The implementation of Basel II in Australia

In January 2008, the new global capital regime for banks, known as the Basel II Framework, came into force in Australia. This article provides background to the Framework and discusses its implementation in Australia, including the adjustments APRA has made within Basel II to accommodate local conditions.

Background

Until the late 1970s, financial regulation in Australia imposed heavy restrictions on how banks could structure and grow their balance sheets. Although this regulation was driven by monetary policy and other factors, it did serve a prudential purpose.

The deregulation of the banking sector in Australia in the early 1980s more clearly placed the prime responsibility for a bank's prudential management on the bank itself. At the same time, in common with other banking systems around the world, an explicit bank supervision regime was put in place. This included a capital adequacy requirement in the form of a simple leverage ratio, fixed initially at five per cent of on-balance sheet assets. However, a simple leverage ratio potentially distorts prudent lending practices and fosters regulatory arbitrage since it requires the same amount of capital for a low-risk loan and a high-risk loan of the same size, and it requires no capital to be held against off-balance sheet risks.

In releasing the 1988 Capital Accord (Basel I), the Basel Committee on Banking Supervision (BCBS) sought to harmonise regulatory capital requirements for internationally active banks and to make regulatory capital sensitive to risk, by risk-weighting assets and converting off-balance sheets assets to on-balance sheet equivalents. As in many jurisdictions, Basel I was implemented for all Australian banks and, over time, for all authorised deposit-taking institutions (ADIs). In 1996, a requirement to hold regulatory capital explicitly against market risk was added.

With subsequent advances in risk management practices, technology and banking markets, it became apparent during the second half of the 1990s that a better regulatory capital regime was required. The BCBS's Basel II Framework (Basel II) is the next step in the evolution of regulatory capital. It aims to strengthen the soundness and stability of the international banking system while maintaining sufficient consistency, so that capital adequacy requirements are not a significant source of competitive inequality.

Basel II is based on three pillars. Pillar 1 is the direct replacement for the prescriptive elements of Basel I. In addition to credit and market risks, Pillar 1 requires regulatory capital for operational risk and it provides a range of approaches from the standardised supervisory 'rules of thumb' to advanced approaches through which banks are able to use their own risk estimates.

For credit risk, Basel II provides a 'standardised' approach that has more granular risk-weights (compared to Basel I) allowing banks to use, where available, the ratings of credit ratings agencies. There are two 'advanced' approaches: the foundation internal ratings-based (IRB) approach and the advanced IRB approach. Under the foundation IRB approach, banks are able to use their own estimates of the probability that an exposure will default. Under the advanced IRB approach, banks may also use their own estimates of the amount of each exposure at the time of default and the loss that the bank would suffer if an exposure defaulted. Similar to credit risk, there are standardised and advanced approaches to operational risk. Under each of the available standardised approaches, income is used as a proxy for operational risk. In contrast, the capital requirement of the advanced measurement approaches (AMA) is the risk measure generated by a bank's internal operational risk measurement system using certain quantitative and qualitative criteria. The treatment of market risk under Basel II is little changed.

Pillar 2 is a supervisory review process, which seeks to ensure that banks have adequate capital to support all the risks in their business and to encourage them to develop and use better risk management techniques in monitoring and managing their risks.

Pillar 3 is market discipline, and it details certain disclosure requirements to allow market participants to assess key pieces of information such as risk exposures, risk assessment processes and capital adequacy.

Against that background, this article reviews the more significant decisions APRA has made in implementing Basel II in Australia.

Implementation of Basel II in Australia

The Basel II Framework is primarily designed for large internationally operating banks. In Australia, similar to the approach taken with Basel I, it is applied to all authorised deposit-taking institutions (ADIs), a reflection of APRA's view that ADIs should be using risk management processes that are best practice for their size and risk profile. As provided for in Basel II, APRA has exercised a number of discretions to make the Framework more relevant in the Australian market and to simplify it for the many smaller ADIs.

While Australia is not not a member of the BCBS, APRA is represented on a number of its working groups and was confident that it would be able to implement Basel II in Australia at the same time as the BCBS member countries. However, APRA could see little benefit in implementing the standardised and foundation IRB approaches ahead of the advanced approaches. Accordingly, APRA implemented all of the Basel II approaches on 1 January 2008, the earliest date that the BCBS made the advanced approaches available. APRA's decision not to have a staggered implementation was not criticised by industry; indeed, with few ADIs planning to transition from the standardised to the advanced approaches over the short term, the simultaneous implementation of all approaches was generally regarded as more sensible.

Basel II was implemented in Australia through APRA's prudential standards. By its nature, capital regulation is prescriptive. Nevertheless, consistent with its commitment to being a principles-based regulator, APRA has looked for opportunities to make use of (non-binding) prudential practice guides, which outline prudent practices in relation to the management and measurement of particular risks. Industry has generally been supportive of this approach. However, guidance can bring its own challenges when compared with the certainty of prescriptive regulation.

Pillar 1 – the standardised approaches

Compared to the Basel II Framework, APRA has made the risk-weights for residential mortgage lending in the standardised approach considerably more granular, reflecting different loan-to-valuation ratios (LVRs), whether loans are standard or non-standard (including so-called 'low doc' loans) and whether loans are covered by lenders mortgage insurance. This greater granularity adds considerably to the risk-sensitivity of capital. Many ADIs have not had the systems to allow them to monitor LVRs over time, so the greater granularity in capital requirements has provided an incentive to do so. The recent experience in US subprime mortgage markets has highlighted the advantages of more closely aligning capital to risk and of monitoring LVRs in times of housing market stress and flat or falling house prices. APRA believes that its decision in this area has been vindicated.

Under Basel I, 'other retail assets' were risk-weighted at 100 per cent. In the standardised approach to credit risk, the Basel II Framework allows supervisors to lower this risk-weight to 75 per cent. APRA was of the view that in the Australian marketplace the lower risk-weight would not provide a sufficient buffer against credit risk, including concentration risk, and it has retained a 100 per cent risk-weight. This view has been supported by the modelling done by the advanced ADIs in Australia. Subsequent modelling work has indicated that the buffer provided by the lower risk-weight would actually be smaller than initially estimated and may in fact be negative, thereby supporting APRA's original decision. However, as with all of its Basel II discretions, APRA will keep this decision under review.

The Basel II Framework provides three variations to the standardised approach to operational risk. As detailed in APRA's *Insight* for Quarter 4 2004, APRA's modelling indicated that over the broad range of ADIs that would be adopting the standardised approach, the 'alternative standardised approach' (ASA) provides an outcome that best aligns differences in capital with actual operational risk. Having decided on the ASA, APRA simplified it somewhat. APRA's approach uses an assumed income on retail and commercial assets and actual income on other assets as proxies for operational risk. Income is not necessarily the best proxy for operational risk and simplifying an approach can create unintended consequences. However, since the standardised approaches to operational risk do not purport to provide precision, APRA's view is that the preferable outcome for ADIs without modelling capabilities is one that is equitable and that minimises regulatory reporting burden. Nevertheless, APRA will continue to monitor the outcome from this approach and has already held discussions with institutions whose operational risk capital requirement appears to be excessive relative to their actual risk.

Pillar 1 – the advanced approaches

APRA has mandated that those ADIs wishing to adopt the advanced approaches for credit risk also adopt the advanced approach for operational risk. This decision was based on the principle that if an ADI is capable of modelling its risks and managing its business using that modelling, it should model *all* material risks. This requirement also eliminates the potential for 'cherry picking' the approach that leads to lower regulatory capital. Nevertheless, APRA has recognised that ADIs' credit and operational risk projects may not be completed at the same time. Under such circumstances, APRA believes that ADIs capable of adopting the advanced approaches and the associated risk management practices should be able to do so at the earliest opportunity. Accordingly, APRA has been prepared to allow ADIs to adopt either the IRB approach to credit risk or the AMA for operational risk in advance of the other so long as there is a reasonable expectation that the other will be adopted within a reasonable timeframe – around 12 months. During this interim period ADIs are not permitted any regulatory capital relief. ADIs have accepted the logic of APRA's arguments and have appreciated its flexibility.

The advanced approaches are open to all ADIs. The reality, however, is that it is only the larger banks that currently have the resources, scale and data to be able to adopt them.

Consistent with the Basel II Framework, those ADIs seeking to adopt the advanced approaches have to seek APRA's approval to do so. As the advanced approaches allow ADIs to use some of their own risk estimates in calculating regulatory capital, APRA has taken a number of steps to satisfy itself that the estimates are credible and robust. The embedding of the estimates into the ADI's operations can be evidence of credibility and robustness. APRA has incorporated this principle into its own 'use and experience' requirements for advanced ADIs. APRA also requires an application to adopt the advanced approaches to be signed-off by the ADI's board. To date, APRA is the only supervisor to do so. In addition, APRA also reviews the estimates during on-site work.

The modelling associated with the advanced approaches is relatively new and APRA's expectation was that benchmarking would be an important element in its approval process. For that reason, APRA adopted a 'window' concept to ensure that applications to be in the first wave of ADIs approved to adopt the advanced approaches were received at the same time. APRA's emphasis on benchmarking was not to say that it did not expect differences between the portfolios of the ADIs and indeed differences between how the ADIs assessed risks. Rather, APRA believed it was important to be able to understand these differences.

The Basel II Framework is not prescriptive in how banks model operational risk although, as noted above, it does prescribe quantitative and qualitative criteria. Thus, the ability to sensibly use benchmarking to understand the differences between ADIs in how they measure operational risk is more limited. However, APRA's membership of the BCBS's working group on operational risk has been invaluable in ensuring that ADIs seeking to adopt the AMA are at world's best practice and that the regulatory capital their models calculate is within internationally accepted bounds.

The benchmarking of credit risk has proved to be a valuable part of the approval process. Again, this is not to imply that ADIs have identical risk profiles; indeed, as discussed below, it is quite the contrary. Rather, benchmarking has proved invaluable in challenging risk estimates and in ensuring that ADIs are aware of best practice in credit risk management.

For several years prior to the release of the Basel II proposals, some of the larger Australian banks had been developing 'economic capital' models as a way of better managing their risks. Economic capital focusses on the maximisation of shareholder wealth and can be thought of as the maximum amount of unexpected losses that could be absorbed by an entity while remaining solvent, with a given level of confidence over a certain time horizon.

Initially, those banks expected to be able to use their then existing economic capital processes and methodologies for Basel II purposes and, on that basis, also expected very large reductions in regulatory capital compared with their Basel I requirement. These expectations were misplaced. For one thing, they ignored the significant developments that were taking place in risk measurement and they also ignored the differences between economic and regulatory capital. Regulatory capital is

aimed at depositor protection and systemic stability; it can be thought of as the maximum amount of unexpected losses that could be absorbed by an entity without any loss to depositors, for a given level of confidence over a certain time horizon. Further complicating the issue is that while economic capital consists only of shareholders' funds, regulatory capital recognises the loss-absorption qualities of quasi-equity and debt that is subordinated to the claims of depositors.

As the requirements of the Basel II Framework became better understood by both the banks and APRA, so did the appropriateness of the risk estimates. The banks themselves made changes and, in some cases, APRA challenged banks' processes and models. APRA's evaluation was assisted by its benchmarking work but that, in itself, raised issues. APRA's benchmarking highlighted the differences in the balance sheet composition and risk profile of the larger Australian banks and the impact of those differences on regulatory capital. APRA is not, of course, seeking the elimination of risk but does require that ADIs understand and manage the risks they assume and that they hold capital appropriate to that risk.

Some observations on 'IRB capital'

In general, ADIs using the IRB approaches, and especially those using the advanced IRB approach, are able to achieve lower risk-weights than under Basel I for the calculation of capital to be held against credit risk. That said, the operation of the other elements of the Basel II process, including Pillar 2, also has an impact on an institution's total capital requirement. The reduction in IRB capital relative to Basel I differs between asset classes. It is largest for mortgages and then corporate exposures, while the reduction in the average risk-weight for sovereign exposures has been almost negligible. More generally, with the exception of 'other retail' exposures, retail exposures generate larger credit risk capital reductions compared to Basel I than non-retail exposures. Thus, ADIs holding relatively higher proportions of their banking portfolio in retail asset classes (particularly mortgages) will typically achieve a larger capital reduction under Basel II than other ADIs.

In addition, it is clear that ADIs have adopted different risk profiles within each asset class. These differences are important drivers of differences in regulatory capital under Basel II. In aiming to maximise profit for the amount of economic capital at risk, ADIs trade on different points of the risk-return spectrum within each asset class. Higher risk asset profiles include lending to lower rated (e.g. speculative grade) corporate or other obligors compared to investment grade obligors, lending at higher LVRs compared to lower LVRs, lending unsecured compared to secured, lending for longer maturities compared to shorter maturities or some combination of the above. Those banks targetting higher risk business will hold more capital under Basel II compared to banks seeking out lower risk business and will therefore have a lower reduction in regulatory capital compared to Basel I. This outcome is consistent with the improved risk-sensitivity of Basel II and demonstrates the better alignment of risk to regulatory capital.

ADIs with the same asset composition and risk profile within asset classes may still hold different amounts of capital due to differences in the quantification of risk parameters, although as APRA seeks to minimise methodological differences the significance of these should reduce over time. To date, the major difference identified stems from different calibration methodologies. Specifically, Basel II requires that probability of default (PD) estimates are calibrated to a long-term average and loss given default (LGD) estimates are calibrated to a downturn period. The banks have typically employed different methodologies to satisfy these requirements depending on the internal data available, the external data they reference and the estimation technique employed. Different levels of conservatism may also apply, depending on the uncertainty or volatility around the estimates or the inherent nature of the institutions themselves.

Interest rate risk in the banking book (IRRBB)

The BCBS acknowledged that IRRBB is a potentially significant risk which merits support from capital. However, because of the considerable heterogeneity across internationally active banks in underlying risk and the processes for monitoring and managing it, the BCBS decided to include IRRBB in Pillar 2. At the same time, the BCBS specifically provided for supervisors who considered that there was sufficient homogeneity within their banking populations regarding the nature and methods for monitoring and measuring this risk, to establish a minimum capital requirement.

In light of its assessment of Australian market practices, APRA exercised this discretion but only for ADIs adopting the advanced approaches. To assist with implementation, the starting date was delayed until 1 July 2008. The main concern expressed by the ADIs involved was the potential distortion it would create in international comparisons given that Australia, to date, is the only jurisdiction to exercise this discretion. APRA acknowledges this concern but believes it can be adequately addressed through disclosure and education of analysts.

Pillar 2

Around the world, Pillar 2 is proving to be particularly challenging. The initial consideration of Pillar 2 in Australia was made against a background of apparently large reductions in credit risk capital under the IRB approaches that could not be fully explained by the structure of banks' balance sheets. With an apparent shortfall in Pillar 1 capital there was an inclination to look to Pillar 2 as a means of 'clawing back' regulatory capital. As noted above, however, in APRA's view there were weaknesses in some of the original credit risk estimates. As these weaknesses have been addressed and the Pillar 1 numbers have become better understood, APRA has been able to take a less prescriptive approach to Pillar 2 and to align it more closely with its existing supervisory processes.

Under APRA's prudential standards, each ADI is subject to a prudential capital ratio (PCR) as determined by APRA. The PCR cannot be less than eight per cent but it may be higher. APRA uses a number of tools to determine the PCR.

APRA's existing Probability and Impact Rating System (PAIRS) is a key input. PAIRS is a structured framework for supervisory risk assessment. In determining the PCR, supervisors make judgements regarding inherent risks and the quality of an ADI's risk management and controls, and also consider certain capital support factors. An overall score for an ADI is produced that forms the basis for the PCR.

As part of the Pillar 2 process, ADIs must have their own internal capital adequacy assessment process (ICAAP). An ICAAP is an ADI's own view on the amount of capital it must hold to cover risks from its activities, and it should be proportionate to the complexity of the institution. Those ADIs, for example, that have been approved to adopt the advanced approaches are required to submit a detailed document addressing all the material risks to which they are exposed. In contrast, while the ICAAP for a smaller ADI should identify the material risks to which it is exposed, it would not be expected to include the detailed quantitative analysis of the larger institutions.

APRA takes into account an ADI's ICAAP and other relevant factors when determining the PCR for the institution. PCRs are not publicly disclosed by APRA.

Pillar 3

APRA has taken a two-tiered approach to Pillar 3. For those Australian-owned ADIs adopting the advanced approaches, the requirements closely align with those of the Basel II Framework. The requirements for ADIs which have not adopted the advanced approaches are less onerous but are equally relevant. ADIs will make their first Pillar 3 disclosures as at end-September 2008.

Prudential reporting

The implementation of Basel II in Australia has required a new suite of prudential reporting forms. APRA has taken the middle ground compared to the amount of information being collected in other jurisdictions. The first submission date was as at end-March 2008 and APRA has worked closely with ADIs to facilitate the completion of the new forms.

Conclusion

The Basel II Framework represents a more comprehensive approach to risk management and regulatory capital than its predecessor and it will improve the overall efficiency and resilience of banking systems. As such, it will benefit depositors and other creditors of the various ADIs. Of course, banking is all about risk-taking and ADIs do not, and cannot, hold capital against all unexpected losses. Rather, capital is held against unexpected losses up to a certain, albeit high, level of confidence - typically 99.9 per cent or higher.

In itself, capital does not directly provide a source of liquidity. Nevertheless, equity capital in particular does reduce liquidity risk exposure and the need for cash because, unlike all other liabilities, it never has to be repaid. In addition, during times of liquidity stress, a higher level of equity capital can facilitate access to liquidity by giving liquidity providers a level of confidence; equity capital also provides a buffer that can be used to absorb any higher costs of obtaining liquidity.

The approval process for those banks adopting the advanced approaches has challenged, and as a consequence strengthened, their internal risk estimates and governance processes. The approval process has also led to greater transparency within their organisation of the internal modelling the banks use in their day-to-day operations. Under Basel II, regulatory capital has also become much more risk-sensitive and opportunities for regulatory arbitrage have been significantly reduced.

APRA has sought to use its national discretions to make the standardised Basel II approaches more relevant for those many, and mainly small, ADIs that have adopted them. At the same time, APRA has sought to minimise regulatory burden by simplifying the standardised approaches wherever appropriate. APRA's success in meeting this objective will become evident as those approaches are embedded into ADIs' risk management processes and the first few regulatory returns are prepared. The overall benefits of Basel II from the greater risk-sensitivity of regulatory capital and improvements to risk management will manifest themselves over time and, in APRA's view, will be significant.