

## Extracting Value From the Basel 2 Framework

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### Introduction

Lenders have made significant investment in recent years to comply with the new capital directives as defined by Basel 2 and the FSA. This ranges from the building of probability of default (PD) models for the calculation of capital to achieving adherence to the use test, demonstrating the integration of the tools within the business. This investment has been over a number of years and has typically used a number of different teams across the business, such as skilled risk analysts to build the models as well as the creation of new teams and roles to ensure that the lender is compliant at implementation.

It seems sensible after making these investments that lenders fully leverage the new tool set that they have at their disposal. This article will cover the areas where we believe the Basel tools can be used to benefit the business and position the Basel framework as not just a 'tick in the box' exercise but a tool set that can create value and improve existing activities.

### Approaches

What are the new tools that are created as a result of the adoption of Basel 2? Obviously for IRB lenders, one of the largest investments that they have had to make is in the development of the models. For a retail portfolio this can include building three new models for Probability of Default (PD), Exposure at Default (EAD) and Loss Given Default (LGD) as well as the accompanying documentation. The development process should also have benefited the business in terms of improving the understanding of the data and any requirement to enhance or build a more robust and larger data warehouse.

However it's not just lengthy model builds that have seen large investment. Other key work streams completed to meet the IRB requirements include:

- Creating a process and methodology for calculating the new capital requirements
- Developing a stress testing methodology that meets the FSA requirements
- Adopting the use test and the investment required to demonstrate this
- Educating the business about the importance of Basel and what the metrics mean

- Creating new regulatory reporting and setting up the monitoring process

## Best of Breed

If a lender does attempt to integrate the Basel tools across the business how will it look and what are the benefits?

## Data and Model Infrastructure

An important opportunity to utilise the model outputs is to integrate the new models within any existing decision engine instead of creating a separate process with its own code and inputs. This does assume that the existing decision engine is robust and fully utilises all data sources, but crucially it ensures that the outputs from the Basel models are reliable and delivered in a timely fashion each month. Also if the new models are integrated within the existing engine it should be relatively easy to add the outputs to any data warehouse ready for any reporting or analytics. Finally, this will benefit the reporting and analytics functions by getting the data quickly.

## Risk monitoring

Incorporating the Basel metrics into any existing risk or portfolio management reports should add additional insight and complement the existing measures. For some lenders the Basel PD will be the first behaviour type score available and our experience shows that behavioural scores are an invaluable tool for understanding portfolio quality. A simple example of using the PD is to report the recent trend of the distribution of new and existing accounts by PD segments to get a proactive view of the risk profile of a portfolio, before it is represented by a change in arrears rate. Transition between PD grades will also give a good indication of the change in the portfolio risk.

If some of the outputs are to be integrated then regular monitoring of the regulatory reporting showing model stability and performance is obviously important to give lenders reassurance that they are working as expected.

## Risk Management Strategies

The outputs from the Basel models can be used in a range of risk analytics and can add extra insight into building strategies or segmentation. As capital costs are now an even more important consideration for underwriting, it is logical to utilise the PD, EAD and LGD models when setting the underwriting strategy elements such as the cut-off score or policy. This could be done by setting minimum thresholds for expected capital costs and/or the individual components such as PD. Benefit can also be gained at the back-end, and one approach can be to use the loan level LGD as segmentation in a collections strategy.



## Value Management and Pricing

Another application of the Basel models is to use them as inputs into profitability forecasting. The PD, LGD and EAD can be adapted along with certain assumptions to create an expected lifetime loss forecast and by using the loan margin and fees, a basic measure of profitability can be derived at an individual account level. With expected lifetime capital costs added in, this type of measure is invaluable for optimising pricing strategy which is crucial especially for lenders who are constrained by a supply of funding. Another option may be to use the expected lifetime loss output as an input into a pricing model that already exists potentially providing more accuracy than the assumptions currently in use.

## Marketing

Similarly to risk analytics and strategy building, the Basel metrics can be used for segmentation in any marketing strategy development, such as targeting customers with a lower capital requirement. If it is not desirable to segment by the actual Basel metrics then it is still important to show the Basel metrics in any marketing analysis so the impact on capital can be understood. Again, the marketing function should fully understand Basel and the impact it has on the decisions they make in developing a marketing strategy.

## Stress Testing

Events in the last year have brought stress testing to the top of many lenders list of priorities as they (along with FSA) need to know if they have enough capital for various down turn events depending on the direction of the economy. This has resulted in stress testing being seen as less of “for the regulator only” type exercise and it is now being used and understood in lenders decision making processes. As with some of the other areas we’ve covered it is important that the business understands the results of the stress test, that they can justify the inputs to the test and that the economic scenario is plausible. Best practise in stress testing should prepare management to respond to the next stress event and aid planning to mitigate any impact if that event happens.

## Understanding Capital Impact

The current economic climate has highlighted the importance of lenders understanding their cost of capital and what drives any changes in this, as capital is now one of the most important considerations lenders need to make when making business decisions on their loan portfolios. For this reason, Basel needs to be understood across all business committees and training given if required. This ensures that across the business, risk appetite and capital planning are aligned and the impact of any decision on capital and the components of the capital calculation are understood.



### **Governance in Decision Making**

Key aspects of the Basel 2 framework are the governance process, the robustness of the Basel 2 model development and maintenance process, and the detailed documentation approach. The discipline and principles of this approach can be adopted, in a lighter form, across the other models within the business to instil a structured and robust model management and review process. Clear governance and ownership processes help to drive the feedback loop that ensures models remain updated, reliable and consistently fit-for-purpose.

### **Conclusions**

The descriptions above of areas where benefit can be leveraged from the Basel 2 framework are by no means definitive and there are clearly more areas where the tool set can be used. What this article does is highlight areas where value can be created, which may also trigger your own ideas of possible applications. Perhaps the most important thing to stress is that without training and buy-in across the business regarding Basel 2, it will be more difficult to achieve the benefits described. For more information about how Euristix can help leverage the tools of Basel 2 please contact Richard Pinch ([richard.pinch@euristix.com](mailto:richard.pinch@euristix.com)).