

Credit Today

HML

the **ability** in financial outsourcing

IFRS9 white paper

Moving the credit industry towards account-level provisioning: how HML can help mortgage businesses and other lenders meet the new IFRS9 regulation



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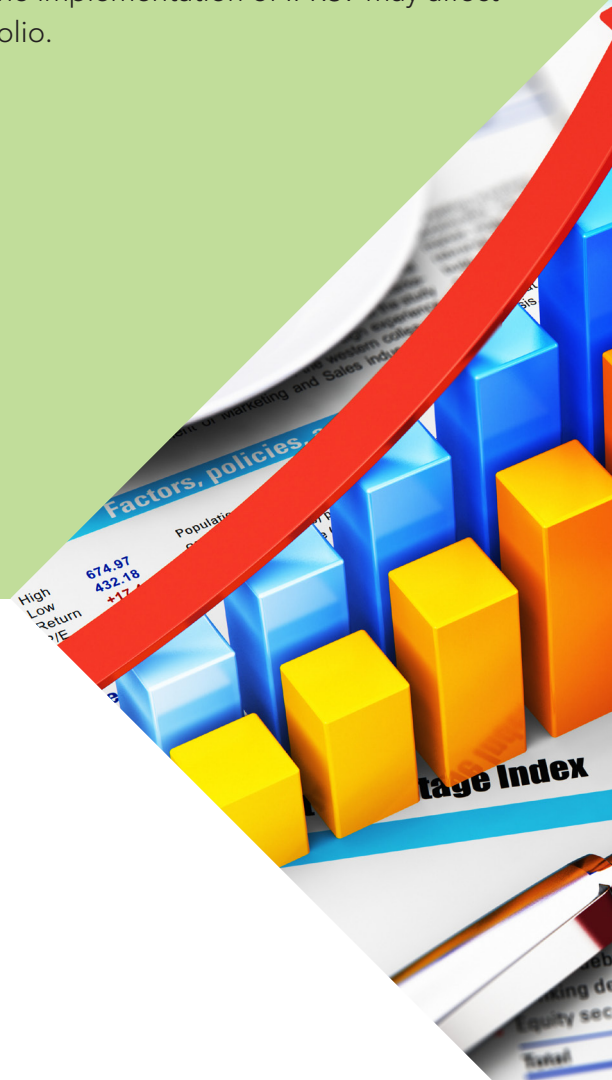


About this paper

This white paper details the challenges that lenders and Special Purpose Vehicles (SPVs) face in order to ensure they stay on the right side of the accounting standard.

While aggregated portfolio-level modelling and testing may suffice for now, under IFRS9 the aim will be to provision at account level. Data of the right quality is key to successful implementation as it provides a foundation for models which will generate more accurate forecasting and could withstand the potential increased regulatory scrutiny that will come with the new accounting standard. HML can support lenders with account-level modelling and stress-testing for this purpose.

HML is the UK and Ireland's leading third-party mortgage administration company. It possesses the richest source of transactional mortgage data available in the UK. This data, alongside its expertise, can be used to support lenders and SPVs with account-level modelling and stress-testing, and this white paper will look at how HML builds statistical models and scorecards, what data is required for this continuous exercise and how the implementation of IFRS9 may affect your portfolio.



HML

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A brief introduction to HML

HML, the UK and Ireland's leading mortgage administration company, was established in 1988. As of October 2015 it had approximately £35 billion of assets under management, along with a further £60 billion of assets under 'standby'.

Its business intelligence mortgage data pool covers more than one million mortgage accounts, approximately 225,000 of which are currently live. HML believes this is the richest source of transactional mortgage data available in the UK. Using this data, HML has developed a range of analytical products and services, particularly for account-level benchmarking and provisioning.

Other ways in which it uses its data for its clients (which includes some of the UK's biggest banks and building societies, as well as global asset purchasers and investment banks) is to create tailored customer engagement and collections strategies, enabling resources to be focused in the most appropriate places and achieve the most fitting outcomes for clients' customers. This, in turn, delivers maximum value for lenders and SPVs.

HML is part of the Computershare group, a global market leader in transfer agency and share registration, employee equity plans, proxy solicitation and stakeholder communications. It also specialises in corporate trust, mortgage, bankruptcy, class action and utility administration, and a range of other diversified financial and governance services. Founded in 1978, Computershare is renowned for its expertise in high integrity data management, high volume transaction processing and reconciliations, payments and stakeholder engagement. Computershare group also owns a mortgage servicer in the US - Specialized Loan Servicing.

IFRS9: The challenges for lenders and Special Purpose Vehicles

IFRS9 is a new international accounting standard that will affect debt owners, including mortgage lenders and SPVs, from January 2018. It will replace IAS39.

At present, under IAS39, lenders need to calculate an expected loss value for just those accounts that are impaired. Under IFRS9, a lender must reassess the probability of any of their customers defaulting and the resulting expected losses for all exposures - and this will need to be carried out each reporting period.



The introduction of IFRS9 may prove particularly difficult for those lenders that:

- Have low levels of defaults;
- Hold low volumes of assets;
- Have no data history.

The key overall IFRS9 challenges for lenders and SPVs include:

- Historic data will be required to carry out the new calculations;
- New systems, scorecards and processes will need to be developed;
- There could be a 50 per cent increase in impairment charges as a result of IFRS9 - and potentially more (Deloitte survey, 2014);
- IFRS9 requires constant monitoring and reporting;
- Your people may need to be upskilled;
- Advisors suggest it could take around three years to get ready for the January 2018 implementation date.

However, the data challenges alone can prove to be a significant hurdle to overcome, for several reasons. While aggregated portfolio-level modelling and testing may suffice for now, under IFRS9 the aim will be to provision at account level.

Data of the right quality is key to the successful implementation as it provides a foundation for models which will generate more accurate forecasting and could withstand the potential increased regulatory scrutiny that will come with the new accounting standard.

Key challenges

Data history

In order for robust account-level modelling to take place, lenders must have access to sufficient data history of a high quality. This will ensure effective modelling over the lifetime of a mortgage. Lenders that are relatively new to the market or that do not have such data history may struggle to ensure such account-level modelling is up to what IFRS9 expects.

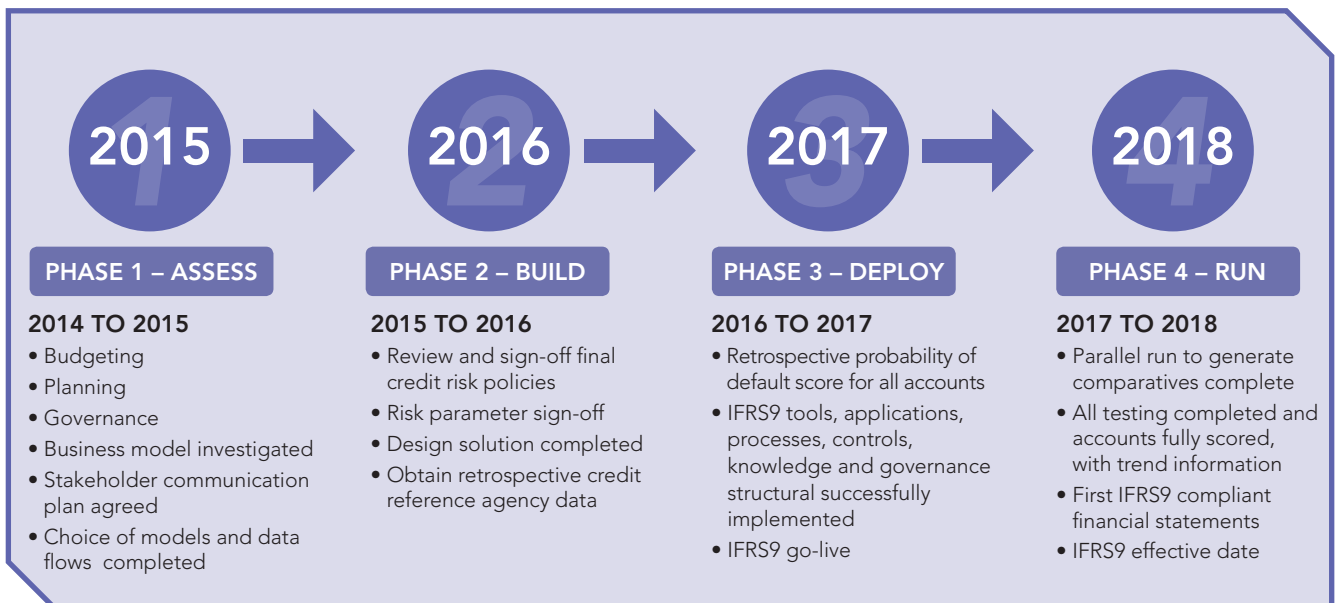
Single-customer view

Effective credit risk management requires a single-customer view, but the success of this approach is underpinned by data quality.

Data validation and collation is also essential and is no small task for lenders.

There are several more data challenges that lenders will need to overcome, including having access to comprehensive forbearance and lifetime probability of default, where the back-testing of lifetime models, particularly when stressed economic scenarios are applied, could be impacted by a lack of data history and quality.

Section 4 will provide an overview as to how HML carries out account-level provisioning calculations, including the building of statistical models and scorecards, what data is required and further details around account-level modelling.



1980s
MORTGAGES
ORIGINATED

HML'S BIG DATA
OVER 1 MILLION
ACCOUNTS

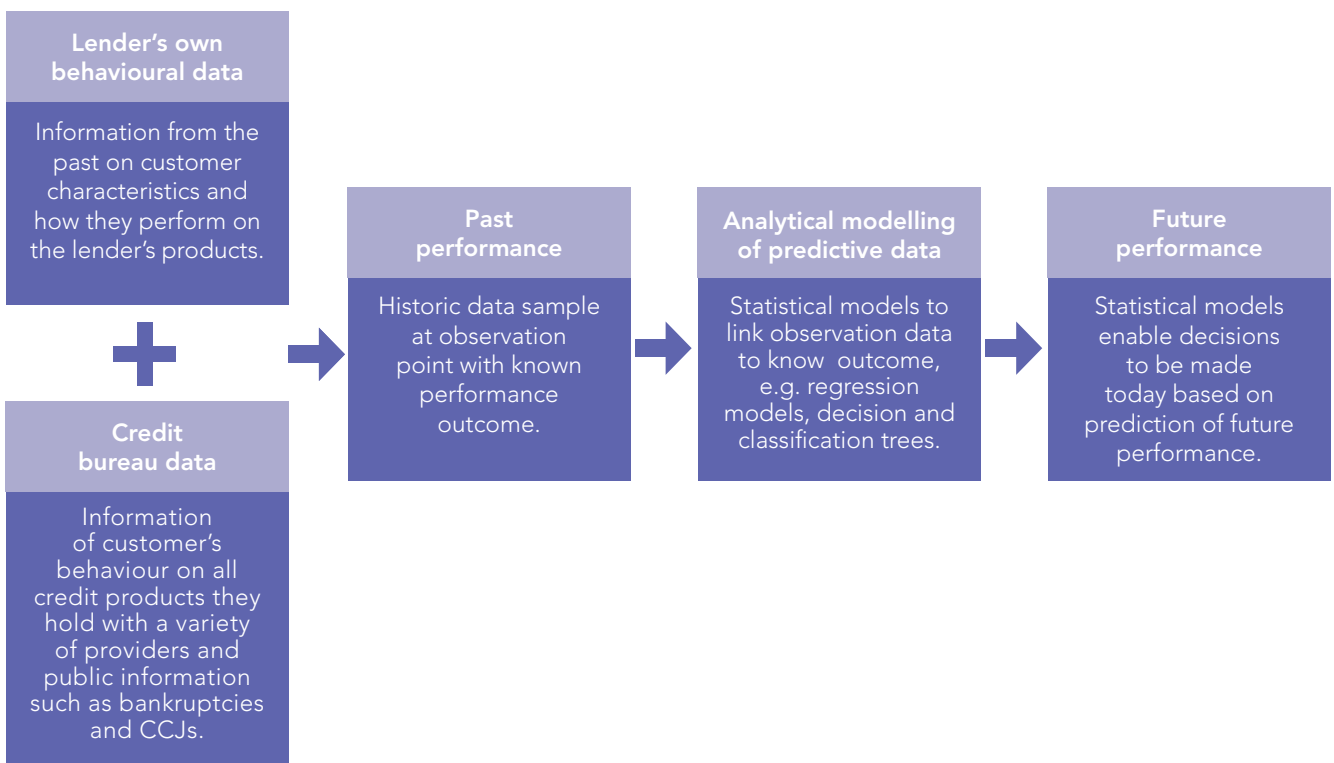
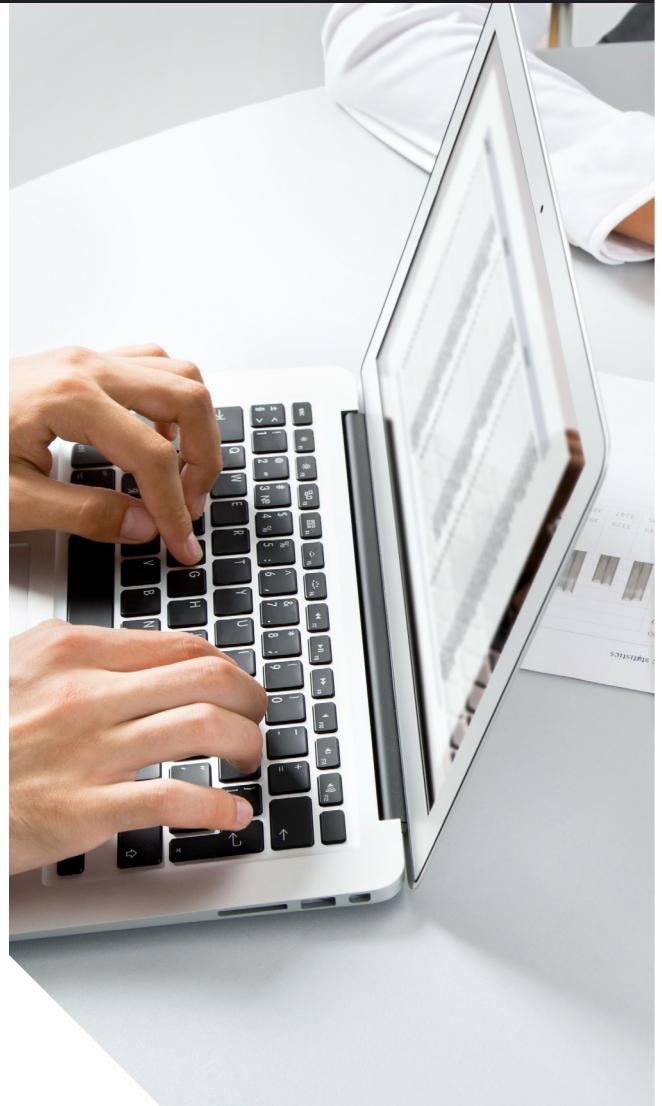
FUTURE

Account-level provisioning

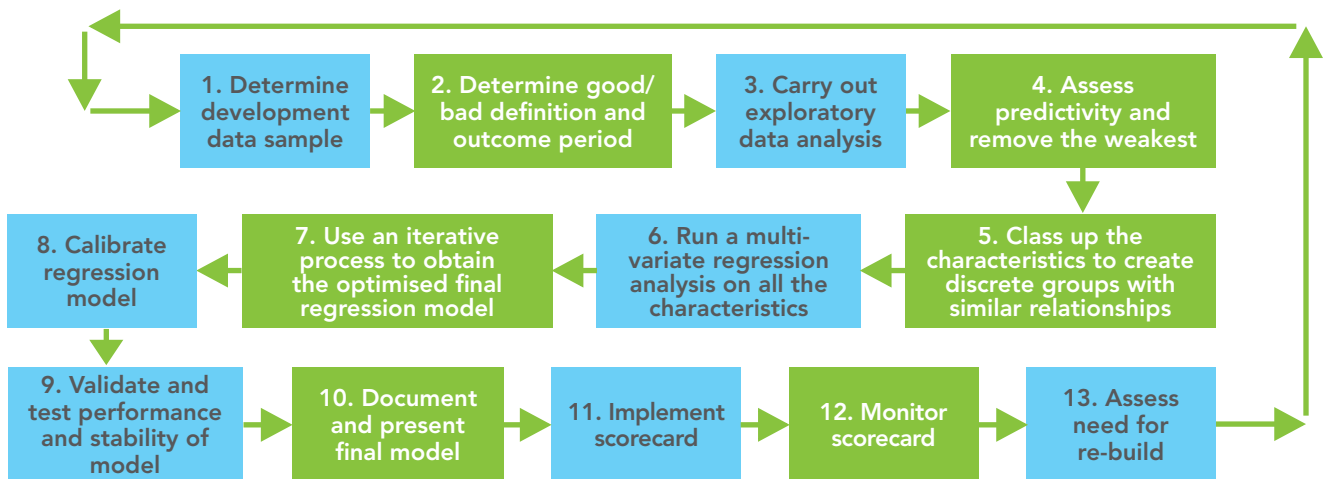
“IFRS9 requires an entity to base its measurement of expected credit losses on reasonable and supportable information that is available without undue cost or effort, and that includes historical, current and forecast information.” **IFRS9 Project Summary, July 2014**

Building statistical models and scorecards

Statistical models utilise empirical data with historic performance to model predictive data characteristics that predict future performance. HML uses a combination of the lender’s own behavioural data and credit bureau data at a customer level. We may also use elements of industry and macro-economic data to ensure a full picture is painted.



HML uses a step-by-step analytical and statistical approach on account and customer-level data to develop and validate the resulting scorecard



These types of scorecard predict specific account performance that can be used to build a view of cash flows which are necessary to calculate IFRS9 exposure (IFRS9 does not bar portfolio level provisioning, but views it as an intermediary step to account level provisioning).

For scorecard performance to be optimised and accepted by the Financial Conduct Authority, it is essential that the best quality data is used in the process.

Data – What exactly is required?

Data, data, data. The maxim of “the more, the better” generally holds true for building predictive models relating to mortgage performance. Of course, it is essential that it is the right type of data that provides information about the borrower’s circumstances and previous behaviours and that it is of the highest possible quality. A rule of thumb is that 80 per cent of development time allocated to building a behavioural model will be spent checking and validating that data is relevant, accurate and robust. The following data is required:

Probability of default

Firstly, it should be made clear that IFRS9 does not mandate the use of an explicit probability of default to make assessments of risk. A lender may apply various approaches to assess the credit risk on a financial instrument. However, at HML, our experience of providing Expected Loss (EL) estimates for Basel for over ten years leads us to believe this is one of the most reliable and effective means of assessing this type of risk, and this is the basis for this paper.

So how much data is needed? Firstly, let’s focus on the Probability of Default (PD) scorecards that will drive the provision calculations under IFRS9.

There will be two variants for our purposes; PD12 is the probability that an account will reach arrears of 90 days or more in the next 12 months. PDlife is the probability that an account will reach arrears of 90 days or more over the remaining term of the mortgage.

The generally accepted range for building a sound and statistically robust model is between 1,000 and 1,500 and with default rates for prime mortgages standing at around 0.71 per cent (and trending downwards) as of October 2015, it's a simple calculation to see that a portfolio of 140,000 accounts would be needed as a minimum to generate the defaults necessary to build a high-quality scorecard.

In addition to this, to enable a lifetime PD to be estimated, data on how defaults emerge over time is required. This would ideally be historical (but recent) information over the life of similar mortgages, but trending over five to ten years would be a good surrogate to use. HML is researching lifetime modelling techniques which we believe can be used to provide statistically robust mappings from our 12-month models to the lifetime view required.

For model calibration and rebuild purposes, ongoing access to data will be necessary. Understanding the reasons for any defaults is useful too. If we understand the drivers behind mortgage default we can focus on those areas to refine our models and make them more predictive.

Exposure at Default

Exposure at Default (EAD) is as an estimation of the extent to which a bank may be exposed to a borrower in the event of, and at the time of, that borrower's default. Key data here is the time a mortgage takes to move from its status at point in time, to eventual default. HML's approach has been to segment accounts into variables that directly impact the time to default (current arrears position, as an example). Clearly, each default is an individual event, but grouping sufficient information together and utilising this account data allows for confidence levels to be built which are then applied within the provisioning calculation.



Loss-Given Default

Loss-Given Default (LGD) is the share of a financial asset that is lost when a borrower defaults. It consists of many components and differs widely based upon the lender and loan characteristics.

KEY DATA IS:

- Cure rate - what percentage of those accounts that default will recover and how long that recovery will take. Understanding the pattern of recovery is important for the release of provisions that it may not be necessary for a lender to hold going forward;
- Costs associated with the legal process and sale of property if repossession occurs;
- The eventual sale price of the repossessed property and the time it takes to sell.

For Basel purposes, LGD models have often been constructed using parameters gathered from previous repossession sales. If sufficient data is collected, then required values can be input into an LGD model with a statistical level of confidence and a level of granularity which takes into account factors such as geographical region, property type, cohort of origination, etc. Clearly the more data collected the more accurate model predictions will be.

HML anticipates that the majority of organisations that adopt IFRS9 will consider this “parametric” approach; however, there may be an alternative. Research at HML indicates that performance of LGD models may be improved by building a behavioural scorecard. Once again, the critical component is having sufficient volumes of high-quality, detailed data with which to construct a scorecard with an acceptably high level of performance. Results to date are encouraging.

Expected loss calculation and stressing

Compared to PD, EAD and LGD, Expected Loss (EL) is a simple formula:

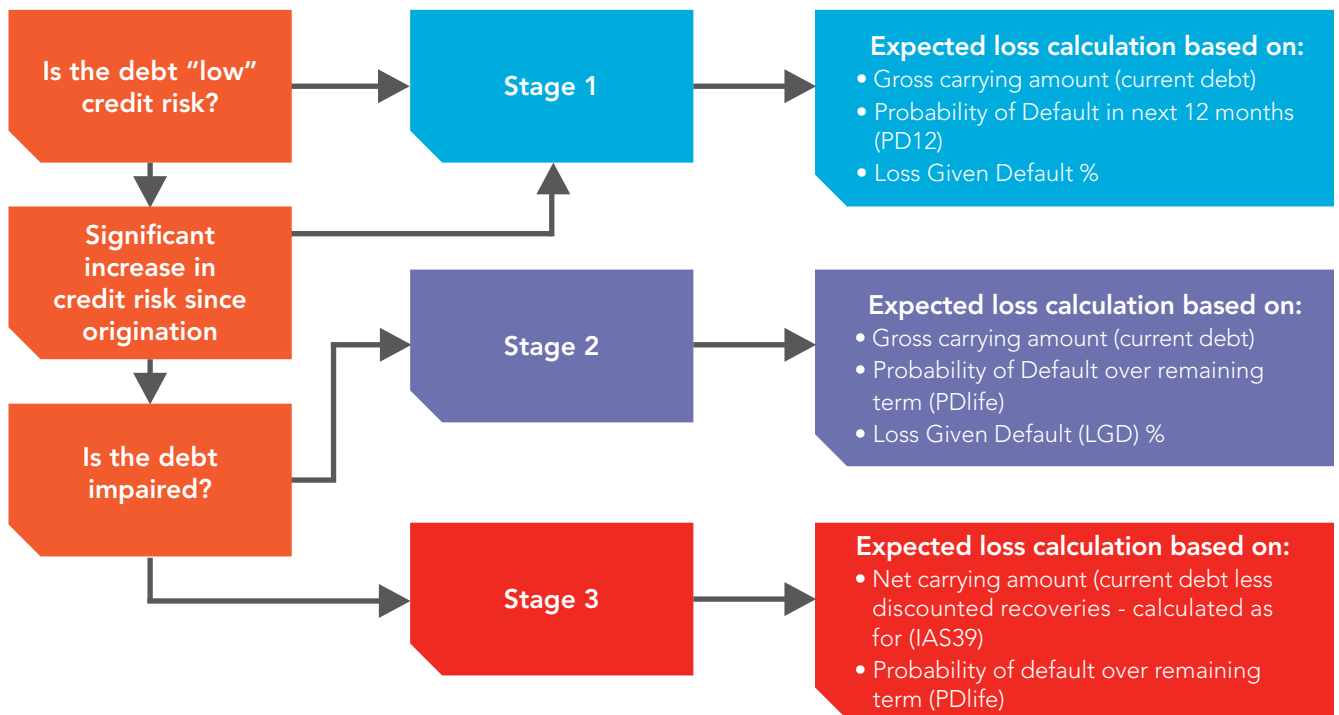
$$EL = PD \times EAD \times LGD$$

What is more complex is taking a view of how the components of this formula behave under different economic scenarios. Econometric modelling is a complex and often imprecise science. Who would have predicted that the UK’s recession would run in parallel with the lowest interest rates ever experienced in economic history, particularly given the previous recession had interest rates peaking at almost 15 per cent?



HML has the data to show the level of defaults in mortgages over the last 25 years, but we would advocate that rather than building complex econometric models, simple relationships that link macro-economic factors to default rates are used to inform lenders of the sensitivity of the housing and mortgage markets to change. The quantum of any change will need to be left to expert judgement, but will need to have some level of evidence-based justification.

IFRS9 calculations



Without going into reams of detail on accounting technicality, the three-stage approach of IFRS9 requires measurement of EL calculated in three different ways at two points in time:

Calculations

- **Stage 1** – 12-month view of PD multiplied by the predicted eventual losses resulting from the current debt (note: this is not the same as the losses incurred in the next 12 months).
- **Stage 2** – (Remaining term view) - Lifetime PD multiplied by the predicted eventual losses resulting from the current debt.
- **Stage 3** – (Impaired view) - Lifetime PD multiplied by the predicted eventual losses resulting from the current debt, but using discounted recoveries i.e. a "present value" calculation.

Timing

- When the assets are first recognised (origination or purchase) - The challenge here is to measure this risk retrospectively and set the benchmark for measuring any change in risk. Do you assess using today's scorecards and calibrations, or do you measure as though you were actually at the point in time?
- At the end of the reporting period - Most models with any degree of sophistication will use monthly information to assess the credit risk of an account over the next 12-month period. This is the approach HML takes.

Decisions regarding the quantum of discount to be used in the present value calculation, the impact of economic changes on potential recoveries and default rates, plus a whole lot more detail around scenario planning will need to be made. Consideration and debate will be better informed with relevant and broad information that can be used to evidence and validate why particular parameters have been used. Relevant sources of reliable, high-quality data will provide a sound platform for giving comfort to external bodies engaged in the IFRS9 sign-off process that a diligent approach has been taken.

Exclusive HML data: The potential impact of IFRS9

As mentioned, HML's business intelligence mortgage data pool covers more than one million mortgage accounts, approximately 225,000 of which are currently live. This is the richest source of transactional mortgage data available in the UK.

Using this information, HML has estimated the provisioning under both IAS39 and IFRS9 approaches on mortgages within its business intelligence mortgage data pool. Information below shows the potential increase when IFRS9 is adopted.

Mortgage accounts	Increase in provisioning (%)
Accounts across the pool	29%
Residential property	27%
Buy-to-let property	53%
Prime	38%
Subprime light	18%
Subprime heavy	1%

The impact of the new standard is not surprising, it was designed to ensure that changes in risk are properly measured and reflect the reality and cost of operating in the mortgage market. Most commentators expected an increased requirement to provision and that is exactly what has happened as a result of our unique data run. The quantum of the change would also appear to fall in line with the majority of expectations based upon polls that have taken place to date.

We observe that there is little change in provision amounts for impaired accounts; that is because Stage 3 of IFRS9 is very similar to IAS39. The non-impaired mortgages account for the majority of the uplift as anticipated.

Also using this data, HML has calculated the provisioning under both approaches on mortgages within its business intelligence mortgage data pool at an LTV level.

The results are as follows:

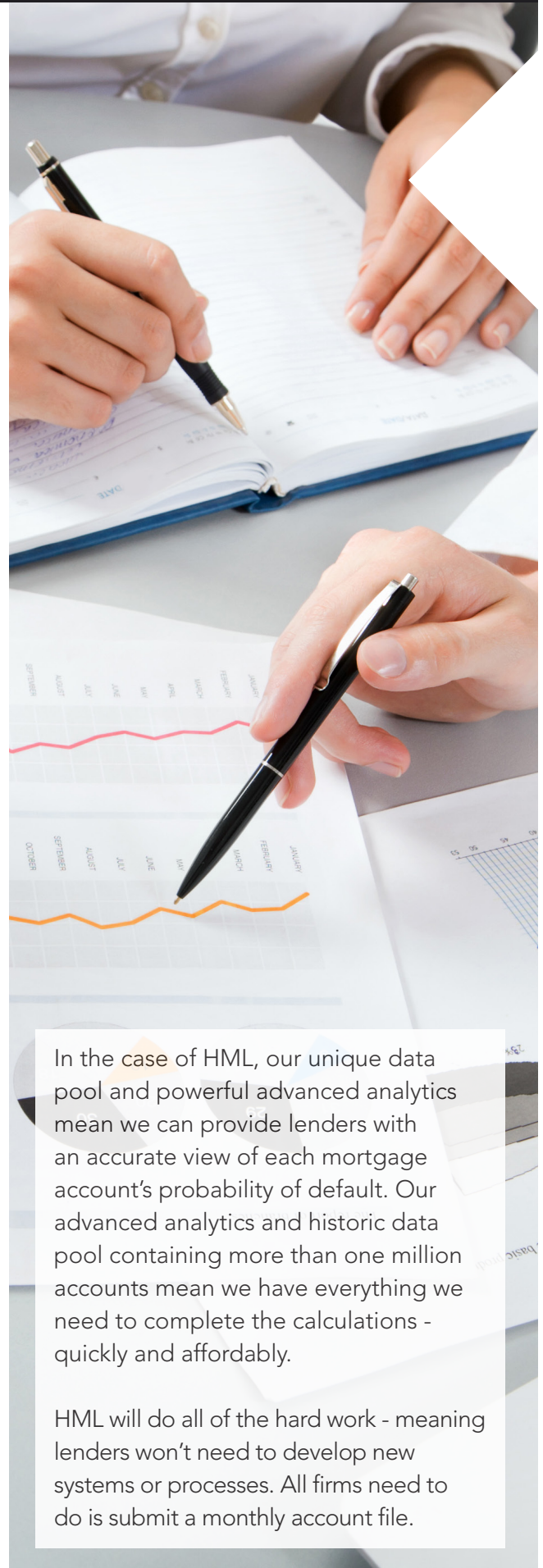
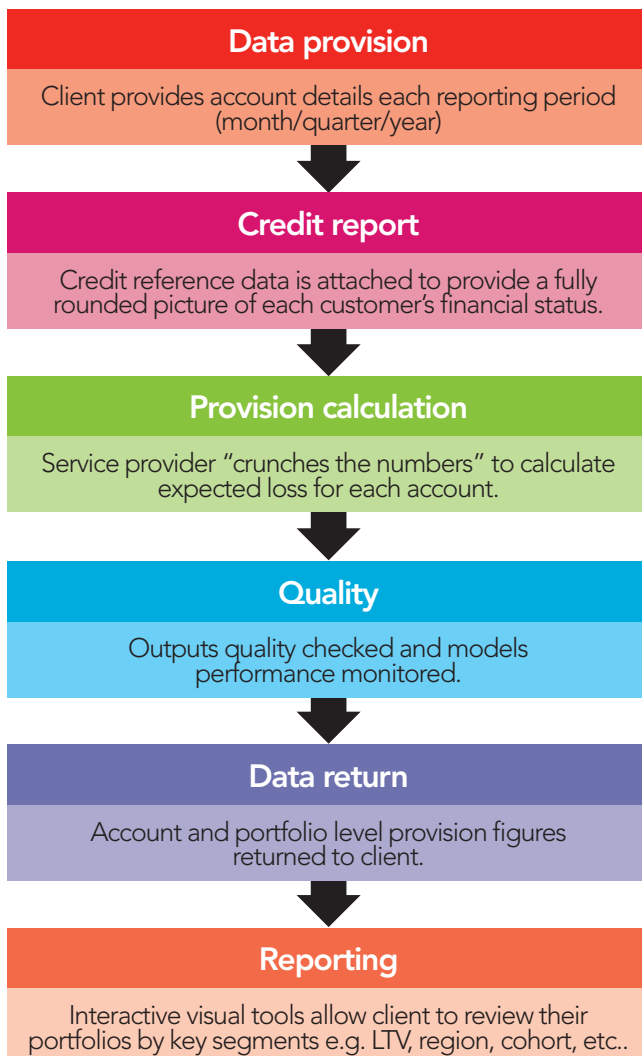
LTV (%)	Increase in provisioning (%)
<70%	High but negligible (circa 0.0001% to 0.0005%)
70 – 89.99%	54%
90 – 99.99%	31%
100% +	1%

If you would like to receive more information about how these new calculations were made, please contact Damian Riley, director of business intelligence at HML, via the contact details published in the back of this white paper.

How outsourcing can help

As outlined in Section 3, there are several challenges that lenders need to overcome in order to successfully implement IFRS9. Outsourcing can prove to be an effective and invaluable tool for many lenders, especially those with portfolios that have experienced low levels of defaults, lenders with no data history and those with low volumes of assets.

Below is an example of how outsourcing could work for lenders:



In the case of HML, our unique data pool and powerful advanced analytics mean we can provide lenders with an accurate view of each mortgage account's probability of default. Our advanced analytics and historic data pool containing more than one million accounts mean we have everything we need to complete the calculations - quickly and affordably.

HML will do all of the hard work - meaning lenders won't need to develop new systems or processes. All firms need to do is submit a monthly account file.



It's not just the provisioning calculation task at hand that debt providers need to keep in mind when planning for the implementation of IFRS9 and whether this preparation includes outsourcing. More than half of banks surveyed by Deloitte in 2014 believed that impairment charges could climb by as much as 50 per cent as a result of the new accounting standard. HML's exclusive data in Section 5 has outlined the potential increase in provisioning costs that lenders may experience.

While taking on such additional costs is no mean feat for any organisation, at HML we believe this could particularly impact upon the mortgage market, one which is getting back on its feet following the economic crash. Around £150 billion of mortgage portfolio trades are expected to come to market in the UK within the next five to seven years. If lenders don't prepare for IFRS9 and have the right models in place, they may end up forecasting higher potential expected losses. Subsequently, lending appetite could be restricted, something which may set the market back at a time when sentiment and business volumes are strong.

“ In order to have sufficient information to measure changes in asset quality, a history of measured risk is required. Advisors are suggesting a retrospective exercise could take up to three years. HML's data-driven solution removes this administrative headache for mortgage lenders, SPVs and other portfolio owners. ”

Damian Riley

Director of Business Intelligence at HML



To find out how HML can help you meet your IFRS9 requirements
Contact us on: info@hml.co.uk or 01756 77 67 29
www.hml.co.uk