Basel II: Implications for Hong Kong[1]

by the Banking Policy Department

The New Capital Accord (Basel II) of the Basel Committee on Banking Supervision has come a step closer to fruition with the April release of the third consultative document. The HKMA believes implementation of the Accord will be an important element in maintaining Hong Kong's position as a leading international financial centre. This article takes a fresh look at the risk management aspects of Basel II, examines the potential implications for the Hong Kong banking industry and highlights the approach the HKMA intends to adopt. A summary of the results of the third quantitative impact study for Hong Kong is also presented to illustrate the potential impact on the capital requirements of banks as a result of the latest proposals.

WHY THE NEED FOR BASEL II?

The process of devising a New Capital Accord by the Basel Committee has already been more than four years in the making and is still three and a half years from its implementation. This timescale alone indicates the magnitude of the project and the enormous implications it will have for the banking industry.

The Committee's initiative to develop Basel II stems from its recognition that the existing Accord is no longer adequate for today's banking environment. In the 15 years since it was introduced, the nature of banks' business and the risks they are running have changed dramatically. As a result, the Accord no longer functions effectively as a mechanism for ensuring that banks hold an amount of capital that is broadly commensurate with the risks they run. In particular, the current broad-brush treatment of credit risk means there is the same capital requirement for credit of widely varying quality. Despite the fact the existing Accord was modified in 1997 to incorporate a capital requirement in respect of market risk, it does not require banks to hold capital against many other risks they run — for example, operational risk, interest rate risk in the banking book, and business cycle risk.

OBJECTIVES OF BASEL II

While the objective of better matching capital requirements to the risk taken is worthwhile, it is only part of the story. Basel II has much broader aims. It is an attempt to mould supervisory capital requirements to the way in which banks manage their business. More importantly, it aims to relate the capital requirement not only to the amount of risk banks undertake, but also to how well they manage that risk. In other words, not only will banks have lower capital requirements in respect of lower risk credits, but they will also "earn" lower capital requirements if they can demonstrate that they manage the risk well.

In view of its focus on the management of risk rather than the more accurate measurement of risk, it may be more appropriate to describe Basel II as the first 'Risk Management Accord' instead of the second 'Capital accord'. Banks looking to reduce their capital charge will have two choices: either reduce

[1] Adapted from: (i) a speech delivered by Simon Topping, Executive Director (Banking Policy) of the HKMA in a seminar on "Basel II: Implications for Hong Kong" organised by the City University of Hong Kong and Oracle Systems Hong Kong Limited on 5 July 2003; and (ii) the summary report on QIS3 results released to the banking industry by the HKMA on 9 May 2003.

the risk, for example by substituting better risk credits for lower risk credits, or by reducing positions; or simply managing the risk better. And this will apply not just to credit risk. For example, with operational risk, banks will have the option of investing in more advanced approaches which will translate into lower capital charges.

CHOICE OF APPROACHES UNDER BASEL II

A key feature of Basel II abandons the "one size fits all" approach whereby banks of varying shapes and sizes are "shoehorned" into one inflexible system of capital charges. Instead, banks will be able to choose their own approach. For instance, they might opt for the standardised approach or the internal ratings-based (IRB) approach for credit risk, and any one of the various approaches to operational risk.

The HKMA does not propose to mandate which particular approach should be adopted. Individual banks will be expected to conduct their own feasibility study and cost and benefit analysis to aid them in their choice of approaches. They will also be responsible for ensuring the level of risk management is commensurate with the types and levels of risks being run. However, the HKMA will have its own views on what levels of sophistication of risk management are expected for different types of banks. For example, a large bank with significant credit risk will not necessarily be expected to implement advanced IRB. But such a bank will be expected to have a fairly advanced internal credit rating system. As another example, banks with a significant level of market risk will generally be expected to implement a models-based approach to measuring the risk.

This flexible approach — in contrast to that being adopted by some other supervisors, who are mandating that particular approaches be adopted by certain types of banks — is, in the HKMA's view, the most appropriate approach for Hong Kong. It recognises the wide variety of banks in Hong Kong in terms of their business focus, size and complexity, as well as the nature and combination of risks they face. As such, it is appropriate a wide variety of credit risk management and other risk management practices is available. Nevertheless, the overriding factor remains that the risk management practices adopted by the bank must be adequate for the bank's particular circumstances. And this is primarily a matter for the bank's management to determine, although the HKMA, given its statutory responsibilities, will also have an interest in the issue.

Three specific reasons underscore this approach. First, the HKMA is not against banks taking risk. That is the business they are in. Banks are simply expected to recognise and manage the risk effectively. Secondly, the HKMA is not driving banks to invest in unnecessarily sophisticated risk management systems. What is appropriate will clearly vary from bank to bank, depending on the nature and scale of their business and the risks they run. Thirdly, Basel II is not aimed at making life difficult for smaller banks by raising the hurdle too high in terms of what they need to spend on risk management and on regulatory compliance. On the contrary, the new framework is carefully designed to accommodate banks of all shapes and sizes.

HOW WILL BASEL II CHANGE BANKING IN HONG KONG?

The HKMA does not expect to see any dramatic changes overnight. It is envisaged that over time there will be some re-focusing of how the risks within banks are addressed, both by banks themselves and by the supervisors. This will be more in the nature of a gradual evolution of risk management practices among banks, in two main areas. The first will be a more systematic identification of risk, and covering a wider range of risks. The second will be the increased use of quantitative techniques, including modelling and stress-testing.

Systematic Risk Identification

In many respects, Hong Kong is already quite well advanced in this area. For several years now the

HKMA has adopted a risk-based approach to the supervision of banks. The approach puts emphasis on the evaluation of the quality of risk management systems and internal controls for the various types of risks faced by banks. First, the inherent risks being run by a bank in each of its business lines are identified. They focus on eight inherent risks — credit risk, market risk, interest rate risk, liquidity risk, operational risk, legal risk, reputation risk and strategic risk. These risks are then classified as either "high", "moderate" or "low", taking into account the current position and likely future developments. The risk control practices to manage these inherent risks are then evaluated, and classified as "strong", "acceptable" or "weak". This evaluation takes account of such factors as management oversight, policies and procedures, risk measurement and internal controls. The final step is to combine the assessments to determine whether, for each business line, the risk controls are adequate given the level and direction of risk. This helps identify areas where there is an apparent mismatch — for example where a particular business line is assessed as "high" risk, but the risk control is assessed as "weak". Appropriate follow-up action would then be conducted.

The supervisory dialogue between the HKMA and banks, therefore, already focuses on the full range of risks, even though only a small sub-set of these risks are currently addressed in the capital framework. As time goes on, the HKMA would expect the banks themselves to conduct more of this analysis; and would expect the larger banks to have a fairly well-developed process for assessing all the risks inherent in their business, the quality of the management of these risks, and ultimately how much capital they need to hold in respect of these risks.

Use of Quantitative Techniques for Risk Assessment

This again is something to which Basel II will give added impetus. The most obvious area for this is credit risk, where banks are expected to make greater use of credit scoring models and, in particular, models for estimating probability of default (PD). It seems likely only a very small number of banks in Hong Kong will decide, on the basis of their assessment of the costs and benefits, to invest immediately in a fully-fledged IRB-compliant system. However, many more will want to test the water by starting to make greater use of models to assess PD in their credit risk management process. This is something the HKMA would welcome and, indeed, encourage. Rather than building an elaborate in-house model, many banks may start by purchasing and adapting a system from an external vendor, or they may join together with other banks to share the cost of building models and databases, or establish a relationship with the academic community.

Stress-testing is the second important area in which there is likely to be an increase in the use of quantitative techniques. As shown by the Asian financial crisis, economic shocks can cause the level of economic activity, asset prices and currency values to fluctuate widely. This, in turn, can have a significant impact on banks' profitability, capital position and, ultimately, their ongoing viability. One way of trying to ensure that banks can withstand such stresses is to conduct regular stress-testing to assess how they would be affected in hypothetical stress scenarios. Such testing is becoming an increasingly integral part of the risk management process within banks and, for that matter, the supervisory process. For example, a good understanding of the extent to which a bank's asset quality might be affected by an economic downturn, or how the value of its holdings of securities might be affected by changes in interest rates, is valuable information in helping a bank manage its risks. This technique can be very useful and is one which many banks will want to explore further.

HKMA'S RECENT POLICY INITIATIVES

With the focus of Basel II on risk management, the HKMA is developing a number of policy initiatives to assist banks in enhancing their risk management capabilities and to enable them to be better prepared for compliance with relevant requirements of the New Accord (e.g. in respect of interest rate risk and stress-testing under Pillar Two[2]).

Credit Risk Management

The HKMA consulted the banking industry in September 2002 on preliminary proposals to revise the existing loan classification system, which principally involve breaking down the "performing" category into multiple grades and separating the assessment of borrower risk and the security attached to individual loans in these grades. The proposals reflect the HKMA's desire to encourage banks — including those that do not wish to formally use the IRB approach for capital adequacy purposes — to develop or enhance their internal rating systems to improve their credit risk management.

The HKMA will continue to develop this policy initiative as an integral part of the implementation of Basel II, taking into account the industry's comments on the proposals and any final changes in the Basel requirements. In particular, locally incorporated banks are expected to take appropriate steps to improve their internal rating systems along the lines of those discussed in the loan classification paper.

Other Risk Management Practices

A guidance note was issued by the HKMA on interest rate risk management in December 2002. This serves to provide guidance to AIs on qualitative and quantitative standards in respect of interest rate risk management. Moreover, Basel II requires supervisors to pay particular attention under Pillar Two to "outlier banks" whose economic value declines by more than 20% of the sum of Tier 1 and Tier 2 capital as a result of applying a standardised interest rate shock of 200 basis points to the bank's interest rate risk exposures. The guidance note explains the HKMA's approach to applying the 20% benchmark. In addition, to promote the development of sound stress-testing practices among banks, the HKMA issued a guidance note on stress-testing in February 2003. Other guidelines on the management of liquidity and foreign exchange risks are also being developed to incorporate latest international standards and best practices in these areas.

SUMMARY RESULTS ON QIS3

Prior to the release of the third consultative document (CP3), the Basel Committee launched the third quantitative impact study (QIS3) to gauge the potential impact of the latest proposals on the minimum capital requirements of banks in different jurisdictions. The HKMA invited 12 of the larger locally incorporated banks to participate in the exercise. All reported data based on the standardised approach for credit risk and the first two approaches, viz., the basic indicator approach and the standardised approach, for operational risk.

TABLE 1
Overall Impact on CAR

	QIS 3 (percentage point)	**QIS 2** (percentage point)
Overall change in CAR	-0.87 ppt	-2.58 ppt
- due to credit risk	*0.52 ppt*	*-0.13 ppt*
- due to operational risk	*-1.30 ppt*	*-2.50 ppt*

As shown above, the average capital adequacy ratio ("CAR") of the participating banks would fall by 0.87 ppt (a fairly negligible amount given that the average CAR of the Hong Kong banking system currently stands at 15.6%). The impact is significantly smaller than that for QIS2[3], largely owing to the following changes in the calibration rules in CP3:

[2] Pillar Two is one of the three mutually reinforcing pillars of the new capital framework, focusing on supervisory review of a bank's internal process for assessing its target capital adequacy ratio, taking account of all risks, including non-credit risks (e.g. interest rate risk in the banking book and stress-testing requirements). The other two pillars, namely Pillar One and Pillar Three, relate respectively to minimum capital requirements and use of market discipline to strengthen disclosure and sound banking practices.

[3] The results of QIS2, which was conducted after the second consultation on the New Accord, were summarised in an article contained in the August 2001 issue of the *HKMA Quarterly Bulletin*.

- Credit risk — the introduction of a regulatory retail portfolio with the application of a 75% risk weight to exposures which satisfy the required criteria; and the lowering of the preferential risk weight for fully secured residential mortgage loans (RML) to 35%;

- Operational risk — the reduction in the proposed target of operational risk capital as a percentage of current minimum capital requirement from 20% to 12%.

In terms of the change in risk-weighted assets (RWA), the latest calibration raises the overall average RWA of banks by 6.38% (compared with 23.53% under QIS2). The increase in RWA is the combined effect of a reduction of 3.44% for credit risk RWA and an increase of 9.82% for operational risk RWA. Table 2 below shows the contribution of individual portfolios to the change in overall RWA.

Another change in the calibration rules proposed since CP3 was initiated relates to the treatment of provisioning. The proposal would give recognition to specific provisions on past due loans through lowering the 150% risk weight for those with specific provisions reaching 20% and 50% of the outstanding amount to 100% and 50%[5] respectively. Not all participating banks were able to provide the substantial extra data required within the tight Basel timeline for a precise estimation of the extra impact the treatment would have on them. But using very broad-brush assumptions based on the available supervisory data, the HKMA estimates that the treatment would further lower the reduction in CAR from 0.87 ppt to 0.73 ppt, or the increase in RWA from 6.38% to 5.30%.

TABLE 2

Portfolio Contribution to Change in RWA

Portfolio	% of exposures	Contribution to change in overall RWA
Corporate	30.44%	-2.64%
Corporate SME[4]	3.67%	0.50%
Sovereign	5.60%	-1.32%
Bank	26.07%	3.23%
Retail: (of which)	17.72%	-2.54%
– Mortgage	*12.16%*	*-0.92%*
– Non-mortgage retail	*5.56%*	*-1.62%*
Retail SME	3.79%	-0.95%
Trading book	7.02%	0.49%
Other assets	5.69%	-0.21%
Overall credit risk		**-3.44%**
Operational risk		**9.82%**
Overall change		**6.38%**

The QIS3 results for Hong Kong for the standardised approach are broadly in line with the global results published by the Committee. No comparison is available for the position of Hong Kong in respect of the IRB approaches as all participating banks in Hong Kong based their submissions on the standardised approach only. The global results, in general, show that the more advanced the approaches used by banks, the higher the capital savings achieved.

The QIS3 results for Hong Kong suggest that the latest calibration of the standardised approach of Basel II is broadly satisfactory. However, even the simplest of the three approaches for credit risk, the standardised approach, requires banks to develop systems to classify asset portfolios, capture data on external credit ratings and revalue collateral for exposures. The systems will also be required to allocate operating income among standard business lines for the measurement of operational risk. These requirements will involve considerable system changes and implementation costs for banks. In an effort to streamline the implementation process and avoid unnecessary complexity for the smaller institutions, the HKMA will consider the extent to which the latest capital proposals can be further simplified, taking into account any suggestions from the industry.

[4] Small and Medium Enterprises

[5] The 50% risk weight is subject to national discretion.

CURRENT POSITION IN HONG KONG

As Basel II has yet to be finalised, it is obvious there could be further changes to the proposals set out in CP3, including the timetable. Notwithstanding this, the HKMA believes it is necessary, at this stage, to provide the industry with its current thoughts and implementation plans to facilitate banks in their own planning and preparation for the New Accord. Consequently, in July 2003, the HKMA issued for industry consultation, proposals for implementing Basel II in Hong Kong (which are based on the assumption that it will go ahead largely in its present form, and as scheduled). These proposals reflect the HKMA's policy intentions in respect of the following areas:

- the overall approach to implementing the New Accord, including the availability of the advanced approaches, tentative work programme, consultation plans and options for dealing with legislative issues;
- the scope of application to entities within a banking group;
- the choice of credit and operational risk approaches under Pillar One. Special focus is placed on proposals for the exercise of national discretions and issues that institutions should be aware of if they intend to adopt the IRB approach; and
- the approach towards implementing other standards required under Pillars Two and Three.

The HKMA will carefully consider the industry's feedback on these proposals as well as further developments internationally on Basel II before finalising the implementation plans. Meanwhile, because of the importance of cross-border co-operation with other overseas supervisors to the implementation of Basel II, the HKMA will continue to take an active part in regional and international fora (such as EMEAP[6] and the Core Principles Liaison Group established by the Committee). This will enable the HKMA to monitor closely developments in relation to the New Accord and the manner in which it is being implemented in different jurisdictions, and to reflect, where appropriate, the views and comments of the Hong Kong banking industry.

CONCLUSION

Implementation of Basel II is, in the HKMA's view, an important element in maintaining Hong Kong's position as a reputable and well-supervised international financial centre. Compared with the existing Accord, Basel II is more risk-sensitive and covers a wider range of banking risks. It also promotes the importance of sound risk management principles and practices among banks. The HKMA is, therefore, committed to adopting it in Hong Kong. However, because of the complexity of Basel II, this will require the commitment of significant resources by the HKMA and by the banking sector itself. The HKMA will work closely with the industry on reaching an agreement on an implementation approach that is both practicable and appropriate for the particular circumstances of Hong Kong.

[6] Executives' Meeting of East Asia-Pacific Central Banks.