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## The Rise of Risk-based Regulatory Capital: Liquidity and Solvency Standards for Financial Intermediaries

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## 7. The rise of risk-based regulatory capital: liquidity and solvency standards for financial intermediaries

*José Gabilondo*

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### INTRODUCTION

In a capitalist economy, a private firm seeking finance must negotiate with prospective investors in the open market, which establishes standards about the terms on which debt and equity investment will be forthcoming. In addition to these market-financing standards, the capital structure of some financial firms—particularly broker-dealers, federally insured depository institutions, and insurance companies—must satisfy other requirements imposed by federal or state regulators to promote liquidity and solvency. Regulators take a heightened interest in these firms because they serve a public function in providing credit and other financial services. To grasp what regulatory capital rules try to accomplish, the reader must make a conceptual shift to see these financial firms as highly leveraged borrowers, contending with the demands of their own creditors. From this perspective, the financial stability of these firms becomes a matter of public concern.

The first section explains regulatory capital as a corporate finance issue about how capital structure can protect creditors—especially unsecured ones – from unexpected financial losses. The rest of the chapter examines the major features of the regulatory capital regimes that apply to financial intermediaries. The second section starts with depository institutions, i.e., banks. These standards have become the locus of policy debates about risk-based capital. The third section discusses the regulatory capital rules that apply to broker-dealers registered with the U.S. Securities and Exchange Commission (“SEC”).<sup>1</sup> Broker-dealers have long been subject to net capital rules that promote the firm’s liquidity in order to promote

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<sup>1</sup> Futures commission merchants are also subject to regulatory capital. For a comprehensive discussion of their requirements, see Jerry Markham, *The CFTC Net Capital Rule—Should a More Risk-Based Approach be Adopted*, 71 Chicago-Kent L. Rev. 1091 (1996).

orderly self-liquidation. More recently, large broker-dealers have been allowed to adopt a risk-based method—akin to that used in bank capital—for meeting their net capital requirements. The fourth section considers insurance companies, which adhere to risk-based capital standards imposed by state law. The fifth section warns that large, complex financial organizations may find themselves inadvertently subject to bank-style capital rules if deemed “systemically important” by the newly created Financial Stability Oversight Council (“FSOC”).

## REGULATORY CAPITAL AS A CORPORATE FINANCE PROBLEM

Firms finance their activities by borrowing, issuing equity shares or retaining earnings. Borrowing and share issuance lead to dramatically different claims against the issuer in terms of how it must allocate profit and the extent to which investors can participate in the firm’s governance. According to the terms of their contracts, creditors are paid first, receiving what they lent plus interest. To enforce their seniority, creditors can sue for breach. In contrast, the purchasers of a firm’s equity own the firm, which gives them a junior but residual interest in a firm: they are paid only after creditors, but they keep the entire residue.

An issuer’s balance sheet matches its asset holdings (listed on the left-hand side) with its capital structure (arrayed on the right-hand side). The capital structure arranges the claims of investors in a hierarchy that prioritizes creditor claims and subordinates those of owners. Creditor claims are generally listed in order of descending priority, moving down through hybrid instruments like subordinated or convertible debt, and ending with residual claims like preferred stock and—the sanctum sanctorum of the residual—common stock.

This hierarchy establishes which claim will bear loss when the firm suffers one. For example, when the firm recognizes a loss on an asset, an offsetting deduction must be made on the right-hand side of the balance sheet, because of the accounting identity providing that the assets must equal the sum of equity and liabilities. The liabilities do not bear the asset loss because they are liquidated sums that not do adjust on peril of contract breach. It is the equity that must bear the burden of adjusting to loss in the value of assets. In effect, asset loss makes the balance sheet “shrink up,” in that equity shrinks dollar-for-dollar along with the loss. In this sense, equity involves a “first loss” position.

This residual capital cushion may have different names in different legal vehicles, but its function in absorbing loss is the same.<sup>2</sup> Making equity bear loss first helps to protect the interests of creditors—especially unsecured ones—from unanticipated loss. The deeper a firm’s capital cushion, the longer it will be able to withstand loss without creditors to unexpected loss.

The firm can also become more leveraged (and suddenly illiquid) without shrinking assets when the issuer takes on new liabilities, especially unexpectedly. Assuming that the asset portfolio stays the same as liabilities increase, the adjustment required by the accounting identity will again happen in the equity account. In effect, the new liabilities are treated like another “first loss” that is borne by the equity account. This time, the balance sheet stays the same size, but it has become more leveraged as in the shrinking asset case in the first example. A recent example is the detonation of contingent liabilities in the AIG Financial Products Unit when its credit default swaps became out-of-the-money.

When courting a lender in the open market, all firms must contend with the loss and leverage dynamics described above. Banks, broker-dealers, and insurance companies must also contend with regulatory requirements about their capital structure. Regulators justify the imposition of these rules in the name of several public interests including protecting customers and other counterparties from the firm’s financial instability, promoting stability and integrity in payments and financial services, and shielding the public fisc from clean-up costs when these firms go broke.

As do those demanded by the open market, these requirements address a firm’s overall asset-liability structure for similar ends. Both market and regulatory capital rules seek to ensure that the firm will have (i) enough liquidity to meet maturing obligations timely, and (ii) a permanent pool of financial reserves that can absorb unexpected losses without impairing the rights of creditors. So at every moment, broker-dealers, banks and insurance companies are subject to the more exacting of either market or regulatory demands about capital structure (much as U.S. taxpayers are always liable for the higher of their regular income tax liability or that calculated under the alternative minimum tax).

Most of these standards are considered “risk-based” because they attempt to take account of the particular risk of firm’s financial structure

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<sup>2</sup> For example, in a special-purpose vehicle set up to securitize receivables, the account that bears the risk of loss may be called an “excess spread” account or simply a “first loss” position.

rather than using gross balance sheet values. On the asset-side, regulatory capital creates incentives to hold particular assets by influencing the cost of holding them. On the other side of the balance sheet, these rules limit the firm's ability to leverage itself. As a result, these firms have both a conventional balance sheet and what may be thought of as a regulatory balance sheet. From a firm's perspective, one should understand these rules in terms of how they impact a firm's balance sheet at a point in time, e.g., "What will making this loan cost in terms of regulatory capital?" or "What kind of assets can we support by issuing this kind of preferred stock?"

Among financial firms, banks face the most comprehensive regulatory capital rules for two reasons. First, banks are illiquid by design. Banks borrow at short-terms (including on an overnight or demand basis) and then deliberately mismatch their balance sheets by making loans with a longer term, often at fixed rates. This mismatch is no mistake. Rather, it is how banks provide long-term credit on terms that consumers can afford. Profit, not social altruism, drives this mismatch because banks capture a positive net interest spread, since long-term funding rates tend to be higher than short-term interest rates. This mismatch, though, periodically drives some banks—and at times the banking sector as a whole—into liquidity crises.

The second reason is that deposit insurance shifts liquidity and solvency risks from federally insured banks onto the federal government. It is as though the federal government has a residual loss interest (with no offsetting upside). This creates a perverse incentive for bank managers to invest in excessively risky assets when their own capital has declined. In this situation, the owners have little to lose and much to win if the risky investment (funded with taxpayer money) goes well. The severity of bank capital requirements might seem unreasonable (as banks often urge) but the burden must be put in the context of the funding advantages that banks enjoy—cheap deposits and privileged access to central bank liquidity.

Firms try to reduce the cost of complying with regulatory capital, considered a form of "regulatory arbitrage" by its critics. For example, given that many assets are valued at historic cost, a firm can enhance its earnings (which will eventually flow into an equity account) by selling assets with built-in gain and postponing the sale of assets with built-in loss.<sup>3</sup> A more structural form of regulatory arbitrage plays out in financial

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<sup>3</sup> Larry Wall and Pamela Peterson, Banks' Responses to Binding Regulatory Capital Requirements, *Economic Review* 1–17, 8, Federal Reserve Bank of Atlanta (March/April 1996).

conglomerates that operate securities, banking and insurance businesses separately. Faced with a transaction subject to regulatory capital, a conglomerate may have a choice about which of its regulated businesses should be assigned the transaction. Because different business lines are subject to different capital standards, the decision about where to book a deal will tend to consider its regulatory capital implications.

## BANKS

Today, the Federal Reserve (“Fed”), the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency (hereinafter “the agencies”) subject banks to an expanding regime of regulatory capital, most of them risk-based.<sup>4</sup> To some extent, U.S. banking regulators have always taken risk into account when evaluating whether a bank’s capital was sufficient given its loan base.<sup>5</sup> During most of the twentieth century though, regulators tended to make subjective determinations about a particular bank’s capital adequacy, often by comparison to peer banks. The Fed had begun experimenting with a more formal risk-based capital approach in the 1950s, but there was no consensus among the agencies about how to apply such a standard.<sup>6</sup>

In the 1980s, U.S. regulators began using bright-line ratios that quantified capital adequacy by comparing assets to equity in order to track how deep the bank’s loss-bearing cushion was.<sup>7</sup> These early efforts introduced features—like capital ratios and a hierarchy of loss-bearing capital instruments—that would become permanent parts of the regulatory approach, discussed below.

### **Institutionalizing Risk-Based Capital**

As banks became more active in international markets in the 1980s, regulators concluded that more international coordination was needed to avoid a “race to the bottom” in which international operations would be

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<sup>4</sup> For an excellent analysis of rationales for regulating bank capital, see Heidi Mandanis Schooner and Michael Taylor, *Global Bank Regulation: Principles and Policies* 13–45 (2010).

<sup>5</sup> Federal Deposit Insurance Corporation, *Basel and the Evolution of Capital Regulation: Moving Forward, Looking Back* 1 (Jan. 14, 2003).

<sup>6</sup> Malcolm Alfried, *International Risk-Based Capital Standard: History and Explanation*, *Economic Review* 28–34, Federal Reserve Bank of Richmond (Jan./Feb. 1988).

<sup>7</sup> Federal Deposit Insurance Corporation, *supra* note 5, at 1.

based in the country with the most lax regulations. Moreover, the business of banking was changing as many banks began experimenting with off-balance sheet items like over-the-counter derivatives.<sup>8</sup>

In 1974, a group of major central banks under the auspices of the Basel Committee on Banking Supervision (“BCBS”) began working on a risk-based capital standard to apply to internationally active banks.<sup>9</sup> In 1987, the group’s first major proposal—the Basel Capital Accord (“Basel I”)—proposed a framework that tied the minimum capital of internationally active banks to the estimated risk in their asset portfolios. This proposal would serve as a guideline for implementation by countries through national legislation.

Basel I coincided with efforts in the U.S. to strengthen capital requirements for banks after a series of banking crises in the 1980s. Congress had passed the Federal Deposit Insurance Corporation Improvement Act (“FDICIA”), which imposed risk-based capital standards on all banks, even domestic ones with little international activity. FDICIA established a rating system that classified banks into five different categories based largely on their capital adequacy.<sup>10</sup> In this system, maintaining adequate capital was the only way to avoid administrative penalties, including more examinations, the denial of requests to acquire other banks, requirements to raise capital or suspend dividends, and, in the extreme case, the withdrawal of deposit insurance or the bank’s charter.<sup>11</sup> The goal was to look beyond accounting formalisms to more conservatively identify how much real loss-bearing capital a bank had. FDICIA and Basel I worked in tandem to institutionalize risk-based capital for banks.

In effect, the approach involved constructing a regulatory balance sheet by making conservative adjustments to a bank’s financial balance sheet and then testing this pro forma balance sheet against capital adequacy standards established by regulators.<sup>12</sup> The first step in building this pro forma balance sheet was to deduct assets that had no actual liquidity, e.g.,

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<sup>8</sup> Larry Wall and Pamela Peterson, *supra* note 3, at 1–17, 2.

<sup>9</sup> The original members were Belgium, Canada, France, German, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States. See <http://www.bis.org/bcbs/history.htm>.

<sup>10</sup> Larry Wall and Pamela Peterson, *supra* note 3, at 1–17, 3.

<sup>11</sup> *Id.* at 1–17, 3–4.

<sup>12</sup> This chapter uses several stylized balance sheets to illustrate how regulatory capital requirements apply to banks and broker-dealers. Because the goal is to illustrate general aspects of these requirements, this chapter makes simplifying assumptions about the capital ratios, asset risk-weights, haircuts, and other

goodwill. The right-hand side of the balance sheet would also be adjusted, “shrinking up” as discussed previously.

Some assets—like cash—were deemed so free of risk that a bank could fund them entirely with borrowed money; hence, no equity needed to be assigned to them to bear the risk of unexpected loss. Most assets, however, would require a minimum amount of equity to provision for the risk of unexpected loss. So the next step in constructing the pro forma balance sheet was to identify which asset—or which fraction of gross assets—would have to be financed by some blend of debt-leveraged equity. To this end, Basel I introduced a scheme that assigned different risk-weights to assets based on differences in their relative credit risk: 0 percent, 25 percent, 50 percent, and 100 percent.

These risk-weights determine how much of the asset a bank must fund by some qualifying blend of debt and equity. By implication, the difference between 1 and these risk-weights expressed how much of the asset value can be funded entirely by debt, unbacked by equity. For example, holding \$100 in cash exposed a bank to no default risk, so the bank could finance a cash investment entirely with borrowed money. This was accomplished by giving the cash a risk-weight of 0 percent.

A bank could fully debt-finance the first half of the value of an asset assigned a risk-weight of 50 percent, like a residential mortgage, but the remaining half of the asset’s value would have to be funded by some qualifying blend of debt and equity.<sup>13</sup> Because an unsecured loan was a riskier investment, the bank would have to allocate more of its loss-bearing capital (equity) to provide for this risk. Banks had to give unsecured loans a 100 percent risk-weight. The weighting to be given particular bank assets has changed over the years—and remains a bone of contention—but the basic mechanism of risk weighting became a permanent part of Basel rules.

The all-in regulatory capital cost of financing reflected both an asset’s risk-weight and the amount that could be fully debt-financed. Assuming that a firm had to set aside \$8 of equity for every \$100 of risk-weighted asset exposure, it would have to finance an asset in the 100 percent bucket (like the unsecured loan in the previous example) by qualifying

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requirements. As a result, these calculations do not reflect actual capital requirements for these portfolios.

<sup>13</sup> Although sorting assets into four different risk “buckets” made the capital standard more responsive to a bank’s risk, this scheme still let banks game the weighting by letting them pick riskier assets—with a better chance of return—within each risk bucket. Darryl Getter, U.S. Implementation of the Basel Capital Regulatory Framework 3–10, Congressional Research Service (2012).



equity capital up to 8 percent of its value. The rest of its value (92 percent) could be financed by borrowing. An asset in the 50 percent bucket, however, would have an all-in regulatory capital cost of only 4 percent, because the 8 percent capital cost would apply only to half of the asset's value. Hence, 96 percent of its value could be financed by debt. Assuming that debt is cheaper than equity, the first asset would be cheaper to finance.

Not all liability and capital instruments have an equal ability to bear loss, however. To identify the acceptable blend of debt and equity financing, Basel I classified equity and para-equity into Tier 1 core capital and Tier 2 supplementary capital. The most robust forms of capital included common stock and surplus. Preferred stock had less loss-bearing capacity than common with some kinds (like noncumulative perpetual preferred) being more truly residual than others. So Tier 1 capital included the book value of common equity, noncumulative preferred stock, and some minority interests in the equity capital accounts of the bank's consolidated subsidiaries. Tier 2 capital included Tier 1 plus the loan-loss reserve, perpetual preferred stock, subordinated notes, and some hybrid instruments.

Basel I also recognized that off-balance sheet assets and liabilities also impacted a bank's capital adequacy. This is especially true in the case of credit commitments—like a stand-by letter of credit or a credit line—that remain contingent because a counterparty decides whether to issue the asset. For that reason, Basel I also provided a formula for converting off-balance sheet items into on-balance sheet asset equivalents. In effect, the conjunction of the asset weights and the Tier-based capital ratios put in place a schedule of regulatory capital costs by type of asset. Regulators could change the asset weights and the capital thresholds to calibrate the overall system. Once the asset base and the qualifying capital had been determined, the regulatory balance sheet could be tested for compliance with the minimum capital thresholds.

An example in Table 7.1 shows how the regulatory balance sheet is constructed. Imagine a quite modest bank with the following financial balance sheet.

Table 7.1 Bank's financial balance sheet

Assets		Liabilities	
Cash	2,450,000	Demand Deposits	5,000,000
U.S. Treasuries	1,500,000	One year CDs	1,000,000
		Medium-term notes	1,000,000
Residential mortgages	2,000,000	Subordinated debt	2,400,000
Unsecured loans	2,000,000	<b>Equity</b>	
Corporate debentures	2,000,000	Noncumulative perpetual preferred stock	200,000
Goodwill	50,000	Common stock	400,000
<b>Total</b>	<b>10,000,000</b>	<b>Total</b>	<b>10,000,000</b>

Several adjustments must be made to construct the regulatory balance sheet consistent with Basel I. Because the purpose of capital is to absorb loss, intangible assets—in this case goodwill—should be deducted so as to arrive at a more realistic estimate of the actual liquidity available to absorb loss. To balance the deduction on the asset-side, the equity account must also be adjusted dollar-for-dollar, because equity bears the first loss arising from reduction in the value of assets. After reducing the value of goodwill from both the asset and common stock accounts, the pro forma balance sheet looks like Table 7.2.

Table 7.2 pro forma regulatory balance sheet #1 – net of goodwill

Assets		Liabilities	
Cash	2,450,000	Demand Deposits	5,000,000
U.S. Treasuries	1,500,000	One year CDs	1,000,000
		Medium-term notes	1,000,000
Residential mortgages	2,000,000	Subordinated debt	2,400,000
Unsecured loans	2,000,000	<b>Equity</b>	
Corporate debentures	2,000,000	Noncumulative perpetual preferred stock	200,000
		Common stock	350,000
<b>Total</b>	<b>9,950,000</b>	<b>Total</b>	<b>9,950,000</b>

The next step is to identify which assets need equity funding. These are the only assets to be “booked” and carried on the (pro forma) regulatory balance sheet. For example, the cash and the government securities get a 0 percent risk-weight, hence no portion of their value appears on the

regulatory balance sheet. The mortgages receive a risk-weight of 50 percent, which means that one-half of their value is booked on the regulatory balance sheet. The loans and debentures receive a risk-weight of 100 percent, which means that the entire amount of the bank's investment in them must be funded—for regulatory purposes—by a blend of equity and debt. After converting the actual assets into risk-weighted assets, identifying the kind of capital that qualifies as truly loss-bearing (and carrying over the intangible-discounted value of the bank's equity), the construction of the regulatory balance sheet is complete: see Table 7.3.

*Table 7.3 Regulatory balance sheet #2 – net of debt-funded assets and liabilities*

Assets		Equity	
Residential mortgages	1,000,000	Preferred stock	200,000
Unsecured loans	2,000,000	Common stock	350,000
Corporate debentures	2,000,000		
<b>Total</b>	<b>5,000,000</b>	<b>Total</b>	<b>550,000</b>

Granted, this pro forma exercise is no longer a balance sheet because it ignores liabilities and assets that required no equity funding. Indeed, only half of the bank's gross balance sheet (\$5m of \$10m) requires any regulatory capital at all. It is this (pro forma) asset balance that is now tested for capital adequacy.

Dividing the qualifying capital by the risk-weighted asset base results in a Tier 1 equity ratio of 11 percent (the sum of the preferred and common). The rest of the risk-weighted asset base (89 percent) is funded with borrowed money. Assuming that the minimum required of Tier 1 equity is 8 percent, the bank substantially exceeds the minimum. Its risk-weighted leverage ratio is about 1:8, i.e., the bank borrows \$8 for every \$1 of equity.

The outcome is different if we apply market capital standards that look at the bank's gross assets. In that case, the bank's equity base must support a higher asset base, i.e., \$10 million rather than \$5 million. In terms of gross leverage, the bank's assets would be supported 5.5 percent by tangible equity and 94 percent by borrowed funds. Hence, the gross leverage ratio is closer to 1:19, such that the bank has borrowed \$19 for every \$1 of equity.

Imagine that some of the bank's borrowers become insolvent such that the bank must write down 20 percent of the value of the unsecured loans,

i.e. \$400,000.<sup>14</sup> Because common stock bears the first loss (as in the adjustment for goodwill), the value of the common stock must be written down dollar-for-dollar. This loss would deplete the common and run down the preferred by \$50,000. The loss-adjusted regulatory balance sheet would then look like Table 7.4.

Table 7.4 Regulatory balance sheet #3 – after write-down of asset and equity

Assets		Equity	
Residential mortgages	1,000,000	Preferred stock	150,000
Unsecured loans	1,600,000	Common stock	0
Corporate debentures	2,000,000		
<b>Total</b>	<b>4,600,000</b>	<b>Total</b>	<b>150,000</b>

Just as debt leverage multiplies a firm’s ability to invest in assets, it also amplifies the consequences of loss on these assets. Hence, the consequences of the equity write-down are more serious. As a result of the loan write-off, the bank’s Tier 1 ratio now drops to less than 3.3 percent, leaving it in violation of its minimum capital requirement. At this point, the bank can choose between issuing more Tier 1 equity or reducing the amount of its risk-weighted assets subject to minimum equity requirements. Assuming that the bank issues new equity and invests the proceeds entirely in 0 percent weighted assets, e.g., cash, the bank could meet its eight Tier 1 capital by raising as little as \$218,000. Insofar as the bank reinvests the proceeds in assets requiring some equity funding, e.g., residential mortgages, more equity capital would be needed to cover the associated marginal equity surcharge on the regulatory balance sheet.

Alternatively, the bank could shrink its risk-weighted asset base. In effect, this strategy asks ‘What is the maximum amount in risk-weighted assets that can be supported with \$150,000 in Tier 1 capital?’ Assuming a minimum Tier 1 ratio of 8 percent, the answer is \$1,875,000, suggesting that the bank will have to make substantial reductions of its assets, i.e., \$2,725,000.<sup>15</sup>

Its holdings of debentures and loans are more “expensive” than its mortgages because they are risk-weighted at 100 percent, hence the

<sup>14</sup> To keep matters simple, this chapter does not include the loan-loss reserve that banks establish as a contra-asset account to absorb expected loss on its credit portfolio.

<sup>15</sup> Solving for x, the equation is  $1,875,00 = $.08x$ .

smallest asset reduction that would return the bank to compliance could be accomplished by converting \$2,725,000 of the debentures and loans into cash. Assuming that all of the debentures and some of the loans are sold, the risk-weighted pro forma balance sheet resulting after these adjustments now has a Tier 1 capital ratio of 8 percent and looks like Table 7.5.

*Table 7.5 Regulatory balance sheet #4 – assuming conversion of the debentures and some loans into cash*

Assets		Equity	
Residential mortgages	1,000,000	Preferred stock	150,000
Unsecured loans	875,000	Common stock	0
<b>Total</b>	<b>1,875,000</b>	<b>Total</b>	<b>150,000</b>

Leaving the regulatory capital calculation, what does the bank's financial balance sheet look like after writing down the equity and selling the loans and debentures, assuming reinvestment of the sale proceeds into cash? See Table 7.6.

*Table 7.6 Bank's financial balance sheet – after write-down*

Assets		Liabilities	
Cash	5,175,000	Demand Deposits	5,000,000
U.S. Treasuries	1,500,000	One year CDs	1,000,000
		Medium-term notes	1,000,000
Residential mortgages	2,000,000	Subordinated debt	2,400,000
Unsecured loans	875,000		
		<b>Equity</b>	
		Noncumulative perpetual preferred stock	200,000
Goodwill	50,000	Common stock	0
<b>Total</b>	<b>9,600,000</b>	<b>Total</b>	<b>9,600,000</b>

Rather than reinvesting the asset-sales into cash, the bank could also have chosen to use the \$2,725,000 to redeem its subordinated debt and \$225,000 of its medium-term notes, becoming a smaller, dramatically less-leveraged institution, as in Table 7.7. Because the Tier 1 ratio is calculated only on the basis of risk-adjusted assets and Tier 1 capital, this smaller less leveraged entity would have the same Tier 1 ratio, although its gross leverage ratio would be lower, as suggested in Table 7.7.

Table 7.7 Bank's financial balance sheet – assuming debt repayment rather than holding cash

Assets		Liabilities	
Cash	2,450,000	Demand Deposits	5,000,000
U.S. Treasuries	1,500,000	One year CDs	1,000,000
		Medium-term notes	675,000
Residential mortgages	2,000,000		
Unsecured loans	875,000		
		Equity	
		Noncumulative perpetual preferred stock	200,000
Goodwill	50,000	Common stock	0
<b>Total</b>	<b>6,875,000</b>	<b>Total</b>	<b>6,875,000</b>

### Self-Evaluation of Capital Adequacy: Basel II and Internal Models

The business of banking kept changing after the adoption of Basel I as yield-hungry banks increased their derivatives activities and began substituting riskier loans for low-risk securities.<sup>16</sup> Not surprisingly, modifications to the first Basel proposal were proposed in 2004 as the Capital Adequacy Framework (“Basel II”).<sup>17</sup> Notably, it gave banks substantial discretion in picking how their regulatory capital would be calculated.<sup>18</sup>

The process of letting banks evaluate their own capital adequacy had begun in 1996, when regulators let banks use proprietary risk models to estimate the market risk in their asset portfolios. Basel II would expand this discretion by letting banks choose between calculating their capital requirements under a modified version of Basel I or using their own internal statistical models. Banks that used their own models could

<sup>16</sup> Federal Deposit Insurance Corporation, *supra* note 5, at 4. See generally Heidi Mandanis Schooner and Michael Taylor, *supra* note 4, at 147–64.

<sup>17</sup> Although Basel II expected to become effective in the United States in 2008, the agencies granted waivers from compliance for certain aspects of Basel II due to the financial crisis.

<sup>18</sup> Basel II also took account of “operational risk,” an umbrella category for contingencies not related to credit or market risk but that could, nonetheless, impact a bank’s solvency.

choose between using statistical assumptions provided by regulators or developing their own assumptions, known as the “advanced approach.”<sup>19</sup>

Large banks welcomed the discretion, which often let them save on regulatory capital costs.<sup>20</sup> For example, under Basel I, a bank would have to hold capital of \$8 to support an AAA-rated loan of \$100. The cost for that loan would be lower under any of the Basel II options, dropping to \$1.81 under the standard approach, \$1.41 under the internal ratings model approach, and somewhere between \$.037 and \$4.45 for the advanced approach. At the same time, though, riskier loans tended to require a higher capital charge. For example, under Basel I, a \$100 B-rated loan would require \$8 of capital (the same as the AAA loan). Under Basel II, the equity cost would rise to \$12.21 in the standard approach, \$18.53 in the internal ratings model, and between \$3.97 and \$41.65 under the advanced model approach.

Regulators modified Basel II in 2009 in response to the 2007 financial crisis to better track the credit risk in the securities traded by banks. Known as Basel II.5, these revisions attempted to limit a kind of regulatory arbitrage made possible by accounting differences in how a firm recorded its investments in debt securities.<sup>21</sup> If a firm intended to hold the debt security to maturity, it could be booked at its historic cost, ignoring ongoing fluctuation of the market price. However, if a firm intended to sell a security rather than hold it to maturity, it would have to mark the value of the security to market, increasing the volatility of its gross earnings. Hence, banks could strategically assign securities with unrealized built-in gain to their trading book—that way boosting the bank’s asset value—and relegate securities with built-in loss to the banking book.

### **Capital After the Crisis**

The financial crisis that began in 2007 cast a harsh spotlight on regulatory capital requirements, in part because they did not obviate the need for large-scale public bailouts of illiquid and insolvent banks.

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<sup>19</sup> In the basic and more conservative approach, the bank would estimate the probability of a default on its assets and the regulators would provide the expected loss given default, the bank’s exposure at default, and the maturity at exposure. Using the advanced approach, the bank would use its own values rather than those of the regulator.

<sup>20</sup> The following estimates of regulatory capital costs appear in the Federal Deposit Insurance Corporation, *supra* note 5, at 2.

<sup>21</sup> Darryl Getter, *supra* note 13, at 3–4.

Consequently, the Dodd-Frank Act of 2010 (“Dodd-Frank”) sought to raise minimum regulatory capital requirements and to extend them to previously unregulated firms that participated in the credit market.<sup>22</sup> Released in 2010, Basel III also raised capital requirements, gave regulators more options to address the capital impact of financial cycles, and enhanced requirements about liquidity.<sup>23</sup> The final contours of the new capital requirements will not be known until federal agencies issue regulations, but the discussion below outlines the major features of the capital changes envisioned by Dodd-Frank and Basel III.

### **New charges and standards**

Much of what Basel III does is refine the existing tools and standards, including the definition of capital and the ratios. For example, Tier 1 capital is now divided into two categories: Common Equity Tier 1 (“CET1”) and total Tier 1. CET1 is the most residual layer of the bank’s capital, where the first losses and short-term volatility will be absorbed.<sup>24</sup> Total Tier 1 is the sum of CET1 plus some adjustments. In addition to raising risk-based capital requirements, Basel III establishes a leverage ratio, calculated by dividing the bank’s Tier 1 capital by an expanded asset base not just the bank’s risk-weighted assets. Set at a minimum of 3 percent, this leverage ratio is not required of all banks; rather, regulators impose it on banks selectively.

Basel III also adds new “charges” designed to mitigate financial cycles—a capital conservation buffer and a counter-cyclical buffer. The capital conservation buffer prohibits banks from making certain distributions to their owners or paying discretionary bonuses unless the bank has an adequate capital buffer in excess of its minimum capital requirements. Supervisors also retain discretion to modify capital charges in order to make requirements more counter-cyclical, i.e., greater as a credit bubble inflates but smaller after it bursts.

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<sup>22</sup> Dodd-Frank also prohibits the use of trust-preferred securities as Tier 1, although this ban is phased in and subject to grandfather to avoid shocking the capital structure of banks that relied on them.

<sup>23</sup> The Fed approved some of the Basel III rules in July 2013 and said that more would be forthcoming. See <http://www.federalreserve.gov/newsevents/press/bcreg/20130702a.htm>.

<sup>24</sup> CET1 is calculated like tangible net equity for private firms because it is the sum of common stock, related surplus, and retained earnings minus a variety of charges (including goodwill, other intangibles, securitization gain on sale, and fair value changes in the bank’s financial liabilities) that remove residual assets of dubious liquidity. By imposing more stringent criteria it is hoped that banks will be better able to absorb unexpected losses.



Dodd-Frank requires bank holding companies and other financial companies to assess their capital adequacy through statistical stress tests that posit how their liquidity and solvency would fare under adverse market conditions. Also, the Fed must now conduct an annual stress test of large bank holding companies and certain entities designed by the FSOC, to determine whether these entities have sufficient capital to absorb losses resulting from negative market conditions.<sup>25</sup>

However, legal uncertainty remains about what the new capital minimums are because Dodd-Frank defines them in terms of “generally applicable” risk-based capital and leverage requirements in effect when the statute was passed, which includes Basel I and features of Basel II.<sup>26</sup> Because regulatory capital rules were already changing during this period, identifying the precise contours of this standard may be difficult. Moreover, Dodd-Frank directs prudential regulators to use regulatory capital to mitigate systemic risk, a notion that continues to evolve. As a result, regulators will have to become more specific about the capital standards to which financial firms are expected to adhere.

### **Liquidity and funding**

The financial crisis revealed that markets could treat solvent but illiquid firms as though they were insolvent. Regulators responded by paying more attention to a firm’s funding liquidity. To that end, Basel III imposes two new requirements designed to promote a bank’s funding stability—a Liquidity Coverage Ratio and a Net Stable Funding Ratio.

Designed to promote the bank’s short-term stability, the Liquidity Coverage Ratio requires the bank to have enough liquid assets on-hand to honor its obligations for 30 days, even in crisis conditions in which the bank would be locked out of its funding markets. Cash, deposits at central banks, and some sovereign obligations would qualify as conforming assets, as would others of sufficient credit quality, liquidity or transferability. In general, when determining which of the bank’s assets count as liquid, its holdings of liabilities issued by commercial banks, investment firms, financial holding companies, insurance companies or liabilities issued by a parent or subsidiary of the bank would not count.

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<sup>25</sup> In November 2012, the Fed conducted a systematic stress test of capital for 18 bank holding companies, including several with large trading and mark-to-market exposures. Styled as the Comprehensive Capital Analysis and Review, it also incorporated stress-testing requirements mandated by the Dodd-Frank Act. See <http://www.federalreserve.gov/bankinforeg/stress-tests/dodd-frank-act-stress-testing.html>.

<sup>26</sup> Darryl Getter, *supra* note 13, at 3–5.

The Net Stable Funding Ratio promotes funding stability over a longer-term horizon, i.e., one year. It classifies the sources of a bank's financing in terms of its permanence and callability. All of a bank's Tier 1 and 2 capital plus preferred stock with a maturity of over one year counts as stable funding dollar for dollar. Other forms of funding common to banks are discounted based on the risk that they may not be refinanced upon maturity. In effect, this ratio imposes a maturity tax on funding by reducing the compliance value of longer-term funding.

## BROKER-DEALER REGULATORY CAPITAL

The SEC imposes regulatory capital rules on registered broker-dealers. The primary goal of these rules is to ensure that broker-dealers hold enough liquid assets to make good on their obligations to customers and other creditors in the case of liquidation. Although bank regulators have now increased their surveillance of liquidity, the net capital rule has long recognized the crucial link between the market liquidity of a firm's assets and the firm's own liquidity. Recently, the SEC has let some large broker-dealers demonstrate their capital adequacy by using internal statistical models, similar to those approved by Basel II. Most broker-dealers calculate their minimum capital using the traditional approach, but the largest broker-dealers use this alternative internal models approach.

### **The Net Capital Rule**

In the late 1960s, several broker-dealers became insolvent, producing losses to their customers. As a result, Congress directed the SEC to adopt a rule to protect customers from loss by promoting minimum capital levels at registered broker-dealers. Congress also established the Securities Investor Protection Corporation ("SIPC") to provide limited indemnification to investors for losses in their accounts at insolvent broker-dealers.<sup>27</sup>

In response, the SEC implemented a revised regulatory capital standard—the uniform net capital rule.<sup>28</sup> The goal of the rule was to allow a broker-dealer that was no longer a going concern to honor its duties to customers and other creditors in the case of self-liquidation. A customer might still have recourse to funds through SIPC, but the net

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<sup>27</sup> Michael Jamroz, *The Net Capital Rule*, 47 *Bus. Law.* 863, 864–65 (1991).

<sup>28</sup> 17 C.F.R. § 240.15c3-1—Net capital requirements for brokers or dealers.

capital rule was designed to promote orderly self-liquidation rather than a SIPC liquidation, which would involve limited recovery and delays.

Like the regulatory capital process for a bank, the net capital calculation generates a pro forma balance sheet and then tests it for capital adequacy. The process involves two steps. First, the firm's actual net capital is calculated, by calculating the tentative net capital and then finalizing it with asset haircuts. Second, the firm's net capital requirement is calculated using either a leverage ratio or a method based on the firm's customer assets.

The calculation of the actual net capital starts by determining the firm's equity according to Generally Accepted Accounting Principles ("GAAP"). This involves marking to market the firm's securities positions and recognizing unrealized gains and losses. Then some adjustments are made to GAAP equity to conform the balance sheet to the net capital rule. As in the bank case, goodwill and other liquid assets are deducted from the balance sheet. Unlike the bank case, some of the broker-dealer's subordinated debt is also counted as qualifying capital because it can absorb unexpected loss.<sup>29</sup> This part of the calculation generates tentative net capital.

Important adjustments are then made to the broker-dealer's assets to finalize the net capital calculation. The valuation of an asset as part of a going concern is predicated on the notion that the broker-dealer would have some discretion in selling it, such that the assumed price is as favorable as the seller can obtain. In contrast, the net capital rule adopts the perspective of liquidation in which the broker-dealer is forced to sell assets without the luxury of waiting for the best possible price. To estimate a liquidation price for assets that reflects this price risk, the net capital rule applies discounts ("haircuts") to assets intended to reflect what they would fetch if sold in haste. This approach results in conservative pricing of a broker-dealer's assets.

Once this regulatory balance sheet has been calculated, there are two alternative methods of meeting the firm's minimum net capital requirement: (i) a basic method that measures the adequacy of net capital against a set of the firm's unsecured liabilities, and (ii) an alternative method that compares net capital to assets generated from the firm's

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<sup>29</sup> To qualify as net capital, the subordinated debt must have a term of at least one year and be fully subordinated to other creditors, including customers of the broker-dealer. For purposes of this exercise, assume that all of the subordinated debt will count in the net capital calculation.

dealings with customers. According to the basic method, the broker-dealer must hold at least \$1 of capital for every \$15 of its uncollateralized debt. This requirement directly limits the broker-dealer's ability to leverage itself. The second method lets the broker-dealer calculate its minimum net capital as a minimum percentage of the firm's obligations to its customers. Any net liquidity above this minimum requirement is considered excess net capital.

To understand a simple version of the net capital calculation, consider the following stylized broker-dealer balance sheet in Table 7.8.<sup>30</sup>

Table 7.8 Broker-dealer's financial balance sheet

Assets		Liabilities	
		Aggregate indebtedness	
Cash	3,000,000	• Customer payables	5,000,000
U.S. Treasuries	3,500,000	• Two month commercial paper	1,000,000
Customer receivables (unsecured)	500,000	• Medium-term notes	1,000,000
Corporate equities	1,000,000	Subordinated debt	2,500,000
Unsecured loans	500,000	<b>Equity</b>	
		Noncumulative perpetual preferred stock	100,000
Goodwill	1,500,000	Common stock	400,000
<b>Total</b>	<b>10,000,000</b>	<b>Total</b>	<b>10,000,000</b>

To identify only the liquid assets available to honor the firm's obligations, the goodwill, unsecured customer receivables, and unsecured loans are all deducted on the theory that they have no ready market in which they could be converted to cash. Based on this balance sheet, the size of this adjustment will eliminate all of the firm's equity. Since net capital includes qualifying subordinated debt, however, the subordinated debt can bear the rest of the adjustment. The resulting balance sheet in Table 7.9 indicates a tentative net capital of \$500,000.

<sup>30</sup> The net capital rule establishes different requirements based on the type of business that a broker-dealer maintains. Because these requirements are quite intricate, this example presents an elemental version of the calculation.

*Table 7.9 Broker-dealer's tentative net capital – net illiquid assets*

<b>Assets</b>		<b>Liabilities</b>	
		Aggregate indebtedness	
Cash	3,000,000	• Customer payables	5,000,000
U.S. Treasuries	3,500,000	• Two month commercial paper	1,000,000
		• Medium-term notes	1,000,000
Corporate equities	1,000,000	Subordinated debt	500,000
		<b>Equity</b>	
		Noncumulative perpetual preferred stock	0
		Common stock	0
<b>Total</b>	<b>7,500,000</b>	<b>Total</b>	<b>7,500,000</b>

Since the net capital calculation assumes a forced liquidation in which assets would have to be sold quickly, some of the assets must be haircut. The cash is not haircut. Although some government securities may be subject to haircuts, assume for purposes of this problem that the U.S. Treasuries are short-term securities deemed to be risk-free, such that the only assets that must be haircut are the equity securities. For simplicity of calculation, assume that they are haircut by 20 percent, i.e., \$200,000. Since the subordinated debt account has become the first loss position (once the write-down for goodwill has burned through the common and preferred equity), it too must be reduced by \$200,000. This is the resulting balance sheet at Table 7.10.

*Table 7.10 Broker-dealer's net capital—net illiquid assets and asset haircut*

<b>Assets</b>		<b>Liabilities</b>	
		Aggregate indebtedness	
Cash	3,000,000	• Customer payables	5,000,000
U.S. Treasuries	3,500,000	• Two month commercial paper	1,000,000
		• Medium-term notes	1,000,000
Corporate equities	800,000	Subordinated debt	300,000
		<b>Equity</b>	
		Noncumulative perpetual preferred stock	0
		Common stock	0
<b>Total</b>	<b>7,300,000</b>	<b>Total</b>	<b>7,300,000</b>

Now the broker-dealer must calculate its net capital requirements and compare them against its actual net capital. As noted above, the broker-dealer may choose between two methods. Under the first method, the firm must hold the greater of \$250,000 or \$1 of net capital for every \$15 of aggregate indebtedness. The firm's remaining subordinated debt—\$300,000—does exceed \$250,000. Assuming that all of its liabilities (not the subordinated debt) count as aggregate indebtedness, the broker-dealer's relevant debts equal \$7,000,000. To qualify under the first method, the firm's net capital would have to be at least \$470,000, which exceeds the firm's remaining subordinated debt of \$300,000.

A second method—which often results in a lower minimum net capital—lets the broker-dealer calculate its minimum net capital as the greater of \$250,000 or 2 percent of its customer receivables. Two percent of its customer receivables of \$500,000 is only \$10,000. Because the firm's subordinated debt exceeds the \$250,000 floor, the firm's net capital is sufficient to meet its net capital requirements.

A broker-dealer must perform these regulatory capital computations daily and notify the SEC if it is at risk of not meeting its minimum net capital requirements. A broker-dealer must also file quarterly reports of financial condition and an annual report, with audited financial statements. As measured by the few broker-dealers that have undergone SIPC liquidation since it was adopted, the net capital rule has been relatively successful in promoting financial integrity.

### **Internal Models Approach**

In 2004, the SEC amended the net capital rule to let qualifying broker-dealers demonstrate their minimum net capital with internal risk-management models that used statistical methods to forecast loss. This was attractive to broker-dealers that belonged to large financial conglomerates.<sup>31</sup> Many of these conglomerates already had sophisticated risk-management systems designed to comply with their banking regulators, so an argument was made that net capital compliance for broker-dealers that belonged to such conglomerates could be based on internal models like those approved for banks in Basel II.

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<sup>31</sup> The idea for it came out of an experiment by six large securities firms that used their own models to calculate the amount of portfolio risk they faced in their over-the-counter derivatives portfolios. General Accounting Office, RISK BASED CAPITAL Regulatory and Industry Approaches to Capital and Risk 7, 14, GGD-98-153 (1998).

The internal models method gave broker-dealers more flexibility in maintaining capital adequacy by reducing the deductions that would otherwise have to be taken to reflect the market and credit risks in their portfolios. As a result, these firms could reduce their minimum net capital and then upstream excess capital to their holding company. Nevertheless, broker-dealers using the alternative approach must hold a tentative net capital of at least \$1 billion.<sup>32</sup> They must also hold net capital of at least \$500 million.

Firms using the internal models method would no longer have to use the SEC's asset haircuts, but they would have to provide information about their risk models. The broker-dealer's holding company also had to agree to provide the SEC regularly with comprehensive information about the financial condition of the broker-dealer, the holding company and its affiliates.

While attractive to the firm, this relaxation of capital constraints is viewed by many as having contributed to the financial crisis of 2007. Since then, some broker-dealers that had used this alternative converted to bank holding companies, thereby becoming subject to the prudential oversight of the Fed.<sup>33</sup>

## INSURANCE COMPANIES

Insurance companies in the U.S. follow risk-based capital standards developed by the National Association of Insurance Commissioners ("NAIC") and imposed by individual states.

### State Regulation

As of yet, little research demonstrates that insurance companies present systemic risks to the financial sector.<sup>34</sup> The federal government does not indemnify policyholders for losses incurred when insurance companies

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<sup>32</sup> The requirements to qualify for this method are found in Appendix E to 17 C.F.R. § 240.15c3-1.

<sup>33</sup> Five broker-dealers participated in the program: Goldman Sachs, Merrill Lynch, Bear Stearns, Lehman Brothers, and Morgan Stanley. Lehman Brothers has since declared bankruptcy. Bear Stearns was acquired by J.P. Morgan, a bank. Goldman Sachs and Morgan Stanley have moved their operations to be under the Fed as their principal regulator.

<sup>34</sup> Mary Weiss, *Systemic Risk and the U.S. Insurance Sector 2*; Richard Herring and Til Schuermann, *Capital Regulation for Position Risk in Banks, Securities Firms, and Insurance Companies* in Hal Scott (ed.), *Capital Adequacy*

become insolvent. Insurance is largely regulated by states, which have a commissioner or director to monitor the conditions under which insurance can be offered. Individual states operate guaranty funds to cover some shortfalls in insurance coverage, but the recovery provided by these funds is often limited.<sup>35</sup> When an insurance company fails, any resulting loss tends to be borne by policyholders, other creditors and shareholders.

As a result, there has been no federal prudential oversight of insurance companies, although they must conform to state standards about capital adequacy. This type of state regulation of insurance capital involves (i) guidelines on how an insurance company should establish its minimum net capital based on its business lines and (ii) statutes that give state regulators the authority to take actions against an insurance company if it becomes financially impaired.

NAIC has also developed the Risk-Based Capital (“RBC”) for Insurers Model Act (“Model Act”), which has been adopted by all states (except Texas) and the District of Columbia. Used as an accreditation standard by the NAIC, the Model Act defines regulatory capital by incorporating by reference the level of “statutory capital” that insurance companies must hold under state law. State law also exposes reinsurers to similar capital standards.<sup>36</sup> While depository institutions follow GAAP, insurance companies follow statutory accounting principles that tend to be more actuarially conservative than GAAP.

In addition to these state-level constraints, large insurance companies now face the risk of being classified as “systemically important financial institutions,” which would make them subject to prudential oversight by the Fed. Also, if an insurance company owns a savings and loan, then it becomes a “savings and loan holding company” (“SLHC”) now subject to regulation by the Fed under the terms of Dodd-Frank. Until now, insurance companies that were also SLHCs did not have to comply with formal regulatory capital requirements, but the Fed may change that. In particular, the Fed may require these insurance companies to use GAAP (which the Fed requires bank holding companies to use) rather than the more conservative statutory accounting principles that insurance companies use.

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Beyond Basel: Banking, Securities, and Insurance, 17 (Oxford, 2005). The AIG Financial Products Unit was not part of AIG’s regular insurance operations.

<sup>35</sup> Weiss, *id.* at 8.

<sup>36</sup> Scott Harrington, Capital Adequacy in Insurance and Reinsurance in Hal Scott (ed.), *Capital Adequacy Beyond Basel: Banking, Securities, and Insurance*, 110 (Oxford, 2005).



## Determining Minimum Risk-Based Capital Requirements

Insurers face the risk that the ultimate cost of paying claims will exceed the amounts set aside to fund those claims.<sup>37</sup> An insurer undertakes to pay claims on the occurrence of certain loss events. The insurer pre-funds the costs of settling these claims by charging customers premiums. It reduces its net risk by diversifying through pooling many such contracts and by transferring risk to a reinsurer. The risk-based framework used in this business identifies five general kinds of risk that insurance companies face—asset, interest, underwriting, and business risk.

Asset risk refers to the potential that the company's assets (including fixed income securities, equity shares and real estate) will lose value. Interest rate risk refers to the generic potential for loss due to changes in levels of the interest rate. Underwriting risk refers to the possibility that the firm has made mistakes when calculating the potential for loss on its core business. Mistakes can include errors in forecasting mortality or casualty.<sup>38</sup> Such mistakes may be expressed in underestimating the reserves or the price of premiums for coverage. Eventually these mistakes would be reflected in a balance sheet liability called the policyholders' fund, which reflects the aggregate value of the company's duty to pay claims.<sup>39</sup> Similar to underwriting risk, business risk refers to unexpected fluctuations in premium income, annuity costs and other liabilities.

Some of these same risks are common to other financial firms.<sup>40</sup> However, the liabilities that an insurer takes on—in the form of promises to honor claims—may stretch out over a long period. As a result, insurance companies often remain relatively liquid because they have time to adjust to unexpected losses or liquidity events. For this reason, assuming liquidation values—as the net capital rule does for broker-dealers—makes little sense in an insurance context.

The risk profile of any particular insurer will depend on the kind of business that it conducts. To respond to the particular risk profiles of these different lines of insurance, NAIC has developed separate quantitative formulas that establish minimum net capital requirements for life insurance, property and casualty insurance, and health insurance. For example, life insurers face less risk because morbidity and mortality can

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<sup>37</sup> *Id.* at 88.

<sup>38</sup> General Accounting Office, *supra* note 31, at 10.

<sup>39</sup> Richard Herring and Til Schuermann, *supra* note 34, at 28.

<sup>40</sup> As with banks and broker-dealers, market risk also becomes relevant because if the insurance company's assets underperform that will also compromise its ability to make good on its promises. *Id.* at 17.

be estimated with a relatively high degree of actuarial accuracy.<sup>41</sup> In contrast, property and casualty insurers face the risk of unexpected losses. Capital standards for nonlife insurers provision for asset, credit, underwriting, and off-balance sheet risks.<sup>42</sup> Those for life insurers plan for asset, underwriting, interest rate, and business risks.<sup>43</sup>

In the 1990s, NAIC began using internal statistical models to estimate risk-based capital for life insurance activities.<sup>44</sup> In the NAIC framework, the insurer must calculate its risk-based capital both based on its own internal assumptions as well as with NAIC-mandated assumptions. State regulators tend to rely on a firm's own testing of its model rather than submitting models to a centralized review.<sup>45</sup> Because these models are intended to capture risks that escape measurement in the standard risk-based formulas, the use of internal models has often tended to increase an insurance company's minimum capital, i.e., the opposite of what happened for broker-dealers.<sup>46</sup> At present, the use of internal models has not become the norm for other kinds of insurance businesses.

## SYSTEMICALLY IMPORTANT FINANCIAL INSTITUTIONS

The last financial crisis showed that unregulated financial firms—like AIG's Financial Products Group—could negatively impact the financial system as much and often more than could regulated firms. In response, Dodd-Frank gave the FSO the power to identify firms whose potential systemic impact would justify the imposition of risk-based capital and leverage requirements.<sup>47</sup>

### **Statutory Classification**

Dodd-Frank provides a two-step process in which a firm must first be deemed a “nonbank financial company,” and then further classified as a systemically important nonbank financial institution (“SIFI”). Status as a

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<sup>41</sup> Harrington, *supra* note 36, at 101.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> Therese Vaughn, The Implications of Solvency II for U.S. Insurance Regulation 7, (Feb. 2009) 2009-PB-03.

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> Section 113 of Dodd-Frank Act.

nonbank financial company depends on quantitative criteria to evaluate whether a company is predominantly engaged in financial activities. A firm is predominantly engaged in financial activities if (i) 85 percent of its gross revenues come from ownership of depository institutions or the conduct of financial activities, or (ii) 85 percent of its assets are financial or related to its ownership of depository institutions. These thresholds cast a wide net that brings in various asset managers (pension funds, mutual funds, investment funds, special-purpose vehicles), hedge funds, private equity funds, sovereign wealth funds, and insurance and reinsurance entities.

The second step—becoming a SIFI—depends on whether the nonbank financial company may expose the U.S. economy to financial instability by virtue of (i) financial distress at the company, or (ii) the nature, scope, size, scale, concentration, or interconnectedness, of the company's activities. To flesh out this standard, the FSOC has published a rule that establishes a three-part process—including appeal rights—to determine whether a nonbank financial company is a SIFI.

First, any nonbank financial company will be subject to an initial screening if it has more than \$50 billion in consolidated assets and one of five other factors that target high leverage, liquidity risk and derivatives activities. For U.S. companies, these thresholds are applied to global assets, liabilities and operations of the company and its subsidiaries. For foreign companies, only United States assets, liabilities and operations of the foreign nonbank financial company and its subsidiaries count. Next, the FSOC will analyze companies captured in this initial screening based on a six-category framework to determine the company's exposure to financial distress and its potential impact on the broader economy. Companies found to pose risk enter the final stage of the process, at which point, the FSOC will request information—including confidential business information—from the company. The FSOC then makes its final determination.

On June 3, 2013, the FSOC issued its first proposed determinations of nonbank financial companies to be designated as SIFIs. Three companies had been under consideration—AIG, Prudential Insurance and GE Capital. Both AIG and Prudential Insurance were deemed SIFIs, suggesting that insurance business models may be at particular risk for this regulatory status.<sup>48</sup> Prudential Insurance is appealing the decision,

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<sup>48</sup> The Fed also regulates AIG as a savings and loan holding company because AIG owns a thrift, AIG Federal Savings Bank.

becoming the first insurance company likely to adjudicate the question of whether insurance companies pose systemic risks to the financial sector.

### **Capital Standards**

A firm deemed to be a SIFI becomes subject to prudential oversight by the Fed of its capital structure similar to that imposed on banks. The Fed has statutory authority to exempt a SIFI from risk-based capital and leverage requirements. To date, the Fed has suggested that prudential standards for a SIFI could be tailored to an individual firm or to a business line. SIFIs will likely be subject to several capital and liquidity requirements akin to those currently applicable to banks and bank holding companies. If so, the SIFI would have to provide the Fed with quarterly reports about its capital adequacy, develop a contingency funding plan explaining how the company would fund itself during extreme liquidity events, and provide an annual capital plan addressing capital adequacy under financial stress. The SIFI may also have to hold a liquidity buffer along the lines of the net liquidity coverage ratio introduced by Basel III.

Complying with some of these requirements may require a firm to develop new risk-management processes. For example, in order to determine whether it complies with the limit on counterparty exposure, a firm must add up all positions with the counterparty. Whether a SIFI might also enjoy privileged access to central bank liquidity like that enjoyed by banks remains to be seen given that its systemic relevance may help to justify access to emergency stabilizing liquidity.