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Proposed changes to the Basel capital framework – 2016, rush for the finish line?

by Patricia Jackson

Introduction

This paper takes stock of the changes in international minimum capital requirements currently underway or likely to be agreed this year – the Basel Committee (the Committee) is trying to complete all unfinished business in this area by end-2016. This new set of requirements is labeled by some as Basel IV, but it is really too piecemeal to be regarded as a new standard. There are many parts to the changes, which all need to be considered. Taken together, the changes mean two things for banks: more work and, for the larger banks, more capital. The paper has the following sections:

- ▶ Credit risk, covering the new 24 March 2016 proposals on the internal risk-based (IRB) approach for credit¹ and the proposed standardized approach (December 2015)²
- ▶ Leverage ratio - proposals released on 6 April 2016³
- ▶ Market risk requirements: the final rules following the Fundamental Trading Book Review, published on 14 January 2016⁴
- ▶ Counterparty risk proposals in the March 2016 consultative paper⁵
- ▶ Interest rate risk in the banking book (IRRBB) – June 2015⁶
- ▶ Operational risk proposals – 4 March 2016⁷
- ▶ Total Loss Absorbing Capacity (TLAC) – November 2015⁸



1. Unfinished business has led to a significant volume of change. For example, the swift changes to the market risk requirements and securitization treatments immediately post-crisis were seen as stopgap measures, and a fundamental review of the trading book (FRTB) requirements was launched. The review was focused in particular on the treatment of the relative liquidity or illiquidity of different instruments (and the banking book/trading book boundary), as well as a more consistent approach to modeling tail risks within market risk portfolios. Another area of unfinished business is the bank-wide leverage ratio.
2. Credible standardized approaches were seen as necessary to underpin the modeled approaches for credit risk, counterparty risk, operational risk, and in the FRTB, market risk. These would make it possible for a bank to be asked to move from a modeled to a standardized approach for the regulatory capital calculations if there were concerns over the quality of its internal models. Improved approaches would also make floors using a standardized approach more risk-sensitive. Under the FRTB, it has been stated explicitly that the standardized will be a floor against the modeled-position risk requirements.
3. Consistency of capital requirements across banks was raised as an important issue, with consideration being given to the use of internal ratings-based (IRB) models for credit risk and a focus on comparability of results. The Committee has now produced proposals with regard to the IRB – removing some portfolios from the IRB approach and setting floors on some parameters. Interbank portfolios and large corporate would move to standardized. This will have implications for banks outside the US that could find it difficult to remunerate the amount of capital required on exposures to major corporates – in the US, these companies go to the securities markets. The Committee is also changing some of the IRB modeling requirements, for example, proposing a more through-the-cycle modeling of the probability of default.

It is clear that the changes announced to date and the path of future changes will drive capital requirements for banks yet higher. It will be important that the Committee conducts a careful assessment of the effects of all the changes taken together. One question on the IRB proposals is whether the Committee should have a two-stage process to the changes: move first to a common approach for some of the modeling (the through-the-cycle treatment and so on), then later revisit risk-weighted assets (RWA) variability to see if the removal of some books from the IRB and floors on certain parameters are still necessary.

The Committee is linking the use of models to the quality of risk governance in banks, which aligns with the overall enhanced focus on the quality of governance. In the FRTB rules, the Committee makes clear that the use of internal models is contingent on the bank's risk management system being conceptually sound and implemented with integrity. This goes beyond just the modeling capability.

Credit risk

The two credit risk topics that preoccupied the Committee for much of 2015 were how to create a credible standardized approach for credit risk and whether and how the IRB approach should be adjusted to create greater simplicity and comparability.

At different times there have clearly been different camps, with some calling for an end to IRB modeling and others wishing to retain it. Given the distortions caused by non-risk-sensitive capital requirements, the pendulum has swung to retaining the IRB but with consideration of floors or constraints for some models. In March, the Committee produced proposals for exclusion of some exposures from the IRB and floors beneath some IRB parameters. In the US, reliance will still be placed on the authorities' Comprehensive Capital Assessment and Review (CCAR) stress testing rather than IRB models.



The Basel Committee is proposing that certain exposures that are difficult to model and create more variability in parameter estimates across the industry (because of a low number of past defaults, for example) should no longer be covered by IRB modeling and will therefore be in standardized. These exposures are the following:

- ▶ Banks and other financial institutions would be under standardized.
- ▶ Large corporates (part of consolidated groups with total assets of more than €50b) would be under standardized.
- ▶ In a separate test for corporates belonging to consolidated groups with revenue of more than €200b banks would not be able to set their own loss given default estimates (LGDs) – they would have to use foundation IRB loss given default (LGDs).
- ▶ Specialized lending would have to be covered by standardized or the IRB slotting supervisory approach.
- ▶ Equity would no longer have an IRB treatment.

The treatment of sovereign exposures is still under review by the Committee.

The effect of moving large corporates to the standardized approach for credit risk could be severe in countries where credit provision to these firms remains in the banking sector - in the US these firms go straight to the securities markets. Under the proposed standardized approach, the weighting for an AAA/AA company would be 20% – see below. Banks could struggle to remunerate this level of capital (2% at a 10% risk asset ratio). Another concern is the large number of unrated companies in Europe, which will lead to a rush toward the seeking of ratings. For large mid-market players (with revenue of more than €200m), the rules will be foundation IRB and this too could affect the provision of credit.

For the mid-sized and small corporates and retail that all remain within the IRB, the Committee is proposing that floors should be placed on certain parameters in the IRB models: the probability of default (PD), LGD (in the advanced IRB) and exposure at default (EAD).

Proposed parameter floors – IRB			
Corporate	PD	LGD Secured	EAD/CCF
Corporate	5bps	Varies by collateral type: <ul style="list-style-type: none"> ▶ 0% financial ▶ 15% receivables ▶ 15% commercial or residential real estate ▶ 20% other physical 	Sum of on-balance-sheet exposure plus 50% of off-balance-sheet exposure using standardized credit conversion factor (CCF)
Retail			
▶ Mortgages	5bps	10%	
▶ Credit cards/charge cards always repaid at scheduled date	5bps	50%	
▶ Other revolving facilities, e.g., where balances are carried forward	10bps	50%	
▶ Other retail	5bps	Varies by collateral type: <ul style="list-style-type: none"> ▶ 0% financial ▶ 15% receivables 	



Proposed parameter floors – IRB			
Corporate	PD	LGD Secured	EAD/CCF
		<ul style="list-style-type: none"> ▶ 15% commercial or residential real estate ▶ 20% other physical 	

The Committee has set the floors at a level where it hopes they will not adversely impact banks operating in jurisdictions where particular characteristics make the exposures lower risk. The floors will, however, undoubtedly have some effect on the risk sensitivity of the IRB estimates for some banks.

The Committee is also introducing added requirements with regard to the modeling of PD. One debate that has been rumbling on ever since Basel II and the IRB were agreed is the question of whether PDs should be through the cycle, i.e., reflecting good and bad years for the economy, or point in time reflecting the current economic climate. The wording in the Basel II accord was around long-run averages, but some supervisory agencies allowed or even encouraged point-in-time modeling. This has the disadvantage that in good times PD estimates contract (reducing the capital buffer) and then expand once the economy is in recession. The Committee is now proposing that rating systems should be designed in a way that assignments to ratings categories generally remain stable over time and through business cycles. Also the data used to model PDs should be a mix of good and bad years. A bank does not need 15 years of data to estimate a cycle because of the ability to mix good and bad years. In another change, the Committee is specifying that at minimum PDs should be estimated for each rating grade. It is also requiring a change to the treatment of seasoning effects.

For own LGD calculations, the Committee is proposing that banks should estimate a long-run average LGD and a downturn add-on. It may place a floor on the downturn add-on because it is more subjective but is also considering supervisory-set add-ons. Changes are also proposed in the calculation of the supervisory set LGDs for fully or partly secured exposures in the foundation IRB.

For CCFs on undrawn exposures, the Committee is proposing a mix of changes. There will be more use of supervisory-set CCFs and more requirements regarding reference data and modeling where own estimates are allowed.

Given the moves to standardize the estimation approaches for PD and LGD to reflect, in the case of PD, through the cycle considerations and, in the case of LGD, a more standard treatment of downturn effects, an important question is whether these changes should be allowed to bed down and then variability could be retested. These changes alone could have a substantial effect in narrowing parameter estimates across banks. This could make the other changes proposed (removal of exposure types from the IRB and the setting of floors on parameters) unnecessary. The IRB has substantially improved the quality of credit risk information in the banks, and it is essential that changes driven by the regulators with multiple floors in models or on the outputs do not undermine this.

Another very important issue is where the Committee sets the floors for the capital requirements going forward. In the original Basel II accord, there was a transitional floor based on Basel I. The Committee is now considering keeping an overall floor on the capital required based on the standardized approaches - calibrated in the range of 60% to 90% of the new standardized approaches. It is also considering more granular output floors for credit portfolios, for example. This could have a substantial effect on the amount of capital required and risk sensitivity. The Committee has said, however, that it will be "mindful of the relative calibration of the standardized and IRB approaches." It also does not want to increase the overall standardized approach capital.

The proposed approach to standardized credit risk was set out in a consultation paper in December 2015 - this was the second consultation on the topic.⁹ Whereas the earlier consultation paper had set out an approach that avoided the use of ratings by turning instead to a limited number of indicators of borrower



credit worthiness, such as leverage, the December paper acknowledged that this was not the best way forward and reintroduced ratings (subject to due diligence requirements).

For exposure to banks, a two-stage process is required under the proposals. A base risk weight would be determined based on the external rating (excluding government support) using a lookup table. The risk weights in the lookup table per rating are the same as those in the original Basel II standardized (including preferential weights for short-term interbank), with the exception that unrated exposures will be subject to a new approach. However, where there is an external rating, banks also have to carry out due diligence on the counterparty to ensure the external rating is conservative, which might result in an increase of the risk weight.

For unrated exposures, or exposures to banks incorporated in jurisdictions that do not allow ratings, credit worthiness would be assessed by the bank and the exposure would be allocated to Grades A, B or C, subject to laid-down criteria.

For corporates, the approach in jurisdictions allowing ratings is again to determine a base risk weight according to the rating, with due diligence to assess if it should be higher. The requirements are again the same per rating as in the Basel II standardized.

For unrated corporate exposures, the bank would assign a 100% weight – unless the exposure was in default. For banks in jurisdictions that do not allow the use of ratings, a 75% risk weight would be assigned to exposures to counterparties that meet the criteria laid down by the Committee for “investment grade.” All others would be 100% unless in default.

For small and medium entities (SMEs), a risk weight of 85% is proposed. This would bring the risk weight closer to that from the IRB for many banks.

For specialized lending, it is proposed that issue-specific external ratings should be used. Where a rating is not available, or not allowed, object or commodity finance would have a risk weight of 120%, and for project finance, the weighting would be 150% for the pre-operational phase and 100% in the operational phase.

The paper proposes that all loans related to real estate, including specialized lending, be in the same asset class. A three-category risk classification from less to more risky is proposed:

- ▶ Repayment is not materially dependent on rent/sale of the property.
- ▶ Repayment is materially dependent on cash flows generated by the property.
- ▶ The exposure relates to land acquisition, development and construction.

The consultation paper does not set out a standardized approach for sovereigns and other public sector entities, which are being considered under a broader review of these exposures, including the use of IRB.



In a major departure from the Basel II standardized approach, there would be a granular approach to loan to value (LTV), with significant variation in risk weights, for residential mortgages and commercial properties. With regard to residential mortgages, for loans with an LTV of less than 40%, the risk weight could be 25%, for example, less than the current standardized, but on loans with LTVs of 90% to 100%, it would be 55%. However, to apply these risk weights, a range of criteria, from enforceability to prudent valuation and documentation, would have to be met. There would also be a test based on whether repayment was materially dependent on cash flows, with higher risk weights applying to those that are.

For non-mortgage retail loans, a flat 75% weight is proposed, which is the same as the current treatment. If loans do not meet all the criteria for the retail classification, then a 100% risk weight would apply.

The table below compares the standardized proposals with the Basel II standardized currently in place.

Comparison of the current Basel II standardized approach and the latest proposals

Corporate							
Current standardized approach	Credit risk assessment	AAA to AA-	A+ to A-	BBB+ to BB-	Below BB-	Unrated	
	Risk weight	20%	50%	100%	150%	100%	
Latest proposals ¹⁰	Unchanged						
Interbank							
Current standardized approach	Credit risk assessment of counterparty	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-	Unrated
	Risk weight	20%	50%	50%	100%	150%	50%
	Risk weight for short-term claims	20%	20%	20%	50%	150%	20%
Latest proposals	Unchanged						Gradings A to C apply
Latest proposals (for unrated counterparty exposure or banks incorporated in jurisdictions that do not allow the use of external ratings)	Credit assessment of counterparty	Grade A		Grade B		Grade C	
	Risk weight	50%		100%		150%	
	Risk weight for short-term claims	20%		50%		150%	



Residential mortgages exposures							
Current standardized approach	Risk weight	35%					
Latest proposals (repayment is not materially dependent on cash flows generated by property)	LTV ratio	LTV ≤ 40%	40% ≤ LTV < 60%	60% < LTV ≤ 80%	80% < LTV ≤ 90%	90% < LTV ≤ 100%	LTV > 100%
	Risk weight	25%	30%	35%	45%	55%	RW counterparty ¹¹
Latest proposals (repayment is materially dependent on cash flows generated by property)	LTV ratio	LTV ≤ 60%		60% < LTV ≤ 80%	LTV > 80%		
	Risk weight	70%		90%	120%		
Commercial real estate exposures							
Current standardized approach	Risk weight	100%					
Latest proposals (repayment is not materially dependent on cash flows generated by property)	LTV ratio	LTV ≤ 60%			LTV > 60%		
	Risk weight	Min (60%, RW of counterparty)			RW counterparty ¹²		
Latest proposals (repayment is materially dependent on cash flows generated by property)	LTV ratio	LTV ≤ 60%		60% < LTV ≤ 80%		LTV > 80%	
	Risk weight	80%		100%		130%	
Latest proposal (land acquisition, development and construction)	Risk weight	150%					
Other retail							



Current standardized approach	Risk weight	75%
Latest proposals	Unchanged	

The standardized approach will be finalized in 2016 and will be an important determinant of bank capital requirements given its likely use as a floor underpinning the IRB. The calibration of the floor will be decided this year.

Leverage ratio

The leverage ratio will be based on a Tier 1 definition of capital and will have a minimum level of 3%, although there may be higher requirements for systemically important banks. The calibration will be finalized in 2016 and implemented as a Pillar 1 measure by 1 January 2018.¹³ In April, the Committee released some proposed revisions to the design and calibration of the leverage ratio:

- ▶ Measurement of derivative exposures – the Committee is proposing using a modified version of the new standardized approach for credit risk SA-CRR for derivative transactions as well as other changes.
- ▶ Treatment of purchases and sales of financial instruments will address differences in accounting treatments.
- ▶ Treatment of provisions – the proposal is to allow both general and specific provisions that have decreased Tier 1 capital to reduce the Basel III leverage ratio exposure.
- ▶ Credit conversion factors for off-balance-sheet items – it is proposed that the new standardized CCFs, for off-balance-sheet items, currently out for consultation would also be used for the leverage ratio once finalized.
- ▶ Additional requirements for global systemically important banks – the Committee is seeking views on different proposed characteristics of additional leverage ratio requirements for global systemically important banks (G-SBs).

Market risk requirements: Fundamental Trading Book Review

The final market risk rules, published on 14 January 2016, follow four consultation papers on the outcome of the FRTB papers and corresponding QIS over recent years. The principal features of the revised framework include:

- ▶ A revised trading book and banking book boundary
- ▶ Revised internal models and standardized approaches for market risk
- ▶ A move to expected shortfall from a value-at-risk (VaR) measure
- ▶ Incorporation of the risk of market or instrument illiquidity
- ▶ Desk-level internal model eligibility criteria

The revised framework will come into effect by 1 January 2019 with bank reporting by end-2019. Relative to the post-crisis Basel 2.5 market risk requirements, this represents a significant change, not least, to the elements included in the trading book. There has been a substantial tightening in the banking book/trading book boundary to reduce the scope for regulatory arbitrage across the boundary. There will be strict constraints on the movement of instruments between books and, if the move of an instrument is approved by a regulator and results in a reduction in capital required for a bank, the capital change will be re-imposed through a fixed add-on. Certain instruments will have to be assigned to the banking book – including unlisted equities, instruments being warehoused for securitization, real estate holdings, and retail and SME credit. In addition, FRTB sets out far more prescriptive trading-intent criteria than are currently required for instruments included in the trading book.



With regard to the modeling of market risk, Basel 2.5 had introduced stress VaR in addition to VaR for position risk. Now, FRTB changes the approach once again to expected shortfall, focused on the magnitude of the tail of the loss distribution and calibrated to a period of market stress. VaR has now been dropped completely.

To use an internal model for position risk, banks have to go through a number of new sequential steps:

1. A qualitative and quantitative assessment will be made of the bank's firmwide internal risk capital model.
2. If the bank's firmwide internal risk capital model is approved, the bank will be required to nominate which trading desks are in or out of the scope of the internal model – those designated as out of scope will have capital requirements calculated using the regulatory standardized approach.
3. Once a trading desk has been nominated for inclusion in the scope of an internal model, an assessment will be made of the performance of that model for that desk, with clear thresholds for breaches of P&L attribution and backtesting.
4. For all trading desks for which internal models have been approved, an individual risk factor analysis is required to demonstrate that sufficient real data points are available to assess liquidity across the range of instruments traded by the desk. For those without sufficient data points, risk factors would have to be modeled separately.
5. If a desk's models pass the tests, then the expected shortfall approach can be used with an additional default risk charge added on, and a stressed capital add-on must also be included for non-modelable risk factors. However, failure at any step would require the desk to use the standardized approach.

The standardized approach is itself complex, requiring the calculation of risk sensitivities as well as the inclusion of a standardized default risk charge, similar to the banking book, and an additional residual risk add-on, to capture other risk factors.

The QIS on the earlier consultation proposals indicated that some banks would face very large increases in capital requirements. The industry also highlighted that the very long maximum liquidity horizons proposed would result in capital requirements far in excess of the risks faced, as did the securitization treatments. This has led the Committee to rethink some of the details in the proposals, and the key changes that have been made are set out below. For the most part, these reduce the requirements relative to earlier proposals, but even so, capital will rise significantly for many banks. The Committee estimates that, on a weighted-average basis (weighted by size of bank), capital required on trading books will be 40% higher. For some banks, trading book requirements might be only 10% or less of their total capital requirements, but for investment banks it is a much larger proportion. FRTB will therefore have a considerable effect on the total capital required for some banks.



The key revisions to the framework since the previous consultation paper, published in June 2015, are summarized in the following table.

Framework component	Summary of revisions made	Capital impact
Internal models liquidity horizons	A cut in the maximum liquidity horizon across major asset classes (equity, credit and FX)	Reduction in market risk capital requirements relative to previous proposal
Regulatory capital multiplier	The capital multiplier to be applied to the internal model capital requirement has been increased from 1 to 1.5. This will now only be applied to the expected shortfall component – it will not be applied to the add-on for non-modelable risk. The upper level of the backtesting multiplier has also been increased from 0.33 to 0.5.	Increase in market risk capital requirements relative to the previous proposal
Standardized approach – residual risk add-on	The add-on for other (residual) risks in the standardized approach of 1.0% of the notional value of instruments will now only be applied where the underlying is an exotic instrument	Reduction in market risk capital requirements relative to the previous proposal
Standardized approach – securitizations (non-correlation trading)	Securitization risk weights were reduced significantly across the relevant buckets (new requirements approximately four times less in some cases)	Reduction in market risk capital requirements

The implementation of the rules will present a number of organizational and infrastructure challenges, including:

- ▶ Increased hardware requirements to support the number of (re)valuations and prescriptive calculations needed under the new framework
- ▶ Increased market and reference data sourcing and quality procedures to meet “real-price” criteria
- ▶ Significant new model development and existing model enhancements to capture new eligibility test outcomes and revised capital calculations at the prescribed level of granularity

The new standardized approach will be difficult for all banks to implement because it is highly prescriptive and will most likely require marked enhancement to current data, data attributes and processes in banks.

Counterparty risk

The treatment of counterparty credit risk (CCR), the risk associated with the uncertain future exposure on derivatives and repo-like transactions, has already been subject to substantial change under Basel III in response to the financial crisis, and further changes are going to be made.

Basel III introduced a new “credit valuation adjustment (CVA) volatility” charge and more stringent requirements for firms using their own models as an immediate means to rectify what were seen as deficiencies in the capital rules that surfaced during the crisis. However, in line with the FRTB, since finalizing Basel III, the Committee has worked on a more risk-sensitive standardized approach for counterparty risk than the current one, as well as more a fundamental review of the requirements.



For counterparty risk, the new standardized approach (SA-CCR) was finalized in March 2014 and is due to be applicable to all derivatives contracts (not repo-like transactions) from January 2017.¹⁴ There is, however, some uncertainty around timelines at jurisdiction level (US, EU and others). The SA-CCR approach plays a material role in the calculation of large exposures, capital requirements (CCR and CVA) and the leverage ratio of banks. It will also indirectly impact capital held by banks that are clearing members.

The SA-CCR has generally been welcomed by the industry as a more risk-sensitive approach than the existing standardized approach. In particular, it can lead to materially lower exposure estimates for margined trades. It can, however, be more punitive for some types of exposure, in particular for un-margined, long-dated trades that are not part of a netting set. It also introduces a minimum exposure floor that cannot be offset by collateral, potentially impacting intra-group risk transfer arrangements in some banks. Revisions to the credit risk mitigation framework have also been proposed, which would make the use of the SA-CCR compulsory for collateralized OTC derivatives (instead of the Internal Model Method, for example). Other internal model approaches could also be disallowed for some transactions, e.g., VaR for certain securities financing transactions (SFTs), as well as own estimates of haircuts for calculating capital requirements.

The new calculation logic introduced by the SA-CCR requires new data inputs compared with the current standardized approach for CCR, particularly with respect to margin terms and position data, which some banks may find challenging to implement. It is an approach with many steps to complete.

With regard to counterparty risk, the Committee is proposing that there should be a floor based on a percentage of the standardized, beneath the internal model method (IMM). There is also a modification of the proposed credit valuation adjustment (CVA) approach, with the elimination of the internal models approach (IMA-CVA). There are other clarifications as well.¹⁵ One surprise is that although VaR modeling has been removed for position risk, and replaced with expected shortfall, there will still be scope to use VaR to determine exposures to CCR for securities financing transactions probably because there is no straightforward alternative.

Interest rate risk in the banking book

For more than 25 years, the Basel Committee has been debating whether interest rate risk in the banking book should carry a Pillar 1 minimum capital charge. This has again been under review. The expectation is that the Committee will decide to maintain the Pillar 2 approach (i.e., the capital required is set bank by bank by the home supervisor) but is likely to enforce greater standardization of the assumptions used in modeling the risk.

Operational risk

Operational risk was not directly implicated in the causes of the financial crisis and therefore was not included in the first wave of changes to the capital regime. However, the conduct failings that have come to light since the crisis, with resulting large operational losses for some banks because of fines and remediation, have called into question the Basel II approaches currently being used. Substantial variations have been uncovered in the advanced modeling approach (AMA) across banks, and the Committee is considering moving away from the AMA completely.

On the other hand, simpler approaches based on gross income bear little or no relationship to the operational risk they are measuring, except as an overall measure of the size of the bank. In October 2014, the Committee published a consultation paper stating that the findings from a fundamental review of the simple operational risk approaches showed that, on average, all three approaches – basic indicator, standardized and alternative standardized – are under-calibrated.¹⁶ They also found that the AMA capital approaches were benchmarked against these under-calibrated simpler approaches.



In the light of these findings, the Committee investigated more than 20 potential benchmarks for their sensitivity to operational risk exposure. They found that a business indicator (consisting of the components of the income statement – interest component, services component and financial component) was the most suitable replacement for gross income. They also found a non-linear relationship between the amount of capital required to cover exposure to operational risk and the size of the bank, pointing to the need for size to be taken into account.

In March this year, the Committee released a new consultation paper on operational risk. This proposes an end to the use of internal bank models for operational risk on grounds of complexity and lack of comparability arising from a variety of different modeling practices. The committee is now suggesting a single standardized approach, the SMA. This combines the business indicator (the BI), which is a simple financial statement proxy for operational risk exposure with bank specific loss data.

The recent analysis carried out by the Committee has been used to adjust the BI relative to the current gross income measure. In the future, unlike in the calculation of the current gross income figure, only positive values of the income components will be included – so that losses in some part of the business do not reduce the BI. Other changes have been made of a similar nature. Also, the structure of the BI has been adjusted following the earlier consultation to avoid too large capital requirements caused by net interest margin being high to cover credit risk or for banks with high fee revenues and expenses.

Banks are divided into bands according to their BI with a separate calculation for the BI component for each band – see the table below.

Bucket	BI range	BI component
1	€0-1b	0.11 *BI
2	€1b-3b	€110m + 0.15(BI-€1b)
3	€3b-10b	€410m + 0.19(BI-€3b)
4	€10-30b	€1.74b + 0.23(BI-€10b)
5	€30b+	€6.34b + 0.29(BI-€30b)

The marginal effect of the BI is greater for the higher bands. For banks in buckets 2 to 5, the calculation is in two parts:

- ▶ The base line level of operational risk capital is calculated using the BI component measure.
- ▶ In the second step for all banks above bucket 1, there is an adjustment for the bank's loss experience based on a function supplied by the Committee, in order to differentiate between banks with different risk profiles. Banks will have to have 10 years of good quality loss data (meeting laid-down standards) to calculate the averages used in the loss component. In a transition period, banks may be able to use five years of data. SMA capital for these banks will be a function of the BI component and loss history. Comments have been requested by 3 June 2016.

Total loss-absorbing capacity

For G-SIBs, the TLAC rules must also be considered – not only must capital be sufficient to reduce the likelihood of failure (under the Basel rules), but there must also be sufficient loss-absorbing and recapitalization capacity available to implement orderly resolution. The Financial Stability Board (FSB) has



set out the principles and term sheet. In Europe, minimum requirement for own funds and eligible liabilities (MREL) amounts will be set bank by bank for all banks, with the first requirements for a small subset of banks likely to be set in Q3 2016. Over time, for the largest banks, these requirements are likely to be aligned with the TLAC requirements, whereas for smaller banks, MREL may not be required.

Under the FSB term sheet, minimum TLAC must be equivalent to at least 16% of the bank's RWAs from 1 January 2019 and at least 18% from 1 January 2022. There is also a TLAC leverage requirement: TLAC/total assets (total assets as defined in the Basel III leverage denominator) must be at least 6% by 2019. Instruments that count toward the TLAC must be subordinated to non-TLAC liabilities and junior in the creditor hierarchy to those liabilities. The Basel III capital (Tier 1 or Tier 2) needed for the minimum capital requirements can be used as part of the TLAC, but not the common equity Tier 1 capital held for the variable capital buffers, capital conservation, the G-SIB surcharge and countercyclical buffers, designed to be utilized in stress periods and therefore not necessarily available in resolution. The following minimum capital amounts laid down by Basel III, therefore, count toward the TLAC:

- ▶ Common Equity Tier 1 (CET1) must be at least 4.5% of risk-weighted assets at all times.
- ▶ Tier 1 Capital must be at least 6.0% of risk-weighted assets at all times.
- ▶ Total Capital (Tier 1 Capital plus Tier 2 Capital) must be at least 8.0% of risk-weighted assets at all times.

This means that, of the 16% TLAC requirement from 2019, half could be met by Tier 1 and Tier 2 capital held to meet the minimum requirements. However, the TLAC rules do lay down extra provisions that have to be met by debt instruments even if they are fully Tier 1 or Tier 2 compliant – see below.

	TLAC-compliant
Common Equity Tier 1	Fully counts
Other Tier 1 and Tier 2 instruments	Must meet TLAC legal jurisdiction requirements
	TLAC requirements around instruments issued by subsidiaries
	Cannot be funded by a party related to the resolution entity
	Must meet TLAC rules regarding capital instruments issued by entities forming part of a material subgroup
From 2022	Tier 1 or Tier 2 instruments must be issued from the resolution entity

In actuality, most large banks would carry internally derived equity buffers in excess of the total of the minimum required CET1 Capital (i.e., the minimum capital plus variable capital buffers). These excess CET1 capital amounts would also, in theory, count against the TLAC requirement. However, another TLAC provision limits the total reliance on CET1 to 66% of the total TLAC requirements. The FSB TLAC term sheet states that, to help ensure that a failed G-SIB has sufficient outstanding long-term debt for absorbing losses and/or effecting a recapitalization in resolution, it is expected that the sum of a G-SIB's resolution entity or entities, (i) Tier 1 and Tier 2 regulatory capital instruments in the form of debt liabilities, plus (ii) other TLAC-eligible instruments that are not also eligible as regulatory capital, be equal to or greater than 33% of their Minimum TLAC requirements.

G-SIBS will have to hold the following amounts of core Tier 1 capital and other TLAC instruments to meet both the Basel III and TLAC requirements.

CET1 Capital buffers



Capital conservation buffer	2.5%	
Plus G-SIB buffer	1% to 2.5% (depending on systemic band for the bank)	
Plus countercyclical buffer	Variable over time	For overheating markets 0%–2.5%
Total CET1 capital covering buffers that therefore does not count toward TLAC	3.5%–5%	
Basel III capital that does count toward TLAC	8% (Tier 1 plus Tier 2)	
Extra TLAC capital required	8% (2019)	
Total Basel III capital plus TLAC instruments required	19.5%–21%	

A total Basel III plus TLAC requirement of around 20% of RWAs means that for many banks (with RWAs around half of total assets), 10% of funding going forward would have to be from capital and TLAC instruments.

Overall implications

The changes (agreed and proposed) set out above are far reaching in their implications. Banks are already struggling to remunerate the capital required under Basel III for different lending books, which has led to substantial retrenchment. Likewise, the changes in trading book requirements to date have led to moves away from market making and away from the provision of certain capital instruments, such as long-dated swaps. The changes outlined will almost certainly intensify these pressures.

The proposals to take interbank exposures and large corporates out of the IRB and move them to standardize will have a disproportionate effect in different geographies. Outside the US, large corporates are much more dependent on bank lending, whereas in the US, firms use the securities markets. But large corporates will not be willing to pay margins to remunerate the high capital charges in standardized. Likewise, large unsecured interbank markets lie outside the US and will be impacted by the higher charges.

The Committee is moving to standardize the modeling approaches for the cycle in PDs and for the downturn in LGD. This alone should have significant effect on RWA variability. It seems premature to move to use of floors on parameters and the removal of certain exposures from the IRB before the effects of the modeling changes have bedded down and the effects can be assessed.

It is also essential that the leverage ratio remains a backstop behind the risk-based requirements. It does not create equal treatment across banks and across markets. It generates the greatest pressure for the very large high-quality mortgage books and high-quality corporate books of the non-US banks. Three percent of capital (required under the leverage ratio) is too high for these portfolios and will drive regulatory arbitrage. In the US, the mortgage books are purchased from the banks by the agencies, such as Ginnie Mae and Freddie Mac, and securitized. This difference in the structure of the portfolios also makes simple comparisons of leverage ratios across continents highly misleading.

The way that overarching floors will work, and their calibration, is also the work of 2016, and this will play a crucial role in the final magnitude of the requirements. For example, it makes a critical difference whether a bank needs to maintain 80% or 90% of the standardized requirements as a floor behind the IRB. It is, however, less than clear why multiple floors are needed and how they will interact: the leverage ratio,



standardized floors, floors within models. The real risk is that the floors will create distortions between the capital required on different exposures.

The industry needs to be prepared for the amount of work necessary to meet the new requirements, which will affect many aspects of the business, from data and systems to capabilities in the front and back offices and control functions. Over and above this, model validation approaches need to be tightened further, and risk governance quality must provide a convincing platform for use of more sophisticated approaches.

For additional information

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EY Global Regulatory Network Executive Team Previous appointments

Gregg Berman was Associate Director of the Office of Analytics and Research in the Division of Trading and Markets at the US Securities and Exchange Commission (SEC), where he oversaw various areas such as equity market structure, clearing-house risk, derivatives transparency, and broker-dealer capital

Mario Delgado: FROB (Spanish Banking Resolution Authority) Head of International Coordination and EBA and FSB representative; Spanish Ministry of Economy; Director of Office of the Secretary of State for the Economy in the Economic Affairs; Head of the Spanish Delegation in the Paris Club; Deputy Head of relations with the IMF

Marie-Hélène Fortésa: Autorité de Contrôle Prudentiel (French Prudential Supervisory Authority); Association Française des Banques (French Banking Association); and French National Institute for Statistics and Economic Studies. She has also held senior roles at a global investment bank

Dr. Tom Huertas: UK Financial Services Authority's Executive Committee; Alternate Chair of the European Banking Authority, Basel Committee on Banking Supervision; and Financial Stability Board Resolution Steering Committee

Patricia Jackson: Basel Committee Member; Basel II lead; Global Quantitative Impact Studies Committee Chair; Basel II Calibration Subgroup Chair; Head of the Financial Industry and Regulation Division of the Bank of England

Hidekatsu Koishihara: Chief inspector and inspection administrator for the Japan Financial Services Agency, Ministry of Finance (MOF) of Japan; Japan's former financial regulator as financial inspector at the Bank Bureau of MOF and Financial Inspection Division; and Minister's Secretariat of MOF

John Liver: Divisional Compliance Lead at Barclays; Head of Department, Investment Firm Supervision, and prior roles in enforcement and supervision of investment management, life insurance and pensions at the UK Financial Services Authority and its predecessors. Current EY/UK Financial Conduct Authority relationship lead

Shane O'Neill has 20 years' experience in banking, capital markets, asset finance and prudential regulation in CFO, COO, strategy and regulatory roles. As Head of Banking Supervision at the Central Bank of Ireland he influenced restructuring and recapitalization and executed numerous stress tests and asset quality reviews

Keith Pogson: Immediate Past President of the Hong Kong Institute of Certified Public Accountants; more than 20 years of experience advising governments and regulators across Asia-Pacific on acquisitions, market entry strategy and due diligence across banking, asset management and securities

Ted Price: Deputy Superintendent and Head of Supervision at the Office of the Superintendent of Financial Institutions, Canada, serving on the Senior Supervisors' Group and the Financial Stability Board Supervisory Intensity and Effectiveness Working Group. Prior to OSFI, Ted held senior roles at a global investment bank

Philip Rodd has more than 23 years of experience in accounting and risk management, including 13 years in the Asia-Pacific region. His areas of expertise include assisting clients in assessing the impact of regulatory change, implementing compliance initiatives, and responding to regulatory findings

Marc Saidenberg: Senior Vice President and Director of Supervisory Policy at Federal Reserve Bank of New York; Basel Committee Member and Liquidity Working Group Co-chair; involved in the development of supervisory expectations for capital planning, liquidity risk management and resolution planning

David Scott is involved in addressing emerging regulatory and legislative initiatives and engaging in dialogue with regulators and supervisors on emerging issues. He has worked with a number of large global institutions, most recently on the implementation of the global financial regulatory reform agenda

Rick Small: Deputy Assistant Director, Federal Reserve System, Enforcement and Investigations, and Policy Leader for anti-money laundering and sanctions; executive leadership positions overseeing global financial crimes risk and compliance functions at American Express, Citigroup and GE Money; former federal prosecutor

Judy Vas: Currently sits on the Hong Kong Takeovers Panel, Takeovers Appeals Committee and the Hong Kong Securities & Investment Institute Examination Committee. Former managing director, Head of Regulatory Affairs and Head of Compliance for Asia (excluding Japan), Goldman Sachs

Scott Waterhouse was capital markets lead expert for large banks at the Office of the Comptroller of the Currency (OCC) and Examiner-in-Charge of the OCC's London Office. He coordinated the supervision of trading, treasury and capital markets activities including Dodd-Frank implementation and Basel Committee requirements

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- ¹ Basel Committee on Banking Supervision (BCBS), *Reducing variation in credit risk-weighted assets – constraints on the use of internal model approaches – Consultative Document*, March 2016.
- ² BCBS, *Revisions to the standardised approach for credit risk – second consultative document*, December 2015
- ³ BCBS, *Revisions to the Basel III leverage ratio framework - consultative document*, April 2016
- ⁴ BCBS, *Minimum capital requirements for market risk*, January 2016
- ⁵ BCBS, *Reducing variation in credit risk-weighted assets – constraints on the use of internal model approaches – Consultative Document*, March 2016. See also BCBS, *The standardized approach for measuring counterparty credit risk exposures*, March 2014.
- ⁶ BCBS, *Interest rate risk in the banking book – Consultative Document*, June 2015
- ⁷ BCBS, *Standardised Measurement Approach for operational risk – Consultative Document*, March 2016.
- ⁸ Financial Stability Board (FSB), *Total Loss Absorbing Capacity (TLAC) Principles and Term Sheet*, November 2015.
- ⁹ BCBS, *Revisions to the standardised approach for credit risk – second consultative document*, December 2015.
- ¹⁰ For corporate exposures of banks incorporated in jurisdictions that do not allow external ratings, or where they are not available, banks will apply a 100% risk weight.
- ¹¹ For residential real estate exposures to individuals with an LTV ratio higher than 100%, the risk weight applied will be 75%. For residential real estate exposures to SMEs with an LTV ratio higher than 100%, the risk weight applied will be 85%.
- ¹² For commercial real estate exposures to individuals with an LTV ratio higher than 100%, the risk weight applied will be 75%. For commercial real estate exposures to SMEs with an LTV ratio higher than 100%, the risk weight applied will be 85%.
- ¹³ “Revised market risk framework and work programme for Basel Committee is endorsed by its governing body”, *BCBS website*, <http://www.bis.org/press/p160111.htm>, 11 January 2016
- ¹⁴ BCBS, *The standardized approach for measuring counterparty credit risk exposures*, March 2014.
- ¹⁵ BCBS, *Reducing variation in credit risk-weighted assets – constraints on the use of internal model approaches – Consultative Document*, March 2016.
- ¹⁶ BCBS, *Operational risk – Revisions to the simpler approaches – consultative document*, October 2014.