
# Expert Ranking in Low Default Portfolio Modelling

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Alistair Paulls
Michelle Greenidge


**Risk Analytics**

# Overview

- Introduction
  - What is an expert rank order?
  - Why do we need to perform it?
- Data Sources & Availability
- Process Overview & Practical Challenges
- Weakness and Bias in the Process
- Effectiveness of Expert Ranking for Building PD Models
- Validation and Model Monitoring
- Conclusion

# Expert Ranking

- What is it?
  - Experts rank order a number of obligors based on defined criteria.
- Why do we need to perform one?
  - Lack of hard data from  both internal and external sources
- Applications of the expert rank process include:-
  - Generating the target variable for a PD model build
  - Validation of a candidate model
  - Annual validation of an existing model

# DATA SOURCES & AVAILABILITY

- The main need for performing an expert rank ordering process is to supplement a lack of hard data:
  - INTERNAL DATA
    - Primary data source which should, carry the greatest weight in decisions throughout the modelling process but it may be inadequate because:
    - Insufficient time series, Insufficient data points, Missing data
    - Fundamental change in past, present or future business practice
  - EXPERT JUDGEMENT
  - EXTERNAL DATA

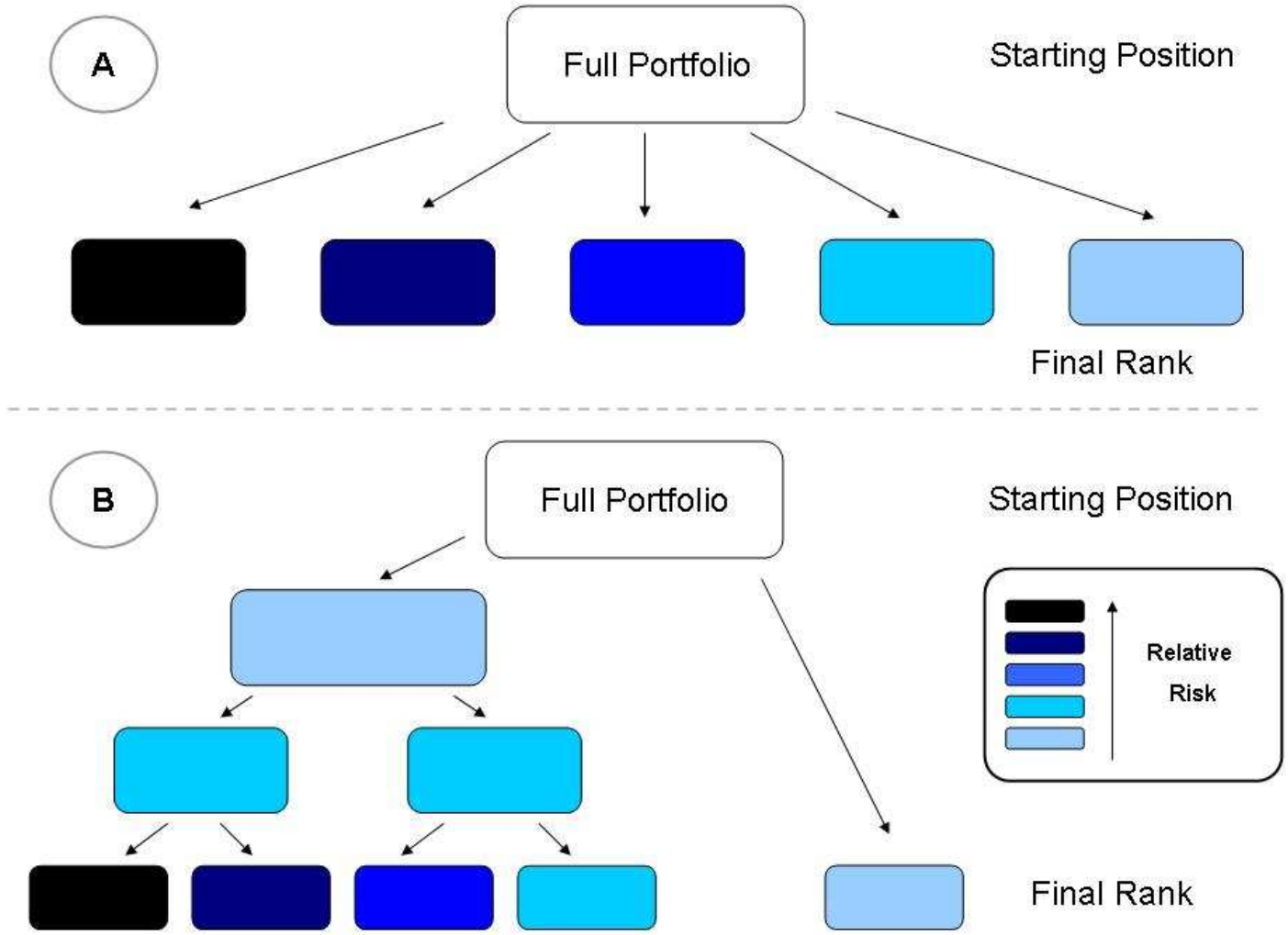
# Process Overview & Practical Challenges

- Data Availability
  - Sufficient Information
- Determining the Experts
  - Extensive Experience
- Consistent Method
- Number of Risk Buckets
- Reducing Bias / Subjectivity
  - Independence of experts

# Process Overview & Practical Challenges


- Number of Risk Buckets
  - Do not force into uniform distribution!
  - Ability to differentiate between deals
  - Minimum 20 deals for every bucket

# “Split” Method



# Weakness and Bias

- **Hindsight Risk**
  - Some suggest that we use deals for which we have at least a full year's data
  - Knowledge of default post sample collection date may influence opinion – do we include the bads?
  - What if they don't rate the true bads as worst do we abandon?
  - Do you only use recently sanctioned deals – the data necessary will be available?
- **Scorecard in your head**
  - Modellers should not influence the experts by suggesting risk drivers - this is often done inadvertently

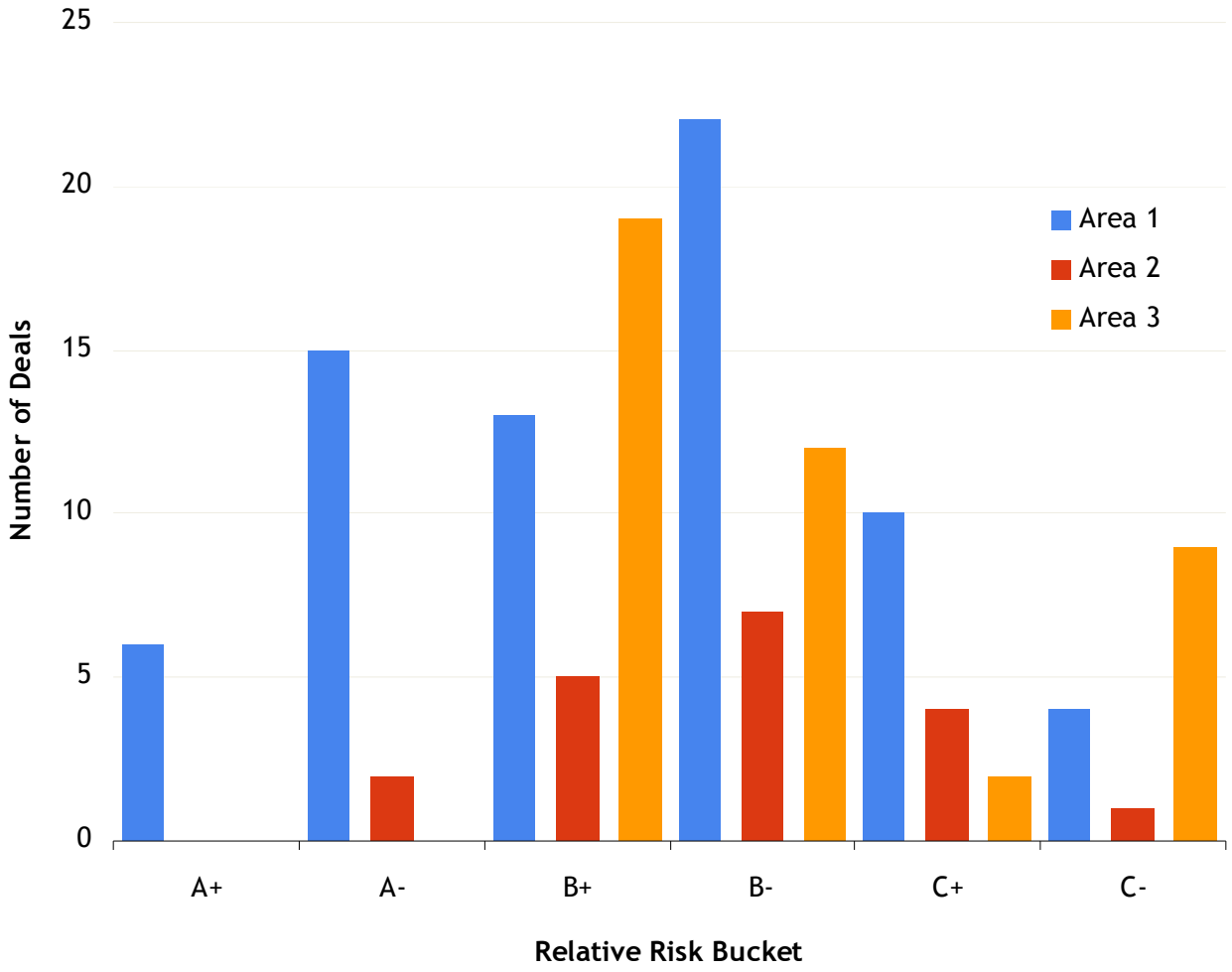
# Weakness and Bias

- **Information imbalance**
  - Additional information from knowing the deal personally
  - Some historic data more complete than others
  - More specifically - what information should we provide?
    - Make the deals anonymous - perhaps ideal
      - **Problems** – niche portfolios the experts will recognise them with or without a name; resource
    - Provide full credit application information – allows for full and robust assessment but may mean that some deals have more information than others (depends on who prepared the credit application!)

# Weakness and Bias

- Appropriate use of risk buckets
  - Reluctance to assign to poorest bucket
  - Instruction needs to be robust in addressing the fact that this is about default not loss
- Some instructions and their consequences:
  - Instruct that there is a **reasonable** spread across the risk distribution, makes it easier to get a model that differentiates well but ……. Is limited for validation purposes
  - Even number in risk grades / ranks - real possibility of spurious differentiation
  - **Allocation to buckets representative of risk distribution - possibility of one big lump**
- Inappropriate rank distribution
  - Portfolios spanning different business areas or geographical regions
  - Modelling and diplomatic impact!

# Expert Ranks - 6 Bucket Exercise (N=131)



# Weakness and Bias

- Resources
  - Appropriate experts – are there any?
  - Who:Credit Sanctioners & Business colleagues
  - Experts time / willingness
- Fatigues
  - Can be very time consuming and repetitive
  - Could lead to complacency – the "I know this one syndrome"!
- EGOs

**training in psychology would be useful**

# Validation & Model Monitoring

- Not enough internal default data
- Expert ranks used to validate model discriminatory power
  - Direction of PD estimates
  - Discrimination of average PD by rank…..
- Soft definition of default

# What do I do?

- Ask the question – Is there another way? - ask this seriously and of more than one person. Hope and pray if you have religion ( and even if you don't) that the answer is 'YES'
- If it is NO
  - Plan plan plan
  - Recruit your experts well and with consultation
  - Make your instructions clear
  - Record everything
  - Show pictures of the results to colleagues in the know is the shape what they would have expected? – if not why?

# Conclusion

- Expert ranking should never be a first choice!
- Your experimental design should be context dependent
- Results can only be evaluated in light of process choices
- Useful for niche portfolios or those with little default experience and no external ratings
- Validity of process should not be underestimated
- Provides an in house view of what constitutes our risk
- The hard slog involved in doing this properly cannot be avoided

Thank You!