Risk Based Pricing for Personal Loans

How It Works and How to Make it Work

David B. Edelman

Principal Consultant

Caledonia Credit Consultancy

Risk Based Pricing - Agenda

- What is it?
- Why it is used – What does it achieve?
- Legal Constraint on Typical Rate
- Effects on behaviour
- Effects on scorecard development
- Variants
- Comments on related areas
- The Future

Caledonia
Credit
Consultancy

What Is It?

Flat Pricing

- Applicant knows price
- Completes application details
- Application is assessed – either decline or approve
- If approved, application proceeds

Risk Based Pricing

- Applicant knows typical rate
- Completes application details
- Application is assessed – either decline or approve. If approve, set price
- If approved, applicant accepts or declines offer at the price
- If approved by both parties, application proceeds

Caledonia Credit Consultancy

Flat v. RBP – Key Differences

With RBP, …

Applicant unaware of range of possible prices

Application assessment is required before price can be set

Applicant can be approved but decline offer

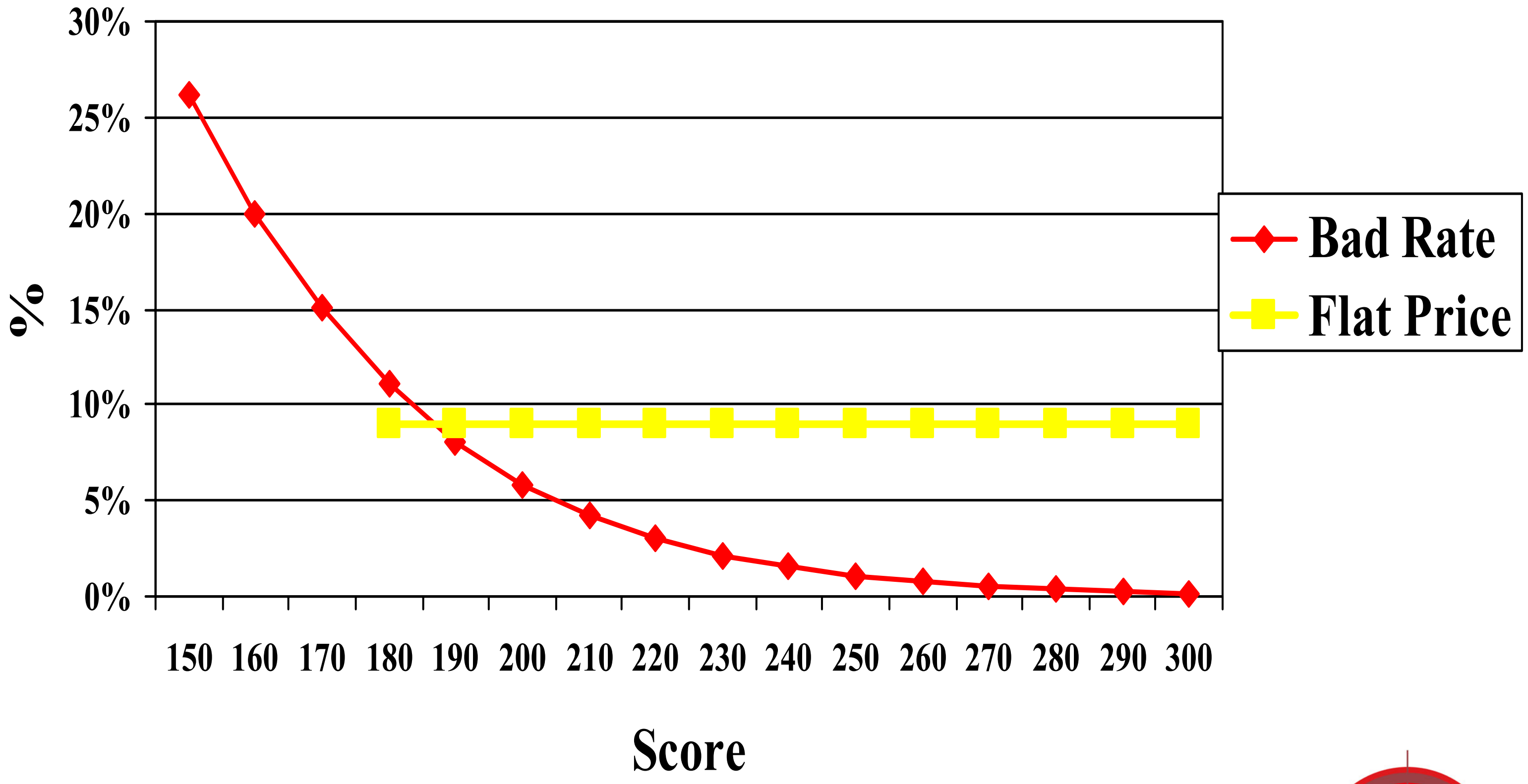
- additional process step
- adverse selection possibility
- additional category of applicants for scorecard development

Risk Based Pricing

Why it is used?

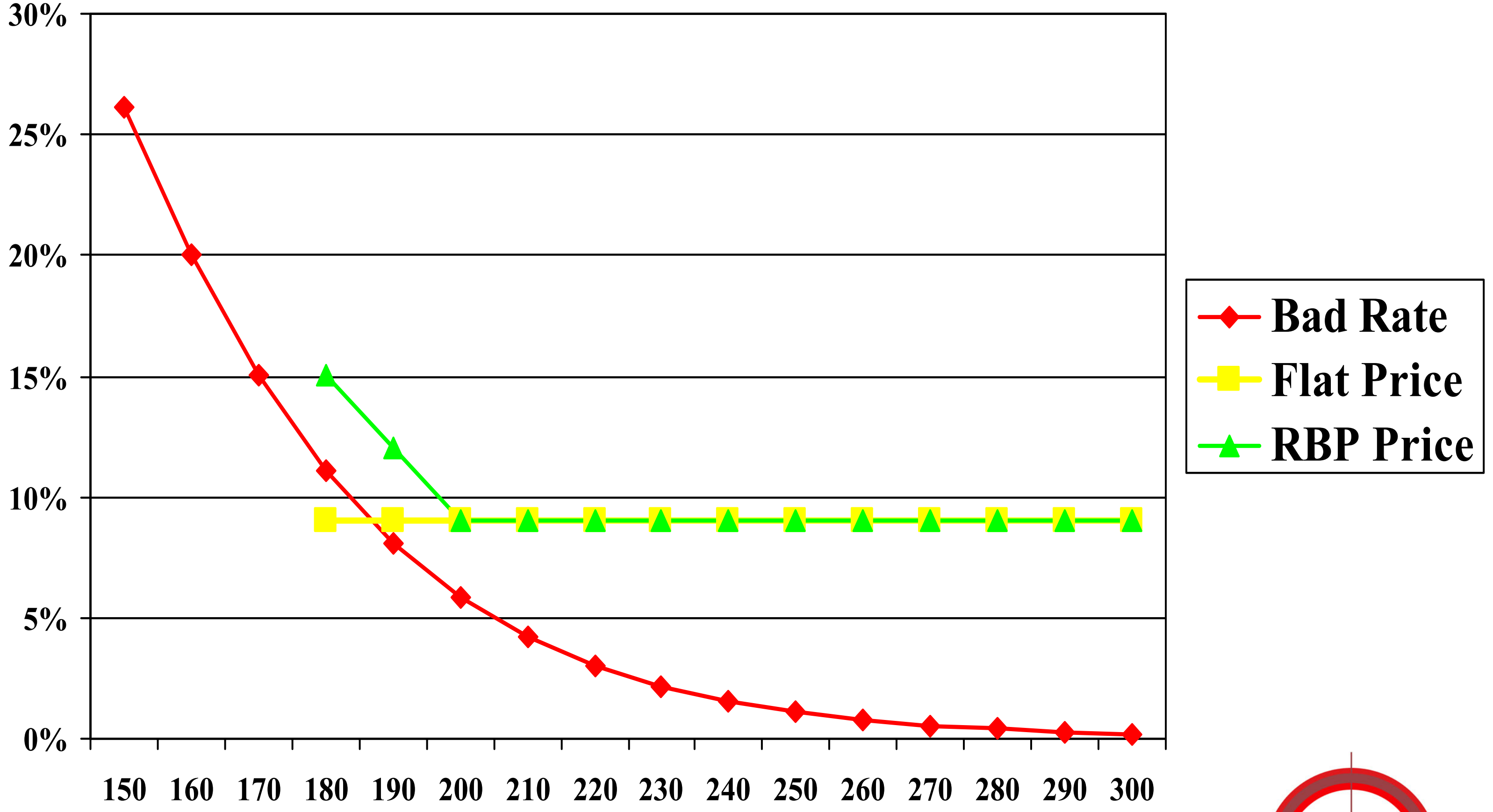
What does it achieve?

"Flat Pricing"



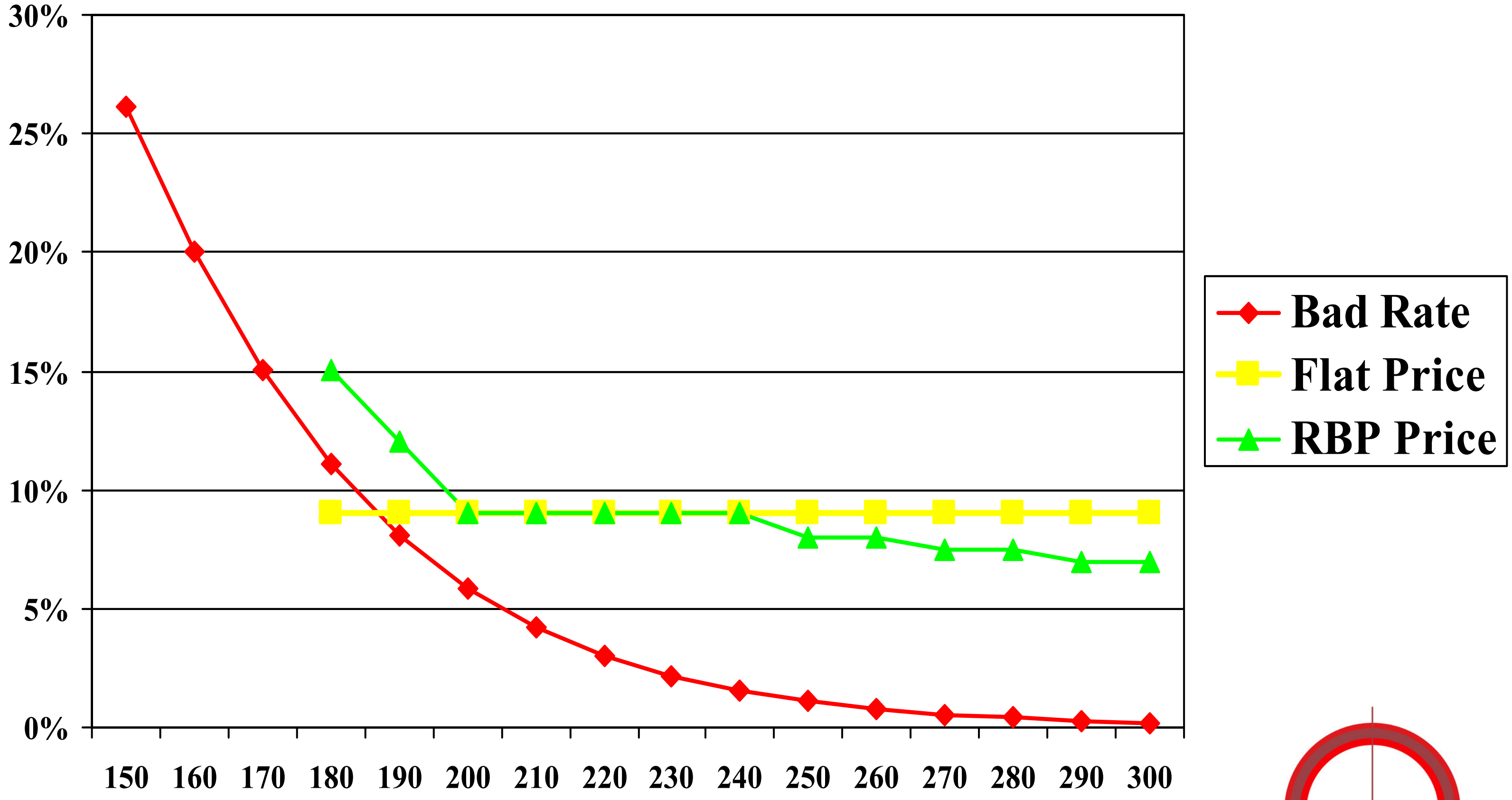
RBP – Stage 1

More Interest Income for lower quality loans



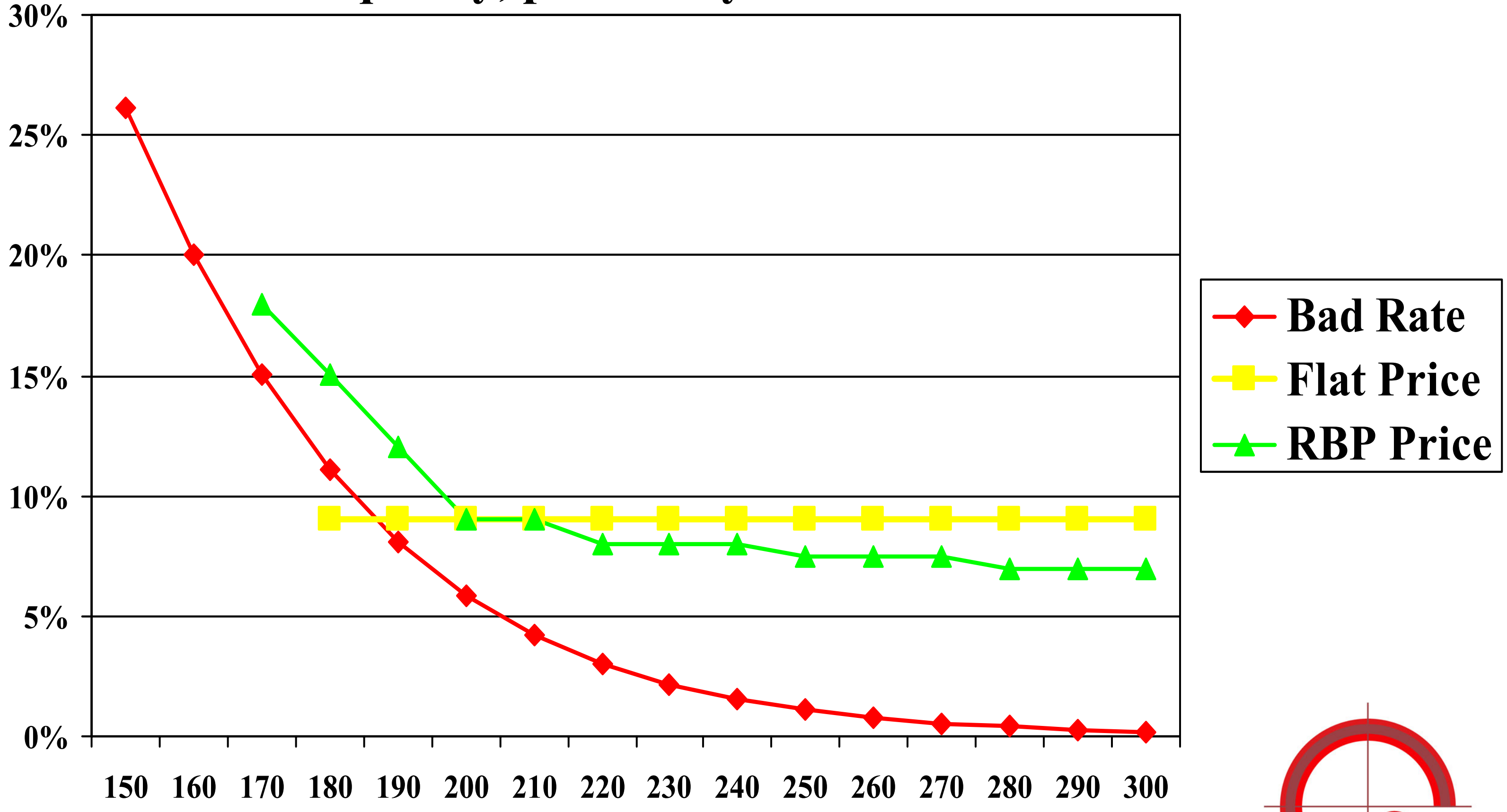
RBP – Stage 2

More Interest Income for lower quality loans, less interest income for better quality loans and a lower Typical Rate



RBP – Stage 3

More interest income for lower quality loans, less interest income for better quality loans, lower cut-off - acceptance of lower quality, previously declined cases



Risk Based Pricing

Legal Constraint - Typical Rate

What is the Typical Rate?

Typical Rate

- **One Common Interpretation:**
- **The Median Rate at which loans are granted.**
- **i.e. the rate at which 50% or more of *borrowers* get this or a better rate.**
- **Different typical rates for different amounts bands?**
- **Legislation from OFT, who have the power to monitor this.**
- **Given fluctuations in business, lenders may operate with a Typical Rate in the 55% to 60% band to provide comfort / reassurance / safety.**
- **Reporting and monitoring is required.**

Caledonia
Credit
Consultancy

Risk Based Pricing

Effects on behaviour

- Front-line staff
- Underwriters
- Collectors
- Customers

Caledonia
Credit
Consultancy

Effects on Behaviour – Front-Line Staff

- Explain decline decisions and now pricing decisions
- Why is a specific price being quoted?
- Do they know / understand?
- Can they tell the applicant?
- Difficult with existing customers

- Requirements

Clear communications to and education of front-line staff

why we have RBP

what might happen and why

what they can do about it / tell the applicant

Referral process and feedback mechanism

Effects on Behaviour – Underwriters

- Does the underwriter
- Ignore the price and assess the case themselves
- Use the price as a signal that the case is higher (or lower) risk
- Use the higher price as a mitigant against the higher risk?

- If price loadings change, how should the underwriter now react?

- Requirements

Clear and focused discussions and communications among Underwriting, Risk, Finance, and Marketing

Clear credit / underwriting policy and effective monitoring process

Good understanding of product profitability

Agreed objectives – profit / losses

Caledonia Credit Consultancy

Effects on Behaviour – Collectors

- How should collectors deal with two loans in arrears at vastly different APR's?
- Is the price set at applications stage an accurate indication of the outcome of an episode of arrears?
- Should the additional interest rate have any bearing - or act as a mitigant?
- Should a high APR case have a higher priority than a lower APR case?
- Should the collector react differently to a customer offer to reschedule?

- Requirements

  Clear and focused discussions and communications among Collections, Risk and Finance

  Clear credit / collections policy and effective monitoring process

  Good understanding of product profitability

  Agreed objectives – profit / losses

Caledonia Credit Consultancy

Effects on Behaviour – Customers

1. Reaction to Offers

1a. Typical Rate is The Rate

- Deviation upward is open to question.
- Deviation downward can also be questioned.

- Adverse reaction to higher offers generated by two different effects.
- Fact of the higher offer
- Size of the higher offer.

- Sensitivity tends to be greater to the former than to the latter.

Caledonia
Credit
Consultancy

Effects on Behaviour – Customers

1. Reaction to Offers

1b. Repeat Business generates many issues.

- RBP sharpens focus.

- The rate offered now can be higher because of :-
  - Lower amount
  - Different term
  - Change in scorecard or policy
  - Change in “Base Rates”
  - Change in applicant quality

Caledonia
Credit
Consultancy

Effects on Behaviour – Customers

2. Adverse Selection

What is it?

Caledonia
Credit
Consultancy

Adverse Selection

Those who accept a high APR offer are not a random sample from those who are made the offer but are in fact a biased sample from those who are offered the high APR offer.

They are the applicants who think that the high APR offer still represents a good deal for them – i.e. they think they are even higher risk.

To counter this, we need to charge an even higher APR, and the sample will be even more biased, and so on - a downward spiral.

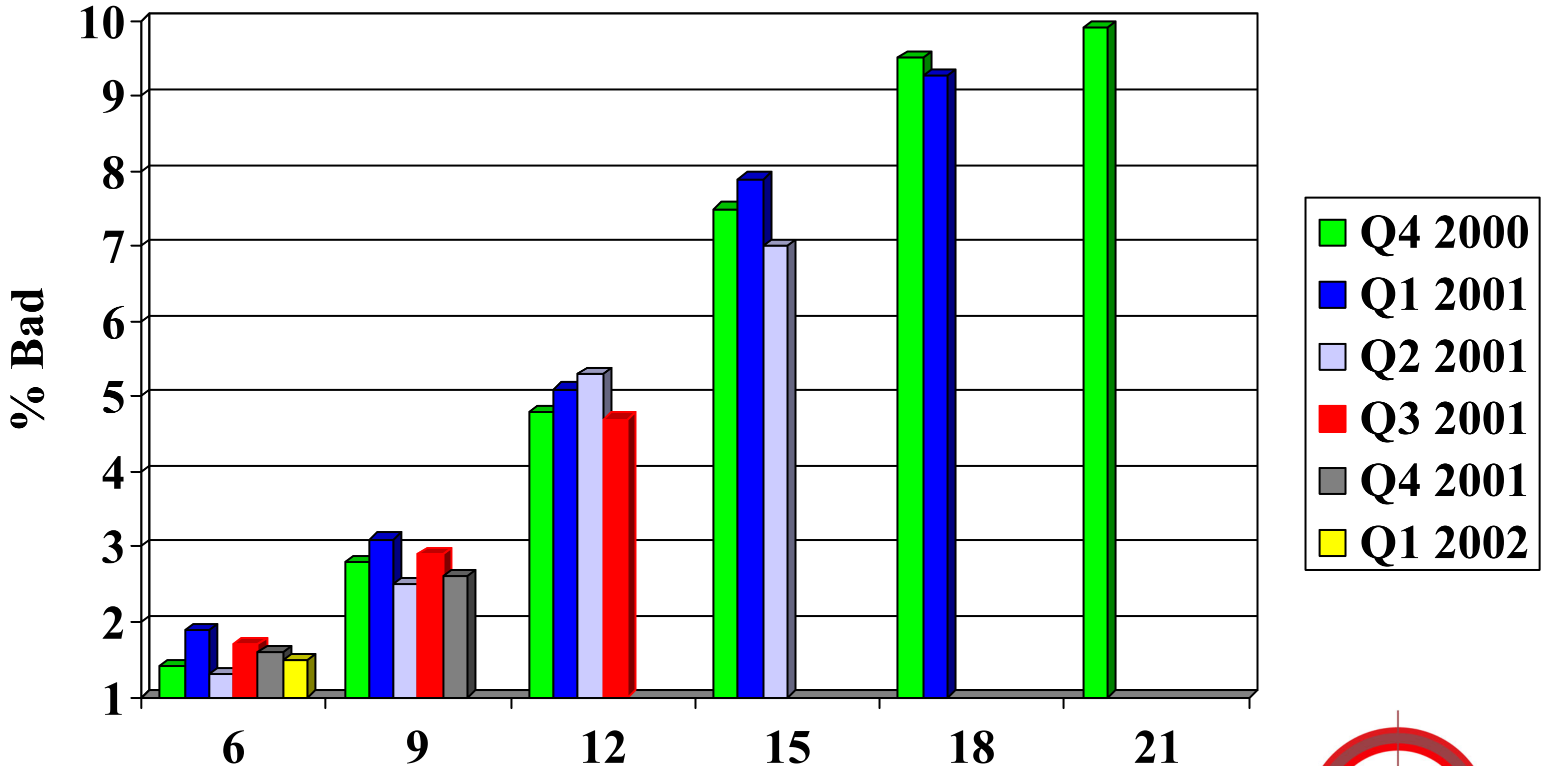
Effects on Behaviour – Customers

2. Adverse Selection - Facts

- Adverse Selection exists but is not as pronounced as some fear. The market is not as efficient as it could be.
- Those who perceive themselves to be higher risk have a high take-up of payment protection insurance – this is a key income stream.
- Adverse Selection can be closely monitored by standard scorecard tracking reporting.

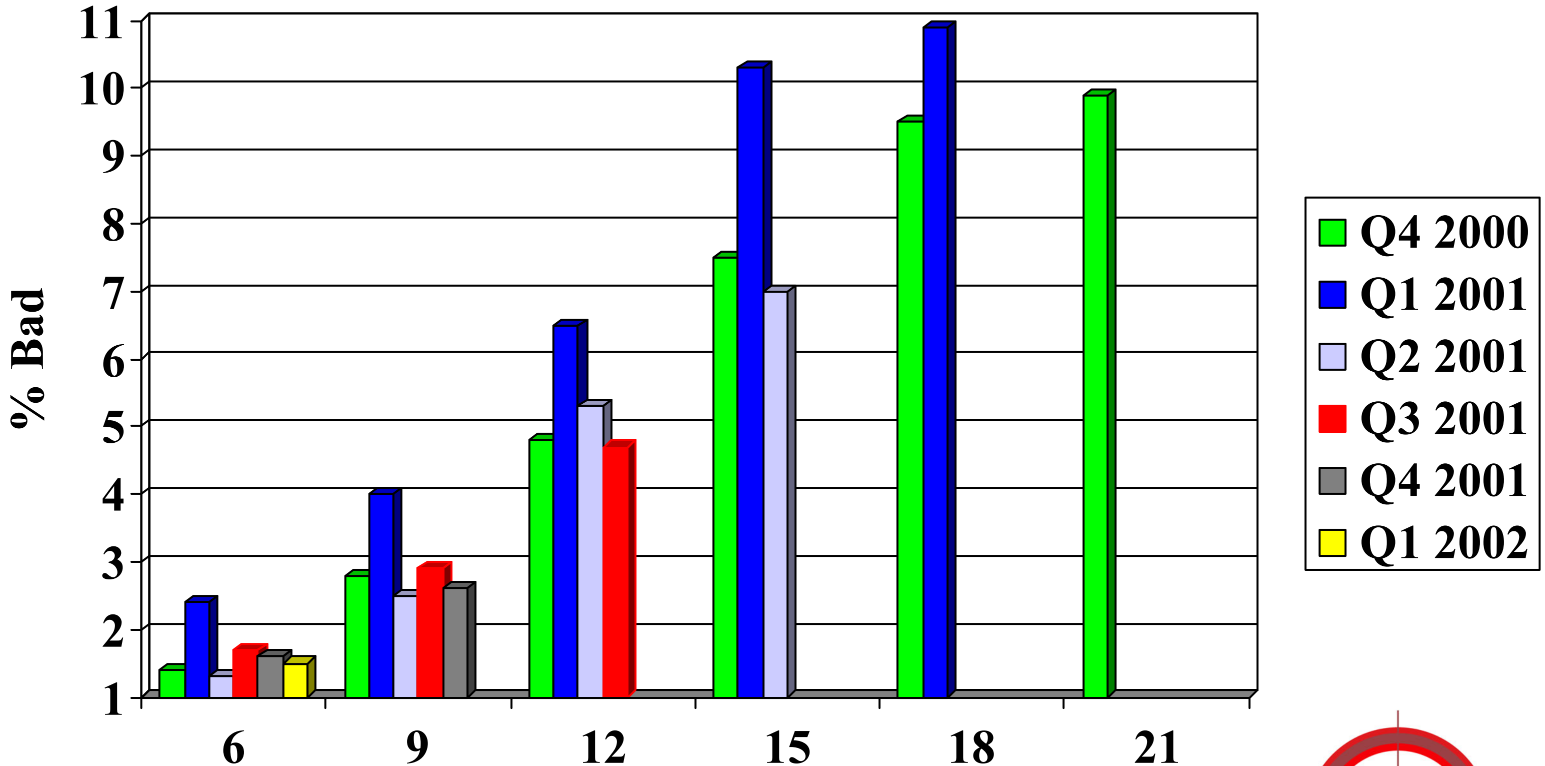
Caledonia
Credit
Consultancy

DDR / Vintage Analysis by Scoreband



Caledonia Credit Consultancy

DDR / Vintage Analysis
by Scoreband



Caledonia
Credit
Consultancy

Effects on Scorecard Development

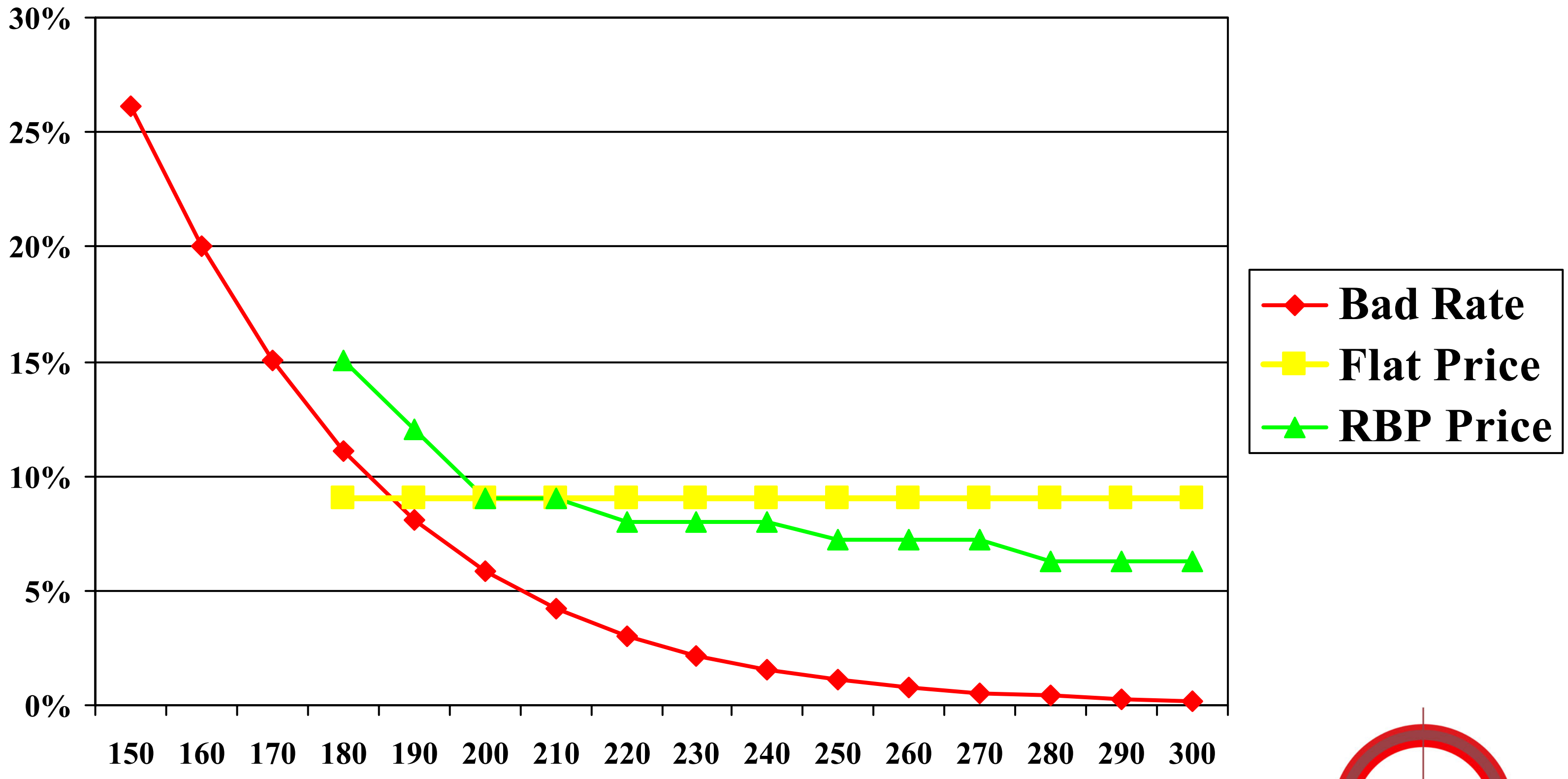
Traditional development – “random” sample of good’s and bad’s and rejects, with bad’s scaled up.

View 1 However good the scorecard is, many of the accepted cases will always be accepted. Similarly, many of the rejected cases will always fall into the reject area. To improve the model, we could actually over-sample around the likely cut-off.

View 2 With RBP, the model needs to be a good fit across the whole score distribution of possible accepted cases. We actually need more data and more cases for development.

RBP – Variant 1

Reduce Price for Very Good Applicants – RBP Stage 2



Caledonia
Credit
Consultancy

Reduce price for Very Good Applicants

Aims

- Increase take-up of offers by good quality applicants
- Surprise your customers

but ...

- Ceiling on take-up – some people genuinely change their mind about the expenditure
- Very good applicants have a wide choice

Caledonia Credit Consultancy

Risk Based Pricing – Variant 2a

Rather than adjust the price to match the risk, adjust the risk to match the price.

- Insist on a different term
- Cap the amount
- Take security / guarantee
- Charge a fee
- Take a deposit

Caledonia
Credit
Consultancy

Risk Based Pricing – Variant 2b

- … adjust the risk to match the price.

#1 - Low Quality applicants – ask for documentary proofs of address /income to reduce the risk

  - process issues
  - reduces take-up

#2 - High Quality applicants – do not ask for proofs, reduce the application data capture

i.e. Risk-Based Processing

Risk Based Pricing – Variant 2b

Risk-Based Processing – where else does it happen in practice?

- Example 1 - Revised Money Laundering procedures - banks can use a Risk Based Approach.
- Example 2 - Self-Certification Mortgages – reduced documentation requirements but typically at a higher price.

Risk Based Pricing
Some Comments

Early Settlement

Payment Protection Insurance

Profitability Modelling

Caledonia
Credit
Consultancy

Risk Based Pricing - Early Settlement

- Major impact on income – interest and insurance, and on funding costs.
- High APR's make it easier for the customer to re-finance.
- Especially with a background of falling rates.

Risk Based Pricing

Payment Protection Insurance

– penetration and commission

- The lower the applicant quality, the higher the price charged - but also the higher the penetration of payment protection
- Some segments might not be profitable with a higher APR without the higher insurance penetration
- Key is a remunerative deal with an insurance provider. The better the deal, the more one can shave the rate and/or lower the cut-off.

Risk Based Pricing – Profitability Modelling

Greater pressures are placed on profitability modelling. Accurate and detailed information is required on

- Income - take-up - by score, price, channel, media, term, etc.
- Income - insurance
- Losses
- Costs
- and on likely impacts from a change in price

to produce accurate profitability models

Risk Based Pricing – Profitability Modelling

Require to model the elasticity of customer demand for credit at a given price

Alternatively, and more likely, this could be achieved with some pricing experimentation.

Some Quotes

"Many people don't understand the Risk."

"If you don't understand the Risk, you won't be able to extract the value."

"If you *can* extract the value, it can be very significant."

"Sometimes it's like climbing the Matterhorn. The higher you get, the more you get out of it, but you are close to a sheer edge and risk losing everything with a few wrong steps."

"RBP allows you to stretch your acceptance criteria and rates and region, but not to take a quantum leap."

Caledonia
Credit
Consultancy

A Warning for the Future

Over the last few years, more and more “mainstream” lenders have introduced Risk Based Pricing in some form within their retail products and pricing …

but EU Directives may curtail RBP by, for example, capping Interest Rates …

so be aware that the opportunities to benefit from RBP may not be around for ever or that their nature may change

Caledonia
Credit
Consultancy

Risk Based Pricing for Personal Loans

How It Works and How to Make it Work

David B. Edelman

Principal Consultant

Caledonia Credit Consultancy