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Active Portfolio Management (APM)

A framework to manage credit risk – and build competitive edge

By Hanna Sarraf, Accenture

The banking industry has traditionally believed that credit risk management is primarily about minimising loss. But converging competitive and regulatory pressures are transforming the credit risk landscape. As a result, today's leading institutions are moving towards a credit risk framework that enables them to enhance their performance, compete more effectively for profitable business and drive best practice by leveraging their Basel II investments. This framework is called Active Credit Portfolio Management (APM).

For banks, credit risk has traditionally been viewed as something to be avoided. Loan losses were generally put down to poor decision-making during the lending process, rather than being perceived as a predictable and integral part of the process of taking on the risk of an uncertain future event in exchange for an increased return on the investment.

This mindset had huge ramifications – the direct effects of which we can see in many of today's banking organisations. Crucially, it meant that systems were designed with the explicit aim of preventing these lapses in judgement from occurring. At the same time, the focus on loss avoidance led banks to set up elaborate and complicated credit infrastructures in order to support this.

Underlying assumptions

In a typical bank, this basic assumption of loan avoidance led to the development of complicated – and expensive – infrastructure to support this premise. For example, during the evaluation of a credit application, banks generally applied a rigorous 'four eyes' approach. Under this, both the loan originators and the credit analysts were responsible for evaluating lending propositions, with the latter having the authority for making the final decision on whether to approve or refuse it.

Fear of credit loss also drove specialisation. Loan officers with many years of lending experience tended to become narrowly specialised in a given market and a particular industry, in which they were seen as the most reliable assessors of risk. At the same time, authority levels were usually tiered by transaction size, which came to serve as a proxy for the level of risk. Large transactions were escalated to senior professionals, or to credit committees that combined the judgement and experience of several evaluators.

Finally, the traditional model of credit risk management tended to segregate credit decision-making from pricing and relationship management. This clear division between 'credit' and 'line' was regarded as key to preventing conflicts of interest and moral hazard, given that loan originators were primarily focused on – and rewarded for – volume.

Welcome to the new world

In the past few years, rapid change in the competitive and regulatory environment has exposed the shortcomings of this rigid and loss-averse approach to credit risk. The industry has seen developments in credit risk management, new rules for Capital Adequacy under Basel II and major advances in risk analytics and technology. In combination these have driven the emergence of a new generation of business models, and have caused banks the world over to rethink the fundamentals of how they organise and structure the lending process.

Until recently, many banks were working with a traditional 'buy and hold' approach to lending. Under this model, loan assets are held on the balance sheet – and portfolio management consists of waiting until the borrower either repays the loan or defaults on its obligations. This means there is little appetite or perceived rationale for ongoing attempts to steer the risk/return performance of the portfolio, or of the sub-portfolios within it. It also means that the impact of concentration risk on the bank's overall risk profile is often not taken into account. This in turn has further negative effects: as risks are not managed actively on a portfolio level, portfolio reporting tends to be of a low quality, as are the insights that management can gain into credit risk and pricing at a portfolio level.

These problems have not gone unnoticed. Regulators are showing concerns about banks' concentration risk – witness CEBS CP05, FSA The General Prudential Sourcebook BPRU, EU CRD and so on. Concentration risk is defined as part of credit risk. It includes large (connected) individual exposures and significant exposures to groups of counterparts whose likelihood of default is driven by common underlying factors such as sector, economy, geographical location and instrument type. Some banks' overall lending portfolio can be quite concentrated and, as a result, it is not very well diversified and carries a higher level of concentration risk.

The industry has responded to these concerns over the high concentration risks of some portfolios. Most significantly, major financial institutions have begun moving towards a more active portfolio management approach to their lending businesses.

One approach that some institutions are now taking is a new 'originate and distribute' business model. Under this model, a portfolio management unit is created to manage the diversification of credit risk at a portfolio level, by buying and selling credit risk on the secondary market. This approach brings significant advantages. Active portfolio managers can report on risk concentrations to credit committees, facilitate the valuation and monitoring of the loan portfolio globally, and support post-origination evaluation for buy/sell decisions and securitisations.

The road to Active Credit Portfolio Management

The Active Portfolio Management (APM) analytical framework is designed to evaluate each asset on the basis of whether its return on capital is above or below a certain hurdle rate.

The hurdle rate is usually defined as the cost of investors' funds above which an investment creates value and below which it does not. Typically, this threshold is based on the bank's cost of equity capital, plus or minus a risk premium to reflect the portfolio's specific risk characteristics, and calculated using the Capital Asset Pricing Model (CAPM).

CAPM represents the theoretical relationship between risk and return, and essentially indicates that the higher the risk in a transaction, the higher the return (see Figure 1).

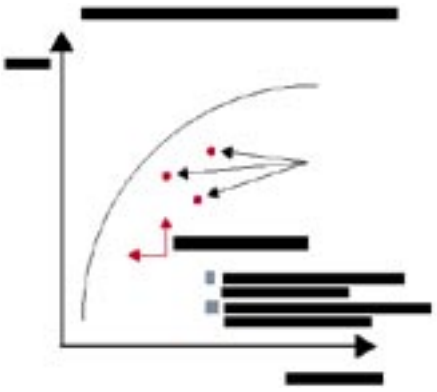

Figure 1: Capital Asset Pricing Theory (CAPM)

This risk/return relationship is fundamental to the development of any methodology to optimise the credit portfolio's risk/return profile. In the case of underperforming assets – those operating below the Efficient Frontier curve – three possible actions could be taken:

1. Improve the return for the same level of risk, e.g. through risk-based pricing or capital redeployment
2. Reduce the risk for the same level of return, e.g. by improving diversification (and therefore reducing concentration) and risk capital consumption
3. A combination of both

This optimisation approach is now reaching maturity with the emergence of Active Credit Portfolio Management (APM). To describe APM, it is first necessary to define some of the terms and concepts that underpin it – beginning with Credit Portfolio Risk.

Credit Portfolio Risk is the risk that the portfolio loss rates are higher – or the portfolio value lower – than originally targeted, as a result of concentrations of entity, industry or economy risks. Credit Portfolio Risk is expressed in terms of Unexpected Loss (itself driving Sharpe Ratio, Economic Capital and Risk-adjusted Returns on Risk Capital, or RAROC) and is mitigated essentially by reducing portfolio concentrations and increasing the degree of diversification.

Active Credit Portfolio Management can be defined as the technique that allows risk managers to measure returns against credit risk taken, enabling them to fine tune portfolios to match credit risk appetites as well as optimising risk/return ratios.

APM aims to reduce the likelihood of very high loan losses in any year due to concentration of risks. The implication is that banks looking to achieve this could choose to complement a strong origination force and a high-calibre credit risk department with an active portfolio management unit. Active Portfolio Management can result in a portfolio with the same level of income at less risk, a portfolio with more income for the same level of risk, or a portfolio with an optimised risk/return profile.

Figure 2: Impact of APM on the bank's credit loss profile

APM involves applying these principles fully and effectively to the management of the credit risk portfolio. Critically, it does not – and does not aim to – eliminate credit losses. However, as Figure 2 shows, the reduction in concentration risk and creation of liquidity does eliminate tail and extreme losses. And the allied processes of capital optimisation, re-balancing and reinvestment increases overall cashflow, thereby enhancing the ability to absorb losses, and improves a Bank's return on capital.

Wider implications of APM

However, the objectives of Active Portfolio Management also go much further. APM has the effect of focusing the organisation more tightly on the creation shareholder value. It does this by aligning the internal financial and risk measures of performance to create value and drive total return to shareholders.

Our client experience and industry research suggest that that the banking industry has a great deal to gain from achieving optimal allocation of capital in this way. It enables a bank can optimise its return on capital, either by increasing the amount of return earned per dollar invested or by decreasing the amount of capital needed to produce a certain return. APM provides an overall perspective and deeper insights into potential risk concentrations, and allows management to focus on the role played by every business in the creation of value and optimisation of the risk/return ratio.

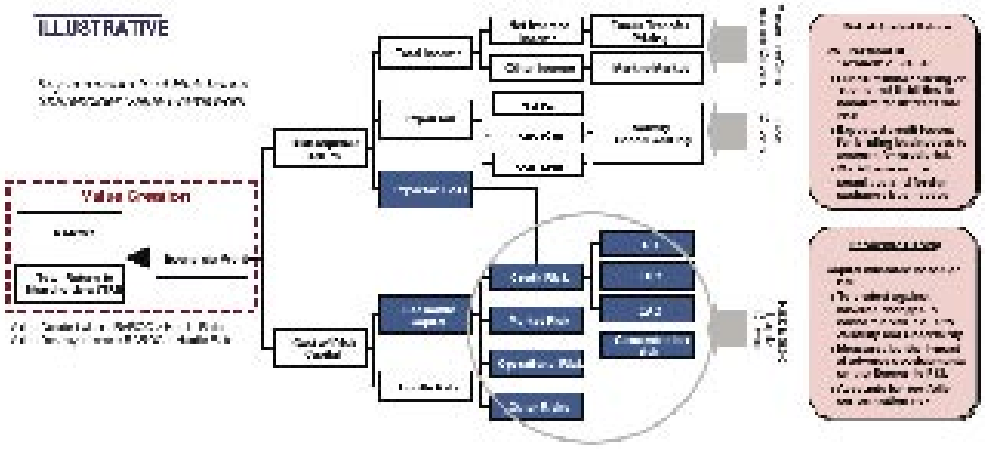

Figure 3: The positioning of concentration risk in the shareholder value tree

The value creation tree depicted in Figure 3 illustrates the link between risk and return, and shows how Economic Profit (EP) and Risk-adjusted Return on Risk Capital (RAROC) can be broken down into the key drivers of performance. 'Concentration risk' appears in the bottom half of the Shareholder Value Tree, as highlighted in the chart.

To achieve these effects, APM clearly cannot be a one-off exercise. It needs to be a continuous and iterative process of identifying and capitalising upon appropriate opportunities, while avoiding inappropriate exposures in such a way as to maximise the overall

value of the enterprise. The typical roles and responsibilities of the APM unit in this kind of model are listed in the accompanying information panel.

Depending on various factors such as geographical spread, operating model and risk management structures, different organisations may adopt varying degrees of the centralised APM framework. Some may opt to control the risk performance and corresponding capital utilisation at a sub-portfolio level (e.g. Wholesale vs. Retail portfolios). They can then consolidate these results to establish an organisational view of the consolidated portfolio's overall risk profile to compare against the stated risk positioning of its portfolio.

Business benefits

So, what hard long-term benefits does Active Portfolio Management provide to the business? The key benefit of APM is that it gives management the ability to evaluate the performance of a variety of activities and/or assets with potentially widely differing risk/return profiles on a consistent and comparable basis. This in turn leads to two further sources of competitive advantage.

1. Better-informed strategic decision making

APM means management can evaluate various potential opportunities on a comparable basis as well as determining which of their current activities and businesses are value creators, as opposed to value destroyers. This will help management formulate and execute the bank's strategic direction. Within the risk and strategy policy, resources can be reallocated from underperforming business activities to those which are earning a reasonable return on capital given the level of risk. Closer management of portfolio risk would allow the bank to invest in the credit derivatives market to ensure its portfolio risk matches its risk appetite and that potential returns are maximised.

The APM unit – roles and responsibilities

When set up correctly, the APM unit plays a pivotal role in value creation. Typically, its activities and responsibilities would include:

- Proactive management of risk and the optimisation of risk and return to free up capacity for growth at group level
- Reporting and analysis of risk concentrations and providing recommendations for improvements to the diversification of the total portfolio
- Ensuring group-wide consistency in risk pricing and risk/return reporting to management
- Consolidating risk information from each business unit
- Easier compliance with various regulatory requirements
- Supporting strategic planning and budgeting, providing recommendations on profitable and/or strategic target markets, setting pricing and risk/reward targets, reviewing product offerings and distribution channels, and helping define the overall risk appetite
- Efficient management of risk could lead to higher availability of capital for investment in new growth and investment opportunities, since well-managed credit portfolio will allow the business to shrink the difference between internal and actual capital requirements.

2. Enhanced Market Share

Secondly, APM allows banks to compete more effectively in the marketplace. They can develop strategies to sell off deals that destroy shareholder value, and can also capitalise on their enhanced management information by creating and securitising pools of deals with negative return on capital ratios or economic profits. The business benefit can be measured through the spread difference between loans that are below PAR for the bank, but are perceived as at PAR by the market.

In this sense, APM opens up significant opportunities for banks to earn substantial arbitrage profits and expand market share by applying their superior knowledge of the true underlying value of credit portfolio management. As with most improvements in analytical technology that take advantage of market inefficiencies, the biggest gains typically accrue to institutions that are relatively early adopters of the relevant technology. At the other extreme, as competition and liquidity continue to increase, institutions that hang back face the risk of higher credit risk and an inability to originate and structure the most beneficial deals for their business.

The key challenge: systems and data

In the wake of Basel II, regulators are giving strong signals that portfolio modelling tools might be permitted as a way of determining credit risk capital in the longer term. This regulatory perspective is causing banks to start working on the implementation of such models, in the knowledge that implementation will be complex and time-consuming.

A further factor is that regulators are going to require banks to disclose much more risk information. This in turn means that banks will need much better insights into their risks on a portfolio level. Within a relatively short timeframe, banks have to set about building the infrastructure to cope with both of these developments.

Facing up to complexity

For many banks, the current starting-point is hardly encouraging. Experience shows that independent, departmental, uncoordinated data stores and point-to-point interface management are costly, resource intensive and error prone.

"The biggest challenge is systems integration. Getting all different tools to interact with each other, feed interlinked data to datamart [and so on], are proving challenging".

– Major European Universal Bank

In such an environment, significant work will be involved in specifying and building the systems required for up-front data capture, data links, data storage and data processing. The Basel Committee expects risk management to be an evolutionary process. This means that systems will need to be flexible and scalable enough to support increasingly sophisticated models, without jeopardising at any point the availability of current or past data for management or disclosure purposes.

In order to find an effective and comprehensive way to access the volume and complexity of data needed to meet the Basel II requirements and their APM objectives, one approach that some banks are taking is moving towards centralised data management and storage solutions that could provide the maximum benefits in terms of meeting both structured and potentially less structured requirements. However, a centralised approach may not suit all banks because it may not fit with how they are structured and governed or with the way their data is currently stored and managed. By adopting these types of solutions, banks can convert operational data into accessible consolidated business information for use in an APM model.

Figure 4: centralised data management and storage, and its link to APM

A possible architecture to achieve this is shown in Figure 4. Central data storage enables processing to take place through sophisticated modelling capabilities. These in turn allows the bank to set up tailor-made data models that take into account both the business and technical requirements. Today's leading-edge systems have an open architecture that enables low-cost integration and can support legacy financial processes. They also allow customised solutions to be re-used for analysis and reporting, and allow banks to integrate their value-adding functions in these processes. By adopting such a solution, banks can move step-by-step towards a more standardised financial process flow that will ultimately save time and cost while reducing operational risk and reconciliation.

Rebuild in-house – or packaged solution?

As an alternative to achieving this systems centralisation and integration through external packaged solutions or outsourcing, a further option for reducing systems costs is to re-build and re-design the systems in-house. For some organisations, this may prove to be the bets route – despite the heavy investment involved.

However, our experience suggests that the Return on Investment (ROI) delivered through the use of a packaged systems solutions generally tends to be greater than that achieved from an in-house re-design. Packaged solutions usually provide the means to overcome the embedded inflexibility of in-house systems, offering more flexible system development and a shorter implementation time.

"Although we do not expect our project to provide a positive return on their investment as a stand-alone solution, we feel that the data consolidation efforts could be leveraged across other initiatives and could indirectly generate revenue for the business".

– Major European Universal Bank

An open question: risk and finance data

In order to work properly, APM needs to have access to risk and return information at the lowest level of possible granularity, such as the transaction level. Most banking organisations continue to face a large and complex problem: how to tap vast quantities of operational data from execution, planning and performance systems, in multiple media and formats and in a cost-effective manner.

The central purpose of consolidated data management storage is to answer any questions an organisation has about its business. This means it needs to be flexible and scalable enough to support continually changing business and regulatory requirements. With this in mind, a good starting-point on the road to lower systems costs and greater benefits realisation may be to start planning for centralised data storage and building subject area-specific data marts.

Designing a data management storage layer for APM would typically require the creation of an enterprise wide risk – and, to a certain extent, finance – data model. This model should reflect the needs and expectations of the institution's internal and external stakeholders, as well as of the end-users of the data itself. Although centralised data storage is usually designed to be built around existing operational systems, it tends to be physically separate from the operational source systems.

In our experience, this approach of uniting risk and finance data will have the effect of improving decision-making and capital and resource allocation, delivering pervasive long-term benefits to the business – and ultimately make all the heavy investment in Basel II compliance worthwhile.

Again, this approach may need to be modified in the light of each bank's specific geographical, structural and organisational constraints.

Unlocking the potential of APM

As we have shown, banks today are augmenting traditional transaction-orientated approaches to risk with new decision-making processes and models such as Active Credit Portfolio Management. One of the primary drivers for this evolution lies in the continuing improvement in analytical techniques such as portfolio optimisation. However, it will be virtually impossible to implement proactive portfolio management based on the new analytical techniques without first ensuring that you have a sound and robust system infrastructure in place.

The Basel II data requirements and categories are extensive and often too complex to be loaded to the central data management storage. An ideal data management solution would be one that is capable of providing a wide range of analytical functions based on an integrated risk and finance data infrastructure – a model which would support both the Basel II requirements and the needs of APM with a full audit trail back to the source systems. The costs of such a solution are offset by the significant operational, financial and competitive benefits delivered by a more comprehensive architecture that supports greater technical and functional integration across the bank's processes.

In the changing commercial and regulatory facing banks today, Active Credit Portfolio Management provides a way forward on each front. But making APM really happen requires the right IT infrastructure. Forward-thinking banks are putting this in place today – and positioning themselves to be the high performance institutions of tomorrow.

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