



ASIA PACIFIC FINANCE AND RISK SERIES

EFFICIENT REGULATORY CAPITAL MANAGEMENT

INTRODUCTION

In the lead up to the Global Financial Crisis (GFC), economic growth throughout Asia was strong and capital was widely available and inexpensive. As such, Asian banks generally invested more in product innovation and sales growth than in risk management and the efficient employment of capital. The GFC changed this environment dramatically. In particular, global investor confidence fell, stemming the flow of cheap capital, while regulatory reforms, driven by the Basel Committee, increased capital requirements. This has put renewed pressure on the accuracy, reporting and usage of regulatory capital.

As a result, Asian banks are following their leading global peers in taking another look at the most efficient use of regulatory capital. This has tended to involve some combination of three main elements: actions aimed at increasing the accuracy of risk-weighted assets (RWA) calculations; actions aimed at optimising risk-adjusted return on capital, thereby better aligning regulatory capital, risk appetite and strategy; and actions aimed at optimal structuring of available capital through use of different capital instruments and corporate structures.

The definition, objectives and relative strengths of the three elements are illustrated in this table:

Capital management optimisation efforts post GFC

ELEMENTS	DEFINITION/SCOPE	OBJECTIVES	PROS/CONS
1 RWA calculation accuracy	Ensure the most accurate and appropriate measurement of regulatory capital and adjust sources of usage	Revisit the measurement of regulatory capital: tighten product definitions, improve modelling data and improve parameter estimation techniques	Potential for large capital benefits by eliminating excess conservatism. Low cost and quick to implement as few may require formal regulatory approval
2 Capital usage	The optimisation of risk-adjusted return on capital employed through pricing and portfolio construction	Optimise product risk and return to better align risk appetite with employed capital (including product/client matching)	Potential for marginal revenue benefits but requires development of accurate and expensive models so is favoured by more sophisticated banks
3 Structure of available capital	The optimisation of Tier 1 and Tier 2 capital relative to requirements and capital costs	Increase the efficiency of existing capital by adjusting the composition of capital, the instruments used and modifying corporate structure	Potential for large capital benefits, but can be expensive and unappealing to some shareholders

When well deployed, such elements can yield significant efficiency improvements. Oliver Wyman has been involved in over 20 related engagements in the past 5 years, for a range of different banks across Europe, US and Asia and across banks operating both on standardised and internal ratings based approaches (the IRB approach) to capital requirements – we have deployed our database of over 300 relevant levers to help banks release and redeploy 5%-15% of RWAs, in some cases equating to over US\$20 MM-60 MM in annual cost of capital savings.

If there is a continued downturn in Asia prompted by a slowdown in China or broader downstream effects of the GFC, and banks end up with rising funding costs, we believe techniques such as the above could be the cheapest way of raising capital. If anything is to be learned from the European experience, it is that completing such studies before a potential downturn is considerably less troublesome than during a period of financial unrest.

We next discuss in more detail each of these three elements.

ELEMENT 1

RWA CALCULATION ACCURACY

Most banks can achieve substantial capital efficiency improvements quite quickly by addressing the accuracy of RWA calculations to closer align to the risk being taken. While banks using advanced approaches to calculating regulatory capital have greater potential to increase accuracy, Asian banks, traditionally on the standardised approach, can still see significant benefits. The main focus areas typically include:

- Improving data systems and infrastructure: Identify potential deficiencies in source systems that lead to conservatism in risk exposures, collateral allocation, or modelled risk parameters, e.g. to identify and close old accounts and unused products, update collateral values and source external ratings for non-rated companies etc.
- Where the IRB approach is used, addressing inefficiencies and conservatism built into IRB models and parameters by:
 - Reviewing the adequacy and granularity of the internal rating master scale
 - Revising central tendency assumptions based on longer historical data and optimising rating model cyclicalities, Point-in-Time (PIT) vs. Through-the-Cycle (TTC) vs. hybrid
 - Ensure unsecured Loss Given Default (LGD) is differentiated between portfolios, and key assumptions such as cure rates and discount rates are reviewed and updated
- Tightening product definitions and classifications to ensure optimal risk classification, e.g. the retail vs. non-retail SME cut-off definition and management of related portfolios
- Ensuring the most appropriate choice of regulatory regime, migrating naturally diverse portfolios to appropriately calibrated regulatory curves and progressing risk management quality based on materiality through from standardised to foundation, to advanced

ELEMENT 2

OPTIMAL RISK/RETURN CAPITAL USAGE

Analysing the risk/return economics of each asset class in the context of a clear appetite for capital consumption can help ensure the most effective use of capital employed. Given the capital requirements for each asset class, it is important to ensure that products are appropriately priced for each client segment to justify the capital charge incurred whilst maintaining margin. Aspects of risk-adjusted return on capital optimisation include:

- Limit and collateral management e.g. through reduction of limits on credit lines for customers with low profitability and/or low limit utilisation, or identification of potential untapped collateral
- Product pricing and sensitivity analysis, e.g. high risk clients have price inelasticity and can often be priced higher with minimal impact on volume
- Front-office portfolio optimisation and linking of performance incentives to risk-adjusted return on capital, e.g. pricing adequately to cover risk and using economic profit and risk-adjusted return on capital to size the bonus pool
- Exiting or restructuring segments and businesses which are unprofitable after full charges for risk capital, or which will become so in the future (e.g. Basel III regulation) e.g. by optimising the mix of products provided to a given customer group. For one bank we found that in the loan book for small and medium enterprises (SME), a slight modification of the product set, combined with a modification to product design, yielded an 18% reduction in required RWA

ELEMENT 3

STRUCTURE OF AVAILABLE CAPITAL

Capital restructuring can provide a significant potential for improving the capital adequacy position of Asian banks due to the absence of a well-developed framework for conglomerate supervision in many countries. In particular, where there is no conglomerate supervision there is typically no capital requirement for non-bank holding companies of financial conglomerates. Capital restructuring efforts often focus on:

- Making better use of available higher-order capital instruments, e.g. residual T1 and T2
- Restructuring in order to reduce Tier 1 deductions from the Level 2 banking group, e.g. reorganising under a Non-Operating Holding Company (NOHC)
- Selling capital-costly subsidiaries
- Distributing post-acquisition retained earnings from subsidiaries to parent banks as these do not consolidate up under current Level 2 banking group capital rules

ADDITIONAL BENEFITS

While maximum regulatory capital efficiency is likely to result from a combination of these levers, not all are available for banks using the standardised approach. For these banks, efforts are usually focused more on systems infrastructure and data improvements as well as risk transfer and capital management.

Banks using the foundation or advanced IRB approaches to credit risk regulatory capital have a larger number of levers available through the development of model parameters (such as Probability of Default, Loss Given Default and Exposure at Default (PD, LGD, EAD)) and methodology (such as point-in-time versus through-the-cycle), the accuracy of which depends heavily on the quality of data systems and infrastructure.

The benefits of adopting an IRB approach can be a significant reduction in RWA, increased ownership and management of risks, and improved business operations. Banks that have invested in advanced risk measurement approaches have seen significant improvements in business operations through: better customer selection, better pricing, reduced credit losses and improved capital management. As many regulators in Asia already allow banks to use the IRB approaches to credit risk regulatory capital calculations, and as the regulatory environment exerts additional pressure on Asian banks to remain in step with global regulatory changes, consideration should be given to moving to an IRB approach.

Improving regulatory capital measurement and management can not only reduce costs by freeing up capital, but, if well embedded in management processes, the disciplines involved can also lead to a better risk/return structure for the bank and improved systems infrastructure and data.

While such improvements to better align risk, return and sophistication of risk and data processes can be beneficial, gaming of the regulatory system will of course have a negative effect upon the relationship with supervisors. Moreover, it can be expensive. There have been several cases globally of banks taking large losses or having large fines imposed from executing trades related to perceived “regulatory arbitrage”, including outright manipulation of IRB risk weights to improve returns on regulatory capital of specific transactions.

True regulatory capital management should seek to improve a bank’s risk profile and stability while promoting better risk management practices and efficient use of capital. It must also be done within not only the letter, but also the spirit, of the regulatory regime.

CLIENT EXAMPLES OF RWA CALCULATION IMPROVEMENTS

We now present two case studies from the Asia-Pacific region, one from a bank on the IRB approach and one on the standardised approach.

CASE STUDY 1

MID-TIER ASIAN BANK: 1.5% PERCENTAGE POINTS INCREASE IN TIER 1 CAPITAL RATIO

After suffering large write offs and increased RWA calculations through ratings downgrades as a result of the GFC, a mid-tier Asian bank undertook an RWA accuracy program to improve their capital position and guard against breaching minimum regulatory capital ratios. Oliver Wyman was engaged to manage a fast action, high impact RWA accuracy improvement program to avoid asset sales and government intervention.

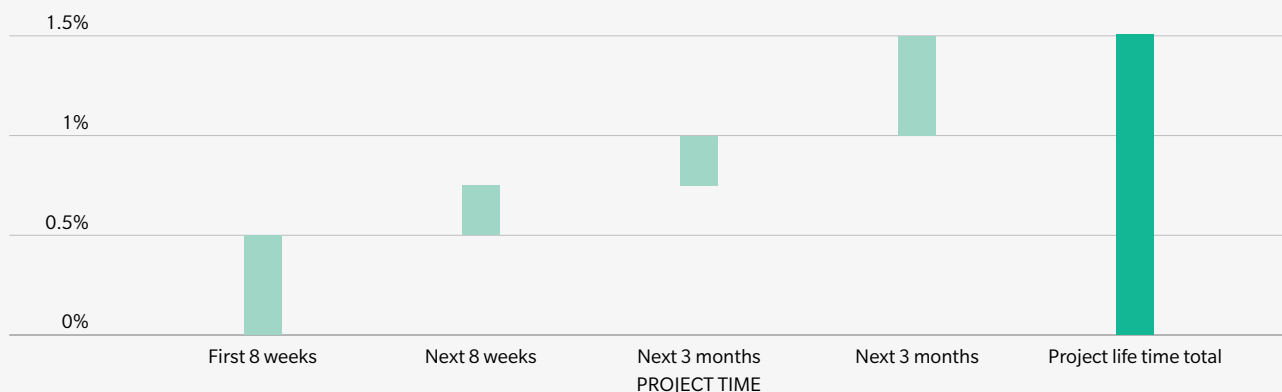
Oliver Wyman focused on improving asset calculation accuracy by: removing double counted exposures; implementing derivative netting processes; and identifying high risk asset sales. Additional emphasis was placed on accurately capturing intra-product diversification in the market risk Value-at-Risk (VaR) calculation and removing conservatism from credit ratings by increasing data accuracy. The latter provided the largest and fastest reduction in RWAs.

Over a 10 month period, Oliver Wyman together with the client team identified and helped improve the bank's Tier 1 capital ratio by 1.5% resulting in over US\$125 MM cost of capital savings in the first year, based on US\$100 BN assets and a 10% cost of capital.

Exhibit 1: The project produced balance sheet results within 8 weeks and then continued to implement more difficult initiatives

PERCENTAGE POINT INCREASE IN TIER 1 OVER PROJECT LIFETIME

TIER 1 CAPITAL CREATED



Source Oliver Wyman analysis

CASE STUDY 2

ONE TOP TIER ASEAN BANK: 7% INCREASE IN RWA ACCURACY

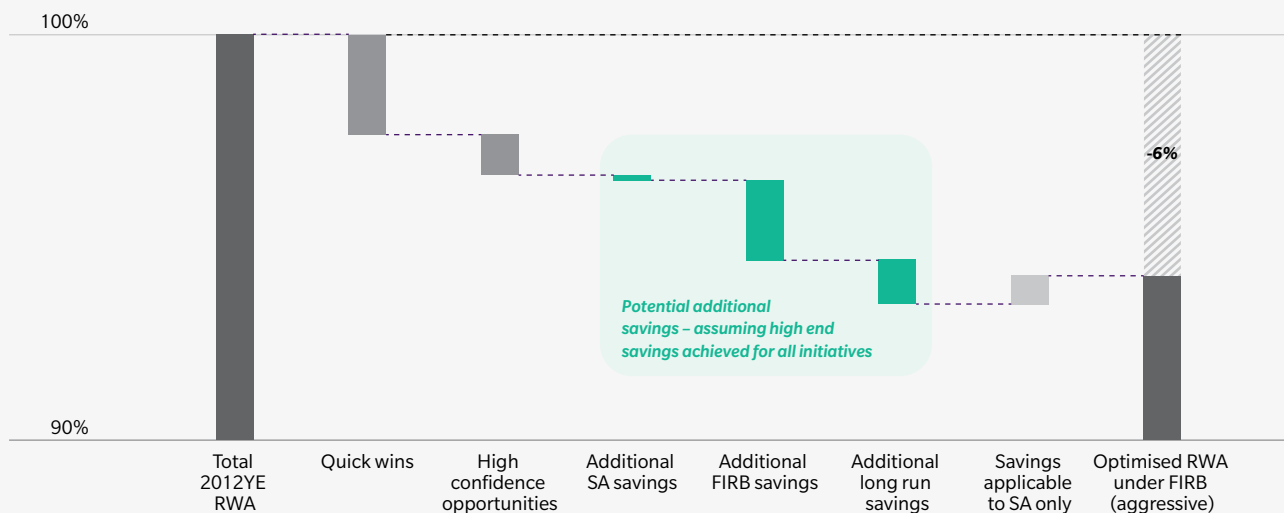
One of the top tier ASEAN banks using the standardised approach undertook an internal project to improve their balance sheet and the accuracy of their capital estimation. Their internal capital management team was able to achieve 7%-8% of RWA savings in an initial round. While this represented a significant reduction in required capital, the bank wanted to know if additional savings were possible under the standardised approach and what the implications would be if they adopted an IRB approach. In addition, the bank was interested in introducing active credit portfolio management to direct its business and portfolio mix to more capital-efficient areas.

The bank engaged Oliver Wyman to look into additional avenues for RWA accuracy improvements under the standardised approach and provide a high-level impact assessment and gap analysis for moving towards the IRB approach to credit risk.

The Oliver Wyman team conducted a thorough review of both transaction and portfolio-level data across the entire banking group in order to assess capital improvement opportunities. We also conducted a model review, gap analysis and high-level RWA efficiency improvement exercise to assess the gains that would be available under an IRB approach.

The overall impact of Oliver Wyman's work resulted in a further 7% saving in RWA (using both the current standardised approach and preliminary assessment of moving to an IRB approach). A large part of these savings were immediate quick-wins, i.e. realised and implemented during the short review project, or achievable with a high degree of confidence, i.e. internal data issues (no regulatory approval needed) rather than model parameter changes (high regulatory scrutiny).

Exhibit 2: Additional potential savings



Source Oliver Wyman analysis

CONCLUSION

As the regulatory landscape increases the requirement for regulatory capital and the changing economic cycle reduces the flow of available capital, banks will be encouraged to ensure that capital is managed efficiently. It is important for Asian banks to structure their balance sheets and businesses to ensure accurate calculation and optimal use of capital and assets.

For banks using the standardised approach to calculate credit risk regulatory capital, RWA calculation accuracy improvements can provide a low-cost solution for improving regulatory capital ratios, however, there is even greater improvement potential for banks using the foundational or advanced IRB approaches.

It is important to ensure that any regulatory capital accuracy improvements better reflect the risks being taken, align risk and capital and are well within the boundaries and spirit of the regulatory regime. Efficient capital management should not be about gaming the system or arbitraging weaknesses in a regulatory structure. Efficient capital management, done correctly, will benefit investors, banks and regulators alike as it results in better risk management practices and risk-return decision making while reducing the threat of insolvency from uncapitalised losses.

Incidentally, such projects are those rare opportunities where the Chief Risk Officers (CRO) can earn a quantifiable return on investment and improve business economics – a win-win-win situation for Risk, Finance and Business.

Oliver Wyman is a global leader in management consulting that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation.

For more information please contact the marketing department by email at info-FS@oliverwyman.com or by phone at one of the following locations:

ASIA PACIFIC
+65 6510 9700

AMERICAS
+1 212 541 8100

EMEA
+44 20 7333 8333

AUTHORS' CONTACT INFO

Wolfram Hedrich

Partner, Finance & Risk Practice

+65 6510 9700

wolfram.hedrich@oliverwyman.com

Stuart Carmichael

Consultant, Finance & Risk Practice

+61 2 8864 6555

stuart.carmichael@oliverwyman.com

www.oliverwyman.com

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