Scorecard Strategies during the Transition from Negative to Positive data

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About The International Risk Partnership

The International Risk Partnership (IRP) was founded in 2009 as an independent consultancy to help national credit bureau and lenders compete successfully by maximising the value derived from credit data, analytics and software. Today IRP provide credit bureau experts, consultants and risk management expertise including a wealth of international knowledge to credit bureau and lenders to help them adapt to the constant change in market conditions, to identify new opportunities and to accelerate their growth.

IRP have over twenty associates providing subject matter expertise for all aspects of the foundation, development and operational management of Credit Bureau. The founders have over 60 years of experience in the industry and have worked with 21 credit bureaus in 19 countries across 5 continents and have been responsible for the deployment of over 2000 risk and fraud management solutions in 60 countries across the credit lifecycle. IRP has experience of working with the full spectrum of bureau in established and emerging markets where often micro finance predominates

About The Author

Chris Slater is a partner of IRP and has worked for Experian for thirteen years before leaving and establishing IRP with his two partners. Chris is widely regarded as a data and analytics expert in the industry and has worked with both Experian and subsequently with a number of national credit bureaus to develop world class products and services. He has also worked with lenders to maximise the benefits they get from the use of the credit bureau services.

In the last three years Chris has worked extensively in the Australian and New Zealand markets and he is very familiar with the challenges faced in these markets as they try to migrate from a negative reporting environment to a comprehensive (or positive) reporting environment.

Executive Summary

When comprehensive data is introduced into the New Zealand and Australian credit markets the new data will allow risk scorecards to become more sophisticated. Because the Australia and New Zealand interpretation of comprehensive reporting is different to that adopted elsewhere in the world, it will not be possible to simply lift weightings in scorecards from other comprehensive data markets where exists. Instead scorecards will need to be developed specifically to the new data.

In itself this is not a great challenge, but the complexity is massively increased by the fact that there will be a period of transition during which the volume of data grows every month as new portfolios are loaded at the bureaus. This rapid and irregular increase in the data will give scorecards very short lifespans (we suggest 6 to 9 months) and so during a two year period of transition a scorecard owner would have to recalibrate (and potentially rebuild), approve and implement their cards 3 or 4 times. In a bank with a significant number of cards this would represent a major resource challenge.

IRP recommends that clients look to the credit bureaus to take the brunt of the recalibration effort. They are closest to the data and are the experts on its structure and dynamics. We would advocate one of 3 approaches to using the credit bureau scores.

1. To use a credit bureau score as a policy rule supported by simple policy rules based on the bureau characteristics
2. To matrix a bureau score with an application score to create a 2 dimensional view of risk
3. To step in a bureau score as a last stage within an independent application score

Each of these approaches allows the lender to isolate the bureau score and to have a simple recalibration processed based on the stated Good:Bad odds of the bureau score. Even then the effort required to keep these solutions tuned will be significant. The selection of the best approach for your business will be based on how well each approach meets the business' objectives and appetite for risk reduction and increasing revenue.

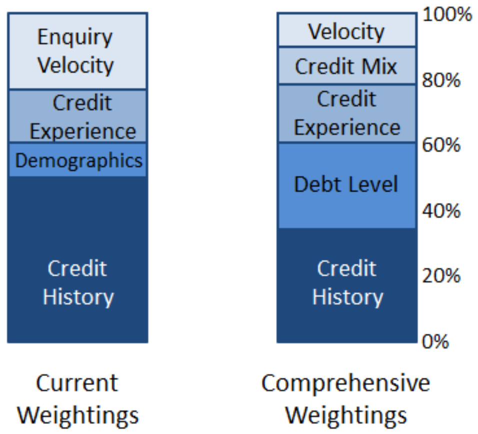
Introduction

When comprehensive data is introduced into the New Zealand and Australian credit markets the new data will allow risk scorecards to become more sophisticated. Because the Australia and New Zealand interpretations of comprehensive reporting is different to that adopted elsewhere in the world, it will not be possible to simply lift weightings in scorecards from other comprehensive data markets. Instead scorecards will need to be developed specifically to the new data permutation.

In itself this is not a great challenge, but the complexity is multiplied by the fact that there will be a period of transition during which the volume of data grows monthly as new portfolios are loaded at the bureaus. This paper examines how lenders can maximise their discrimination in their account opening processes using the data without exposing themselves to risk caused by the data transition.

How the new data will change scoring

The addition of the new data to the credit bureaus will increase lenders' ability to discriminate between customers who will be likely to pay their commitments from those who won't. This will be done through scorecards and these scorecards will be very different from their negative counterparts. The cards will be able to measure new factors and the weighting between them will alter dramatically. At the coarsest level, new to bank scorecards will move from 4 basic factors to five adding debt level and credit mix. Diagram 1 shows how the weightings will change (not to scale!) and the expected weightings that you would see in a full comprehensive reporting environment.



- There will be more granular information in the credit history and it becomes far more predictive, but as a percentage of the overall score reduces in weighting
- The accuracy of the credit experience increases as the bureau now holds better information on how long the consumer has been credit active.
- The value of demographic data becomes less predictive and is only of interest for applications with thin files.
- The value of enquiry characteristics will diminish considerably as comprehensive data is added to the mix. Enquiry velocity tends to be used to refine the decision around the cut off.
- Debt level is the first new factor and the limit information will describe total exposure. However the weightings for this will be very different from that seen overseas without balance, especially on credit cards.
- Credit mix is the second new factor. Someone with $100,000 total limits across 5 credit cards is very different from someone with a single loan of the same size. This will behave similarly to other markets though some national differences exist in the consumers' behaviour.

The Transition period

We understand how scorecards will need to change once comprehensive data is introduced and there is a lot of experience, albeit with balance information. However life is not that simple. Between the current scorecards and the comprehensive scorecards lies a period called the transition period where data is being loaded to the credit bureaus. This loading will be lumpy, no matter what efforts are made to control this loading, and lumpy data makes it very difficult to keep scorecards aligned.

There are key things that can be done to overcome this, such as using ratios rather than open ended counts as characteristics, but ultimately it means that scorecards developed to make use of comprehensive data will need to be recalibrated regularly during this period, a period which may easily last two years. Even if the banks load their accounts in a year and create a critical mass that minimises the statistical effect of further portfolios being added, there will be a further year during which the observation point for scorecards with a 12 month outcome will be in the transition period.

The cost of maintaining scorecards during Transition

The costs of maintaining a single scorecard during transition are not unmanageable, especially not when you have a good understanding of the data being loaded to the credit bureau. If your company has a single scorecard for point of sale then it is perfectly feasible to plan a migration path from your current negative scorecards to mature comprehensive scorecards.

1. Using pilot data you can initially fine tune your negative scorecards using a strategy to remove uncertainty about goods and those that are new to bureau.
2. You can then place a judgemental overlay on the card based on an understanding of certain manifestations of financial stress.
3. Then you can begin to recalibrate this as the data begins to gain critical mass and factors like age of oldest account become more reliable.
4. This tuning needs to be regularly monitored and recalibrations tested to ensure that the scorecards are delivering the discrimination they should
5. Finally once the data reaches critical mass, develop the first full comprehensive reporting scorecards.

We do not recommend that you try to rely on evidence from overseas markets where comprehensive reporting exists at any stage in the process. We find significant differences in weightings between scorecards addressing different products and customer segments in different markets and do not believe that there will be a transportability of scores across the world. This is compounded by the fact that there will not be credit card balance information available under comprehensive reporting.

With one scorecard this process described above is feasible assuming that you can get sufficient access to information, expertise and analysis of the credit bureau data as a whole. For most banks, managing this cycle across multiple scorecards is resource hungry and usually unjustifiable. With the increased governance processes surrounding scorecard implementation in most banks the approval of each version of the scorecard on each portfolio every six to nine months would be unsustainable.

Experiences from around the world

In overseas markets there have been a number of learning points that come out of the efforts to create and maintain scorecards during the transition period

- In order to have trustworthy results, you need to have a stable macro-economic climate. If there is a downturn at the same time as the bureaus data is in transition it becomes very hard to manage the tuning process.
- Banks in South Africa and Hong Kong found the main challenge to be that it was time consuming to bring hundreds of characteristics into an origination process rather than a single score field.
- Scorecard monitoring highlighted characteristic shifts due to the build-up of the data and committees struggled to understand the possible impact of these shifts and know how to take remedial action. This resulted in additional pressure on the modelling team to redevelop more often, but they still faced the challenge of shifts reflecting in the pre implementation validation checks.
- It has been shown that the behavioural models tend to maintain their integrity better than point of sale models and we recommend that banks focus their development efforts here.

Ultimately, in a post GFC, Basel driven world the confidence of those in the governance chain of command is critical. It is difficult to maintain confidence in the scores they are developed. The scores can give unprecedented lift (as new, appropriate data does) but the business will struggle to trust the picture being presented to them.

Alternative strategies

There are a number of ways of meeting this challenge. For a large bank it is worth having a small team working with the data and maintaining a challenger scorecard to ensure that the bank is ready to move into implementation as soon as the critical mass of data is present on the bureaus. For the remainder of the portfolios where you would want to incorporate CR data as soon as possible (usually cards and personal loans) there are three options:

1. To use a credit bureau positive score as a policy rule
2. To matrix a bureau score with an application score to create a 2 dimensional view of risk
3. To embed a bureau positive score as a variable within an application score

With each option it is easy to tune the performance from the bureau scorecard based on the published performance from the bureau's development team.

To use a credit bureau positive score as a policy rule

The easiest option is to add the comprehensive bureau score as a policy rule. This is a very simple implementation and can run alongside your company's existing scorecards. All you need to do is dial in a cut-off at which the published good bad odds match your company's risk appetite. This approach will lead to increased rejects of applicants that are showing early symptoms of financial stress. Additionally you can have further policy rules based on characteristics drawn from the new data. For example you might choose to reject all applicants who have accounts that are 3 cycles or more down. This is a fairly blunt approach and it does little to help you identify a swap set that would lead to increased acceptance rates for the same risk point.

To matrix a bureau score with an application score to create a 2 dimensional view of risk

This approach is a medium complexity approach that delivers good results. In effect you create a 2 dimensional matrix between your existing application score and the credit bureau score as illustrated in figure 2. Naturally where both scores rate badly then you have a rejection and where both scores rate well then you have an accept. The key benefits are derived from the swap sets:

- applications that score highly but have poor bureau scores allow you to reduce your risk on the portfolio
- Applications that score badly but have a good bureau score allow you to increase your acceptance rate for no change in overall risk

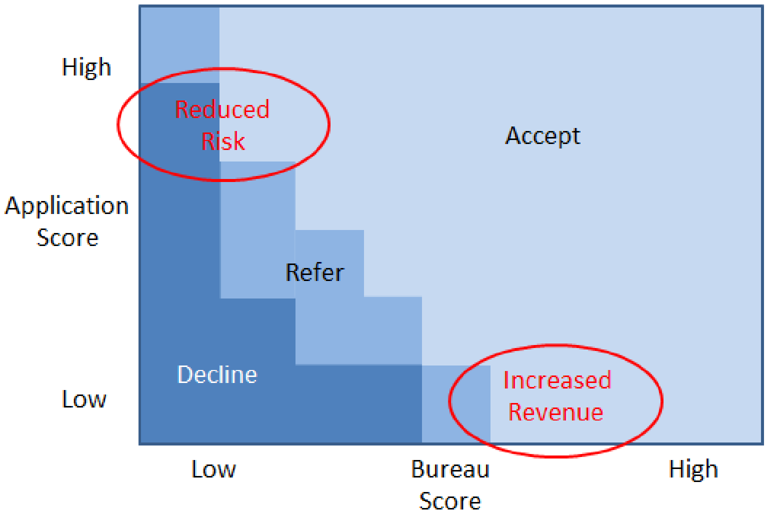


Figure 2: Illustration of the matrix approach

The best results if the two scores are orthogonal (ie the application score doesn't contain negative bureau data), but you will still get an uplift you use today's scorecards which do contain the negative bureau data.

To step in a positive bureau score as a last stage in an independent application score

The final approach is to actually embed the credit bureau's score as a variable in a scorecard. This is perhaps the most complex way to incorporate the score and the most difficult to maintain. The way to do it is to step the bureau score in during the last steps on the application scorecard. Clearly for this to work, the application scorecard must be independent of the bureau score. Because it is stepped in late in the scoring process, with good design it would again allow you to identify both applicants that you can additionally reject and also swap set populations with a good CR score that you may have otherwise rejected.

Recommendations

The International Risk Partnership recommends that lenders

1. Assuming there is time between a pilot exercise and the start of loading the live CR data to the bureaus, perform a negative fine tune on their existing cards using early insight from the pilot exercises.
2. Once the load starts, let the credit bureaus take the main strain of keeping their scorecards tuned during the transition periods and use one of the approaches listed here to benefit from the new data. This will allow lenders to be early movers and use CR data to improve approval rates within their risk appetite and streamline manual processes.
3. Consider internal behavioural scorecards as early candidates for the first fully internally developed scorecards as experience shows they are less sensitive to transition effects.
4. In parallel keep a small team or individual working on a challenger scorecard to ensure that they can return to developing their own cards once comprehensive reporting has reached critical mass.

References

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