

## Basel II and the Impact of Falling House Prices

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### *Understanding Account Level Capital Costs is the Key to Maintaining Profit in the Current Climate*

The seismic events during the last year in the financial markets, overshadowed the transition to Basel II on January 1<sup>st</sup> this year. To recap: under Basel I capital requirements for credit risk exposures are set purely on the basis of the type of portfolio and a fixed risk-weight that is applied to each type of exposure. Banks are then required to maintain a ratio of capital to total risk weighted assets (RWA) of at least 8%. Under Basel II, capital requirements are not only determined by the portfolio type but also by a credit rating assigned to each borrower within the portfolio, therefore introducing a level of risk sensitivity to the calculation of capital, missing from Basel I. Most major banks in the UK have adopted the Internal Ratings Based (IRB) approach, meaning requirements are based on the banks own systems for rating a borrower.

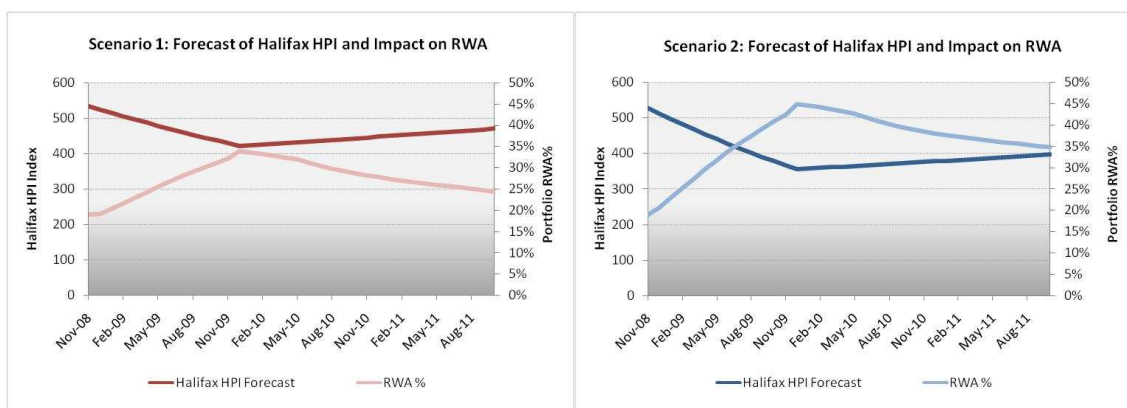
The transition to Basel II this year, along with the economic downturn and most significantly falling house prices has created a new problem for mortgage lenders that didn't exist under Basel I. The calculation of RWA under the IRB approach is a function of a number of factors including the borrower's probability of default (PD) and the loss given default (LGD). What this means is that even though the Basel II framework requires the PD to be based on a long run average - also known as through the cycle (TTC) - there can be short term changes in the PD, not driven by changes to the long run PD but by migration between risk grades. This is because within mortgage portfolios, loans are classified into grades based on their credit risk and then a long run PD attached to this grade. The migration between the grades is driven by the correlation between LTV and credit risk, therefore declining house prices leads to grade migration for those lenders with LTV as a component of risk grade. The impact of falling house prices on LGD is more obvious: less equity means a potentially greater loss. Over a certain LTV floor, such as 40%, most lenders will have a model that calculates the LGD given the current LTV and other factors.

To illustrate the impact, consider two HPI scenarios as shown in the charts below. Scenario 1 assumes HPI continues to decline at the current rate until the end of next year with a further drop of 22%. Scenario 2 takes a more pessimistic view and assumes an acceleration in the rate of decline with a further drop of 30%<sup>1</sup>. Using some basic assumptions around current PD and LGD on an example portfolio, the RWA can be calculated. What the analysis shows is the sensitivity

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<sup>1</sup> These examples are purely for illustration and do not represent Euristix's view of the house market.

HPI has to RWA. In scenario 1, a further 20% fall will lead to nearly twice as much RWA as today and in scenario 2 this rises to nearly two and a half times as much.



## Account Level Forecasting

Given the above it is imperative that lenders understand the impact of house price changes on the capital requirements of their portfolio. But as well as capital, lenders also need to consider the impact of house prices and the deteriorating economy on the profit and loss of the portfolio. This is important as any business decision made should consider not just the impact on future capital costs but also on portfolio profitability and the trade-off between the two.

To understand future profitability, forecasting models are required producing both expected income, loss and capital cost calculations. To extract maximum benefit, forecasting should be produced at an individual account level as this provides improved accuracy and facilitates portfolio analysis through different segments and views. It is important that these models account for the current economic downturn and house price decreases, therefore they should incorporate the impact of the macro economy on the borrower's ability to pay and the house value. They should also provide the ability to stress test for regulatory purposes and to produce forecasts for each account under different economic scenarios. All this requires significant investment in time and technology from the lender but can deliver tangible benefits not only in understanding capital but also how value is created within the portfolio.

With this forecasting tool the lender can gain unique insight into the dynamics between future profitability and capital, and in addition the lender can slice and dice the output of the account level forecast data by any available variable. This type of information is essential for effective value management. The actions a lender can take as a result of the analysis are dependent on the business strategy but may include:



### *Optimising the Retention Strategy*

The forecasting tool can give information around the expected profit and capital costs for accounts coming off an existing deal rate for various retention pricing strategies that could be implemented. Given the requirements of the business and any capital constraints, the lender can then decide which strategy to implement (if any) that satisfies these conditions. The analysis may show that it could be more beneficial to the lender to encourage a customer to leave if the capital cost is too prohibitive.

### *Optimising the Origination Strategy*

Optimising a new origination strategy is generally easier than retention as there are fewer customer dynamics. If capital is a constraint, a lender could set a benchmark for return on capital on new originations and this would be a simple output of the forecasting tool and would prove invaluable for deriving an underwriting and pricing strategy for new originations. Historically lenders would have set a scorecard cut off for mortgages on a given bad rate or if available, a threshold for expected profit. Today they may set it based on a threshold for return on capital.

### *Increasing the SVR Margin*

If the analysis highlights a lower than expected profit for a large portion of the portfolio who have come off their teaser rate this can be offset by increasing the SVR margin. The likely impact of this can be easily calculated by changing the inputs within the forecasting tool and analysing the results. However this does assume that the product features allow it.

## **Summary**

Account level forecasting is not only a key tool to increase sales and profit in times of growth but it can also be invaluable in an economic downturn to give lenders a deeper understanding of how the cost of capital is expected to change across the portfolio and the impact of this on value. For more information about Euristix's approach to mortgage forecasting please contact Richard Pinch at [richard.pinch@euristix.com](mailto:richard.pinch@euristix.com).