

# Management Issues, Planning and Quantitative Modelling for UK Mortgage Providers

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## Executive Summary

The current environment for UK Mortgage Lenders is still hostile. They are required, simultaneously, to strengthen profitability, to manage the existing and forthcoming inevitable losses from arrears and repossessions, and the costs associated with enforced and voluntary forbearance, to accommodate increasingly onerous regulatory capital requirements and maintain lending levels to pay for it. These pressures originate from all sides; the Government, the FSA and consumers.

This is a vast shift from the benign environment which prevailed for the 12 years until 2007, and so there are many executives with only limited experience of capital rationing during a recession.

Such is the intensity of these pressures, that many of the current stresses are likely to persist for much of the next decade.

Calnea believes the priority of these challenges to be;

- High and persistent losses incurred by lenders over the next 4 to 5 years as a result of legacy portfolios. The lack of market volume and available credit also means that “problem” borrowers cannot simply be churned to other lenders.
- The need for significantly increased operational profitability as mortgage market margins shrink/losses develop.
- A shortage of capital to support new lending which could produce profitability to offset legacy losses.
- The likelihood of a more conservative regulatory environment with increased emphasis on capital adequacy.
- The necessity to quickly identify economic changes and their implications for mortgage business profitability and to do so within a wholly integrated stress and scenario regulatory context.

The most fundamental change for mortgage managers will be a comprehensive redirection of operational emphasis from managing mortgage volumes to maximising marginal profitability. This radically altered emphasis will demand new managerial skills, extensively revised decision models, much tighter cost control and significantly enhanced management information.

## Market environment:

Calnea's recent Outlook and Commentary on the UK Mortgage Market<sup>1</sup> shows that embedded losses will cause severe and persistent challenges for many mortgage lenders over the next 10 years - threatening shareholders' returns and the ability to meet regulatory capital<sup>2</sup> requirements.

The Government is pursuing the contradictory aims of attempting both to strengthen the banking sector's capital base and at the same time ease the impact of recession on the domestic economy through greater lending liquidity by UK banks. Inevitably, lenders will face critical scrutiny on a number of fronts. They will need to be agile and confident in achieving higher profitability to offset the unavoidable losses that will emerge from their existing mortgage portfolios.

There will be no easy solutions as economic recovery is more than likely to be protracted in an environment where Government and the Private sector both compete for capital and savings.

## Current market conditions:

The current mortgage market is virtually static with restricted availability of funds, little real growth in mortgage lending, deteriorating borrower credit strength, and growing arrears and repossessions. While property prices may be stabilising, there is a significant residue of negative equity<sup>3</sup> and high and increasing levels of unemployment.

At the same time, there is a raft of new regulatory initiatives being promulgated that are likely to strengthen capital requirements and the possibility that direct mortgage product regulation will be introduced. These changes are likely to dilute returns on risk adjusted capital and create even greater pressure on the profitability of mortgage lending.

Equally, there will be greater attention focussed on macro-prudential regulation with an increased emphasis on fully integrated risk and scenario testing for individual lenders.

Against this background, lenders face a number of significant management challenges that need to be addressed on a short and long term basis. Calnea Analytics latest analysis for their Outlook and Commentary on the UK Mortgage Market highlighted the following key portfolio characteristics which pose the likelihood of above average losses:

- Above average LTV distributions and sub-prime borrowers.
- Securitised business in general whether retained or sold on to external investors – some of whom may also be mortgage lending institutions.

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<sup>1</sup> Available from the Calnea website [www.calnea.com](http://www.calnea.com) – “The UK Mortgage Market – Outlook and Commentary 2<sup>nd</sup> Quarter 2009” - published 23/09/09

<sup>2</sup> See Appendix for summary of projected losses against a series of scenarios of varying severity for future property prices and unemployment.

<sup>3</sup> See Calnea report “UK Loan to Value Distribution – Analysis of Unregulated Loans”

- Second mortgages generally, and particularly where there is no connection with the first mortgage.

Each lender has a unique exposure to mortgage loss risk that may vary widely from the whole market loss estimates. While executives may face a common set of challenges, they are likely to vary significantly by degree. It is critical that they can analyse and understand, as quickly as possible, the risk structure of their existing portfolios and how this may change under differing economic conditions for property prices and unemployment.

Each decision for the management of mortgage lending needs to be tied back to its impact on the core portfolio, its profitability and the availability and cost of regulatory capital.

## **Management, Planning and Quantitative Modelling:**

Accepting the unique nature of every Lender's mortgage portfolio or multiple portfolios, there are a number of generic challenges posed by the current market environment.

In our conversations with mortgage lenders, it has been suggested that the main areas of concern are;

- Restricted capital available for new mortgage development.
- The consequence of mounting arrears and repossessions and their impact on profitability.
- The unpredictable consequences of future property prices, employers' wage restraint programmes, developing unemployment and the impact of Government sponsored forbearance schemes on repossessions and their associated losses.
- The potential for increasing regulatory capital requirements and direct mortgage product restrictions.

In combination, managers have to deliver future profitability and capital adequacy whilst bearing far greater scrutiny, and with much reduced margins for error than in the past – doing so over an extended period and under the influence of unpredictable economic developments.

In regulatory terms, the FSA is looking for very closely integrated solutions for stress and scenario testing so that there is explicit linking of management decisions across all mortgage activities.

## **Issues:**

Whilst every mortgage portfolio is different, there are a common set of concerns within each lender that are shared by function. We set some of these out below and focus upon the consequences for quantitative modelling.

## Senior Management Team

Understanding the risk and profitability distribution within existing mortgage portfolios is critical to financial control and management. With restricted capacity to write new mortgage business, the prime focus must concentrate on managing the profitability of existing portfolios under a range of economic scenarios. Equally, the Board are likely to face the consequence of higher regulatory capital requirements in at least the medium term which will have a direct impact on returns on risk weighted capital.

Scenario and stress testing is critical. With considerable economic uncertainty over the short and medium term, the business needs to be able to model the impact of its initiatives and consequences of loss outcomes over a wide range of economic conditions. Key to this exercise is the accuracy of current property valuations and LTV ratios, assessment of current borrower credit strength and the analysis of the portfolio's marginal profitability. This analysis should indicate within the existing portfolio, by individual loan, where risks lie and the broad distribution of profitability in risk adjusted terms.

The main economic uncertainties are:

- **Future house prices:** since they directly influence LTV ratios and loss arising on repossession. Widespread negative equity<sup>4</sup> is also likely to reduce housing activity and delay any significant development of the housing sector.
- **Mortgage covenants:** arising from redundancy, wage restraint, short time working and bonus reductions.
- **Mortgage affordability:** over the medium term the possibility of increasing interest rates as Government attempts to reduce the fiscal deficit.

The complexity of interaction of these factors together with the operational issues and responses they generate, significantly increase, in the first instance, the pressures on managers' modelling capabilities. The new emphasis on integrated macro-prudential regulation will require much more robust modelling approaches focused on the assessment of individual loans as well as the cumulative impact of new operational practices.

The introduction of formal stress testing procedures and limits, by the FSA<sup>5</sup>, significantly increases the need for integrated modelling capability under a wide range of scenarios for these factors. Lenders who cannot demonstrate a robustly tested competence in this area are likely to experience a much more intrusive and directive regulatory approach than those who can flex a wide range of planning assumptions and inputs on a coherent basis.

The table below taken from the FSA's MLAR Report to June 2009<sup>6</sup>, illustrates broadly the distribution of lenders' margins above Bank of England Base Rate.

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<sup>4</sup> Calnea estimates that as at 30<sup>th</sup> June 2009 up to 46% of properties are exposed to losses in the event of repossession.

<sup>5</sup> CP 08/24 – "Stress and scenario testing" The Financial Services Authority – December 08

<sup>6</sup> Table reference 1.22

Percent of business above BBR

	2007-Q4	2008-Q1	2008-Q2	2008-Q3	2008-Q4	2009-Q1	2009-Q2
Less than 2% above	95.7%	95.1%	94.9%	92.4%	44.5%	28.6%	16.3%
2 < 3 % above	3.3%	3.5%	3.9%	6.4%	19.7%	18.3%	15.8%
3 < 4 % above	0.6%	0.7%	0.6%	0.7%	18.7%	23.9%	30.3%
4% or more above	0.5%	0.7%	0.5%	0.4%	17.1%	29.2%	37.6%
<b>BoE quarter end interest rate %</b>	<b>5.5%</b>	<b>5.3%</b>	<b>5.0%</b>	<b>5.0%</b>	<b>2.0%</b>	<b>0.5%</b>	<b>0.5%</b>

Clearly much of the change in distribution is due to the reduction in Base Rate but it also reflects the impact of fixed term loans agreed with borrowers prior to the recent reduction in BBR. In the new interest rate environment, lenders will need to consider their reversionary strategies when such fixed term agreements come to an end even more carefully than hitherto.

Lenders with new business capacity will be at a significant advantage to compete for such reversionary business - particularly prime cases where there is a strong covenant and sufficient equity. Conversely, lenders with restricted funding and reversionary cases with negative net equity face the threat of either a shrinking portfolio in volume terms and/or deteriorating borrower credit strength in the portfolio that remains.

## Operations

Rising unemployment and short term working are likely to put pressure on borrowers' ability to maintain mortgage payments. Lenders need to identify "at risk" borrowers and loans as quickly as possible – ideally before significant payment arrears begin to develop and start processes of distressed debt management straight away.

The table below, taken from the FSA's MLAR Report to June 2009<sup>7</sup>, illustrates how arrears are continuing to develop for the market as a whole and the extent to which there is no concession or arrangement in place for many borrowers with arrears.

		2008-Q1	2008-Q2	2008-Q3	2008-Q4	2009-Q1	2009-Q2
Number of loan accounts	Units	299,588	309,817	340,963	377,208	399,491	402,640
of which : % of cases having							
<i>A temporary concession</i>	%	4.42%	4.20%	4.08%	4.49%	4.54%	5.88%
<i>A formal arrangement</i>	%	19.49%	20.94%	21.67%	21.37%	24.57%	27.84%
<i>No concession or arrange</i>	%	76.09%	74.85%	74.26%	74.15%	70.89%	66.28%
Amount of arrears	£m	£1,433	£1,523	£1,833	£2,062	£2,181	£2,224
Balance outstanding	£m	£28,439	£30,293	£35,051	£40,433	£43,577	£43,875
Balances as % of total loan balances		2.41%	2.55%	2.93%	3.37%	3.64%	3.66%

The position is further complicated by the action of forbearance schemes which aim to reduce the numbers of overall repossessions. For individual lenders, the applicability and terms of such schemes will certainly result in arrears increasing while possibly deferring, rather than

<sup>7</sup> Table reference 1.7

eliminating, eventual losses on repossession. All these complications ensure that the management of the arrears process should be a major priority.

Comment has been made above on the peculiar risk of second charge mortgages, which can cause repossession even if there are no arrears on the first mortgage. Second charge mortgages can have a disproportionate effect, in conjunction with the associated first charge mortgages both on the default risk and on the assessment of the borrower's current net equity position. Where a different lender than that of the first charge mortgage holds the second mortgages, they are particularly challenging both in analytical and operational terms.

The table below has been prepared from the FSA's MLAR Report to June 2009<sup>8</sup> and corresponding CML data.

<b>Mortgage distribution by type</b>							
	<b>2007-Q4</b>	<b>2008-Q1</b>	<b>2008-Q2</b>	<b>2008-Q3</b>	<b>2008-Q4</b>	<b>2009-Q1</b>	<b>2009-Q2</b>
Primary	7,794,564	8,099,908	8,401,858	8,636,120	8,806,498	8,837,160	9,026,458
Buy to Let	1,025,500	1,073,400	1,105,000	1,134,800	1,157,000	1,164,300	1,179,700
Secondary + Pre-Mday primary	6,685,377	6,441,142	6,100,337	5,872,847	5,591,753	5,321,118	5,115,268
<b>Total</b>	<b>15,505,441</b>	<b>15,614,450</b>	<b>15,607,195</b>	<b>15,643,767</b>	<b>15,555,251</b>	<b>15,322,578</b>	<b>15,321,426</b>

The table illustrates the extent of secondary mortgages. The average value of a secondary mortgage is approximately £53k compared with a primary mortgage of approximately £96k.

Second charge mortgages are a material source of risk particularly where different lenders are involved.

## **Credit Risk**

With funds in short supply, new mortgage underwriting (where this is possible) and reversionary pricing and retention strategy are key to future profitability and the ability of lenders to accommodate unavoidable losses arising from legacy business.

New lending criteria have been strengthening progressively across the market in terms of income multiples and LTV ratios. However, a major factor of borrower credit risk is the extent to which income levels are evidenced. The table below taken from the FSA's MLAR Report to June 2009<sup>9</sup>, illustrates how the proportion of non-evidenced income cases has reduced only marginally until the current quarter and still remains relatively high.

<sup>8</sup> Table reference 1.11 plus CML data

<sup>9</sup> Table reference 1.31

**Percentage of Gross Advances NOT EVIDENCED**

	<b>2008-Q1</b>	<b>2008-Q2</b>	<b>2008-Q3</b>	<b>2008-Q4</b>	<b>2009-Q1</b>	<b>2009-Q2</b>
<b>Single</b>	19.8%	16.8%	16.1%	16.5%	14.5%	12.0%
<b>Joint</b>	22.1%	20.4%	20.3%	20.0%	19.5%	15.4%
<b>Combined</b>	42.0%	37.2%	36.3%	36.5%	34.0%	27.4%

It is a valid question whether this degree of income self-certification is appropriate to current market conditions. It also raises the question whether existing loans based on non-evidenced earnings need particular scrutiny and monitoring.

## Customers

Over the next three years, the majority of fixed and tracker rate mortgages will come to the end of their “teaser” period and revert to their contractual standard variable rate. These deals were a symptom of a competitive market and rising property prices.

The strategy adopted at the reversion point will be complicated by a number of factors outside lenders’ control:

- Property prices have fallen to the extent that a significant number of loans are in a negative equity situation<sup>10</sup>.
- Incurred arrears will complicate “churn” and worsen the net equity position when “rolled up” with the loan capital.
- Borrower credit risk may have declined since loan inception due to income reductions, short time working, bonus reduction or unemployment

Lenders therefore face a series of complex pricing, marketing and retention decisions e.g.:

- **Borrowers with a positive net equity position and sound credit strength:** likely to look elsewhere for competitive offers. The existing lender will have to consider the margin between matching the market price, if possible, and the contribution that can be generated by retaining such business.
- **Borrowers with insufficient net equity and/or some form of credit impairment:** reversion to a standard SVR basis or a replacement short term agreement may ensure they stay with their existing lender but potentially at a less than adequate marginal profitability depending on projected losses for the portfolio as a whole. A significant element of this decision will be capital adequacy considerations and their impact on meeting the risk adjusted target return on capital.

<sup>10</sup> See the Calnea report “UK Loan to Value Distribution – Analysis of Unregulated Loans” published 23/09/09 at [www.calnea.com](http://www.calnea.com)

- **Borrowers with insufficient/negative net equity and/or some form of credit impairment:** Reversion to a standard SVR is largely the only option but with the significant residual risk of future losses going forward.

New risk adjusted data points are vital for the reversionary decision at both the individual loan and aggregate portfolio level.

**Summary of Calnea Mortgage Market Loss Analysis**
**Summarised cumulative 10 year loss estimate totals**

Scenarios <u>bases</u>	Unsecuritised loan losses			Securitised loan losses		
	<u>£bns</u>	<u>% loan balances</u>	<u>% Pillar I capital</u>	<u>£bns</u>	<u>% loan balances</u>	<u>% Pillar I capital</u>
Low/low	-£12.6	-1.4%	-40.3%	-£5.8	-2.8%	-79.4%
Med/med	-£18.6	-2.1%	-58.6%	-£8.5	-4.2%	-114.5%
High/high	-£29.6	-3.5%	-89.5%	-£13.4	-6.8%	-173.1%
Extreme	-£36.7	-4.3%	-119.5%	-£16.7	-8.5%	-233.2%

**Unsecuritised annual projected loan losses as percentage of underlying loan principal**

Scenario	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Low/low	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-1.4%
Med/med	-0.2%	-0.3%	-0.3%	-0.4%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	-2.1%
High/high	-0.2%	-0.3%	-0.4%	-0.5%	-0.5%	-0.5%	-0.4%	-0.3%	-0.2%	-0.1%	-3.5%
Extreme	-0.3%	-0.4%	-0.6%	-0.7%	-0.7%	-0.6%	-0.5%	-0.3%	-0.2%	-0.1%	-4.3%

**Securitised annual projected loan losses as percentage of underlying loan principal**

Scenario	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Low/low	-0.4%	-0.5%	-0.6%	-0.5%	-0.4%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	-2.8%
Med/med	-0.4%	-0.6%	-0.7%	-0.8%	-0.7%	-0.5%	-0.3%	-0.2%	-0.1%	-0.1%	-4.2%
High/high	-0.5%	-0.6%	-0.9%	-1.1%	-1.1%	-1.0%	-0.7%	-0.5%	-0.3%	-0.2%	-6.8%
Extreme	-0.6%	-0.8%	-1.1%	-1.4%	-1.4%	-1.2%	-0.9%	-0.6%	-0.3%	-0.2%	-8.5%

It is assumed that most lenders will account for unsecuritised losses from direct mortgage business on an arising basis. Securitised business is expected to be accounted for on a “fair value basis” per IAS39.

Losses on securitised basis may be reported more quickly than those for direct business.