Current discussions of the way forward for global financial regulation commonly stress the need to rethink the assumptions which characterized the pre-crisis approach, with many speaking of a desired, or even impending, paradigm shift. However, although a general turn toward “regulation” and away from “deregulation” may be registered, it is also the case that such a simple contrast tends to obscure as much as it reveals. The previous “deregulatory” period consisted not merely in undoing the regulatory measures of the preceding era, but rather also in its own particular conception of the appropriate occasions and tools *for* regulation. This should not be surprising, as a deregulatory project is rarely absolute. Rather than simply registering shifts in attitude, from “pro” to “anti” regulation and vice versa, more refined analyses are needed to examine changes in the conception of regulation itself, bringing out ruptures and continuities in the perceived purposes, scope and tools for overseeing financial markets. This is particularly important in light of unappreciated continuities between the deregulatory era and our current ferment. Today, scholars and policy-makers speak of the turn from a previously “micro-prudential” approach to a “macro-prudential” one, and, relatedly, emphasize a newly-established focus on previously-underestimated or under-theorized “systemic” risk. Nevertheless, among the panoply of new proposals, we find one legal-institutional form of regulation, namely capital-ratio requirements, continuing to occupy a prominent position. This is neither natural nor obvious, and calls for some scrutiny. The reason is that, contrary to a common assumption,<sup>1</sup> this particular regulatory institution does not originate in the previous “regulatory” era, that of the New Deal. Rather it rose to prominence in the 1980s, in the midst of, and as this paper argues, as part and parcel of, the great wave of deregulation of the financial sector.

Minimum capital ratio requirements – or restrictions on “leverage” – have existed in one form or another since at least the early part of the twentieth century. However they only became the nodal point of the financial-regulatory apparatus in the past few decades, the watershed moment being their formal enshrinement as the regulatory tool of choice in the first Basel Capital Accords of 1988. Leverage restrictions are widely understood to increase the stability of financial institutions and to provide a disincentive for risk-taking by such institutions in their

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<sup>1</sup> E.g., Krugman (2010).

investment decisions. This function is considered particularly important in light of the “moral hazard” problem presented by deposit insurance and other government guarantees that financial institutions enjoy. Yet, while these ends and means seem reasonably common-sensical, it remains a puzzle why, given their seemingly intuitive function, capital ratio requirements only became central to financial policy during the 1980s. What is the relationship between the deregulatory phase of financial policy and this particular legal-institutional form? Was this regulatory development backed up by changes at the level of theory? And what can the continued prevalence of capital requirements in post-crisis proposals tell us about the current horizon of regulatory thought?

## **2. A Brief History of Capital Requirements**

Although capital ratio requirements, as one of many devices of financial regulatory oversight, long predate the 1980s, their rise to a position of central regulatory prominence in the 1980s was accompanied by a relatively new conception of their underlying rationale, namely, their effect on risk-taking. As Tarullo (2008) observes:

Discussion of bank capital regulation dating from the 1960s and the 1970s generally omits any mention of the risk-confining role of capital requirements. However, by the time of adoption of Basel I in 1988, the rationale was not only well developed, but emphasized.<sup>2</sup>

Indeed, until the late 1970s capital requirements, often described as capital “adequacy” ratios, were founded on the simpler idea that equity, being that part of the banks’ funds contributed by shareholders, is the buffer that prevents banks from failing in the event of losses on their assets. If some of a bank’s loan turn out bad, that is, then having adequacy requirements in place ensures that the losses will first “eat into” shareholders’ holdings, staving off insolvency. Whether the purpose was to prevent failure per se or to have a “first line of deposit guarantee,” capital was mostly seen as simply a “cushion” – a function that is still often referred to today. In her review of the development of capital requirements, Ryon (1969) writes:

[I]t is the consensus of writers on banking that the ultimate strength of a bank rests in its net worth or capital funds. It is the unique function of capital to absorb unusual and sustained losses, which bank management cannot reasonably be expected to anticipate, so that a bank may remain solvent and re-establish its operational momentum. (1)

That this “capital-as-cushion” was the historically dominant approach becomes clearest when we consider that capital requirements were initially formulated as dollar amounts of minimum capital needed for obtaining a bank charter. Known as “static legal minimums,” the required

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<sup>2</sup> Tarullo (2008), 6, fn. 4.

amounts were either fixed, or (more commonly) varied according the size of the population that the bank was intended to serve. This was true of the National Banking Act of 1864, the laws of most states and the Federal Reserve Act of 1913.<sup>3</sup> Bankers and banking authorities then began using rough *ratios* as guidelines in the first and second decades twentieth century, when periods of expansive bank lending translated into an observed shrinking of the capital cushion.<sup>4</sup> By the end of World War I, capital ratios were about twelve percent, less than half of what they were at the end of the nineteenth century.<sup>5</sup> Bank authorities at the national and state level began to look for a rough minimum ratio of 10 percent capital-to-total-deposits as indicating bank strength.<sup>6</sup> The 10 percent figure would be used for a long time, though observers noted that there appeared to be “no scientific basis for this particular ratio; it is simply a good round decimal, easy to calculate at a glance.”<sup>7</sup> This ratio was passed as law in California in 1909, and in other states in the 1920s. The Comptroller of the Currency recommended that Congress impose it on national banks, but this did not take place.

In the early 1930s, the long-term downward trend of capital ratios struck some as having played a role in the banking crisis,<sup>8</sup> but focusing on this concern was not widely shared and did not form part of the reforms. Citing from the Congressional Record, Robinson (1941) reports the following exchange during the deliberations on what would become the Banking Act of 1933:

Senator Tydings asked Senator Glass on the floor of the Senate whether or not he would favor a mandatory capital-deposit-ratio. Senator Glass’s reply was noncommittal, and the suggestion was dropped. (43)

Indeed, it would make little sense to impose tighter capital requirements in 1933. During the slump years from 1929 to 1933, what we call “deleveraging” had been taking place: while bank capital was hit, bank assets were shrinking even more rapidly, such that actual capital ratios rose steadily to around 16% by 1933.<sup>9</sup> Accounts that imagine the New Deal as being especially concerned with leverage seem therefore to read the current framework into this quite different past.

Though not a major concern, capital ratios did continue to be used by banking authorities during the 1930s. This included the newly-created federal agencies, which brought great

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<sup>3</sup> See Hammond (1957).

<sup>4</sup> Berger et al. (1995) attribute the steady decline of actually observed capital ratios from the 1840s (about 50%) to the 1980s (6-8%) to the increased stability of banking achieved by other legislative and institutional means, which made it less necessary for banks to hold big capital buffers.

<sup>5</sup> Smith and Hengren (1947).

<sup>6</sup> Note that using total deposits as the denominator makes the ratio requirement less stringent than the capital-to-asset ratios that were developed later.

<sup>7</sup> Robinson (1941), 41.

<sup>8</sup> E.g., Paton, (1933), found fourteen percent of total funds to be “demonstrated by experience to be entirely inadequate.”

<sup>9</sup> Smith and Hengren (1947).

bureaucratic energies to the long-term process of rationalizing (in the Weberian sense) the supervisory task. The Federal Deposit Insurance Corporation was especially active in churning out increasingly elaborate, technically formalized methods for assessing bank “safety and soundness,” and these included different formulae for assessing capital adequacy. The Banking Act of 1935 listed capital adequacy among the factors to be considered in the admission of banks to the FDIC system, and by 1939 the FDIC revised the customary capital-to-deposit ratio and opted for a capital-to-*assets* ratio familiar today (with the 10 percent figure continuing as lodestone).<sup>10</sup>

During World War II it was considered imperative that banks lend freely to the U.S. government, and in 1942 regulatory authorities issued a joint statement assuring that any increased holdings of government securities would not pose a problem as a matter of bank supervision. As a result, by 1945, average bank capital-to-assets dropped to 5.5 percent. From that point onward, bank regulatory agencies, and especially now including the Federal Reserve Board and the Federal Reserve District Bank of New York, devoted significantly more attention to capital ratios and their refinement as tools for predicting bank safety. Most importantly, from the 1950s on, “risk-adjusted” capital ratios began to be developed. Initially this meant simply that “risk-free assets” – cash and government bonds – were not counted for the capital-ratio calculation. This allowed the capital standard not to interfere with the ongoing bank provision of government debt. During the 1950s and 1960s, more specific risk-categories were devised and refined. On the whole, however, this supervisory instrument did not have great impact on the national level, since at that time national banks were generally under the supervisory ambit of the Comptroller of the Currency.<sup>11</sup> That office’s approach through this period was to treat capital ratios as a very rough, and not especially helpful, instrument.<sup>12</sup>

Throughout this entire period, the notion that capital requirements would reduce risk-taking incentives appears to be entirely absent. What is more, at least one observer espoused an analysis of the relationship of capital to risk that was diametrically opposed to that present today. The contrast is so striking that it is worth quoting at length:

Bank supervisors also recognize additional benefits to be derived from the maintenance of an adequate capital backlog. Banks with relatively large amounts of capital can afford to take greater risks and thus better serve the credit needs of the community than can those operating on slim margins.

Another aspect of the question relates to the effect of declining bank capital ratios on the willingness of banks to assume risks. Presumably this willingness would be

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<sup>10</sup> FDIC (1939).

<sup>11</sup> Under the National Banking Act of 1864. This was to change in the 1970s with the rising significance of the bank holding company form, which brought banks under the supervisory authority of the Federal Reserve.

<sup>12</sup> Ryon (1969).

reduced to the extent that banks regarded their capital as inadequate, with the practical result that concerns presenting the higher degrees of risk would tend to be eliminated from the company of eligible bank borrowers. At least the terms on which such firms might borrow would tend to become more severe. Thus, any tendency reducing banks' willingness to take risks would seriously weaken the forces making for economic growth.<sup>13</sup>

Such an analysis would be unimaginable today, for three reasons. First, it perceives banks to be conservative institutions, rather than rational calculators (or irrational risk-lovers). Second, it espouses a notion of risk that today would be considered naïve or pedestrian, failing to reflect robust assumptions regarding risk-return correlations. Third, it suggests that regulations should encourage banks to take more risk, which implies that a concern with stability was not paramount. At least the first two elements were to change dramatically in the period we consider next.

### **3. The Rise of the Corporate Finance Conception of Banking Regulation**

That the institution of capital requirements only became the dominant form of financial regulation during the 1980s is generally acknowledged in the literature.<sup>14</sup> But what has not been fully appreciated is the connection between its rise to prominence and a more general development, which is the emergence of a new paradigm for regulation that bore a revised, newly-integrated conception of the regulatory problematic (i.e., of the appropriate purposes, analytic assumptions and concrete legal-institutional tools for regulation). One possible reason for this oversight is that the most salient trend during the 1980s was a deregulatory one, whereby in the United States (and soon after in Europe and other advanced economies), restrictions on banking activities were increasingly eroded and abolished, sustained by a policy emphasis on free-market “competition” as well as global “competitiveness”. These crumbling restrictions included divisions between financial institutions and their proper spheres of activity (especially between “banks” and “non-banks”), and limits on financial firms' opportunities for geographic expansion and consolidation. The central legal-institutional shift was the erosion of the sharp institutional divisions erected by the 1933 Glass-Steagall Act, achieved through a series of financial “innovations” and sympathetic administrative and judicial decisions long before the formal repeal of the Act in 1999.<sup>15</sup>

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<sup>13</sup> Durand (1957), x.

<sup>14</sup> See, e.g., Norton (1989), Tarullo (2008).

<sup>15</sup> Graham-Leach-Bliley Act of 1999. The complex deregulatory process was an interaction of economic and political forces with judicial, administrative, legislative, and academic attitudes. Notably, the Supreme Court was initially opposed to this trend (*Investment Co. Inst. v. Camp*, 401 U.S. 617 (1971)). But by the 1980s, in the wake of developments such as the Depository Institutions Deregulation and Monetary Control Act of 1980 (DIDMCA) and the Depository Institutions Act of 1982 (Garn St. Germain), the Court tilted toward greater deference to administrative agencies, which consciously translated into greater leniency (See Legraw and Davidson (1989)).

A question arises, then, concerning the rise of capital requirements (instanced by the 1988 Basel Accords) simultaneously with the unraveling of many other forms of regulation. Standard accounts espouse, implicitly or explicitly, one of two narratives. Either capital requirements are seen as a remnant of the former regulatory period, surviving a process of general but nevertheless incomplete deregulation, or they are viewed as a reversal or partial retreat from the deregulatory project, a reaction triggered by the severe crises that hit the financial sector during the 1980s.<sup>16</sup> However, a quite different story is revealed by tracing the intellectual development of arguments in favor of capital requirements from the late 1970s onward. These developments make clear that the concurrence of capital requirements with deregulation was not an act of retreat, and nor were such requirements simply the last wall standing in the crumbling edifice of the New Deal. Instead, capital requirements should be understood as the prodigal child of a self-conscious intellectual movement, one that, starting with the late-1970s work of Chicago School economists, applied the imperatives of “modern corporate finance” to the field of financial regulation, and in the process fundamentally overhauled the regulatory paradigm for decades to come.

The most significant intellectual component of the new approach was the development of the risk-incentives rationale for capital requirements. As we have seen, this rationale was not present before the 1970s. Yet, by the time of the Basel Accords in 1988, it had taken center stage.<sup>17</sup> This significant transformation can be traced back to a seminal article by Fischer Black, Merton Miller and Richard Posner (1978). It is here that a new regulatory paradigm – what I call the “corporate finance” conception of financial regulation – undergoes its birth-pains. A series of distinctive analytic and normative premises are articulated here in their embryonic form, serving both as foundational platform and transitional links for future elaborations and modifications.

The presumptive baseline for Black, Miller and Posner (“BMP”) was unequivocally deregulatory. The article’s focus was on bank-holding companies, a corporate form that had begun to proliferate and had helped foster an increasing consolidation of the banking sector. The authors argue that subjecting this form of organization to regulatory constraints would be misguided, much like most other types of direct regulation. Decrying the waste and rigidity of banking regulation, the authors welcome the “striking and heartening development” of the preceding few years, which witnessed a move “away from exclusive preoccupation with bank asset safety and toward greater awareness of the benefits of competition.”<sup>18</sup> Nevertheless, it appears that, at this early stage, when the deregulatory aspiration had yet to materialize, even its most committed advocates felt the need to temper their proposals in order to maintain policy relevance. Against this background, the authors propose an intellectual device with which to

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<sup>16</sup> See e.g., Hellwig (2010), Jackson and Symonds (1999) Tarullo (2008).

<sup>17</sup> The 1989 Annual Report of the Banks for international Settlements explains this rationale thus: “[C]apital standards ... ensure that the proportion of a bank’s risk borne by shareholders does not fall below a certain minimum level. Raising capital standards increases this proportion and therefore reduces the benefit to a bank’s shareholders of high-default-risk investments.” BIS (1989), 92.

<sup>18</sup> Black, Miller and Posner (1978), 383.

reconceptualize regulation. They take as given that regulation is perceived to be necessary, and consider the protection of depositors to be a legitimate end (as opposed to the prevention of bank failure). They then propose that regulation be fashioned by having the government step into the shoes of depositors, and mimic the actions that they would have taken to protect their own interests as the creditors of the bank. Without developing the reasons why depositors might fail to take such actions themselves (this would occur later on), the central theoretical device advanced is to consider depositors as creditors of the bank and imagine the regulatory task as equivalent to imposing the measures that such corporate creditors would take to protect their interests vis-à-vis their debtors.

It is here that capital ratio requirements enter the picture. BMP argue that for a number of reasons this form of regulation is preferable to all others. Most importantly, they claim that creditors in free market conditions impose capital requirements on debtors in order to reduce the debtors' tendency to take greater risk than that incorporated into the terms of the loan. By involving more of the shareholders' equity, corporate incentives are re-adjusted to minimize this "moral hazard" and reduce monitoring costs. Thus, instead of seeing this practice as intended to insure a capital "cushion," the authors' account relies on a number of formal assumptions regarding the agents' economic rationality and risk-calculations to re-interpret the practice as a matter of adjusting risk-incentives. They explicitly ground this in what they take to be a very fruitful application of the "modern theory of corporate finance" to banking regulation.

Two decades earlier the field of corporate finance, which had hitherto been preoccupied with prescribing the optimal capital structure for firms, was revolutionized by an article co-authored by Merton Miller himself (with Franco Modigliani). Applying strict neoclassical assumptions of rationality and frictionless financial markets, Modigliani and Miller (1958) concluded that, under such idealized conditions, the capital structure of firms had no impact on their value. This is because, in perfect markets, the price of equity and debt already reflects all relevant knowledge and preferences, including those regarding the risk levels associated with leverage itself, such that the price of all forms of financing tends to equilibrate. Consequently, there are no hidden benefits to be had from opting for debt rather than equity or the other way around (indeed there is no categorical difference between debt and equity, but simply a variety of products arrayed along a spectrum of risk and expected return). In the 1978 article, BMP rely on this tenet – which came to be known as the Modigliani-Miller Theorem – as another reason to prefer capital requirements to other types of regulation, namely that, in principle it is costless. Finally, BMP further suggest that capital ratio requirements are a superior form of regulation on account of their involving less intervention than other regulatory methods in the affairs of the private sector and, especially, in the asset choices that banks make.

Conceptualizing the government's relationship to banks on terms equivalent to the relationship between creditors and shareholders in private finance (especially in regards to the incentive and information issues that arise between them) and linking, likely for the first time, the notion of capital requirements with the reduction of risk-incentives, set the foundation for a



new framing of the regulatory problematic within a generally deregulatory outlook. On this conception, the central mission was to transform an institutionally-compartmentalized financial system into a generalized, and largely unencumbered, *market* for financial products. The organizing concepts for redefining the regulatory sphere were the modern notion of “risk,” and the risk-behavior of rational agents. It is with this theoretical arsenal that the myriad policy issues around finance and its role in the economy were simplified, narrowed and channeled into the quantitative metric of risk calculation.

In the ensuing decades, a number of further developments both entrenched and modified the approach originally proposed by BMP. On the one hand, capital requirements did indeed become the dominant regulatory tool. The signing of the (first) Basel Capital Accords in 1988 by G-10 representatives, positioned capital ratio requirements as the “cornerstone for regulatory approaches to prudential supervision of domestic and international banking activities.”<sup>19</sup> This was a culmination of a decade of growing intellectual and regulatory emphasis on leverage and risk-incentives. In the United States, regulatory agencies had just converged on uniform capital ratio requirements, following the first Federal legislation on the subject.<sup>20</sup> And while the approach to risk-weighting would continue to undergo increasing refinement and sophistication, the basic notion of financial regulation as focusing on the stability-enhancing effects of capital requirements has by and large remained dominant to this day. At least until the recent financial crisis, the risk-incentives rationale was central to this trend, providing an intellectual apparatus to support the rise of capital requirements from the ashes of previous institutional forms, as *the* legal-institutional choice that best reflected both the analytical and normative foundations of a transformed economic discourse.

On the other hand, as support for deregulation increasingly became the rule rather than the exception, a subtle shift occurred: rather than taking *some* regulation as given, and the protection of depositors as the acceptable aspiration, as done by BMP in 1978, by the late 1980s it became necessary to support the imposition of capital requirements with a theory of why *any* regulation was needed at all. Why, that is, shouldn’t banks be left to their own devices? The mere presence of crisis was insufficient reason, as the new emphasis on competition implied that bank failure was not *per se* a regulatory concern. This perspective underlay the development of works that applied more comprehensively the outlook of equilibrium analysis, and that gradually clustered around notions of “excessive risk,” identifying reasons for *distortions* in banks risk-choices, either caused by government guarantees, and/or traced to market imperfections and structural characteristics of financial transactions that affect information and incentives.<sup>21</sup> These works no longer sought to cater to a plurality of policy ends, but increasingly channeled the possible goals of financial regulation (e.g., stability, depositor protection, proper supply of credit) into a single

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<sup>19</sup> Norton (1989), 1316.

<sup>20</sup> International Lending Supervisions Act of 1983; 12 U.S.C. § 3907(a).

<sup>21</sup> These have become part of the standard textbook account for why we need banks to be regulated. See, e.g., Jackson and Symons (1999), Mishkin (2010). The analysis of information asymmetries central to these accounts is based on Akerlof (1970).

criterion, of micro-economic efficiency. “Excessive risk” thus strengthened the BMP framework by turning it into a more inclusive paradigm, one that also reached out to encompass the grounds and purposes of regulation.

Illustrating this framework is the report accompanying Basel 1, which provides such an “excessive risk” explanation for the need to regulate. The report explains that the need to reduce bank risk incentives derives from the “dangerous appetite for high risk projects” which financial institutions develop when they enjoy implicit or explicit government guarantees against bank failure.<sup>22</sup> This dynamic, later frequently labeled the “moral hazard” problem, in fact led some to conclude that such government guarantees should be abolished.<sup>23</sup> By and large, however, most justifications for capital ratio requirements since Basel 1 have continued to treat these insurance or bailout measures to be either truly salutary or at least politically unavoidable. The analysis of the risk-effects of government guarantees in Basel, it bears noting, did draw on earlier work. Indeed such an analysis had been pursued and formulated in quite technical form by Scott and Mayer (1971), who showed that fixed-premium deposit insurance created a “bias toward risk,” by which they specifically meant that bank asset choices would tend to become “excessively risky from the point of view of society.”<sup>24</sup> However, Scott and Mayer’s analysis did not issue in a call for the adjustment risk-incentives, since the authors also identified other, countervailing, mechanisms (including the presence of bank supervision) that tended to have the opposite effect, of *chilling* banks’ risk taking. Although it was admittedly impossible to discern whether banks were taking more or less risk than would be “optimal” (where every unit of risk appropriately rewarded with return), nevertheless on balance it appeared to the authors that banks were taking *too little* risk at the time, possibly evidenced by the low rates of bank failure.

This divergence of conclusions highlights a general feature that would continue to characterize this developing regulatory paradigm. While the policy decision to regulate is often a response to a perceived need to increase financial stability, based on practical judgment and political considerations (often including the bankers’ interests), the discourse has sought to couch such judgments in more technical justifications, evoking notions of optimality and efficiency encased in an increasingly technical and formally modeled vocabulary. A notion of “risk” that is quantifiable, and indeed calculated by rational agents, plays an important role in this process of (inevitably ex-post) rationalization, and becomes intertwined with the increasing sophistication of – and reliance on – risk-management and risk-models transferred from business to regulation. By the time of Basel 2 (2003), not only were banks developing and applying such models, but the regulatorily-required capital ratios were themselves measured by reference to the banks’ internal risk models, such that various hedging strategies reduce measured risk and, with it, the capital ratio required. This ever-more mathematized, ostensibly measurable and manageable, notion of risk, contributed to the entrenchment of the “corporate finance conception” of financial

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<sup>22</sup> BIS (1989). 92.

<sup>23</sup> For an early example, see Kareken and Wallace (1978).

<sup>24</sup> Scott and Mayer (1971), 887.

regulation: it created the reassuring feeling that a freed-up financial world was in some way under control.

#### 4. A Note on New Deal Banking Reforms

Fully understanding how the deregulatory moment ushered in a new paradigm of regulation requires some account of what it displaced, namely, the regulatory apparatus put in place by New Deal banking reforms, and its theoretical foundations. Viewed from a perspective that overlooks the transformation that took place in the 1970s-1980s, the New Deal reforms can easily be misinterpreted. In particular, it should be clear by now that it would be anachronistic to portray the New Deal as being concerned either with “leverage” or with “excessive risk,” as we think of these concepts today. The analytical landscape of the 1930s did not apply formal assumptions of rationality to bankers’ asset choices, and did not model the sphere of banking and finance, even theoretically, as an undifferentiated market for investment products bearing risk-and-return price tags. Instead, the policy discourse, and actual reforms, perceived banking and credit to be a *sui generis* system, performing unique functions subordinate to the “productive economy,” and evoking considerations unlike those of other firms. Bank credit was viewed chiefly in terms of its function of providing liquidity to businesses and of spurring economic activity, and its regulation was understood as intertwined with issues of monetary policy as well as fiscal and industrial policy.<sup>25</sup>

The response to the banking crisis of 1933 cannot, therefore, be entirely severed from overall New Deal measures that overhauled the rest of the US economy, with their aim of getting out of the depression.<sup>26</sup> The concerns addressed regarding banks specifically were threefold. First, liquidity-driven panics had been proven not to have been averted by the founding of the Federal Reserve in 1913. The chief response to this age-old problem was the establishment of federal deposit insurance, which effectively socialized the problem of managing bank liquidity, and is widely recognized as successful.<sup>27</sup> Second, the Pecora hearings had revealed corruption and conflicts of interest to be rife within the financial system. Public outrage contributed to the boldness of the regulatory response, which centrally consisted of the Glass-Steagall Act’s<sup>28</sup> prescription of a sharp institutional separation between “commercial banks” (depository institutions) and non-banks (which were allowed to engage in “investment banking” activities),

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<sup>25</sup> Laidler (2003) points out that the policy discourse of the New Deal did not conceive of a sharp division between fiscal and monetary policy. This separation was arguably also a process that took place from the 1970s, with the introduction of monetarist conceptions that undermined the need for fiscal policy. The turn to “active” monetary policy, combined with the rise of the corporate finance conception, resulted in the removal of the macro issues tied with bank credit expansion from the regulation banks themselves. Until then, the regulation of banks was intimately tied with macro-economic purposes.

<sup>26</sup> See generally, Schlesinger (1958).

<sup>27</sup> Banking Act of 1933. While deposit insurance is considered a central – and typical – component of the New Deal reforms, it had been tried before in a number of the several states (and failed) and, in fact, was almost vetoed by President Roosevelt.

<sup>28</sup> I.e., the Glass-Steagall provisions of the Banking Act of 1933 (sections 16-20).

and imposed strict prohibitions on interlocking directorates. Depository institutions were also thereby made significantly more stable, an outcome enhanced by the prohibition established on the payment of interest on demand deposits.

Perhaps most importantly, the third concern was that banks had contributed to the depression by diverting credit away from “productive uses” (industry, commerce, agriculture) and toward speculative ones. This was tackled directly by the Securities Act of 1934 which imposed “margin limits”: restrictions on the proportion of stock-market transactions that could be carried out with borrowed money.<sup>29</sup> Indeed, the Glass-Steagall provisions also arguably rested on a similar notion of the proper uses and functions of bank credit (credit “created” through the system of fractional reserves), namely to sustain a growing economy by lending to worthy projects. This notion was not formed during the New Deal, but was rather inherited from a long history of the study and practice of banking. But what makes it possible to speak of a New Deal paradigm is the grand-design ambition of its reforms, which overhauled the entire institutional structure of the financial system, created central federal supervisory agencies and imposed substantive rules about what distinct financial activities were appropriate to which institutions. These exhibited a strong default commitment to viewing the financial system as performing macro, even public, functions, which had to be regulatorily secured and guided, rather than as consisting simply of private entities that are only to be interfered with when certain conditions leading to “excessive risk” are present.

## **5. Characterizing the Paradigm Pre- and Post-Crisis**

Any account that imagines the regulatory changes of the last few years as a revival of the New Deal would be misguided. Nevertheless, sustained efforts are underway to design reforms that depart significantly from the pre-crisis approach, and to revisit its assumptions. Many of the key policy reports, by the most prominent regulatory bodies as well as key academic contributors, emphasize the need for better analysis and treatment of “systemic risk,” and – what may amount to the same thing – to turn from “micro-prudential” to “macro-prudential” regulation. What is the relationship of these projects to the “corporate finance conception” identified here? If we accept this account as describing the governing regulatory paradigm on the eve of the recent crisis, are we now witnessing a paradigm shift, or do the most influential ideas continue to be framed within this paradigm’s basic assumptions? Is the continued prominence of capital ratio requirements an indicator that not much has changed, or is this legal institution continuing to evolve to reflect another transformation of the theoretical outlook?

The Basel Committee continues to pursue its steadfast agenda, emphasizing risk-weighted capital ratio requirements as the chief solution to the crisis, along lines broadly similar to those of previous rounds of capital agreements. Basel 3, which is currently in the process of ratification

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<sup>29</sup> Congressional deliberation on the 1934 Act is unambiguous that its purposes were understood in terms of ensuring the productive functions of credit. See House of Representatives (1934).

and implementation, increases the required ratios and tightens the definition of “capital,” while continuing to rely heavily on banks’ internal risk models for the risk-weighting process. It also introduces a few novel elements. These include the possibility of imposing counter-cyclical capital requirements, which option is described as a “macro-prudential” element that would help contain systemic risks, as well as simple (un-weighted) leverage ratios, intended to guard against measurement errors in banks’ risk models (BIS 2011).

These two additions echo the proposals of two prominent groups of scholars that challenge more radically the risk-models approach, and which make for better candidates for a sustained inquiry of a possible paradigm shift. One such set of proposals is found in the work of Martin Hellwig since the mid-1990s, and his recent collaboration with Anat Admati et al. (2011). Key for our purposes is these authors’ advocacy of simple (un-weighted), and much higher, capital ratios (in the range of 10% or even closer to 20-30%), and the rejection of a common perception that this would be “costly.” The second proposal is that of the Geneva Report authored by Markus Brunnermeier et al. (2009), which calls for overhauling capital requirements entirely, and making them strongly counter-cyclical. Both of these proposals are couched in a detailed account of systemic risks, and present some form of capital ratio requirements as the solution to such risks.

Both the Geneva Report and Hellwig, Admati et al. consciously present their proposals as transformative and more boldly regulatory than the prevailing approach (indeed, both stress that their recommendations would not be popular with bankers, and should not aspire to be). But to understand whether and how they transcend the corporate finance paradigm, we need to assess their position on the central elements of this conception. These may be restated tersely as follows: First, an analytical framework that models the financial system primarily as a market where rational agents engage in free transactions over debt and equity products, and which focuses on the incentive and information issues that arise between them. Second, a default commitment in favor of deepening financial markets (deregulation), which is overcome only when regulation can be justified based on identifiable “excessive risk” dynamics that ought to be corrected. Third, a preference for capital ratio requirements over other regulatory options, as an instrument that discourages risk-taking, while imposing no substantive intervention on asset choices.

Neither of the two proposals rejects this conception flatly. Neither of them proposes substantive restrictions on bank transactions or the re-introduction of institutional divisions between firms providing different financial services (which deregulation had all but obliterated). The authors of the Geneva Report explicitly state that they “do not share the zeal of some for governments to be involved in the micro-decisions of private firms” (13). Both reports accept the general premise of the risk-incentives rationale for capital requirements, although they do not emphasize it. Further, central to the work of Hellwig, Admati et al. is the application of the Modigliani & Miller theorem to the issue bank capital requirements, in support of their central thesis that it is not, in principle, costly, to have banks hold higher equity levels. These elements

in the two proposals continue the trend of the corporate finance paradigm, as might be expected from their focus on capital structure.

It is the analyses of systemic risk that these two proposals present, and the significance of such risk to the regulatory task at hand, that could signal a substantial and qualitative departure from the commitments, assumptions, and sensibilities of the hitherto prevailing paradigm. Whether or not they are understood to do so depends on our interpretation of the precise methodological contours of the notions of “system” and “systemic risk” and the role they play in driving and justifying the proposals. In particular, we need to assess the following: Is the “systemic” analysis meaningfully reducible to the microeconomic conceptual world, as an aggregate or game-theoretical interaction of individual choices? Can the identified systemic risks therefore be described as an extension of the “excessive risk” framework? And, related, is regulation that is designed to ensure systemic stability usefully describable as driven by a concern with (static) micro-economic efficiency?

Arguably, the answer to these questions in the context of these two proposals is “no.” On the one hand, both Admati, Hellwig et al. and the Geneva Report state on numerous occasions that the purpose of regulation is to ensure that banks internalize the externalities, or social costs, that arise from bank failures. The familiar concept of externalities sits comfortably within microeconomic models in which individuals are prior and their effects on each other are secondary, and in which all causes and effects are reduced to the welfare of individuals. Regulation intended to have banks internalize externalities can then be justified within the normative language of efficiency. On the other hand, both of the proposals provide analyses of systemic dynamics that exhibit what are truly “emergent properties” – phenomena that can only meaningfully be explicated if the interaction, correlation and collective behavior of the various parts is analyzed as a unit rather than a secondary effect. Moreover, the proposals also appear to treat system stability as an independent policy goal.

The proposals of the Geneva Report rest on its elaborate account of boom-bust cycles and the specific characteristics of the recent bust. They prescribe capital requirements that would “lean against the wind” (increase in an up-cycle, reduce in a down-cycle), somewhat similarly to certain notions of monetary policy. Yet the cycle is not simply one where credit expansion or contraction occurs across many institutions simultaneously. Rather, asset prices and credit levels tend to rise in a relation of mutual dependence with declines in measured risk and with increased maturity-mismatch, and these tendencies exacerbate each other when any one of them begins to reverse. Further, “risk” is taken to be endogenous and systemic, that is, it depends on a firm’s own behavior and the way its balance sheet correlates with those of other firms and the risks that they imply, such that an apparent risk-free asset on the balance sheet of a firm can cause a great risk at the systemic level (as occurs when credit-default swaps are perceived to hedge the risks of certain derivatives, while the counter-party risk of these CDSs actually correlates with the credit risk of the underlying assets). The latter point is central to the work of Hellwig, Admati et al. and their critique of attempts to refine risk-measurement models for regulatory purposes. Their chief

ground for imposing high capital ratios is the role of high leverage in downward “deleveraging” spirals, in which losses due to asset-price declines make it both more difficult and more urgent to refinance, and where “leverage multipliers” accelerate the decline (e.g., a 2.5% capital ratio means that a loss of 1 dollar would trigger deleveraging through the selling of 40 dollars worth of assets, the price of which will continue to decline because of such massive selling-off).

These lines of analysis cannot, arguably, be properly described, let alone developed, within the confines of methodological individualism. Hellwig (2010) states that the recent downward spiral of the financial system “can be understood as a systemic response to a collective deleveraging attempt. Some of the correlations that have been observed arise from the joint dependence of different securities and markets on common factors that drive the overall system” (8). Although writings on capital ratios have, over the past few decades, begun to gradually qualify the “Newtonian” assumptions of Modigliani & Miller, and relax their conditions,<sup>30</sup> the language used by Hellwig arguably reflects an analytical framework quite distinct from the building blocks of that theory. Further, in both of the proposals discussed here, capital requirements are fundamentally justified neither by the risk-incentives rationale nor by the simple notion of a cushion or buffer, but by the effects of leverage at a system-wide level. Finally, it appears that the concern with system stability is not being shoe-horned into an efficiency-analysis, but rather taken as an almost self-explanatory, or at least independently-based or self-justifying, criterion by which to measure regulatory success.

## 6. Conclusions

Through the lens of the particular legal institution of capital ratio requirements, this paper seeks to situate the current regulatory horizon within a broader intellectual-historical context and, especially, in relation to transformations that occurred around the 1980s. The deregulatory pedigree of the corporate finance conception that sustained the rise of capital requirements provides sufficient grounds to inquire into the extent to which its assumptions continue to constrain or shape current discourse. It appears that capital requirements as such are not confined today to that conception, and proposals that ground capital requirements in systemic risk have the potential of effecting a qualitative shift in the terms of analysis and perception of the regulatory task. Moreover, apart from those proposals dealing with capital ratios, there is a substantial recent literature that invokes more clearly certain goals and concepts that are foreign to the corporate finance paradigm, especially those centering on the needs of the “real economy,” the appropriate uses of credit and the excessive size of the financial sector. Such proposals have begun to advocate institutional and substantive restrictions on market dynamics that cease to reflect a view of regulation as merely facilitative of deepening financial markets. Nevertheless, the device of understanding the financial system as a market, and the commitment to fostering such markets, remain very resilient dimensions of the conception which emerged in the 1980s, as is evinced by the continuing purchase of claims that tighter regulation would, almost by

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<sup>30</sup> See Berger, Herring and Szegö (1995).

definition, hamper “growth.” Not all policy-makers are yet able to see through the fog of such claims.<sup>31</sup>

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<sup>31</sup> Contrast Jenkins (2012) of the Bank of England who, echoing Helwig, Admati, et al. speaks of the fallacy that regulation is always suboptimal, with the European Commission (2011), whose impact assessment of a proposed financial transactions tax foresees a negative impact on GDP, based on notions of the cost of capital that assume the pre-tax situation to be efficient. For discussion, see Mann (2012).



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