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# Case Study: UAE Bank Credit Rating System Validation

During the autumn of 2010, executives at a leading bank in the United Arab Emirates with assets of over AED100 billion ($27 billion) considered their latest challenge.

With the UAE regarded as a safe haven in the volatile Middle East, the bank had an opportunity to diversify its customer base by targeting clients with strong risk profiles. First, however, executives needed to ensure their bank was assessing its clients using a world-class internal credit rating system.

As well as reassuring the bank's board that the institution was pursuing sustainable profitability, an in-depth review would help the bank comply with the Basel II internal-ratings based (IRB) approach to capital adequacy.

In December 2010, the bank chose S&P Capital IQ Solutions & Services to independently review the bank's obligor rating system, based on the firm's global experience in evaluating a wide range of bank credit risk models. As part of the review program, bank personnel would be fully trained in validation procedures to provide a platform for self-reliance in the years ahead.

## *The Three-Phase Project: January to March 2011*

Like many UAE institutions, the bank's lending profile included exposures to contracting companies, the real estate and construction industry, financial institutions and the services and import/export trading industry as well as to high net worth individuals. Independently reviewing the rating system meant investigating each business area in three phases:

1. Risk and data diagnostics
2. Rating model construction
3. Conceptual and methodological approach to rating

In the first phase, S&P Capital IQ's analytical team looked at the fundamental building blocks of the bank's approach, including portfolio segmentation, definition of default, and the number of internal default observations associated with the bank's various asset classes.

Michael Baker, Head of the Solutions & Services team in EMEA for S&P Capital IQ, says this helped determine the shape of the overall validation strategy. For example, because the bank possessed many 'low default' portfolios with sparse default data (e.g., its 'large corporate' portfolio), the review would require a relatively strong focus on the conceptual soundness of the rating methodology in addition to statistical testing. The diagnostic review also helped the bank identify any material gaps in its default data and improve how it captured the data for future analysis.

In the second phase, analysts reviewed whether the bank's rating model in each sector had been rigorously constructed. For example, the review team looked at whether the data used to construct the financial institutions' rating model captured the bank's exposure to both global and Gulf-based banks.

Where necessary, S&P Capital IQ provided improved models trained on data from a range of emerging and mature markets that could take account of regional nuances, together with technical documentation to meet Basel II IRB standards.

In the third phase, S&P Capital IQ used its long experience of building rating models to examine whether the correct risk factors were considered in each of the bank's sector rating models, and were appropriately scored and weighted to produce an accurate final rating. This included a formal assessment of the degree of alignment between the bank's approach and the Standard & Poor's Ratings Services methodology – highlighting areas of difference and congruence.

Much of the work concerned in-depth reviews of the ratings methodology in key business areas. For example, the review team built an entirely new model for rating High Net Worth (HNW) obligors, using all the experience of the review team but only the credit data available to the bank for each type of HNW exposure. S&P Capital IQ's Baker says that this customized, ground-up approach was the only way the team could compare a realistic best-in-class HNW model to the bank model that was in day-to-day use.

The day-to-day application of the models was also closely examined. At many banks, analysts are not equipped with full guidelines on how to score key qualitative risk factors such as an obligor's tolerance of risk.  To ensure the credit process remained consistent and objective, the review team therefore worked with the bank to set out clear scoring guidelines for each factor.

## *Testing The Improved Rating System: May to October 2011*

In April 2011, the bank asked S&P Capital IQ to complete the validation of the improved rating system by testing its performance statistics, a procedure that is only truly valuable in relation to low-default asset classes once the conceptual soundness of a model has been confirmed.

This meant designing a menu of performance tests to measure how much the bank's ratings diverged from independent benchmarks, and how well the bank's system ranked obligors.

In order to generate independent benchmarks, reviewers conducted a sample of credit assessments for obligors using the relevant scorecard from a family of over 100 sector-specific ratings models available to S&P Capital IQ. By applying only the credit information available to the bank when it made its original rating, the reviewers could show executives exactly how far the bank's own ratings diverged from an independent S&P Capital IQ rating based on the same information.

The statistical tests addressed not just the internal model's accuracy (i.e., in terms of "direct hits" with the benchmark) but also many other performance dimensions including the magnitude of divergences, comparative rank ordering, and any bias in terms of the divergences.

By the autumn of 2011, the bank's staff had learned through a series of on-site training days how to apply the full set of validation procedures – default diagnostics, conceptual rigour and tailored statistical performance analysis – to track over time any deterioration in ratings performance, spot areas for improvement, and work toward Basel II compliance.

## *The Future: Fulfilling Ambitions*

The independent review meant that executives could feel confident that critical pieces of their bank's risk management and reporting, including capital adequacy and risk-adjusted performance analysis, were driven by information from a world-class set of credit rating models.

Validating the rating system's conceptual soundness and statistical performance allowed the bank to calibrate each of its internal rating grades to a probability of default statistic, a process essential for both regulatory and economic capital allocation.

Most importantly, the success of the validation project meant that executives felt more secure about the accuracy and robustness of the bank's credit rating system and its ability to support their ambitions for the bank – the project's key objective.

## *About S&P Capital IQ*

S&P Capital IQ, a business line of The McGraw-Hill Companies, Inc. (NYSE:MHP), is a leading provider of multi-asset class and real time data, research and analytics to institutional investors, investment and commercial banks, investment advisors and wealth managers, corporations and universities around the world. We provide a broad suite of capabilities designed to help track performance, generate alpha, identify new trading and investment ideas, and perform risk analysis and mitigation strategies. Through leading desktop solutions such as the S&P Capital IQ platform, Global Credit Portal and MarketScope Advisor desktops; enterprise solutions such as Valuations, and Compustat; and research offerings, including Leveraged Commentary & Data, Global Market Intelligence, and company and funds research, S&P Capital IQ sharpens financial intelligence into the wisdom today's investors need. For more information, visit www.spcapitaliq.com.

## *Contact Us*

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