

5. Refining Acquisition Strategies

Early warnings and scorecard performance

Why track...and what?

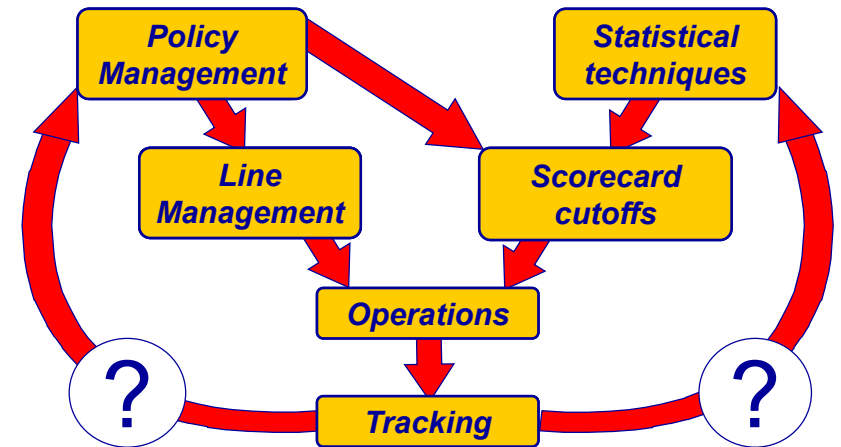
Population stability

Acceptance and override rates

Measuring performance

Actual vs expected analyses

Tracking feedback loop



Tracking Focus



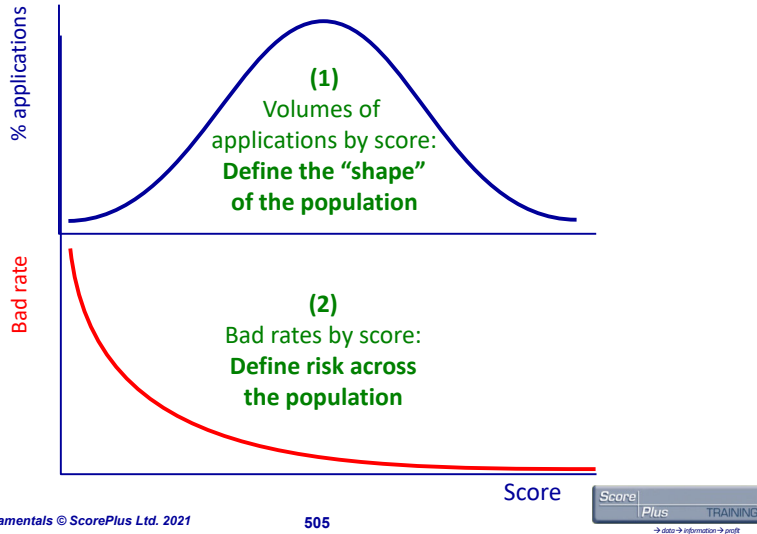
	Front End	Performance
Scorecard Validation	<i>Is the population significantly different from the past?</i>	<i>Does the score still predict risk as assumed in strategy?</i>
Policy Evaluation	<i>Do accept rates and refer rates correspond to expectation?</i>	<i>Do score cutoff and policies correspond to maximising profit?</i>

Expected results

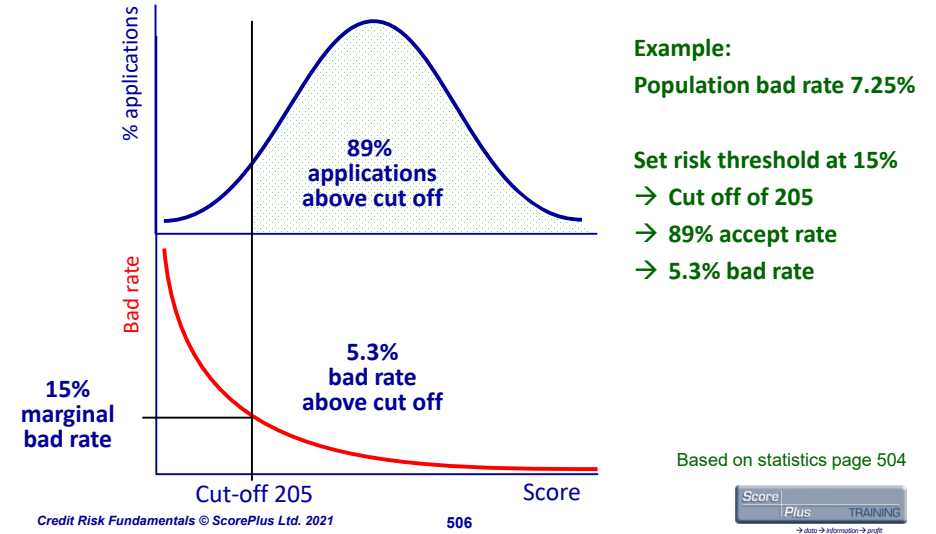
Example scorecard statistics

Cut off score	Overall accept rate	Overall bad rate	Scoreband bad rate	Scoreband population %
0	100.0%	7.25%	28.9%	4.3%
190	95.7%	6.3%	19.5%	4.0%
200	91.8%	5.7%	18.7%	2.8%
205	88.9%	5.3%	15.0%	3.3%
210	85.6%	4.9%	12.9%	8.2%
220	77.4%	4.1%	9.0%	9.7%
230	67.6%	3.4%	6.6%	10.8%
240	56.8%	2.7%	5.0%	11.0%
250	45.8%	2.2%	4.0%	10.9%

Expected results From scorecard statistics

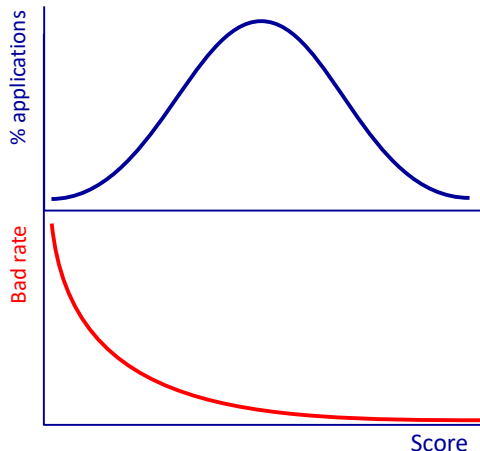


Expected results Translated into business options



Population stability tracking

- Assumption: Population 'shape' remains as predicted

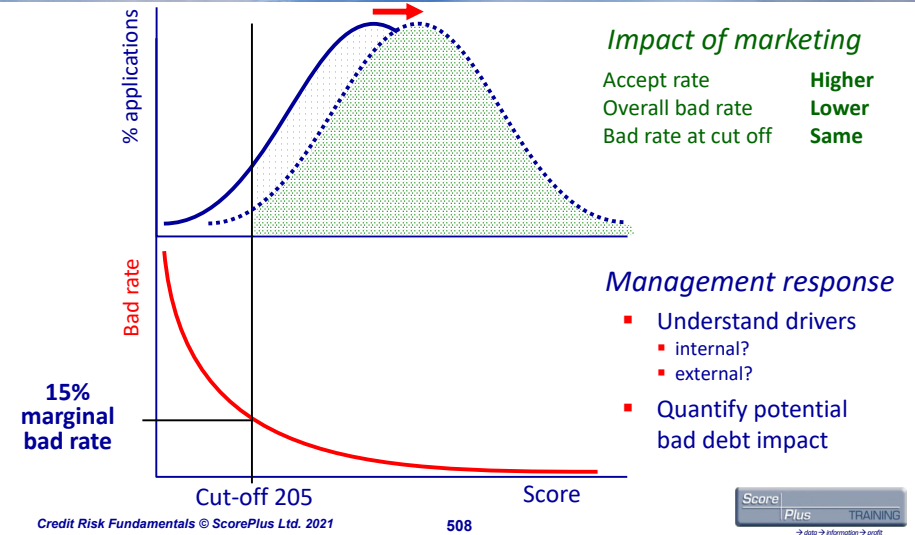


Today's population matches the model expectation?



Builds confidence for model reliability

Population stability tracking Possible influences and consequences?



Task

Shifts in score profiles Why do they happen?

Investigate causes:

- Change in population
 - and in credit quality
- Changes in response
 - but 'same' applicants

Examples:

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-
-
-

Examples:

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Shifts in score profiles

Investigate causes:

- Change in population
 - and in credit quality
- Changes in response
 - but 'same' applicants

Examples:

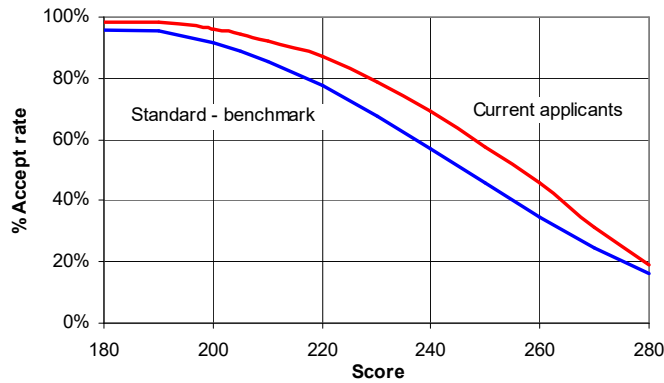
- Prospect targeting
- Offers
- Concentration / mix
- Qualifying criteria
- Data collection
 - application form
 - internet
 - introducers
- Structural change

Population stability table

Cut off score	Expected overall accept rate	Actual overall possible acc rate
0	100.0%	100.0%
190	95.7%	98.0%
200	91.8%	95.2%
205	88.9%	92.7%
210	85.6%	89.8%
220	77.4%	82.7%
230	67.6%	74.8%
240	56.8%	63.5%
250	45.8%	50.0%

Interpretation?

Population stability graph



Overall bad rate consequences?

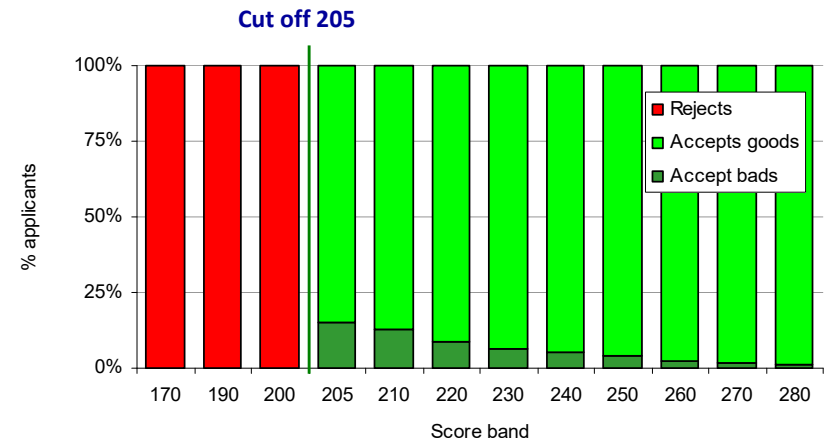
5. Refining Acquisition Strategies Early warnings and scorecard performance

- ✓ Why track...and what?
- ✓ Population stability
- Acceptance and override rates
- Measuring performance
- Actual vs expected analyses

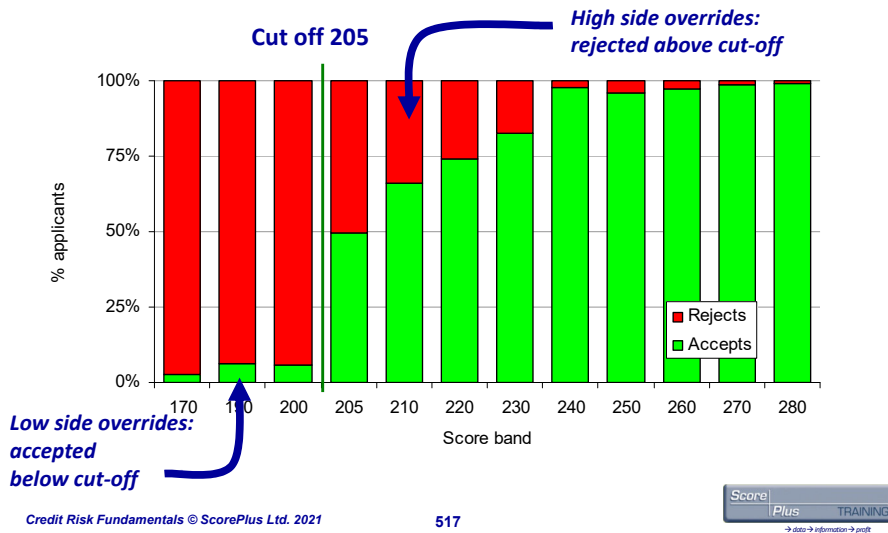
More assumptions

- Population 'shape' remains the same
- ⇒ All applications \geq cut off accepted
- ⇒ All applications $<$ cut off declined

Expected accept rate by score What should it look like?



Actual accept rate by score What has happened?



Task

Consequences?

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-
-
-
-
-

Consequences?

- Overrides
 - below cut off: increased revenue and bad debt
 - above cut off: lower revenue and bad debt
- Additional operational load
 - higher operational costs
- Longer lead times
 - poorer customer service
- Less management control

Compare vs objectives of using scoring

5. Refining Acquisition Strategies Early warnings and scorecard performance

- ✓ **Why track...and what?**
 - ✓ **Population stability**
 - ✓ **Acceptance and override rates**
- Measuring performance**

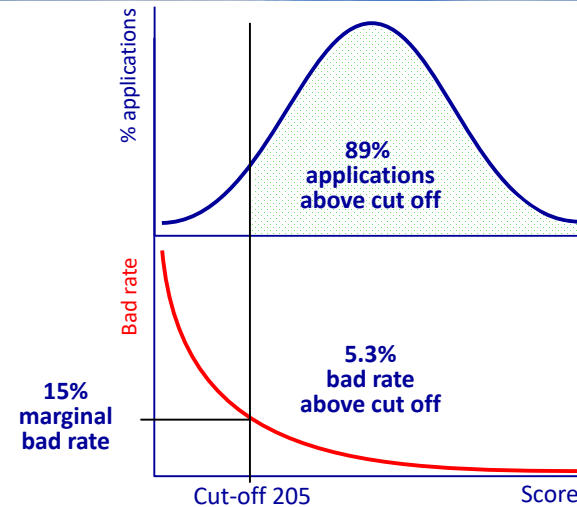
Actual vs expected analyses

Yet more assumptions

- Population 'shape' remains the same
- All applications \geq cut off accepted
- All applications $<$ cut off declined
- ➔ Bad rate by score remains the same

Reminder

Expected results Sets standards for monitoring

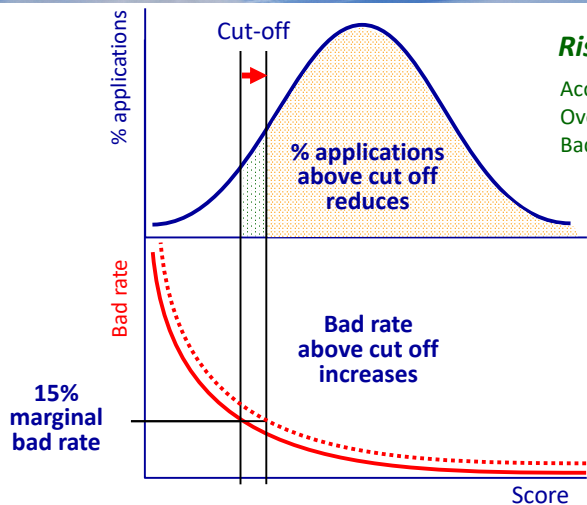


Example:
Population bad rate 7.25%

Set risk threshold at 15%
→ Cut off of 205
→ 89% accept rate
→ 5.3% bad rate

Based on statistics page 504

Scorecard validation – performance Risk: score relationship – influences (1)



Risk calibration changes

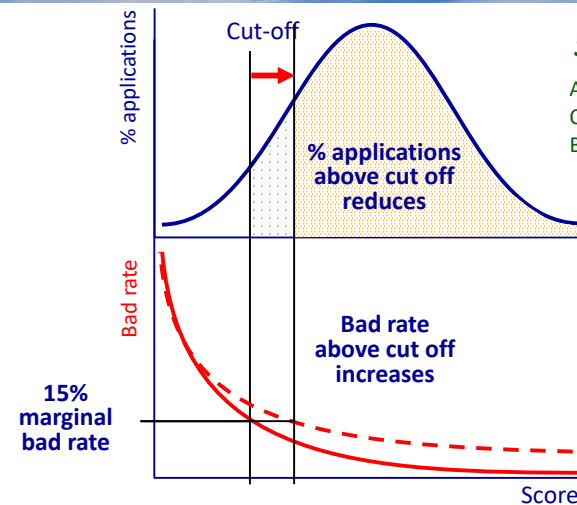
Accept rate	Lower
Overall bad rate	Higher
Bad rate at cut off	Same

after cut off adjustment

Management response

- Short term
 - increase cut off
- Longer term
 - recalibrate model

Scorecard validation – performance Risk: score relationship – influences (2)



Scorecard deterioration

Accept rate	Lower
Overall bad rate	Higher
Bad rate at cut off	Same

after cut off adjustment

Management response

- Short term
 - increase cut off
- Longer term
 - rebuild model

Bad rate by score table

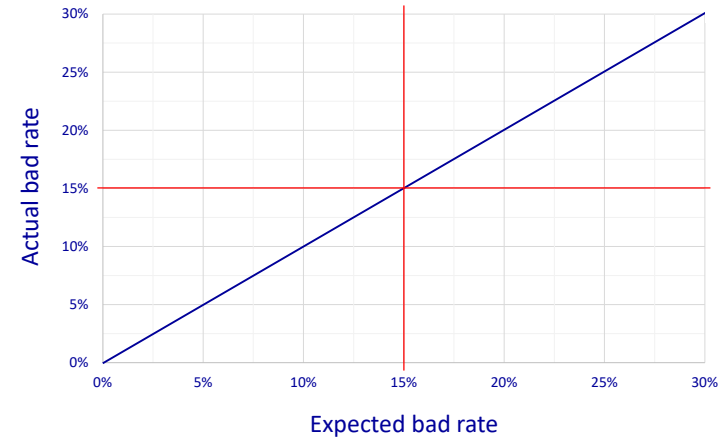
Example expected vs actual results

Scoreband	Expected bad rate	Actual bad rate
Up to 189	28.9%	21.3%
190 to 199	22.5%	16.7%
200 to 204	18.7%	16.3%
205 to 209	15.0%	13.7%
210 to 219	12.9%	11.8%
220 to 229	9.0%	8.5%
230 to 239	6.6%	6.9%
240 to 249	5.0%	6.3%
250 to 259	4.0%	4.8%
260 to 269	2.4%	3.0%
270 to 279	1.9%	2.3%
280 +	1.0%	1.2%

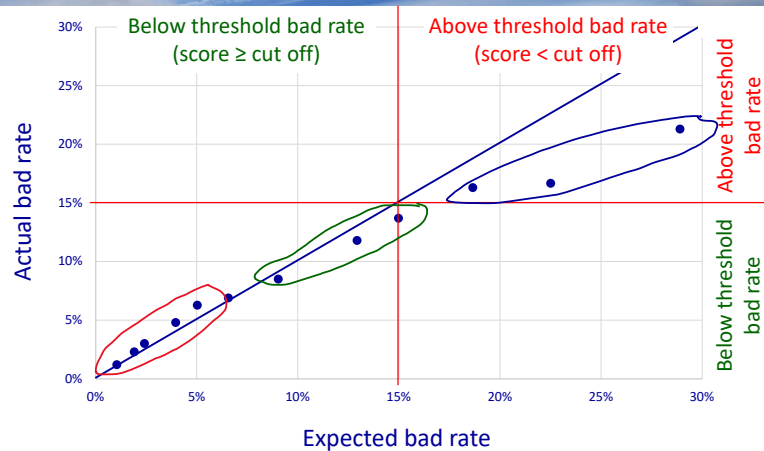
Expected marginal bad rate 15%

Task

Actual vs expected bad rate graph



Actual vs expected bad rate graph



Interpretation? What could be driving the 'actual' pattern?

Accept and bad rate by score table

Example expected vs actual results

Scoreband	Expected bad rate	Actual bad rate	Accept rate	Observations
Up to 189	28.9%	21.3%	2.6%	Overrides out performing expectations: "cherry picking"
190 to 199	22.5%	16.7%	6.4%	
200 to 204	18.7%	16.3%	6.0%	
205 to 209	15.0%	13.7%	49.7%	High levels of overrides: actual better than expected
210 to 219	12.9%	11.8%	65.9%	
220 to 229	9.0%	8.5%	74.3%	
230 to 239	6.6%	6.9%	82.7%	High levels of acceptance: actual worse than expected
240 to 249	5.0%	6.3%	97.9%	
250 to 259	4.0%	4.8%	96.0%	
260 to 269	2.4%	3.0%	96.0%	
270 to 279	1.9%	2.3%	96.0%	
280 +	1.0%	1.2%	96.0%	

Debate Impact of acceptance on performance Analysis and response

Analysis

- Below cut off: overrides worse than threshold
- Cut off to 229: overrides masking true performance?
- 230 and above: underestimating risk?

Management response

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Impact of acceptance on performance Analysis and response

Analysis

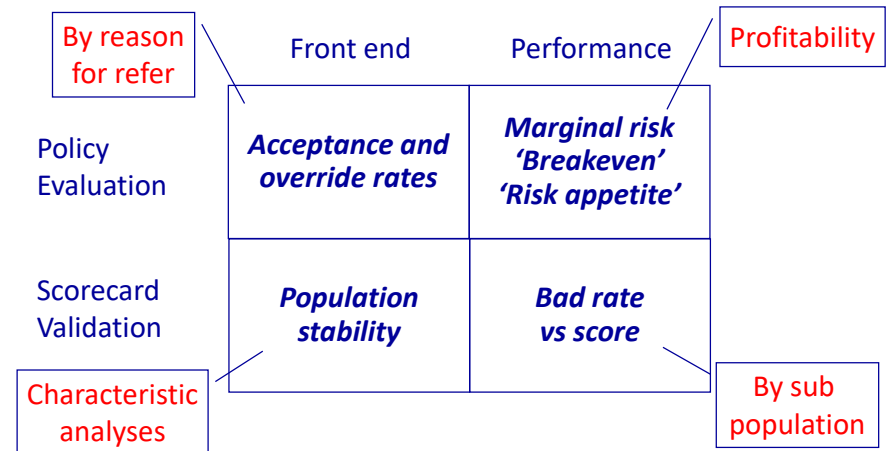
- Below cut off: overrides worse than threshold
- Cut off to 229: overrides masking true performance?
- 230 and above: underestimating risk?

Management response

- Review < cut off procedures - eliminate low side overrides?
- Understand reasons for decline - can other data be used to enhance scorecard?
- Scorecard calibration?

Scorecard assessment: understand front end and performance

Tracking focus More new business analyses



Data driven decisioning

Better Information

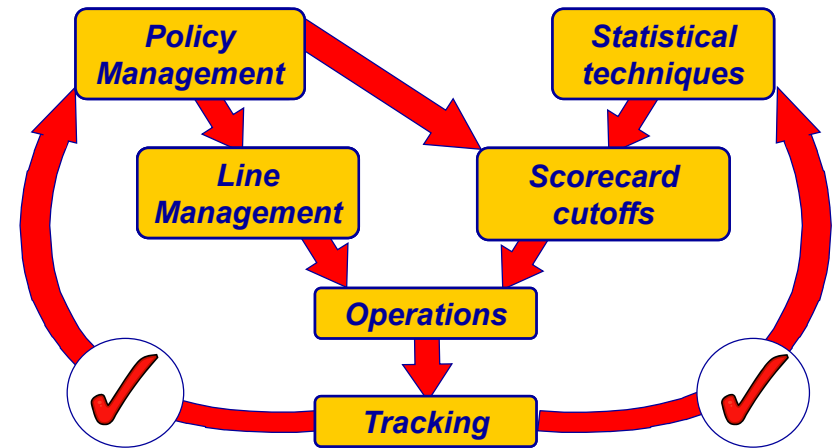
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Intelligent Use

= Better Decisions

= More Profits

Tracking feedback loop



Key concepts

- Why monitor?
 - scores underpin strategy
- How?
 - actual vs expected
 - scorecard statistics provide benchmarks
 - N.B. update with experience
- 'Front end'
 - population stability
 - acceptance rates
 - override rates
- 'Performance'
 - risk vs score
 - focus at the margin
 - link results to 'front end'