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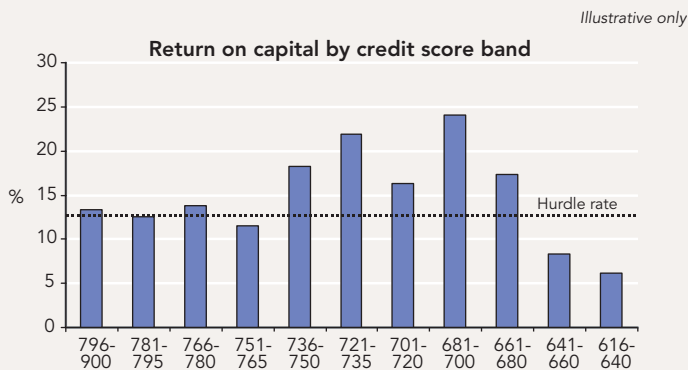
Spotting the Bargains in Consumer Credit

This month we look at how banks can use economic capital to identify the most profitable activities in consumer lending

Economic capital is a hot topic in banking but it is mostly discussed in relation to the risks of commercial lending, where industry and single-name concentrations make the analysis critical to decisions. It is less frequently applied to consumer credit where loans are small and portfolios less concentrated, and where these conditions encourage banks to think they can grasp the relative risks of borrowers using credit scores.

However, understanding the relative risk associated with customers is not the same as understanding risk-adjusted profitability in consumer banking. To understand risk-adjusted profitability, banks must compute how absolute borrower risks (ie, probability of default) interact with a range of other cost and risk factors that vary considerably depending on the business line and product type.

Figure 1: Which are your most profitable risk-adjusted credit score bands?



market for customers with very high credit scores, with returns hovering around the bank's hurdle rate (dotted line). At the same time, while the bank understands that its low-score customers are risky borrowers, it has underestimated the extent of the margins it needs to offset this increased risk – and will likely take losses from this portfolio segment over the course of the credit cycle.

By contrast, the bank is making most of its profits from customers that are just slightly below average creditworthiness, with credit scores in the 735 to 660 range.

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Editor: Rob Jameson

Contributors: Brannan Johnston, Thomas Day, Shahram Elghanayan, Hans Helbekkmo

Production Editor: Gaynor Jamieson

SUBSCRIPTIONS:

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Luckily, the data-rich nature of retail credit markets offers huge advantages to economic capital modelers because the large base of borrowers can yield precise parameter estimates over a short period of time – and allow for finer segmentation of customers.

Segmentation is important because it is often wrong for banks to assume that their “best” borrowers in terms of relative credit risk are also their “best” customers in terms of profitability – a phenomenon illustrated in Figure 1, where an example bank has used economic capital to analyse its risk-adjusted returns by credit score band.

We can see from the figure that this bank is struggling to make money in the competitive

Which kinds of business create our profits?

The key benefit of the kind of analysis shown in Figure 1 is that it helps the bank to focus on the kind of business that is making it the most money. In Figure 1 the bank analyzed credit score bands but there are many other helpful dimensions, including product type and geographic segments.

For example, a superficial analysis of product profitability based on net interest margins or return on assets might lead a bank to assume that credit card customers make the bank more money than loan customers with the same balance.

However, card customers, especially in banks

without complex monitoring processes in place, have a strong tendency to draw down their credit lines when they are in trouble and this significantly increases the bank's exposure at default. Risks like this that arise out of the structure of a particular product can have a significant impact on product profitability.

Understanding profitability at the level of the customer is even more important as bank returns often depend on the behavior of a small subset of customers. Figure 2 shows a set of risk-adjusted customer profitability results that are pretty typical: about 25% of the bank's retail customers contribute most of its profitability with a further 50% being profit neutral, while about 25% actually reduce overall profitability.

The underlying reasons for this vary from bank to bank but we've attached some typical reasons to each customer segment in the figure.

How can we improve profitability in existing businesses?

The importance of this kind of analysis is that it helps banks to understand the strengths and weaknesses in their customer, business and pricing strategies – and gives them the hard numbers they

need if they are to make decisions that will drive up risk-adjusted profitability.

Contrary to many retail bankers' assumptions about risk-adjusted pricing, this does not have to mean raising prices and potentially losing market share in competitive consumer markets.

For example, the bank in Figure 1 might decide to *reduce* prices to attract even more of its most profitable customers (ie, those with slightly below average credit scores) – narrowing fat risk-adjusted margins, but increasing volume and profits overall.

The bank could also improve its profitability by changing the way it does business in the low credit quality segments that are producing below-hurdle returns. Here, the bank should be careful to look at the customers within the broad relationship context and see if the unprofitable accounts are important for strategic reasons or can be made profitable overall (eg, by attracting other customer business).

Additionally, the bank should consider whether more customers can be tipped into risk-adjusted profitability by making quite subtle shifts in transaction risk profiles such as:

- Reduction in size of exposure, for

example, controlling credit limits in the case of credit cards

- Improvement in structure, for example, attaching more collateral to the transaction
- Request for guarantees, such as requiring personal guarantees for high-risk loans
- Reduced maturity, for example, reduce the tenor associated with loans

Of course, raising the yield charged should always be an option. The great advantage of an economic capital analysis here is that it tells the bank exactly *how much* it needs to do to – in terms of repricing, product restructuring, capturing new customer business, or lowering costs – to make a customer segment profitable.

Increasingly, leading banks are using automated tools to incorporate this kind of quantitative trade-off into their credit and pricing decisions for retail customers. At the moment, these tools are dominated by credit score-based cut-offs, but the same tools can be augmented to incorporate the profitability drivers we have described. For larger loans, it can make sense to supply underwriters with economic-capital based tools to help them make the right risk-adjusted decisions at the point of loan structuring and approval.

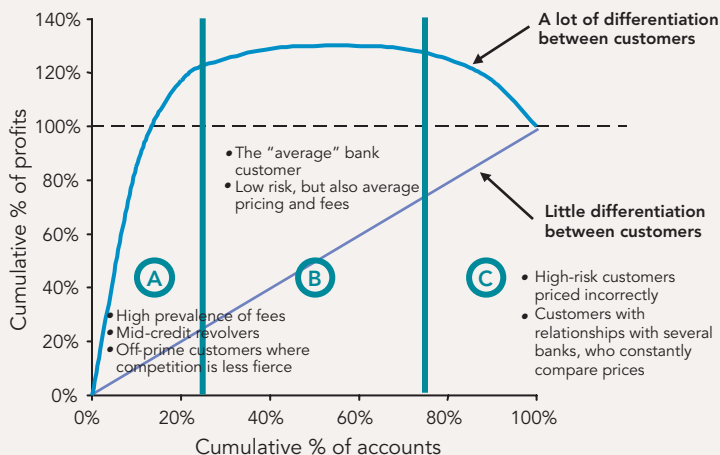
Do you understand your borrowers better than the credit bureau?

Because credit bureau scores often drive pricing in the consumer credit markets they also create opportunities for banks that have a superior understanding of their set of customers.

The trick here is to look at the probability of default implied by a given credit bureau score band, and then test whether the bank's internal credit models are historically better at predicting default rates for the distinct set of customers available to the bank (within that band).

Wherever bureau scores over-estimate the risk associated with certain segments of

Figure 2: Use your economic capital results to understand and improve retail customer profitability



bank customers, the bank is likely to find that it is making a relatively large risk-adjusted margin – and can decide whether to continue to take this margin, or to lower prices below the market price to increase market share while continuing to make above-hurdle risk-adjusted returns.

Figure 3 shows how one of our clients used such an analysis to identify this kind of tactical competitive advantage – in this case in low credit bureau score bands.

Many banks have a significant strategic opportunity to create custom score bands based on the historical credit performance of customers within their specialist lending area.

Which new markets should we enter to improve risk-adjusted profitability?

Banks that feel they have optimised profitability in their current business lines are often tempted to branch out into new kinds of consumer lending – but inevitably find they lack the internal credit data that is necessary to establish key risk parameters for economic capital.

The best tactic here is to borrow from the history of other banks through the careful use of benchmarks. There are various ways to do this, such as collating the data in studies published by credit scoring organizations such as Fair, Isaac to validate their scoring models. These studies show how many borrowers of each score bucket defaulted out of the initial sample, usually over a two-year timeframe, so the data can be annualized to produce estimates of probabilities of default.

It's also useful to look at the data embedded in the prospectuses associated with securitizations. Given the popularity of securitizations, such documents provide a wealth of information about the likelihood and severity of losses associated with different kinds of consumer credit, including sub-prime credit.

The bank can then apply these benchmark risk parameters to its economic capital model to assess how much capital will be required to move

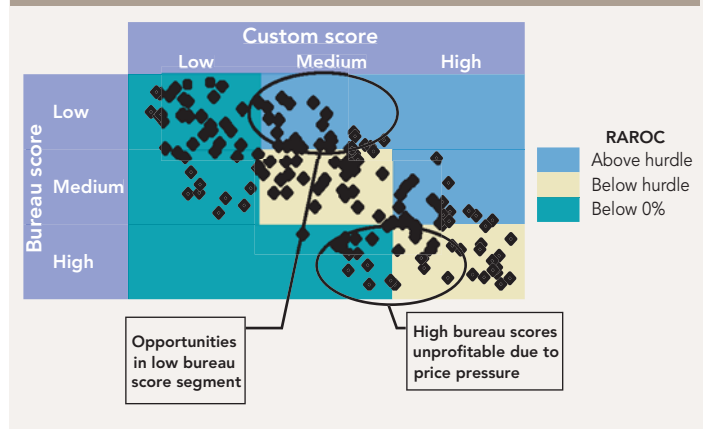
into the new market – and to double check that the new market will indeed offer a significant risk-adjusted profit margin. In making this decision, the bank may want to take into account any capital benefits that the enterprise as a whole is likely to gain from the increase in diversification in its risk portfolios. Through client analyses, we've found that geographic diversification, for example, can yield economic capital benefits of up to 40% for retail banks historically concentrated in a single region.

However, new operations often experience higher operating expenses than the bank has estimated. Putting a number against the economic capital benefits can help banks understand how big a margin for error they have before the new business becomes a drag on profitability for the whole enterprise.

Banks that want to move into new segments should pilot their projects, eg, in a single branch, for a period of time to explore whether their actual experience conforms to their expectations based on the benchmark risk parameters.

Running a pilot and focusing on risk-adjusted returns also helps institutions to overcome important cultural hurdles. Many successful institutions are proud of their low credit loss rates, but it's important to remember that low loss rates are not what make an institution great – instead, it is steadily growing profits sup-

Figure 3: Banks can use risk-adjusted measures to spot opportunities in the wider consumer credit market



ported by adequate risk capital and risk-adjusted pricing.

Conclusion

Banks are finding that competition is fierce for the customers with high credit scores, but they rightly worry about the risks attached to unfamiliar credit segments and new products. The answer is to adopt economic capital and risk-adjusted profitability analysis to refocus the bank's existing activities, and then to adapt these tools to explore the true value of new activities.

Banks will need to do a certain amount of housework in terms of quantifying certain risks and expenses associated with bank activities so that they can plug this information into their risk-adjusted return on capital calculations.

However, the data-rich nature of retail credit markets offers huge advantages to economic capital modelers, while the liquidity of most retail credit markets means that executives can use their new risk-adjusted information to take business and portfolio decisions that quickly transform the shape and success of their business.

This article was contributed by Brannan Johnston, Managing Director, BancWare ERisk, who welcomes your comments at bjohnston@erisk.com