

Finance (basics) MPF\_AFIN

Essay  
“Basel III”.

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## Introduction.

Basel III is a global regulatory standard on bank capital adequacy, stress testing and market liquidity risk agreed upon by the members of the Basel Committee on Banking Supervision in 2010-11.

Basel III is part of the continuous effort made by the Basel Committee on Banking Supervision to enhance the banking regulatory framework. It builds on the Basel I and Basel II documents, and seeks to improve the banking sector's ability to deal with financial and economic stress, improve risk management and strengthen the banks' transparency. A focus of Basel III is to foster greater resilience at the individual bank level in order to reduce the risk of system wide shocks.<sup>1</sup>

### **Basel III objectives.**

According to the BCBS, the Basel III proposals have two main objectives:

First: to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector.

Second: to improve the banking sector's ability to absorb shocks arising from financial and economic stress, which, in turn, would reduce the risk of a spillover from the financial sector to the real economy.

In this case, to achieve such aims, the Basel III sets three proposals as the main areas of them:

Reformation of Capital (including quality and quantity of the capital, complete risk coverage, leverage ratio and the introduction of capital conservation buffers, and a counter-cyclical capital buffer).

The second block is Liquidity reform (short-term and long-term ratios).

And the third is connected with other elements relating to general improvements to the stability of the financial system.

### The main recommendations and implications of Basel III.

The proposals are structured around the following areas, highlighting the key changes and implications:

1. increased quality of capital
2. increased quantity of capital
3. reduced leverage through introduction of backstop leverage ratio
4. increased short-term liquidity coverage
5. increased stable long-term balance sheet funding
6. strengthened risk capture, notably counterparty risk.

In the middle term, most firms will be capital and liquidity constrained and so will need to concentrate on capital management, products and business pricing, capital inefficiencies that remain from Basel II, and the structure of their liabilities. Given the rise in minimum capital ratios under Basel III, previous inefficiencies are amplified, and firms will need to address this issue. There is a greater incentive to move to the AIRB approach (an approach that requests that all risk components be calculated internally within a financial institution. The advanced internal rating-based (AIRB) approach helps an institution reduce its capital requirements and credit risk)<sup>2</sup> for credit risk for example as it would allow a more refined approach to calculating credit risk. Firms are also improving capital planning through putting in one line economic capital mechanisms with regulatory approaches.

### **Implementing**

Although Basel III will likely improve the safety and soundness of financial institutions in the

1 [www.investopedia.com](http://www.investopedia.com)

2 <http://www.investopedia.com/terms/>

decades ahead, bankers and regulators are worrying of moving too quickly on these reforms. With much of the global banking sector still recovering from the crisis, the BCBS took the decision to establish a timetable for Basel III implementation that makes the balance between the desire for increased capital and liquidity levels with the need to facilitate economic recovery. The Basel Committee has adopted a phase-in approach for the new framework that generally begins in January 2013, and that will result in full implementation by January 2019.

The Basel Committee's highest priority of achieving a uniform Common Equity Tier 1 ratio of 4.5 percent and an overall Tier 1 capital ratio of 6.0 percent is arguably. Consequently, implementation of Basel III's core capital requirements must occur by January 2015—nearly three years before some other features of the new framework.

Once Basel III's core capital ratios have been attained, the capital conservation buffer will be phased in beginning in January 2016 with an initial buffer of 0.625 %. An additional 0.625 % will be added to the buffer at the beginning of each additional year until the buffer reaches 2.5 %.<sup>3</sup> The implementation of the countercyclical buffer follows the same calendar as the capital conservation buffer, although national regulators may accelerate the implementation and size of the countercyclical buffer as circumstances dictate.

For its part, the leverage ratio will begin a "parallel run period" on January 1, 2013 that ends on December 31, 2016. During this period, banks will have to calculate their leverage ratios and to disclose them publicly starting in January 2015. The requirement to maintain at least a 3% leverage ratio will come fully into force on January 1, 2017.

Implementation of Basel III's liquidity ratios will be more staggered: the LCR will be officially introduced as a minimum standard on January 1, 2015, while the NSFR will not officially come until three years later.

There is no established time frame for any additional capital charge for SIFIs (Systemically Important Financial Institution), but the Basel Committee is expected to coordinate its work on this topic with the U.S. Financial Stability Oversight Council and the European Systemic Risk Board as these bodies address in their respective jurisdictions.

### **Introducing a Leverage Ratio**

Basel III rejects the notion that capital requirements should be maintained solely on the basis of RWAs. Prior to the crisis, a number of banks and other financial institutions built up leverage that was seen as excessive, while still showing strong capital ratios as measured against RWAs<sup>4</sup>.

As a result, the Basel Committee made an additional measure to reinforce existing risk-based capital requirements. Basel III's "leverage ratio" is calculated by comparing Tier 1 capital with "total exposure," without reference to RWAs. The main aim is a leverage ratio of at least 3% ( *i.e.* , Tier 1 capital should be at least three percent of total exposure). The leverage ratio of Basel III is still improving. The calculation of the denominator is the key issue for the BCBS ( *i.e.* , total exposure). Yet at this moment, the Basel Committee has come to the particular agreements on some important principles:

- the assets of subsidiaries that are consolidated for accounting purposes must be excluded from the measure of total exposure if the investments in those entities are deducted from Tier 1 for regulatory purposes;
- in calculating total exposure, netting of loans and deposits will not be allowed and collateral and other forms of credit risk mitigation will be disregarded;
- derivatives will be included in exposures using the "loan equivalent" method prescribed by Basel II; and

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<sup>3</sup> Basel III:an overview//Peter King and Heath Tarbert// Banking and Financial Services, Policy Report, 2011

<sup>4</sup> Risk-Weighted Assets

- off-balance sheet items must be included in the calculation using a “credit conversion factor” of 100 percent.<sup>5</sup>

It will be necessary for Banks to do a fair amount of work to prepare for the imposition of Basel III’s leverage ratio. They will effectively have to run one model for calculating their risk-based capital requirements, and also an another one for calculating their “total exposure” for aims of the leverage ratio. It will be also very important to provide consistency across jurisdictions, even if banks use different accounting methods.

This additional information helpful and interesting for the market. But it is still hard to say whether the additional measurement will have that exact positive effect on the lending behavior of banks, that the Basel Committee is expecting.

But it is important to remember that there is always a danger of unforeseen results if the leverage ratio is calibrated incorrectly, and for this reason banks will more likely welcome a lengthy implementation period.

### **Counterparty Risks to manage.**

The shortcomings of the existing capital adequacy framework were particularly apparent in the assessment of risks arising from on- and off-balance sheet transactions and derivatives-related exposures. Basel II allowed banks to calculate risk on trading book assets using the Value-at-Risk (VaR) model. In general, the VaR model produced a lower capital charge than the rules applicable to the same assets if held as investments on the banking book. Indeed, the VaR model presupposed a certain degree of liquidity in trading assets. But leading up to the crisis banks built up large trading positions in derivatives and securitization products—positions that proved less liquid and more risky in times of market stress. The inevitable consequence was large losses.<sup>6</sup>

Initial steps to amend this situation were advanced by the BCBS and implemented in 2009.<sup>7</sup> The VaR capital measure was supplemented by a further charge to account for turbulent market conditions. The stressed VaR capital charge is calculated using a stress calibrated VaR model—assuming a 12-month period of stressed financial conditions—to calculate the new higher capital charge. The rules relating to capital charges in Basel III on re-securitizations also have been standardized in both banking and trading books, thereby eliminating further capital arbitrage opportunities.<sup>8</sup>

The BCBS continues to review its offered treatment of trading book exposures and the securitization industry. Nevertheless, it has also made some amount of offers aimed at mitigating counterparty credit risk in the derivatives and secured financing markets, as well as removing some of the anomalies in Basel III’s treatment of securitizations. Two crossover areas of focus for Basel III are counterparty credit risk and external ratings, including so-called “cliff effects” that connected with the latter.

### **Counterparty Credit Risk**

Basel III put the stress on the importance of calculating a bank’s capital needs under the “worst case scenario.” And the BCBS make an attention on a number of key topics which are going to discuss below.

*Stress testing of default risk* : Banks will be required to calculate their default risk capital charge

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5 Basel III:an overview//Peter King and Heath Tarbert// Banking and Financial Services, Policy Report, 2011

6 Id.

7 Basel Committee on Banking Supervision, Bank for International Enhancements to the Basel II Framework (2009) <http://www.bis.org/publ/bcbs157.pdf>.

8 Id.

with the help of a stress calibration as part of the exposure calculation. The stress calibration has to be based on at least three years of historical data, which has to include a period of actual increased credit spreads for a cross section of the bank's counterparties or use market implied data. The data must be updated every quarter or even more often if market conditions warrant it. To allow the adequacy of its stress models, the bank must measure its calculations against benchmark portfolios that share the same market receptibilities as the bank and that are calculated using similar stress-calibrated data.

*Credit valuation adjustment:* In addition to default risk capital, banks will be required to hold capital against marked-to-market losses arising from a decline in counterparty creditworthiness. Secured financing transactions are not covered unless potential losses in a given case are deemed material by the bank's regulator. The calculation will be made on the basis of a "bond equivalent" valuation, although the exact calculation methodology will depend on the bank's approved models, *e.g.* , whether offsetting is permitted, inclusion of hedging instruments, etc.<sup>9</sup>

*Wrong-way risk:* Another measure to improve counterparty credit risk evaluation is the identification and mitigation of "wrong-way risk." This risk occurs when a bank's exposure to a counterparty increases as the counterparty's creditworthiness declines. One common example is when a bank holds put options written by a company on its own shares. According to Basel III, banks will be demanded to monitor wrong-way risk both by analysis of certain sectors ( *e.g.* , industry and product) and by reference to specific transactions. In the latter case, capital charges will be assessed on the basis of stringent full value loss expectations. Moreover, such transactions will not be included in any transaction netting sets with that counterparty.

There are also a number of high-level supervisory requirements relating to the management, supervision, and control of collateral management operations within institutions—including the allocation of resources by senior management to these operations in times of crisis.

The Basel Committee has also established a requirement for at least annual reviews of the process, which must examine documentation, data verification and integrity, and the integration of counterparty credit risk measures into daily risk management. Basel III additionally includes express provisions on the reuse or rehypothecation of collateral (an issue which has caused particular problems in the aftermath of recent bank failures). One of the the most important of these is the requirement that collateral management must track and report on both a bank's own reuse of posted collateral and the extent to which it grants rights of reuse to its counterparties.

*Enhanced counterparty credit risk management:* The BCBS offered other variants to improve the quality of counterparty risk assessment procedures and practices, with particular emphasis on the operation of these functions in times of market turbulence. Counterparty exposures and risks across products must be captured in a timely manner and subjected to regular and extensive stress testing. The integrity of the calculation models themselves must be ensured; models must be subjected to regular validation and testing (including back testing), and both banks and supervisors must be alert to consistency in their use. The importance of the risk management function in a bank's operations must be supported by active involvement by senior management, recognition of the risk management exposure, models of daily business operations (including the assessment of trading and exposure limits), and well-documented and understood policies and procedures.

Risk management systems and procedures also have to be checked at least annually, and banks must have an independent risk control unit—separate from business units—that makes daily assessments of risk measurement, credit exposure, and trading limits.

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9 Basel III:an overview//Peter King and Heath Tarbert// Banking and Financial Services, Policy Report, 2011

## Liquidity improvements

From one point of view, the global financial crisis was not so much a capital crisis but rather a liquidity crisis, at least initially. As the ability to get short-term funding tightened for banks and other institutions, many found out they could not easily convert their assets into cash and therefore were forced to make use of central bank lending facilities. As the amount of central bank-eligible collateral available to those banks began to decrease—combined with severe declines in value of the banks' illiquid assets—the liquidity predicament quickly began to lead to frustrations in capital levels. Allowing that liquidity is as important to the future stability of the banking sector as capital adequacy, the BCBS published Principles for Sound Liquidity Risk Management and Supervision in 2008 and, more recently, promulgated the first harmonized liquidity standards as a key component of Basel III.<sup>10</sup> Specifically, the Basel Committee has introduced two minimum standards for liquidity: the Liquidity Coverage Ratio and the Net Stable Funding Ratio.

### *Liquidity Coverage Ratio*

The Liquidity Coverage Ratio (LCR) is made to ensure that an internationally active bank has sufficient unencumbered, high-quality liquid assets to offset the net cash outflows it could encounter under a month long acute stress scenario that includes both systemic and institution-specific shocks. That stress scenario assumes a downgrade of the bank's credit rating, a partial loss of deposits, a loss of unsecured wholesale funding, an increase in secured funding haircuts, increases in derivative collateral calls, and calls on off-balance sheet exposures—including committed credit and liquidity facilities.

### LCR Formula

Stock of high-quality liquid assets Total net cash outflows over the next 30 calendar days  $\geq$  100% The numerator of the LCR is the bank's "stock of high-quality liquid assets." These unencumbered assets must be liquid during times of stress and convertible into cash at little or no loss. They are characterized by low credit and market risk, ease and certainty of valuation, and low correlation with risky assets.<sup>11</sup>

Operational requirements are also used—these assets must be available for the bank to convert at any time to fill funding gaps, unencumbered and managed for the purpose of using them as a source of contingent funds.

High-quality liquid assets are divided into Level 1 and Level 2 assets. Level 1 assets include cash and central bank reserves that can be drawn down in times of stress, and these assets are not subject to any haircut under the stress scenario. They also include marketable securities representing claims on or guaranteed by sovereigns, central banks, multilateral development banks, and other public sector entities provided that the securities meet certain requirements. Level 2 assets, on the other hand, are subject to at least a 15% haircut and may make up only 40% of the overall stock of high-quality liquid assets after the haircut has been applied. Level 2 assets include certain other marketable securities as well as certain corporate and covered bonds that are not issued by a financial institution.

The LCR requires that a bank's stock of high-quality liquid assets be at least equal to its total net cash outflows for the next 30 days, which is defined as the total expected cash outflows minus the total expected cash inflows in the stress scenario, up to a cap of 75 % of expected outflows. So, net cash outflows and the corresponding minimum for high-quality liquid assets, may not fall below 25% of the expected cash outflows for the 30-day stress scenario. In computing these components, outflows are calculated according to run-off assumptions based on the type of bank liability. For example, retail

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<sup>10</sup> Basel III framework

<sup>11</sup> Basel III:an overview//Peter King and Heath Tarbert// Banking and Financial Services, Policy Report, 2011

deposits are divided into “stable” and “less stable” categories.<sup>12</sup>

Stable deposits are assessed a run-off (outflow) rate, of 5 %, whereas “less stable” retail deposits are subject to a minimum run-off rate of 10 %.

Other forms of funding may be subject to run-off factors of 5 %, 10 %, 25 %, 75 %, or 100 %. Banks, securities firms, insurance companies, and special purpose vehicles that provide unsecured funding are subject to a run-off factor of 100 %—a feature that no doubt stems from the instability those arrangements were perceived to have wrought during the crisis. Basel III, however, includes a scheme which provides for reduced run-off factors for secured liabilities backed by Level 1, Level 2, or certain other assets. Also it is necessary to mention that special rules apply to derivatives.

A bank must include inflows from outstanding exposures during the calculations its expected cash inflows that are fully performing and which the bank has no reason to expect to default within the 30-day period of time. In the case of reverse repos, the net inflow rate is different according to the asset quality of the collateral and other features that are settled. A bank is assumed to be unable to draw from its lines of credit, while the inflows from performing loans are assumed to be 50% for retail and small business customers, 50% from non-financial wholesale counterparties, and 100% from financial institution counterparties (assuming that the bank would continue to extend half the loans to its non-financial wholesale counterparties and retail and small business customers but not to its financial counterparties because of their inherently more volatile credit risk in a stress scenario). But it is necessary to keep in mind that derivatives are subject to special rules.

As soon as expected cash inflows for the 30-day stress scenario are determined, this amount is deducted from the expected cash outflows, up to a total of 75% of the outflows, as described above. The resulting net cash outflow corresponds to the minimum stock of high quality liquid assets that Basel III’s LCR will require banks to maintain.

### **Conclusion.**

Basel III represents a significant milestone in the development of the standardized capital requirements. Specifically, Basel III’s emphasis on the quality and quantity of core capital—with the overriding goal of fortifying bank capital cushions on a global basis—is the framework’s very cornerstone. Moreover, with the attempt to correct the flaws of Basel I and II, the BCBS has designed a system of conditions that incorporates liquidity requirements as well as a number of macroprudential tools directed at the reduction of systemic risk. But it is obvious that none of these reforms, however, are expected to be implemented without any expenses. Capital is critical for sure, but capital is also costly. Over the next 10 years, regulators must necessarily weigh Basel III’s costs and benefits at each stage of the new system implementation. At the same time, banks around the world must alter their business models to varying degrees in order to thrive under Basel III. But still there are many elements that still remain unfinished. However, market pressure and competitor pressure is already driving considerable change at a range of organizations. And not only banks but other organizations have to be sure that they are following the Basel III rules for being competitive in new regulatory landscape.

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12 Basel III:an overview//Peter King and Heath Tarbert// Banking and Financial Services, Policy Report, 2011



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