

Regulatory constraints

How increased requirements are evolving CPM

Amnon Levy, managing director and head of portfolio and balance sheet research at [Moody's Analytics](#), discusses the evolving expectations of institutions for credit portfolio management, as well as how it is being altered and adapted amid greater impact from new regulatory and technological advancements

Capital and liquidity requirements for credit portfolio management (CPM) have significantly increased since the global financial crisis – how are institutions adapting and what challenges exist in doing so?

Amnon Levy: Firms have been increasingly constrained by the regulatory environment, driving them to adapt their businesses to be more sensitive to heightened requirements. Dealing with multiple regulatory constraints while maximising value is a multifaceted problem. An institution must have the infrastructure in place to measure and evaluate its adherence to the requirements. Once this has been addressed, it must work through strategic questions of how these inhibiting requirements will impact portfolio and balance sheet management.

Organisations are increasingly moving towards decision metrics that integrate regulatory measures with economic ones. This maximises value while recognising regulatory constraints and accounting requirements – such as International Financial Reporting Standard (IFRS) 9.

The composite capital measure (CCM) designed by Moody's Analytics is one such measure that brings together minimum required regulatory capital, required economic capital and the impact of IFRS 9. It can be used in return on risk-adjusted capital (RORAC) decision rules, risk-based limits, incentive compensation and other applications that incentivise stakeholders to make decisions that maximise value while adhering to regulatory requirements and the impact of new accounting rules. CCM can be measured as a weighted combination of regulatory capital, impact of loss allowance, and economic risk, with the weight on regulatory capital determined by the degree to



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which it is constraining. Similarly, on the liquidity front, we are seeing a need for asset-liability management systems to allow organisations to maximise performance while adhering to liquidity requirements.

In a region such as Asia, a dearth of data can make CPM difficult – how can institutions fill the gaps?

Amnon Levy: A lack of data is a challenge faced by virtually every organisation. This has been particularly challenging more recently with IFRS 9 being an inherently loan-level exercise. In the past few years, new techniques that leverage newly recognised patterns have emerged. One example is in modelling correlations for commercial and industrial (C&I) lending. With default and

financial-statement data limited in many emerging economies, there have been efforts to better understand what can be said of the variation in correlations across different economies. Using data in more developed credit markets, one observes a strong relationship between correlations and GDP per capita. This relationship can be used to extrapolate and infer correlations for developing regions. In addition, one can leverage cross-sectional variations in correlations observed in developed credit markets. In the context of IFRS 9, this technique has been instrumental in linking C&I loan performance in developing credit markets with macroeconomic forecasts to produce scenario-based expected loss.

Similar techniques have been used in probability of default and loss given default modelling.

How is CPM evolving and to what extent is it aligning itself with other functions of banks, such as treasury and risk data analytics?

Amnon Levy: In a classic risk management setting, credit portfolio management focuses on economic measures that reflect dynamics such as diversification, concentration and other economic risks. With regulatory capital becoming increasingly onerous – and with the roll-out of IFRS 9 and current expected credit loss (ECL) – the treasury, risk and finance departments are increasingly working together to better manage credit portfolios.

We have also observed the impact of IFRS 9 on the granularity of available data, modelling and analysis, as organisations need systems and models in place to address accounting requirements; IFRS 9 requires banks to update ECL at each reporting date to reflect credit risk

changes. Firms must base their ECL measurements on reasonable and supportable information, which includes historical, current, and forecasted details. By its very nature, the exercise is conducted at the loan-level. While this data frequently resides in the finance department, the risk and treasury groups are often managing the modelling. This interaction – and the existence of the more granular data and modelling – naturally flows into CPM as the organisation looks to leverage the data and models for strategic purposes.

What impact has IFRS 9 had on CPM?

Amnon Levy: IFRS 9 materially changes how institutions set aside loss allowance. One goal of IFRS 9 is for allowance to be more reactive to the credit environment as a response to the so-called ‘too-little, too-late’ problem experienced with loan loss reserves during the financial crisis. Most stakeholders believe IFRS 9 will have a significant impact on allowance, earnings and capital, given that allowances will be measured using economic forecasts that are inherently uncertain. In addition, IFRS 9 introduces the concept of ‘staging’. When a borrower experiences a material deterioration in credit quality (but continues to perform) and an associated credit exposure transitions from stage 1 to stage 2, loss allowance increases from one-year to lifetime expected loss. Since the difference between one-year and lifetime expected loss can be significant, especially for longer-dated instruments, loss allowance will exhibit a spike when the instrument transitions to stage 2. The new standards affect capital surplus as retained earnings, which includes credit impairment charges, as discussed above, flow into capital supply.

IFRS 9 is causing institutions to reassess their target capital surplus above the required regulatory minimum level to ensure fluctuations in allowance will not result in future capital breaches.

These dynamics are now being recognised in CPM, with the accounting rules shifting the appeal of certain loan characteristics. For example, stage 1 loans that are unlikely to migrate to stage 2 have allowances insensitive to maturity effects. This limits the level of allowance to one-year expected loss. It also limits the sensitivity of allowance to variation in credit quality. Longer dated loans that are typically associated with higher coupons allow lenders to

reap the benefits of higher earnings while limiting the impact on earnings volatility. Organisations are incorporating these sorts of nuanced incentives and are incorporating IFRS 9 rules into decision metrics such as CCM.

The Basel Committee on Banking Supervision is in the final stages of defining the Basel Accords. What impact will this have on CPM?

Amnon Levy: Basel III can have profound implications for CPM. In particular, large corporate loans of higher credit quality will be allocated much more regulatory capital than typically required under an economic lens. The low fees associated with high-credit-quality names make it difficult to justify investing in those assets when the organisations are focused on the return on regulatory capital. Interestingly, Moody’s CCM recognises the economic risks of these investments with diversification offsets and frequently ranks these loans as top performers.

There is also an interesting interplay with the impact of IFRS 9 on these loans, where one-year expected loss is low – as is the likelihood of stage two migrations. This limits their impact on volatility of earnings and further improves their attractiveness.

In short, while Basel III can make loans to large borrowers with high credit quality less attractive from the perspective of the return on regulatory capital, CCM very much recognises the value of the loans’ economic properties and accounting treatment (under IFRS 9).

With the days of spreadsheet-based CPM now past, what role does technology play in the CPM process, and how should its use be optimised?

Amnon Levy: With the availability of cloud-based computing – as well as the expansion of data and modelling coverage – institutions are able to perform a more granular analysis of their portfolios. For example, institutions often conduct real-time analysis of a potential borrower, using terms and conditions that optimally align with the portfolio’s risk-return profile. It is interesting that IFRS 9 is very much accelerating this level of granular modelling and analysis, since organisations need systems and models in place to address granular accounting requirements, which are inherently loan-level. IFRS 9 is also accelerating the adoption of technology that can undergo real-time analysis as organisations must calculate and set aside allowance at origination.

The author

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He holds a BA in economics from the University of California at Berkeley and a PhD in finance from the Kellogg School of Management, Northwestern University. Before joining Moody’s KMV, Levy was visiting assistant professor at the Stern School of Business, New York University, and the Haas School of Business, University of California, Berkeley. He has also taught corporate finance at the Kellogg School of Management, Northwestern University and served on the board of governors of the Federal Reserve System. He is currently teaching a course on credit risk for the Haas School of Business master of financial engineering programme.

Levy’s work has been published in the *Journal of Financial Economics*, the *Journal of Monetary Economics*, the *Encyclopedia of Quantitative Finance*, the *Journal of Banking and Finance* and the *Journal of Risk Model Validation*. His current research interests include the impact of credit in asset-liability management, and unifying the management of regulatory capital, economic risks and the impact of accounting rules.

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