

## EMEA Banking



# Basel III and European banking: Its impact, how banks might respond, and the challenges of implementation

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# Basel III and European banking: Its impact, how banks might respond, and the challenges of implementation

## Executive summary

- Basel III will have significant impact on the European banking sector. As the rules are written today and based on Q2 2010 balance sheets, by 2019 the industry will need about €1.1 trillion of additional Tier 1 capital, €1.3 trillion of short-term liquidity, and about €2.3 trillion of long-term funding, absent any mitigating actions.
- The impact on the smaller US banking sector will be similar, though the drivers of impact vary. We estimate the Tier 1 capital shortfall at \$870 billion (€600 billion), the gap in short-term liquidity at \$800 billion (€570 billion), and the gap in long-term funding at \$3.2 trillion (€2.2 trillion).
- The capital need is equivalent to almost 60 percent of all European and US Tier 1 capital outstanding, and the liquidity gap equivalent to roughly 50 percent of all outstanding short-term liquidity.
- Assuming a 50 percent retained earnings payout ratio and nominal annual balance-sheet growth of 3 percent through 2019, capital requirements in Europe are expected to increase to about €1.2 trillion, short-term liquidity requirements to € 1.7 trillion, and long-term funding needs to about €3.4 trillion.
- Closing these gaps will have a substantial impact on profitability. All other things being equal, Basel III would reduce return on equity (ROE) for the average bank by about 4 percentage points in Europe and about 3 percentage points in the United States.
- The retail, corporate, and investment banking segments will be affected in different ways. Retail banks will be affected least, though institutions with very low capital ratios may find themselves under significant pressure. Corporate banks will be affected primarily in specialized lending and trade finance. Investment banks will find several core businesses profoundly affected, particularly trading and securitization businesses. Most banks with substantial capital markets and trading business will likely face significant business-model challenges in the next few years.
- Banks are already seeking to manage ROE in the new environment by cutting costs and adjusting prices. There are, however, a number of additional interventions, both general and specific to Basel III, that banks should consider:
  - A set of “no regret” interventions to reduce capital and liquidity inefficiency from suboptimal implementation of the new rules
  - Balance-sheet restructuring to improve the quality of capital and reduce capital needs arising from Basel III’s deductions, as well as more effective management of scarce balance-sheet resources
  - Business-model adjustments to create capital- and liquidity-efficient business models and products and rethink the scope and even the viability of specific business lines
- We estimate that the first two sets of actions could mitigate up to 40 percent of Basel III’s ROE impact, with significant variations for individual banks, depending on their starting position and competitive market dynamics. Overall, it is unlikely that banks will be able to offset Basel III’s impact on profitability.
- Despite the long transition period that Basel III provides, compliance with new processes and reporting must be largely complete before the end of 2012. For an average midsize bank, we estimate that the technical implementation alone will add about 30 percent to 50 percent to the significant outlay already incurred for Basel II. Implementing the new rules will require three distinct initiatives: strategic planning for the Basel III world, capital and risk strategy, and implementation management.

# Introduction

On September 12, 2010, the Basel Committee for Banking Supervision (Basel Committee) endorsed the annex it had issued on July 26 (July 2010 Annex) and specified further details for capital requirements, in particular target ratios and the transition periods during which banks must adapt to the new regulations.<sup>1</sup> The results have now been endorsed at the just-concluded G20 summit in Seoul. With that, and except for the forthcoming treatment of systemic institutions, it appears that Basel III, as the new rules are commonly known, is largely complete.<sup>2</sup>

The new regulation aspires to make the banking system safer by redressing many of the flaws that became visible in the crisis. Improving the quality and depth of capital and renewing the focus on liquidity management is intended to spur banks to improve their underlying risk-management capabilities. The rationale is that ultimately, if banks come to a fundamentally revamped understanding of their risks—what we call a new risk paradigm—that should be good for their business and for consumers, investors, and governments.

Basel III's focus is on capital and funding. It specifies new capital target ratios, defined as a core Tier 1 requirement of 7.0 percent (further specified as a minimum of 4.5 percent of core Tier 1 capital and a required capital conservation buffer of 2.5 percent). The broader requirement for all Tier 1 capital is set at 8.5 percent; this includes the core Tier 1 minimum of 7.0 percent and a minimum of additional (noncore) Tier 1 capital of 1.5 percent. Basel III also sets new standards for short-term funding and sketches out requirements for long-term funding.

The impact of the new rules is substantial. Absent any mitigating actions, we estimate the impact on the European and US banking sectors as a capital shortfall of €1.7 trillion (Europe: €1.1 trillion, United States: €0.6 trillion, almost 60 percent of all European and US Tier 1 capital outstanding)

and a short-term liquidity shortfall of €1.9 trillion (Europe: €1.3 trillion, United States: €0.6 trillion) (Exhibit 1). Long-term funding ratios are still being worked out; as currently defined, the long-term funding ratios would also have significant impact, creating a shortfall of about €2.3 trillion in Europe alone. Long-term funding would be similarly affected in the United States, where we estimate the shortfall at €2.2 trillion. In the next section, we describe the various effects of the new rules in greater detail.

In response to the new regulation, banks are already building their capital and funding stocks and taking risk off their books in several ways. In addition, there are three other sets of actions to steer the ship through the currents of Basel III: better capital and liquidity management, balance-sheet restructuring, and business-model adjustments. A detailed discussion of the potential steps that banks might investigate under these three headings is the focus of this white paper. Most of these steps directly address challenges posed by Basel III, but some go beyond it.

The task is monumental, however. Banks face a significant challenge merely to achieve technical compliance with the new rules and ratios, let alone to reorient the institution for success. Nor is the implementation challenge made much easier by the long transition periods prescribed by Basel III, with some rules not being implemented until 2019. In fact, banks have to begin monitoring certain ratios well before the date of mandatory compliance—as soon as the end of 2012. More than a few banks have indicated a desire to meet the requirements even sooner as a way to reassure markets and rating agencies and give themselves business flexibility. In the final section of this paper, we review the challenges of implementation, especially the unprecedented complexity; estimate the cost to banks of readying the business for Basel III; and outline the factors for successful implementation.

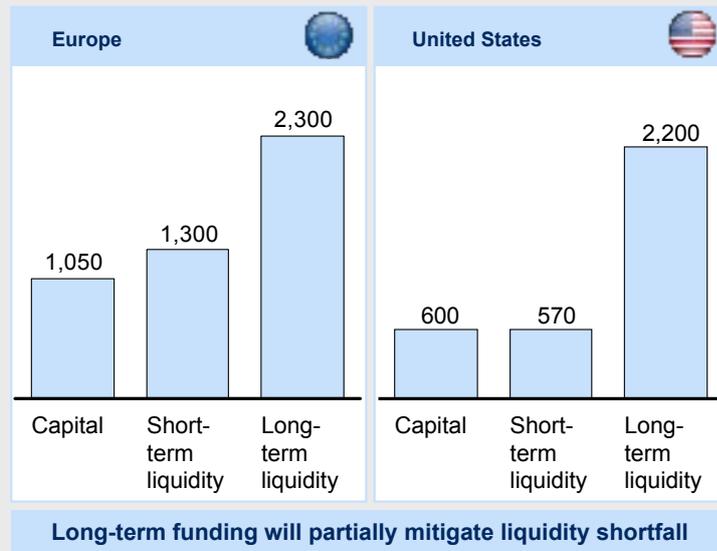
1 Bank for International Settlements (BIS) annex from July 26, 2010, and BIS press release from September 12, 2010, both available at [www.bis.org](http://www.bis.org).

2 For the purposes of this article, Basel III includes not only the proposals from December 2009 and its amendments from July 2010 and September 2010 but also two earlier documents from July 2009, to which many refer as “Basel IIb”: “Enhancements to the Basel II framework” and “Revisions to the Basel II market-risk framework.” Further, it includes corresponding revisions to the European Union’s Capital Requirements Directive (CRD): CRD II, a revision that seeks to build higher-quality capital; CRD III, which contains amendments to the Basel II market-risk and securitization frameworks and corresponds to Basel IIb; and CRD IV, which corresponds to the December 2009 proposals as updated and amended in July and September 2010.

**Exhibit 1**

Capital and liquidity shortfalls for Europe and the United States will be significant.

**Capital and liquidity shortfalls, static perspective, 2019**  
€ billion



Note: Bank data are from Q2 2010 where available; otherwise they are extrapolated from Q4 2009.

Source: Annual reports; bank filings; Global Insight; McKinsey Global Banking Pools; McKinsey analysis

# Assessing the impact

The Basel Committee's rule-making process is of paramount importance to the banking sector and the financial system, as well as national economies and society at large. Accordingly the process has attracted a great deal of attention from an unusually large array of organizations and observers. Several groups, including McKinsey, have produced outside-in studies.<sup>3</sup>

The final rules issued in September contain important amendments. In particular, Basel III now includes a timeline to phase in the new regulation. The question now arises as to what extent and how quickly banks will be able to respond, given their earnings power, the potential for mitigation, and their capital-raising capacity. Accordingly, we have updated our earlier impact assessments in three ways. First, we have taken into consideration the final amendments from July and September, which have, for example, lowered deductions for minority stakes, reintroduced a cap on the recognition of deferred tax assets (DTAs) and on securities issued by financial institutions, and adjusted the liquidity and funding requirements. Second, we have included some important national "add-ons" that are either already decided (such as Switzerland's choice to impose even higher capital ratios) or widely expected (a similar imposition of higher capital ratios in the United Kingdom).

Finally, we have added a dynamic perspective that includes two changes that may materially alter the impact on banks: long-term balance-sheet developments, such as the accumulation of retained earnings and the phase out of deferred tax assets and hidden losses, and required expansion of the balance sheet to support expected credit growth.

Our latest assessment is based on an analysis of the balance sheets of the top 45 European banks as of their most recent filings.<sup>4</sup> We have scaled this analysis to project impact for all of Europe (EU-27, plus Switzerland). For the development of the macroeconomic perspective that forms part of this assessment, we have leveraged consensus GDP forecasts from Global Insight, and the latest (October 2010) research from McKinsey's

Global Banking Pools.<sup>5</sup> Moreover, we have expanded the scope of our assessment to include the high-level impact of the new regulations on the biggest US banks. We can now compare US and European capital and liquidity shortfalls.

To aid the reader's understanding, we first present the static view of impact (that is, using the best current information about banks, but without either of the dynamic elements above) and then present the dynamic view.

## Impact on European banks

Assuming full implementation by 2019 of all the measures envisioned in Basel III, and before any mitigating actions by banks, the pretax ROE of European banks would decrease by between 3.7 and 4.3 percentage points from the pre-crisis level of 15 percent. The lower end of the range excludes the impact of the net stable funding ratio (NSFR), the new rule that governs long-term funding. The upper end of the range includes the NSFR as defined today.<sup>6</sup> It should be noted that the NSFR consultation is still in progress, and the ratio is widely expected to be less punitive once it is finalized.

The effects will be felt only gradually. We have analyzed the various transition periods and calculate that the decline in ROE will be 0.3 percentage points by 2013 and 2.1 percentage points by 2016.

The ROE reduction comes as a result mainly of capital and funding impact. On the capital side of the fully implemented (that is, by 2019) effects, capital quality will account for 0.8 percentage points, increased risk-weighted assets (RWA) for 1.3 percentage points, and increased capital ratios for 1.3 percentage points (including 0.3 percentage points for new minimum ratios, 0.8 percentage points for additional cushion, and 0.2 percentage points for further national discretions). The leverage ratio will decrease ROE by 0.1 percentage points. On the funding side, 0.2 percentage points will come from the expense of holding more liquid assets and 0.6 percentage points from the cost of holding more long-term funding. We discuss these in greater detail below.

3 Philipp Härle, Matthias Heuser, Sonja Pfetsch, and Thomas Poppensieker, "Basel III: What the draft proposals might mean for European banking," available at [www.mckinsey.com](http://www.mckinsey.com), and "Basel III: Assessing the impact on the German banking sector," a confidential study from August 2010.

4 At the time of analysis, several banks had not yet published their Q2 2010 results; for these we have used figures from December 2009 and extrapolated them to Q2 2010.

5 Global Banking Pools, a McKinsey Solution, is a research tool to help banks map and forecast revenue and profit opportunities, available at <https://solutions.mckinsey.com/globalbankingpools/cms/>.

6 It should be noted that the short-term and long-term liquidity ratios are related. The short-term funding ratio is driven by two factors: the liquidity buffer on the asset side of the balance sheet and the outflow on the liability side. More long-term funding on the liability side means less outflow, hence a higher liquidity ratio and a smaller liquidity gap. In our estimates, we have recognized this effect; as more banks add more long-term funding, their short-term requirements decline.

## Capital impact

The extent of the capital shortfall from higher capital ratios is highly sensitive to the assumed target ratios. We have used the regulatory ratios of 4.5 percent for core Tier 1 and 6 percent for all Tier 1, together with the required 2.5 percent core Tier 1 conservation buffer. In addition, we assumed a cushion on top of the regulatory minimum to reach industry target ratios of 9 percent core Tier 1 and 11 percent Tier 1. This cushion of 2 to 2.5 percentage points accounts for 55 percent of the estimated shortfall. We believe it is an appropriate estimate; historically, banks have on average held about 4 percentage points more than the regulatory minimum of 4 percent Tier 1 capital. This cushion will certainly decrease in light of the mandatory regulatory buffer, but in our view, each bank will hold at least 1 percentage point of cushion, while others may well hold up to 3 or 4 percentage points, especially if additional “too big to fail” requirements are imposed on large banks.

Separately, we have factored in national discretions for Switzerland and the United Kingdom. For the two large Swiss banks, we have assumed a 12 percent core Tier 1 ratio and a 20 percent total Tier 1 ratio, including contingent capital; this represents a small cushion of 1 percentage point on top of the minimums proposed recently by the Swiss Expert Commission. For the UK banks, we have assumed a 12 percent core Tier 1 ratio and a 15 percent Tier 1 ratio in light of statements by UK regulators that they will likely require more than the Basel III minimum. We did not factor in any additional requirements for systemically important banks, a topic that was discussed but not decided upon at the G20 summit in Seoul.

On these assumptions, the total capital shortfall in Europe in 2019 would be approximately €1.1 trillion. This is a slight increase of about €100 billion from our last estimate in April 2010, as the higher target ratios outweigh some positive changes, such as fewer capital deductions and a change in the treatment of over-the-counter (OTC) derivatives.

Surprisingly, the leverage ratio embodied in Basel III will not be a major constraint, adding little or nothing to the requirements imposed by the risk-based ratios for our sample of top European banks. This might be different for individual

players (for example, specialized public finance lenders), of course, as well as for banks that plan a focused deleveraging of high-risk assets.

## Funding impact

We estimate the total shortfall in short-term funding due to the new liquidity coverage ratio (LCR) at about €1.3 trillion. This represents about 40 percent of the average liquidity buffer held by banks today. The effects of the NSFR amount to a shortfall of about €2.3 trillion in long-term funding for Europe’s banks, which is equivalent to about 10 percent to 15 percent of the currently available funding. The two effects are related; as banks rebuild their long-term funding, for example, this buildup will also lower their short-term liquidity needs.

Many are also interested in the ways that Basel III will affect various banking segments. For a discussion of segment-specific effects on retail, corporate, and investment banking, please see “Impact on business segments” on p. 8.

## Comparing impact in Europe and the United States

At first sight, the impact on US banks seems similar, though slightly smaller; of course, the US banking industry is also smaller than Europe’s, as measured by assets. Under the same assumptions, we estimate the shortfall in core Tier 1 capital in the United States at about \$700 billion, or €500 billion at current exchange rates, and the total Tier 1 capital shortfall at \$870 billion, or about €600 billion. We estimate the gap in long-term funding for the United States at \$3.2 trillion, or €2.2 trillion. These shortfalls would affect profitability; the US banking industry would see a decrease in ROE of about 3 percentage points. The leverage ratio embodied in Basel III would not be a major additional constraint, as the United States already has a leverage ratio in place.

Looking more closely, a couple of key differences emerge. With respect to capital, the deduction of mortgage servicing rights<sup>7</sup> plays a more significant role in the United States than it does in Europe, while minority interests are less relevant.<sup>8</sup>

7 Mortgage servicing rights (MSRs) are the rights to administer a residential mortgage. Among other activities, the holder of the MSR collects payments from the mortgagor and forwards them to the mortgage holder. While these rights are actively traded, they are classified as intangible for accounting purposes. Basel III excludes them from the calculation of capital. However, US regulators and the industry continue to discuss the merits of including MSRs in capital calculations, and the rule may be amended by the BCBS or changed in the national implementation of Basel III.

8 Assuming a liquidity buffer of about 7 percent of total assets as of today.

The impact of Basel III's RWA-related measures is not directly comparable between Europe and the United States, due to the very different starting position of the two industries. Many US banks have not yet implemented Basel II. Capital ratios in these banks may be more deeply affected by the simultaneous transitions to both Basel II and III. That said, it is not possible to predict from the outside-in the additional impact this will have on the capital needs of the US banking sector.

With respect to funding, the most significant factors in the United States include the 40 percent limit in the LCR on debt issued by public-sector entities, the assumed drawdown rates on corporate and financial credit and liquidity lines, and the assumed runoff rates of wholesale deposits.

## A dynamic perspective on European banking

The picture changes in our dynamic view, which considers balance-sheet developments until 2019, such as the phaseout of deferred tax assets (DTAs) or hidden losses and the accumulation of retained earnings, and growth in industry balance sheets (Exhibit 2).

Recent developments in the capital endowment of banks support this dynamic view. For the 22 banks in our sample that reported sufficiently detailed figures for the second quarter of 2010, we can see that the shortfall in core Tier 1 capital has already declined by nearly 10 percent. While RWAs remain nearly constant, banks report more common equity, fewer unrealized gains and losses in the available-for-sale category, and smaller cash-flow hedge reserves. DTAs have grown slightly.

### Capital impact

We factored these kinds of changes into our dynamic view and found that the industry's need for additional capital

would increase by about 10 percent, from €1.1 trillion to €1.2 trillion. This increase of some €100 billion is the sum of several effects, positive and negative. First, some items that Basel III will deduct from capital, such as DTAs and hidden losses, are expected to become largely irrelevant by 2019. This will reduce the calculated capital shortfall by €100 billion. Banks may also be able to fill some of their capital needs with accumulated retained earnings. We estimate these at about €700 billion over the next ten years, assuming on average return on assets (ROA) of 0.6 percent, a tax rate of 30 percent, and a dividend payout ratio of 50 percent, similar to average pre-crisis levels.

On the other hand, business growth will further increase the need for capital, by approximately €900 billion, to a total of €1.2 trillion. This estimate assumes a nominal annual balance-sheet growth of 3 percent through 2019 and is derived from McKinsey's long-running research on Global Banking Pools. The key underlying assumptions are that nominal GDP will grow by 3.5 percent annually in Western Europe, according to a forecast provided by Global Insight. The effects of deleveraging, especially in Germany, the United Kingdom, and France, will lower the rate of growth of banks' balance sheets to 3 percent. Our growth assumptions, however, do not include larger business restructurings in response to Basel III of the kind discussed below, whose impact on growth cannot be estimated at this stage.<sup>9</sup>

### Funding impact

The dynamic perspective would of course also see a change in the need for funding and liquidity. Assuming the same balance-sheet structure as before, the short-term liquidity shortfall would increase from €1.3 trillion to €1.7 trillion. Similarly, the shortfall in long-term funding would increase from €2.3 trillion to €3.4 trillion. As before, note that an increase in long-term funding would offset a large part of the short-term liquidity shortfall.<sup>10</sup>

9 More specifically, our estimate of balance-sheet growth is based on: a) regressions using 14 macroeconomic factors (including GDP, investment, money-market rate, FX rate, population, inflation) for 2009 to 2019; and b) forecasts for these 14 factors provided by Global Insight. Nominal GDP, one of the main explanatory factors of lending volume, is assumed to grow, for example, by 3.5 percent annually in the United Kingdom, by 4.0 percent in France, by 3.3 percent in Spain, by 2.9 percent in Italy, and by 2.8 percent in Germany.

10 Again, this is before further expected business adjustments.



## Impact on business segments

No assessment of the impact of Basel III would be complete without a review of the effect on profitability of individual businesses and the bank as a whole. As suggested in our April 2010 white paper, three types of impact must be considered:

- **Balance-sheet-specific impact at the corporate level** that cannot be attributed to individual businesses. Examples include those capital deductions that will affect each bank's balance sheet differently, depending on its assets, but will not have a particular effect on businesses.
- **Universal impact across all banks and businesses.** The new capital and leverage ratios are the best examples of rules that affect all businesses proportionally. The impact would be more pressing on marginally profitable businesses, but all businesses would suffer unless the cost rise could be passed on to customers.
- **Business-specific impact.** This category includes rules on risk-weighted assets (RWAs), liquidity, and long-term-funding, which were designed specifically to address the risks that were visible during the crisis, for example, in trading and securitization.

To assess these three kinds of impact on the main business segments—retail, corporate, and investment banking—we take a product perspective. We consider the changes in capital cost, liquidity cost, and long-term funding cost, and calculate the resulting rise in the cost of making products in each segment, as measured in basis points (exhibit).<sup>11</sup> In the ranges provided below, the long-term funding requirement—the net stable funding ratio (NSFR)—as written today drives the upper limit of the range; as noted, implementation as currently written seems unlikely. This is particularly important in the following discussion, as the long-term funding ratio is a key cost driver for some products, especially corporate products, cash trading activities, and low-rated and financial institution bonds. The estimates below represent the additional cost for banks and do not consider any possible remedies.

For all three segments—retail, corporate, and investment banking—some rational responses are already under way. Banks can of course mitigate some of the impact through cost-reduction programs, capital-efficiency measures, de-risking, and price adjustments. Our experience suggests that in some markets and business segments, notably some corporate lending markets, prices will probably increase, while in others, such as many retail banking markets in Europe, any pricing adjustments will be subject to the competitive environment and therefore limited.

As banks review the rise in costs outlined below, a key consideration will be the implications for their margins. This should be the starting point for an assessment of the impact on their different businesses, as they seek to manage profitability and adjust to the new regulatory environment.

### Retail banking

The retail banking business is affected mainly by those parts of Basel III that affect the entire bank, in particular higher capital and liquidity requirements. New capital ratios will affect retail banks especially, as most have operated in recent years with lower capital ratios than wholesale banks. Some retail institutions will also be particularly affected by capital quality measures, such as the deduction of silent participations in Germany. Liquidity requirements will also be a factor, even after being lowered in the July 2010 Annex.

The effect of Basel III's new product-specific requirements is less relevant. The new market-risk framework does not apply to the retail segment, and the new funding requirements pose no particular challenge after the amendments in the July 2010 Annex, which established that deposits are now largely accepted as long-term funding and significantly

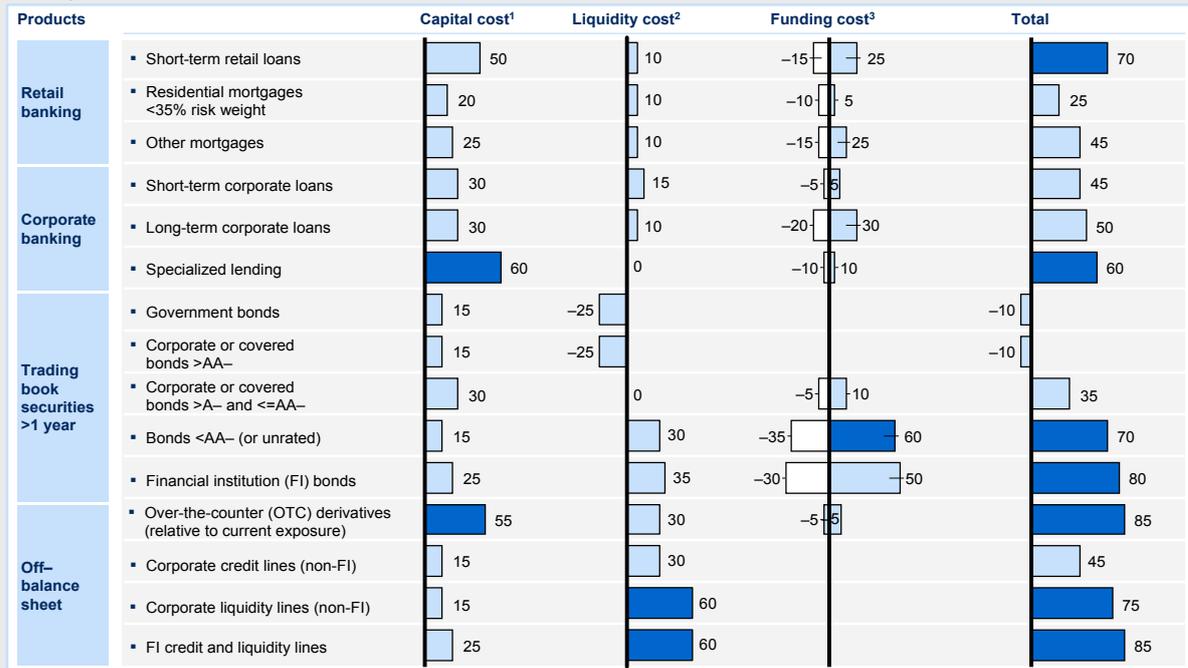
<sup>11</sup> The capital cost includes the need for higher capital quality (for deductions, we have factored in an across-the-board capital increase of 20 percent), higher capital target ratios across the bank, and higher risk reserves required for individual products. For liquidity and funding costs, we take a two-step approach. First, we assume a sufficient liquidity buffer to support a product's funding structure as of today under the new liquidity coverage ratio (LCR), and second, we assume that a product's current funding structure will be changed such that it fulfills the net stable funding ratio (NSFR).

## Product costs are expected to change under Basel III.

ESTIMATES

## Basis points

□ Reduced liquidity cost due to increased long-term funding    ■ Cost increases under/over 50 basis points



1 Assuming target Tier 1 ratio of 8% under Basel II and 11% under Basel III; in addition, 20% increase to account for capital quality and deduction measures.

2 Introduction of liquidity coverage ratio (LCR) in 2014; assuming current liability structure and 7% liquidity holding per product under Basel II and 105% LCR target.

3 Introduction of net stable funding ratio (NSFR) in 2019; assumes 105% NSFR target.

reduced long-term funding requirements for mortgages. Residential mortgages require only 65 percent long-term funding, whereas earlier versions of the rules called for 100 percent.<sup>12</sup>

Short-term retail loans will see an increase in costs of up to 70 basis points. This effect is driven mainly by the increase in target ratios for a segment with relatively high risk weights; higher liquidity and long-term-funding needs will also contribute to higher costs. As discussed above, banks may in some cases be able to pass these on to customers, given the relatively high margin on these products. For certain consumer finance segments, repricing may be difficult.

## Corporate banking

Like retail banking, corporate banking will also be affected primarily by the corporate effect of increased capital target ratios. The new ratios will also affect many standard corporate banking products. Long-term corporate loans and long-term asset-based finance businesses (commercial real estate, project finance) will face an increased funding cost of about 10 basis points. Uncommitted credit lines to financial institutions and uncommitted liquidity lines to both financial institutions and corporates will see a cost increase of 60 basis points just for higher liquidity requirements, plus some 15 to 25 basis points for higher capital requirements. Given the price sensitivity of some corporate lending markets, banks

<sup>12</sup> The July 2010 Annex lowered the cash outflow weights for retail deposits in the LCR. These are now 5 percent for stable deposits, down from 7.5 percent, and 10 percent for less stable, down from 15 percent. In addition, a 100 percent weight for inflows from performing assets (for example, retail loans) further reduces the need for liquid assets for retail banks.

may not be able to fully pass on these cost increases. If they cannot, the higher costs will lead to a reduction in profitability and eventually less capital being allocated to these businesses.

Other products will also be affected, especially those with relatively high risk weights such as structured finance or unsecured loans, which will be especially hard hit. Indeed, specialized lending (including structured finance and trade finance, among other businesses) is among the most affected, with an estimated increase of about 60 basis points, mainly due to the new target ratios.

The trade finance business is worth a special note, as it is touched by several elements of the new framework. First, Basel III increases the risk weight for financial institutions by some 20 percent to 30 percent. Lending between financial institutions is an essential element of trade finance, with banks often representing their clients, typically through letters of credit. Second, trade finance commitments fall afoul of the new leverage ratio; they now count in full against that threshold, a fivefold increase over today's capital ratio requirements. Finally, as mentioned above, the new liquidity rules are designed to set reserves against off-balance-sheet liquidity lines such as letters of credit and trade guarantees.

## Investment banking

Of the three segments, investment banking and, in particular, capital markets bear the most product-specific changes—and of course are also affected by the higher target ratios. The biggest effects to products come from the new market-risk and securitization framework, the changed liquidity of securities through the introduction of the LCR, and significant amendments to the OTC derivative business. Overall, trading businesses will see the most significant impact and the greatest need for review. As specific examples, consider three activities: OTC derivatives, cash trading, and securitizations:

- **OTC derivatives.** These activities will be affected in two main ways. First, the stressed value at risk, the incremental risk charge (IRC), and the comprehensive risk measure (CRM) for correlation trading under the European Union's Capital Requirements Directive III (CRD III) will require banks to hold more capital for market risk. Second, the newly introduced credit valuation adjustments (CVAs) under CRD IV will require banks to hold more capital for counterparty credit risk. The CVA requirements remain high despite their mitigation in the July 2010 Annex. Our current estimate is that CVAs will increase RWAs by a factor of 3—on top of the effects of changes in the market-risk framework. Along with increased liquidity costs and reduced liquidity benefits, this might raise costs by up to 85 basis points on the market value of unnetted, uncollateralized positions on average—a significant increase. Most affected would be trades with lower-rated counterparties and trades with counterparties with limited netting ability; sales of risk-management products to corporates come to mind. For banks to maintain profitability, these costs would have to be compensated through some combination of improved collateral and netting arrangements, more effective central counterparty management, and moving some businesses and products to central counterparty clearing platforms outside the bank.
- **Cash trading.** Profitability of cash trading will be driven down by the higher cost of holding inventories, particularly the matched funding requirements on lower-rated assets. These will rise by between 20 and 40 basis points. If we assume that at a big “flow” house, inventory turnover is between 4 and 50 times annually, these higher costs would amount to a widening of bid-ask spreads by between 1 and 10 basis points. In addition, cash trading will see higher hedge costs from OTC derivatives, as described above. Inasmuch as these costs cannot be passed on, one result might be that some market-making would be abandoned and market depth and liquidity would be reduced, further increasing bid-ask spreads, and may drive some trading activity toward exchanges.
- **Securitizations.** The securitization business is worth a special note. All three amendments to the Basel Capital framework—CRD II, CRD III, and CRD IV—affect securitizations. Overall, these changes could increase capital requirements by a factor of up to ten.

CRD II (which anticipates part of Basel III and is to be implemented by the end of 2010) forces investors to ensure that, before they can buy a piece of a new securitization they must ensure that the originator has complied with the “skin in the game” rule—which requires banks to hold at least 5 percent of the securitizations they create at all times. Banks

can opt to keep either a first-loss piece or a “vertical” slice across the tranches of the securitization. The impact on capital requirements could be up to 500 percent, in the case of the first-loss piece, and about 50 percent if they choose to take a vertical slice.<sup>13</sup>

CRD III, which corresponds to Basel II, introduces market risk capital charges and increased charges for resecuritizations. These have been widely reviewed elsewhere, and the consensus estimate of a resulting threefold increase in capital remains valid.

CRD IV, which corresponds to Basel III, includes an apparently technical change that turns out to be a critical element. Under Basel II, securitizations with a low rating (below BB-) were typically deducted from capital (50 percent was allowed as Tier 1 and 50 percent as Tier 2). Basel III instead places a risk weighting on such securitizations of 1,250 percent.<sup>14</sup> In combination with the newly increased capital ratio, this translates to significantly higher capital requirements—some 40 percent to 100 percent higher for capital deduction items, depending on whether regulatory minimum or industry target ratios are considered. In fact, in some cases the required Tier 1 capital would be greater than the nominal value of the securitization. It remains to be seen whether this is the regulator’s intention or whether the rule will be revised.<sup>15</sup>

Banks must assess their overall funding, capital, and leverage position and determine how much of the new requirements can be met internally, for example, by generating additional capital and funding from the current businesses, as well as externally from capital markets. Inasmuch as they remain constrained under these resources, their focus will inevitably turn toward exiting the least attractive businesses, as measured by return on risk-adjusted capital, even if the business is meeting its internal hurdle rate.

<sup>13</sup> In this context, it should also be noted that the United States plans to introduce a rule on the same topic, as part of the Dodd-Frank legislation. While the rule is still to be finalized, it is anticipated that it will take effect before mid-2012.

This might create an unlevel playing field between the United States and Europe and could even lead to a split of the two securitization markets.

<sup>14</sup> In fact, Basel II allowed banks to choose one of two options for low- or nonrated securitizations: (1) 1,250 percent risk weighting, or (2) capital deduction (50 percent from Tier 1 capital, 50 percent from Tier 2 capital). Most banks chose the capital deductions, as this typically has the lower effect on capital ratios (an asset with 1,250 percent risk weight will require a minimum regulatory capital of the nominal value, but an actual capital of 1,250 percent multiplied with the bank’s internal target ratio, which is typically well above 8 percent, that is, actual capital requirement above the nominal value).

<sup>15</sup> 1,250 percent multiplied with the new regulatory minimum of 8.5 percent gives capital requirement of 106 percent of the nominal value; multiplied with a realistic target ratio of ca. 11 percent gives even 138 percent.

# How banks might respond

While most of Basel III has been finalized, other regulatory reforms are still in progress; consider, for example, the organizational requirements, capital surcharges, and further liquidity requirements for systemic firms currently being developed by the Financial Stability Board. While some uncertainty persists, two things are clear: first, further measures are unlikely to alleviate the new requirements on banks; they will almost certainly add to the impact discussed above. Second, banks will now have to respond to those rules that have been finalized and adjust their strategies to the new world. While a comprehensive response to the new rules may be difficult to determine at present, there are already some specific reactions that many banks are investigating.

We see three potential sets of such mitigating actions (Exhibit 3):

**No-regret moves.** Players must align current capital, liquidity-measurement, and profit and loss (P&L) accounting practices with the new regulation. For example, they could make small changes to businesses to garner more favorable treatment under the new regulations, with limited revenue and P&L impact.

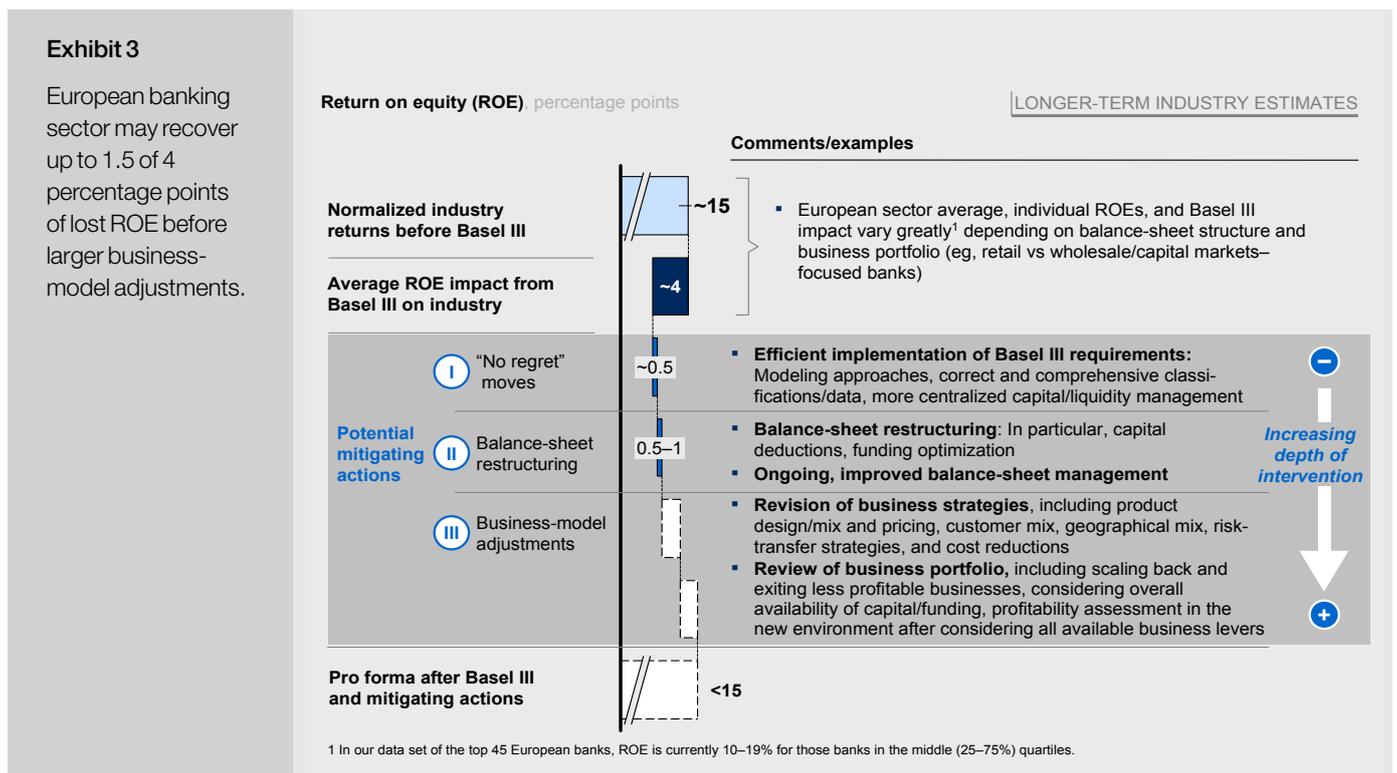
**Balance-sheet restructuring.** These responses include,

on the one hand, measures concerning the efficiency of the balance sheet under the new regulations, in particular capital quality and deduction-related effects; on the other hand, banks must take actions to drive more efficient balance-sheet usage in the future.

**Business-model adjustments.** Finally, banks will have to review the profitability of their current businesses in light of the new regulation and investigate measures to maintain current returns in the new regulatory environment. In addition to profitability, some businesses will have to be assessed on “affordability,” given the scarcity of funding and capital in the future.

Although it is difficult to assess how these moves will affect banks’ profitability, they may mitigate some of the 4 percentage points of industry ROE that we estimate will be lost. We can make some preliminary estimates:

- Increased capital requirements, in particular for market and counterparty credit risk, represent about a third of the total effect of Basel III on ROE. The industry’s experience with Basel II showed that up to 20 percent of the effects of higher capital requirements could be mitigated through efficient implementation of the new regulation and minor business-model adjustments. If banks are equally



successful under Basel III, this would restore up to 0.5 percentage points of lost ROE. On top of this, banks will also have opportunities to mitigate impact by efficiently implementing the new funding and liquidity regimes.

- Balance-sheet restructuring to mitigate capital quality and deduction issues and optimize the balance sheet and funding is a major lever, as these issues contribute some 40 percent of the overall ROE impact. If we assume that up to 50 percent of these effects can be addressed by systematically reducing DTAs, optimizing the financial investment and corporate shareholding structure, and ongoing balance-sheet management to reduce funding costs, between 0.5 and 1 percentage point of ROE impact could potentially be mitigated.
- The mitigating effect of business-model adjustments on lost ROE will depend not only on banks' ability to optimize their customer and product mixes and risk-transfer capabilities but also on their success at boosting profitability through reducing costs and making pricing adjustments.

Overall, we estimate that the first two sets of actions will neutralize up to 40 percent of Basel III's ROE impact on the banking industry. For individual banks, the effect of mitigating measures will depend greatly on its starting position, its business model, and the competitive environment. Banks with capital markets-intensive businesses may be much harder hit and have a lesser opportunity to regain their pre-Basel III profitability than commercial and retail-oriented banks. (For more on the effects of Basel III on retail, corporate, and investment banks, see box on p. 8.) Broadly speaking, it seems unlikely at this time that the industry can regain its pre-Basel III profitability levels.

## No-regret moves

In response to Basel II and the financial crisis, many banks launched comprehensive initiatives to improve capital and liquidity management. These institutions should stay the course, and even redouble their efforts, given the extraordinary importance of capital, liquidity, and funding efficiency

under Basel III. For those banks that have not yet begun to improve their approach, Basel III vastly increases the stakes, by rendering capital and liquidity even scarcer and more expensive.

In that light, banks will be particularly concerned about the waste of capital and liquidity that would result from inefficient implementation of the new regulation. In that regard, we see two major actions that banks can take to respond specifically to the challenges of Basel III: improve capital efficiency, especially in the trading book, and fix suboptimal liquidity-management practices.

### Improve capital efficiency

Most of the initiatives launched by banks in recent years to improve capital efficiency will still be applicable in the Basel III world. Banks will take the opportunity to reassess what they have implemented so far and identify further correction measures. In this paper we will not discuss the known Basel II levers, except to note that even those institutions that have successfully implemented a comprehensive program of RWA optimization<sup>16</sup> can reasonably expect to achieve another 5 percent to 10 percent improvement. Instead we focus on new initiatives that, based on our current observations, could provide greater capital efficiency under the new Basel III framework.

Exhibit 4 presents a selection of ideas to avoid capital wastage for credit and market risk and for securitization, a few of which are described here:

*Introduce credit-risk models and central counterparties to the trading book.* Some leading banks are currently working to improve their capital efficiency in the trading book through the development of internal counterparty risk and credit valuation adjustment (CVA) models, centralized counterparty management, and greater use of central counterparties. In our experience the latter is particularly effective in reducing RWAs, especially for banks with large portfolios of standardized products. However, when making the decision to move to central counterparties, banks must find the optimal balance between reduced margins and capital relief.

16 For more, see Erik Lüders, Max Neukirchen, and Sebastian Schneider, "Hidden in plain sight: The hunt for banking capital," *McKinsey on Corporate & Investment Banking*, Number 9, Fall 2009, available at [www.mckinseyquarterly.com](http://www.mckinseyquarterly.com).

#### Exhibit 4

Selected examples can be culled from the capital-optimization matrix.

		Improve risk models	Improve data quality	Improve risk processes	Optimize accounting policies
Credit risk	Banking book	Continuation of Basel II risk-weighted-asset (RWA) optimization programs			<ul style="list-style-type: none"> <li>Alignment of provisioning policies and other risk policies</li> </ul>
	Trading book	Introduction of: <ul style="list-style-type: none"> <li>Internal counterparty risk model (EPE<sup>1</sup>)</li> <li>Central counterparties</li> </ul> Use of most appropriate models for CVA <sup>2</sup>	<ul style="list-style-type: none"> <li>Data quality for optimization and management of CVA<sup>2</sup></li> </ul>		
Market risk	Trading book	Optimization of market-risk models: <ul style="list-style-type: none"> <li>Incremental risk charge, eg, identification of optimal correlation matrix granularity</li> <li>Stressed VAR<sup>3</sup>, eg, identification of core drivers for hedging</li> </ul>	<ul style="list-style-type: none"> <li>Use of historic data for VAR<sup>3</sup> and stressed VAR<sup>3</sup> calculation</li> <li>Correct segmentation of trading book products</li> </ul>	Improvement of reporting systems (management information systems) and processes to increase internal steering control and manage costs	
Securitization	Banking book	<ul style="list-style-type: none"> <li>Optimization of internal securitization models, eg, asset-class-specific IAA<sup>4</sup> models</li> <li>Leverage on RBA<sup>5</sup></li> </ul>	<ul style="list-style-type: none"> <li>Improvement of external rating sourcing/feeds</li> <li>Clear classification of securitizations</li> </ul>	Introduction of pre-calculation data-control processes	
	Trading book	Introduction of internal comprehensive-risk-measure model (vs MRSA <sup>6</sup> )	<ul style="list-style-type: none"> <li>Ensuring comprehensive hedging, eg, via unique identifiers</li> </ul>	<ul style="list-style-type: none"> <li>Optimization of trading and investment strategies</li> <li>Appropriate booking in trading book vs banking book</li> </ul>	

1 External positive exposures.  
2 Credit-valuation adjustments.  
3 Value at risk.

4 Internal assessment approach.  
5 Ratings-based approach.  
6 Market-risk standard approach.

*Optimize market-risk models (including comprehensive risk measure).* Market-risk models will see the most changes in the short term, mainly due to the introduction of the stressed value at risk (VAR). A “must do” for all banks with significant trading-book activity will be to identify the core drivers for market risk in their portfolio and hedge them to reduce stressed-VAR exposure. This can be done in the aggregate, for subportfolios, and even for individual positions.

Additionally, some banks might reduce capital requirements of their correlation trading business by introducing the comprehensive risk measure (CRM) internal model. However, given that the implementation of the CRM is subject to supervisory review, including strict qualitative and stress-testing requirements, banks will have to find their best point on the trade-off between the benefit gained and the significant implementation effort required.

*Improve loan-loss provisions.* In the banking book, banks can increase the quality of their loan-loss provisions (LLPs) by eliminating flaws in current processes and models, especially the inaccuracies that typically generate

unnecessarily high buffers. There are two aspects of this: improving the quality of provisions, especially the quality of the underlying data, and introducing “through the cycle” estimates. On the first point, we have seen institutions with suboptimal data quality on collateral, say, and too-simplistic provisioning processes that were able to reduce LLPs by up to 30 percent (irrespective of any increase in provisions that may result from changes in accounting standards, such as IFRS 9). On the latter point, in our experience, banks that adopt a through-the-cycle approach for probability of default (PD) estimates and expected losses (EL) can sensibly increase the accuracy of provisions and reduce volatility in their estimates. However, this requires a significant implementation effort to recalibrate Basel II systems.

All things considered, the number and type of applicable levers and the related potential vary greatly by institution, based on the bank’s initial asset composition (for example, trading versus banking book, the relative weight of securitizations in the trading book, and so on) and to what extent they have already successfully implemented these measures.

## Address subpar liquidity and funding management

An efficient implementation of Basel III liquidity and funding requirements will be a key lever to enhance risk management in this area, but also to mitigate some of the current effects. Three improvement levers can be identified. Some more advanced banks already use one or two, but to our knowledge none use all three consistently.

*Further centralize liquidity management at corporate level.* Similar to the centralization of counterparty credit risk management, centralization of liquidity and funding management is a key lever to manage a bank on a consolidated, netted basis, minimizing the need to raise funds in the market. While many larger banks have already established strong central treasury functions, others are still in the process of centralization,<sup>17</sup> most importantly, by monitoring liquidity risk and coordinating access to international and local markets through a dedicated “liquidity manager.”<sup>18</sup>

*Develop a more accurate view of the bank's liquidity position* via an integrated dashboard, including cash-flow forecasts, maturity ladders, portfolio analysis, funding diversification information, stress tests, and so on. Banks that lack these sophisticated tracking and monitoring tools are often obliged to make conservative (and expensive) estimates of their needs. Banks that use these tools, on the other hand, enjoy a strong understanding of their liquidity needs (for example, using 8-to-12-week cash-flow forecasts based on advanced behavioral models) and have good insight into their risk position (for example, by using stress scenarios to model how cash flows would behave in adverse risk events such as systemic shocks, ratings downgrades, and so on). On this basis, these banks should meet the prerequisite for efficiently managing their liquidity position under the new LCR regime, avoiding liquidity wastage across the group (for example, from strong fluctuations in the daily liquidity position) and adjusting their short-term asset and liability structure toward the new requirements through improving their cost allocation and pricing mechanisms as well as their product structures.

*Enhance the funding plan as part of the overall corporate planning process* (with an explicit and iterative link to the capital allocation process) to jointly optimize assets

and liabilities. Best-practice banks normally have several alternative funding plans drawn up and should monitor these to take advantage of instances when their marginal risk-adjusted return on assets exceeds the cost of funds. Given the significantly higher need for long-term funding and the related cost increase for banks, and considering the funding constraints in the planning process and in determining the amount of acceptable funding gaps above one year, the requirement for long-term funding and potential contingency plans versus a fully matched approach as suggested in the new regime will have to be a key consideration to minimize the cost impact.

## Balance-sheet restructuring

For many banks, a significant part of Basel III's impact stems from capital deductions. Unless they can improve the quality of their capital, they will now have to deduct several forms of capital that they relied on under Basel II.

Second, the new Basel III framework hinges upon the integrated management of assets, capital, and funding. In a Basel III world banks can no longer afford to optimize assets and liabilities independently. The new interdependencies are such that, in practice, each asset has an impact on the bank's capital and leverage position and each asset and liability affects the bank's short-term liquidity position as part of its assets. Nor is this just a technical issue; in light of the increasing attention given by rating agencies and financial investors to banks' balance sheets, it is a question of strategy.

Accordingly, we see improving capital quality, improved balance-sheet management, and reduced long-term funding costs as the three vital components of effective balance-sheet restructuring. This may allow banks to further mitigate up to 1 percentage point of lost ROE.

## Capital quality and deductions

Basel III's rules for capital quality depart from Basel II in some key ways, and provide little leeway:

- Banks must now deduct the capital of their insurance subsidiaries above a 10 percent threshold,<sup>19</sup> thereby reducing the opportunity they have enjoyed in recent years to use a large part of this equity to back the banking

<sup>17</sup> See McKinsey's ALM/Treasury Survey 2007 for more on the funding and liquidity-management practices of 15 leading European banks.

<sup>18</sup> Under this setup the capital markets division remains in charge of managing market risks for the bank for both the banking and trading books, with liquidity costs charged to the capital market division for taking liquidity risk.

<sup>19</sup> With recognition in core Tier 1 capital capped at 10 percent of bank's common equity for holdings in financial entities.

activity of the consolidated entity. In addition, they must deduct the minority excess capital of banking subsidiaries.

- Banks must deduct the value of any defined-benefit pension fund asset.<sup>20</sup>
- Banks must also deduct their investments in unconsolidated financial institutions above a 10 percent threshold.
- Banks must deduct in full deferred tax assets that arise from net-loss carry-forwards, with some limited recognition of those DTAs that result from timing differences between the tax balance and accounting balance.

Banks must work to improve the quality of their capital to ensure that as much as possible is recognized under the new rules. Here banks have a whole range of options in order to significantly mitigate the impact from Basel III:

- Banks can optimize the scope of their consolidated capital by, for example, buying out minority stakes (in alignment with their overall portfolio strategy) or reducing the excess capital of banking subsidiaries.
- Additionally, banks can optimize their holdings in financial institutions, for example, by reducing unconsolidated investments below the thresholds defined by the regulator for capital deductions.<sup>21</sup>
- Another step: banks can review pension contracts with their actuaries and advisers and develop a more precise understanding of the amount of pension assets that can be easily and promptly withdrawn from the fund, and hence become eligible for recognition in regulatory capital.
- Finally, banks should analyze their deferred tax assets in

detail and then rationalize their portfolio of these assets with respect to both their composition and their amount.<sup>22</sup>

### Balance-sheet management

Beyond the one-time effort to align the balance sheet to the new capital requirements, banks will have to invest in their ongoing balance-sheet management capabilities. Many banks have only a corporate-level view of the balance sheet and little perspective on balance-sheet usage by business lines; as a result, they cannot incentivize balance-sheet consumption except through a funds transfer pricing scheme. To significantly improve the performance of systematic balance-sheet management, banks can turn to some tools similar to those used to enhance their funding plan, as discussed above. However, because all balance-sheet items must be considered for the new leverage ratio, banks will potentially require new systems, balance-sheet tools, and KPIs. Given the remoteness of many front-office systems and tools from balance-sheet data, this may provide a significant challenge for banks.

### Reduced long-term funding costs

A crucial factor for banks to meet the new NSFR target will be to increase their base of stable funding, via three levers: optimized deposit gathering, secured funding instruments, and stronger investor coverage to help them place unsecured issuances.

Deposit-gathering efforts should focus on building and stabilizing the deposit base while avoiding a mere competition on price, which will not lead to a sustainable funding benefit. One initiative that banks can take is to employ smart bundling of products (for example, by allowing partial offset of interest between loans and deposits). Another is to include structured payoffs and incentives in their products, to stem the outflow of funds to off-balance-sheet vehicles.

<sup>20</sup> Assets in the fund to which the bank has unrestricted and unfettered access can, with supervisory approval, offset the deduction.

<sup>21</sup> However, this should be done with caution: such a step might trigger changes in the structure of some bancassurance deals, whereby an insurance player may have to partner with more than one banking institution for the same bancassurance company, thus allowing participating banks to hold a smaller ownership stake.

<sup>22</sup> As deferred tax assets that arise from net-loss carry-forwards may be used until 2019 to reduce taxes on profits, it may no longer be a priority to focus on them; on the other hand, it is still rewarding to optimize deferred tax assets resulting from timing differences between tax balance and accounting balance.

In addition, banks need to ensure that all possible assets are placed into covered bonds and standardized for simple securitizations. This will help them reduce their reliance on unsecured funding and their funding cost. While securitization markets remain fairly illiquid, there may be significant potential in the future, considering the actual performance of some specific asset classes that promise greater transparency, high collateralization, and simple structures.

For most banks these two moves will not be sufficient, however, and they will need to focus on rebuilding their investor base for unsecured issuances. Banks should provide better transparency for these investors. Their appeal to investors should include the bank's improved risk position after the issuance, as a result of both higher capital levels and improved risk processes.

It should be noted that all of these measures are at some risk of being legislated away, and not all banks will have the capabilities to fully leverage them, making it crucial that banks take advantage while they can to secure the stable funding they covet.

## Business-model adjustments

The new Basel accord represents a discontinuity of the kind that strategists prize. Banks have an opportunity to rethink their portfolio of businesses and the business model of each. Few banks have begun to review their portfolio of businesses with a view toward the relative importance of each and the consequences for the portfolio of retaining it. This should be done from the top down, based on a thorough understanding of how the new capital, liquidity, funding, and leverage requirements affect each segment and product. It will be important to understand the links, interdependencies, and trade-offs among business segments. As these are specific to each bank, they are not the focus of this paper.

Once the review is complete, the businesses that remain in the portfolio will require a program to adjust their business models to the new reality; only part of the profitability gap can be addressed by the measures summarized in the previous sections. Some businesses may require only small adjustments, while others will be fundamentally affected. For example, capital markets and trading businesses may be massively curtailed due to the new capital and funding

requirements. In the following, we will illustrate some of these business-segment-specific considerations along the dimensions shown in Exhibit 5.

### Product design/mix

Banks will consider redesigning affected products to ensure that they continue to meet client needs while also optimizing the bank's capital and liquidity. For example, banks might offer transaction accounts that include investment capabilities. According to the current definition of the NSFR, such accounts would receive the beneficial treatment of stable funding and therefore a more favorable recognition in this ratio. In general, it is critical to ensure that all short-term investment funds are held in accounts classified as stable.<sup>23</sup> In this regard, banks will also have to ensure that they use risk-adjusted pricing for all products to accurately account for their costs for risk, capital, and liquidity.

Banks may also adjust their product mix to achieve the same goals. We already see several considerations in this direction. For example:

- Banks can increase their focus on “capital light”<sup>24</sup> products that continue to meet customer needs but have lower capital requirements. Banks have not systematically exploited these opportunities; one example is in working capital financing, where banks can substitute factoring for receivables financing and reduce their RWAs by nearly half.
- They could launch offers for product bundles that combine financing and deposits (for example, retail mortgages with interest paid on the net amount of outstanding credit and deposit—already common in some countries) and special offers to attract more stable funding in the form of retail and small and midsize enterprise (SME) deposits.
- Banks can increase the proportion of short-maturity lending to reduce funding costs. One example is to offer more revolving loans and fewer corporate mortgages.
- Institutions could convert corporate lending into corporate bond issuance for large, high-quality clients, and in so doing substitute RWA-free fee income for RWA-heavy net interest income.

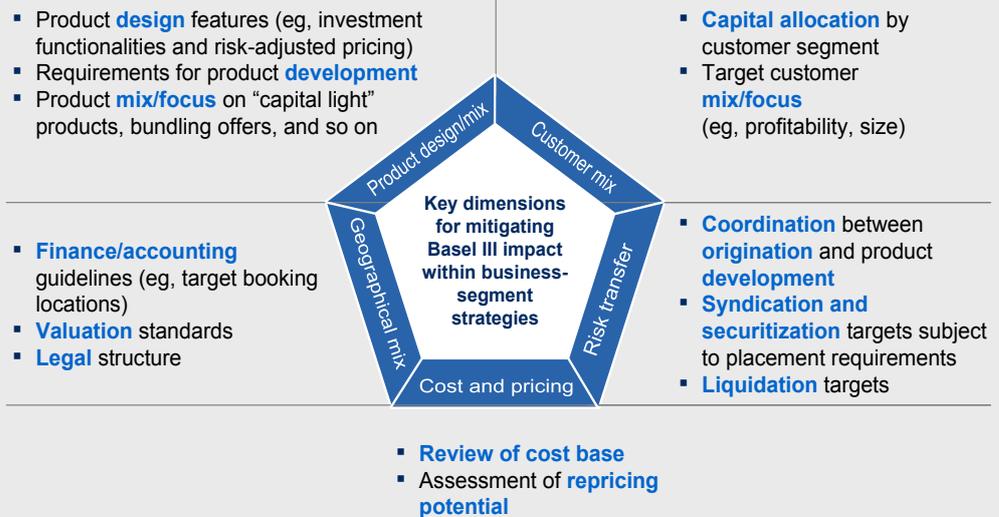
<sup>23</sup> The degree to which banks might redesign transaction accounts in this way will be clarified when the NSFR is finalized (we expect a revised NSFR proposal by the end of 2010, to be followed by a six-month observation and fine-tuning phase).

<sup>24</sup> For more, see Erik Lüders, Max Neukirchen, and Sebastian Schneider, “Hidden in plain sight: The hunt for banking capital,” *McKinsey on Corporate & Investment Banking*, Number 9, Fall 2009, available at [www.mckinseyquarterly.com](http://www.mckinseyquarterly.com).

### Exhibit 5

Mitigation strategies within specific businesses should be developed around five core components.

#### Examples of key elements to be addressed for mitigation strategies



### Customer mix

Furthermore, banks are likely to systematically review their capital allocation to each client segment and ensure that capital is preferentially allocated to segments that generate higher returns—adjusted for risk, capital, and funding costs—provided that these segments can be efficiently served by the bank. On top of the traditional view that considers segment growth and economics, the attractiveness of client segments will be reviewed based on attributes such as required capital and funding.

After such an evaluation, banks could likely decide to scale back business with clients that do not add economic value (especially corporate customers)—that is, those customers that account for a big share of the bank’s RWAs without returning the cost of capital. Likewise, they will want to win more business from low-default customers and should develop targeted acquisition strategies to accomplish this. Finally, banks may consider ways to “reintermediate” their investing clients and convert at least part of their clients’ investment portfolios into deposits.

### Risk transfer

Banks must strive to improve their ability to transfer risks, in three ways. One is to improve cooperation between the lending organization and product development, such that both teams are committed to increasing the volume of credits that can be securitized, sold, or syndicated. Contract standardization is essential here, especially as far as maturities are concerned. Incentive systems can help raise the extent of such cooperation.

Another way to transfer risk is to broaden the bank’s base of syndication and securitization partners, both geographically and by industry. Banks should court government funds, insurance companies, and other investors to improve their ability to sell into secondary markets. The return of nongovernmental investors such as private equity firms and hedge funds may offer further opportunities for transferring risks.

Syndication, club deals, and private placements have all proved resilient through the crisis. As a third step, banks must develop their investment banking capabilities for these outlets, to better steer asset volumes and exposures.

### Geographical mix

Banks, especially the biggest ones with operations in many countries, must find the best geographical distribution of their business to minimize capital and funding requirements. Past experience shows that demand for banking services often rises in less regulated markets. After the introduction of the Sarbanes-Oxley Act in the United States, for example, some banks decided to move some activities elsewhere, notably London and Singapore. Along these lines, banks need to understand the consequences of the sometimes small differences between localities.

Another way to get the geographical mix right is to optimize the bank's legal structure, perhaps by merging some legal entities and creating others, and then providing incentives to clients to shift to the entity that allows the bank to minimize its capital and liquidity reserves.

### Cost and pricing

Finally, banks should assess the future profitability of their existing businesses based on the likely impact of the new regulatory requirements and the mitigation potentials laid out above. In some instances banks may want to explore opportunities to amend prices and reduce costs to continue operating profitably. If that does not prove sufficient, banks may wish to consider exit strategies, even if that implies a significant reduction of their total volume of activity. This may be particularly the case for marginally profitable lending businesses and the hard-hit capital markets and trading businesses.

# Meeting the challenges of implementation

As noted, implementation is likely to be difficult. In this chapter we review the various challenges that banks face, especially in light of their recent similar efforts to comply with Basel II; estimate the cost of meeting the challenges; and then outline the requirements for success.

## Unprecedented complexity and interdependence

Banks are facing distinct challenges: a tight timeline, heightened expectations that might easily be unmet, and above all, unforeseen complexity and interdependence.

Even though the new rules will not be fully phased in for several years, new and substantial reporting requirements take effect very soon (Exhibit 6). Most crucial and urgent is the implementation of the new market-risk and securitization framework (as required by CRD III), with which banks must be in compliance by the beginning of 2012. The supervisory review of new remuneration policies must be completed

even earlier, by the beginning of 2011. Many other measures must be implemented by the beginning of 2013, including new regulations for counterparty credit risk and minimum core Tier 1 ratios, and new treatment of banks' short-term liquidity.

Regulators are not the only ones who must be satisfied. The capital markets and the ratings agencies are also watching carefully and are quite likely to push banks, especially the larger "systemic" institutions, to achieve compliance ahead of schedule, and to overshoot their targets. We estimate that many banks will aspire to be in effective compliance by the end of 2012, irrespective of the phase-in periods.

The complexity of the implementation will make a heavy call on each institution's collective expertise. However, depending on their starting situation, especially the extent of their preparations for Basel II and their ambitions to build some of the more sophisticated Basel III risk processes, some institutions will sail through the complexity of implementation more easily than others. We see complexity

### Exhibit 6

New Basel III regulation will be phased in over the coming years, but much will need to be implemented before the end of 2012.

	Key elements	Timeline	
		Processes and IT implemented; readiness to report to regulator	Full compliance required
<b>Capital</b>	New market-risk and securitization framework	Jan 2012	Jan 2012
	Counterparty credit risk	Jan 2013	Jan 2013
	Minimum core Tier 1 ratio	Jan 2013 <sup>2</sup>	Jan 2015
	Capital quality	Jan 2013 <sup>2</sup>	Jan 2022
	Capital deductions	Jan 2014 <sup>2</sup>	Jan 2018
	Conservation buffer	Jan 2016 <sup>2</sup>	Jan 2019
<b>Leverage</b>	Leverage ratio	Jan 2013 <sup>3</sup>	Jan 2018
<b>Liquidity/funding</b>	Liquidity coverage ratio	Jan 2013 <sup>4</sup>	Jan 2015
	Net stable funding ratio	Jan 2014 <sup>4</sup>	Jan 2018
<b>Remuneration</b>	Supervisory review of new remuneration policies	Jan 2011	Jan 2011
<b>Risk IT</b>	New requirements on risk IT	Detailed regulation in discussion	

1 Processes and IT to be implemented before the end of 2012.

2 Reporting of first increase during transition.

3 Monitoring period starts in 2011 (regulator to track underlying components and resulting ratio).

4 Not yet clear when regulator will require reporting of these ratios (dates are estimates from experts); observation period for liquidity coverage ratio starts in 2011 and for net stable funding ratio in 2012.

arising from three areas: design, data quality and reporting, and operations. Moreover, the high degree of interconnectedness and interdependence of the different workstreams and initiatives presents a complex management challenge of its own.

### Design complexity

Basel III takes the already-challenging Basel II regime and elevates it to a new level, unprecedented for the banking industry. The complexity lies not just in the totality of the regulation but also within the key elements of the new regulation. This complexity profoundly affects the important design choices—and the resulting effectiveness, cost, and business impact—that banks have to make for each of these elements. For example, consider the market-risk framework and the changes it calls for vis-à-vis Basel II:

- Banks must now build an integrated view of credit, migration, and default risks for the trading book, whereas under Basel II regulatory capital for credit risk was addressed only in the banking book.
- Banks must develop methodologies for calculating stressed VAR, and incremental risk charge, none of which were required under Basel II.
- Basel II included a securitization charge to the banking book. Basel III extends that to the trading book, which, with its higher volumes, higher turnover rates, and often worse data quality, is much more complex to calculate and control.

Moreover Basel III requires banks to take new measures on the balance sheet, notably the leverage ratio and the two liquidity ratios (LCR and NSFR). True, banks can do a basic measurement of the leverage ratio through quarterly reports. But that won't suffice for most banks, which want to measure leverage for each business unit, at considerable cost and effort. The LCR seems to be within most banks' grasp, but the NSFR requires a highly detailed classification of funding sources, a difficult task.<sup>25</sup>

All this poses considerable challenge to banks. While investment banks and the leading international banks will

likely develop advanced calculation methodologies, others with less profound trading-book activity will probably opt for a more basic implementation of the framework, seeking a balance between the benefits of more sophisticated algorithms and the additional cost. These trade-offs must be made while simultaneously integrating risk, finance, IT, and business perspectives.

### Data quality and reporting complexity

High-quality data are essential for effective functioning of the bank's risk processes. We have seen that ensuring this is not a trivial exercise, and management has to focus from the start on clearly identifying and ensuring the quality of target data and the resulting requirements for data and IT governance, processes, and systems. Complexity arises in the first place when management has to make a comprehensive identification of the relevant risk and finance data. In specifying the level of detail for each field, they must manage the needs of several groups. For example, the risk and controlling functions require sufficient detail to perform risk analysis at the client and transaction level, while the needs of the compliance group are often simpler and require only aggregated data. Moreover, they must ensure that models correctly map data and results to the businesses, including a disaggregation and reallocation logic. For example, they must be able to allocate netted RWA results to trading desks. Finally, an early evaluation of the trade-off between costs and benefits of alternative IT data architectures is crucial for banks to reduce complexity and minimize cost overruns.

Under Basel III, the effective steering of the business requires RWA calculation and reporting to the businesses in a timely manner (ideally two or three times a week) and at a deep level of detail (ideally trade by trade). We have seen some rare cases under Basel II where RWA reporting was done daily, but the unparalleled complexity introduced by the new market-risk framework will certainly require of banks a significant effort to achieve the same reporting frequency.

Last, possible stricter requirements on data quality, consistency, and aggregation level for risk IT and operations—currently under discussion within the Senior Supervisors Group—could add another layer of complexity to data quality and reporting systems.

<sup>25</sup> The classification hinges on the difference between stable and unstable funding. For example, the deposits in transactional accounts to which the holder's salary is automatically credited are considered more stable than those which are not. Banks will likely require frequent check-ins with national regulators to get more guidelines and must involve business units in the process to define funding classifications.

## Operational complexity

Basel II should have been a learning experience. Many banks wound up with massive budget overruns, some by factors of two to four. Just as regrettable were the many unpleasant surprises that banks found as their approaches did not work as planned. Indeed, the two were related, as cost overruns often resulted from rewrites of original specifications. For example, finding the optimal calculation methodology often required several iterations and typically led to significant cost increases, not to mention the opportunity cost as these massive resource requirements kept high performers in risk and finance from other value-adding tasks.

We believe that the risk of these kinds of problems may be even greater under Basel III, with its welter of interdependencies. The risk is compounded by the fact that the details of some regulatory requirements, notably the NSFR and the leverage ratio, are still under debate. The eventual form that these rules take may trigger significant changes to risk databases.

Finally, banks must grapple with Basel III even while several other new regulations that require joint implementation—some of them not yet defined—are moving toward publication.<sup>26</sup>

## Estimating the costs

However, more than a few banks appear not to have embedded the lessons of Basel II in their planning for Basel III implementation. We believe that many banks have vastly underestimated the eventual size and scope of the required effort. For a midsize European bank, we estimate that total implementation costs for regulatory compliance only (that is, not including the costs to materially improve risk and finance capabilities, capital, funding, and balance-sheet management, and to conduct the portfolio moves) will be between €45 million and €70 million (Exhibit 7). Implementation will also require resources of between 135 and 210 FTE years. Some banks are using the momentum gained from their Basel II work to launch a more fundamental overhaul of their risk, finance, and IT approaches and systems; these efforts have investment budgets in the hundreds of millions of euros and timelines covering the next two to five years. But even those banks that opt for compliance only will find that the effort will add about 30 percent to 50

percent to the costs already incurred for Basel II. Clearly, implementation costs will vary greatly by institution; the cost and effort required depends on each bank's business model and its ambitions to implement state-of-the-art risk and balance-sheet management and monitoring systems. For example, we have heard from some banks that the LCR should be easy to implement with very little effort, while others believe that implementation of the LCR alone would require a high two-digit million euro budget.

The biggest cost item is risk IT and operations, accounting for about €35 million to €45 million in the compliance scenario, including the provision and integration of data, the development of new applications and their tailoring to users' needs, the setup of hardware and infrastructure, and enhancements to ensure IT security and a sound IT organization and governance. The outlay for upgrading risk IT and operations might increase, should the discussions on stricter demands on risk IT result in new requirements.

## Getting it right—and on time

We believe that a one-size-fits-all approach to implementing Basel III cannot work. The differences in banks' governance, risk strategy, management, IT, processes, and management information systems are too substantial. However, successful approaches will have a number of factors in common: a clear aspiration and scope (for example, compliance at minimum cost versus fundamental overhaul), a considered governance approach that will yield the right design choices for the institution (for example, on how to implement the new market-risk framework), strong project management and strong senior-management supervision, a comprehensive implementation program with an effective project setup, a detailed workplan, and a sufficient budget.

As noted, getting ready for Basel III will involve every part of the bank, especially if the bank goes beyond minimum compliance. Big banks will likely need three working groups. A strategic-planning team can consider strategy as inflected by Basel III. This work is of paramount importance, as the steering of universal and other diversified banks is about to become much more challenging. Managers will need to evaluate many deal or portfolio decisions in light of capital and funding positions and overall bank constraints. A capital and risk strategy team can coordinate the initiatives that are central to capital, liquidity, and funding management. A third

<sup>26</sup> Some of the rules requiring joint implementation come from the new CRD II regulation on capital definition, which entered into national law on October 31, 2010, and will go into effect on December 31, 2010; the upcoming risk requirements for IT; the detailed frameworks for capital surcharges for systemic firms; and the establishment of so-called living wills.

**Exhibit 7**

Depending on starting position, implementation is likely to cost €45 million to €70 million, mainly driven by IT.

ILLUSTRATIVE FOR MIDSIZE BANK

Work-streams	Estimated cumulative implementation cost		Start date of reporting	Main tasks
	€ million <sup>1</sup>	FTE years		
Market risk	6–10	25–40	2012	Define/implement calculation method, introduce new processes, and set up data feeds
Leverage ratio	<1	<5	2013 <sup>2</sup>	Implement calculation method, add data feeds, and align reporting
Liquidity/funding	<1	<5	2013 <sup>3</sup>	Define target funding mix, create a capital market strategy, and adapt asset mix
Counterparty credit risk	4–6	15–25	2013	Design/implement credit-value-adjustment approach and stressed expected-positive-exposures (EPE) model, adjust collateral-management process
Capital	<1	<5	2013	Define/implement calculation method, specify data requirements/add data feeds, align reporting
Compliance	<1	<5	–	Refine disclosure process, coordinate with regulator
Risk IT/operations	35–45	90–115	–	Ensure data consistency and availability, develop applications, design new IT landscape
Business units	<5	5–10	–	Cooperate in functional workstreams
<b>Total</b>	<b>45–70</b>	<b>135–210</b>		

<sup>1</sup> Including costs for external advice and varying share of hardware costs.  
<sup>2</sup> Observation period starts in 2011.  
<sup>3</sup> Expert estimate.

team can coordinate implementation.

Big banks should typically set these teams up separately but ensure close coordination. Midsize or smaller banks may opt for an integrated program approach, where all three teams are directed by central leadership. In any case, strong top-management involvement is essential not only to lead these teams, but also to tackle implementation roadblocks.

Most bigger banks will likely choose to organize the implementation effort by implementation theme, for example, “market-risk framework” or “CVAs.” Such an organization will give independence to the working groups and allow them to follow different timelines. This approach may be ideal for the implementation of the new market-risk framework (relevant for every bank that possesses a trading book) and the leverage ratio, as well as counterparty credit risk (CCR) and funding.

Some smaller banks might appropriately choose to organize the effort by function (methods, processes, data, reporting, and so on). This will better leverage the current organization and potential ongoing initiatives, and it will also simplify the launch of the implementation process.

The experience of Basel II shows that the devil is in the details. A careful and highly detailed workplan is crucial to provide transparency on the interrelation of different projects and coordination of activities across the bank. The plan should include early pilots, which can offer insights for later rollout. It should also involve the audit function as a central program planner, and it should allow for frequent check-ins with the regulator to align early on the planned measures and to clarify methodological issues and interpretations. Some flexibility should also be retained, as some minor adjustments to the regulation may be expected when translating the Basel framework into binding national laws.<sup>27</sup>

□□□

Basel III is more than just another set of checks and balances for financial institutions in a post-crisis world. It represents the core component of a sweeping wave of regulation that will fundamentally affect the profit-generation capacity of the banking industry. As such—and despite the seemingly benign long phase-in periods—banks should move now, decisively, to comply with requirements, restore their profit-generation capacity, and potentially revisit the way they do business in the future.

<sup>27</sup> This was the case with Basel II, in which, for example, the capital charges for securitization in Germany were higher than in the Basel rules.

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