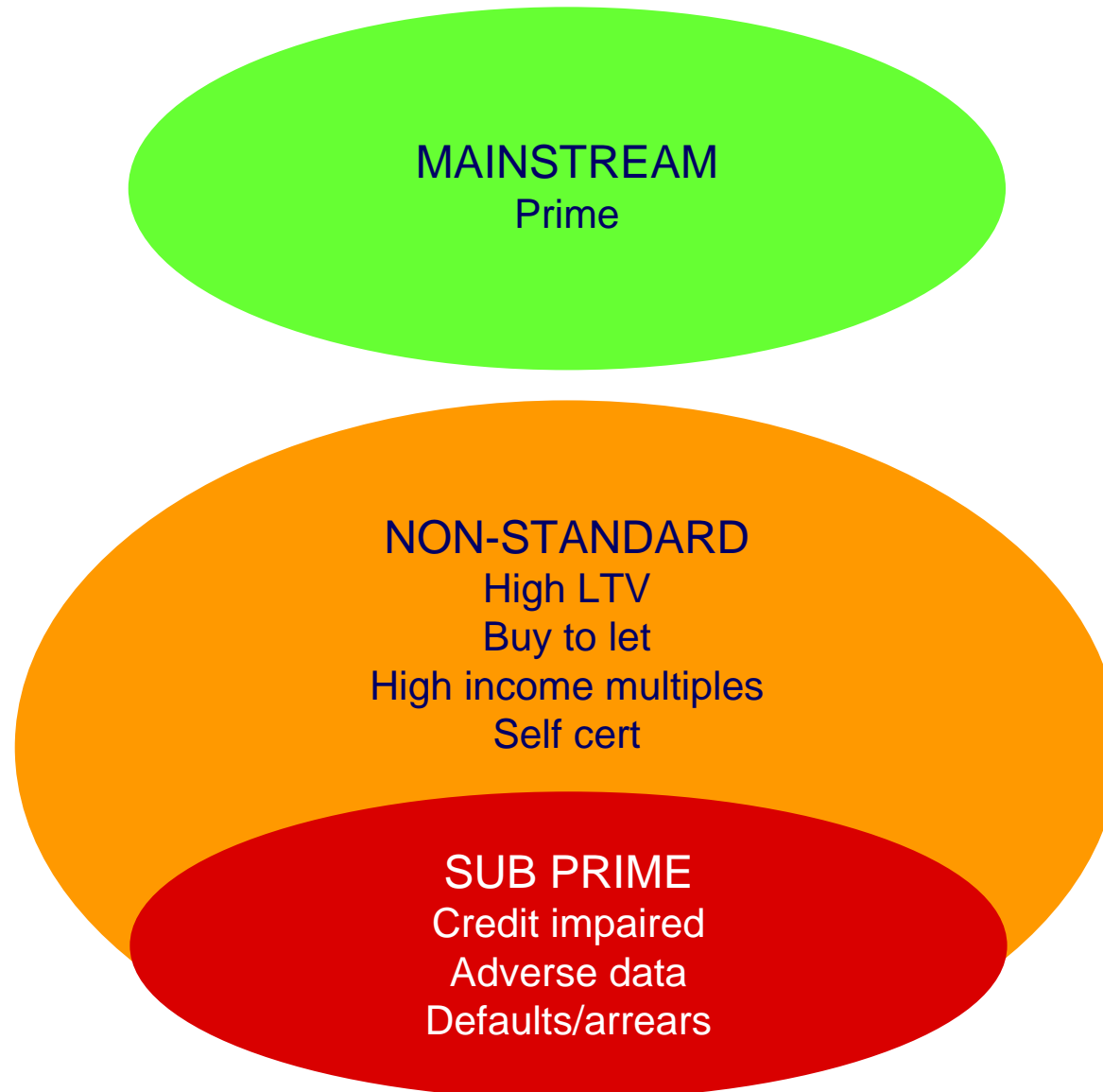


Analytics in the Sub-Prime Mortgage Industry

Stephen.Smith@scorex.com

Credit Scoring and Credit Control X, Edinburgh 2007

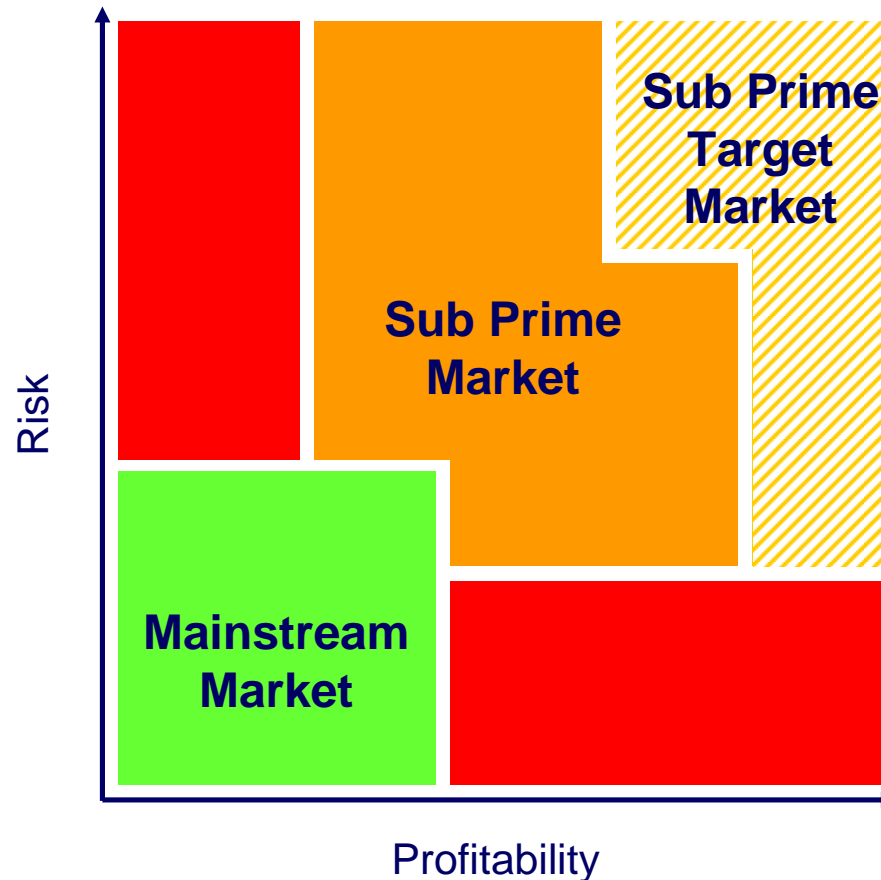
Defining the Non-Conforming Market



The Sub Prime Market

Key to the Sub Prime Market is to find the balance between the risk of the deal and the potential profitability it can offer.

A view to responsible lending will also consider risk to the consumer.



Effective scoring and its relationship with product definitions and consumer affordability is the key to achieving this.

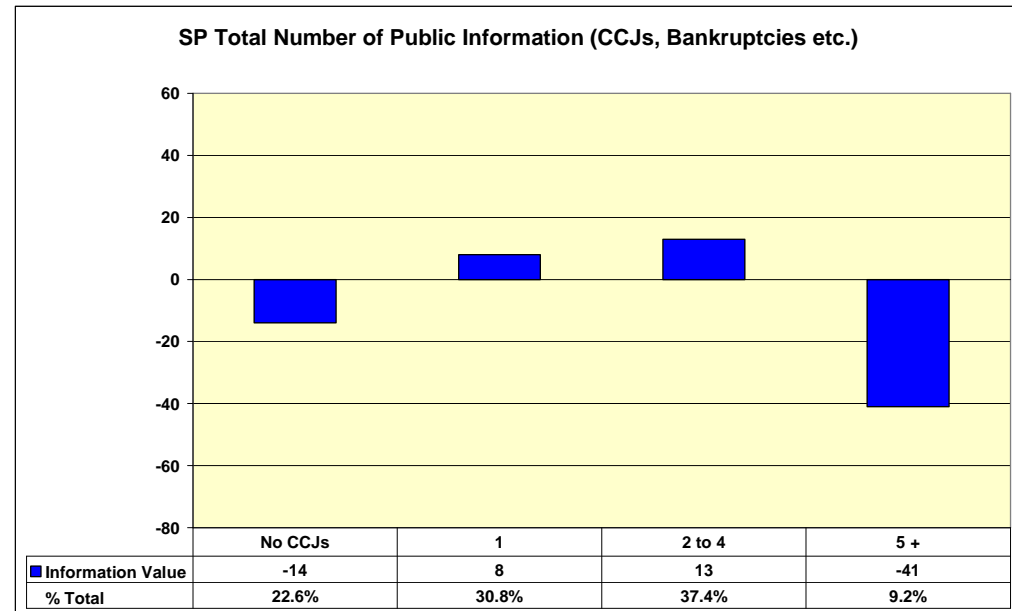
Use of Derogatory data

Large proportion of applicant base have previous occurrences of Public Information (CCJs, Bankruptcies etc.) and / or Defaults.

The conventional route of assessing the number of occurrences tends not to be predictive and often leads to applicants with no Public Info being a poorer risk than those with Public Info.

Information Value:-

$$(\ln(\% \text{ Goods} / \% \text{ Bads})) * 100$$

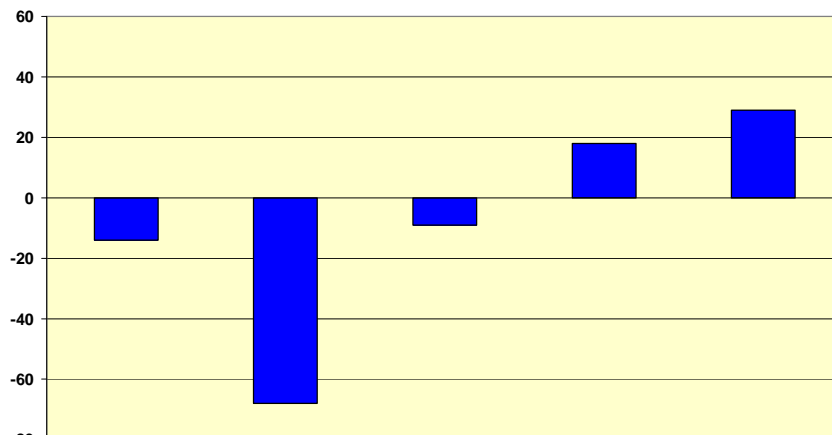


Use of Derogatory data

With such a large proportion of applicants having Public Info / Default the value or the age of the derogatory item becomes more incisive.

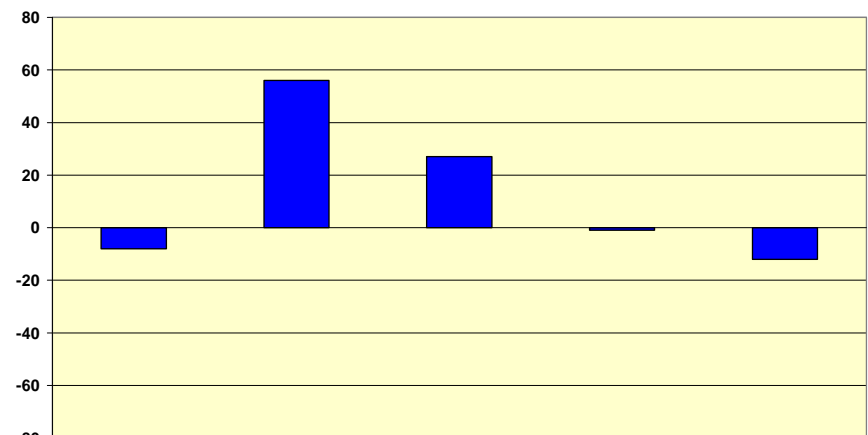
The age of the item is particularly useful; the point at which a Public Info / Default becomes a better than average risk will vary by portfolio.

SP Time Since Most Recent Public Information (CCJs, Bankruptcies etc.)



■ Information Value	-14	-68	-9	18	29
% Total	22.6%	11.3%	11.2%	17.3%	37.6%

SP Total Value of Defaults



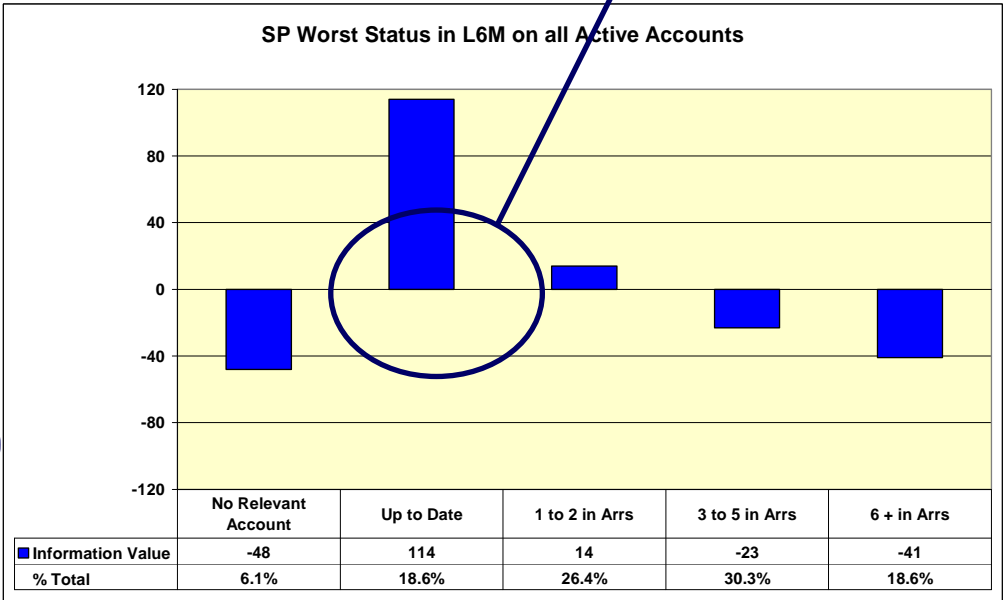
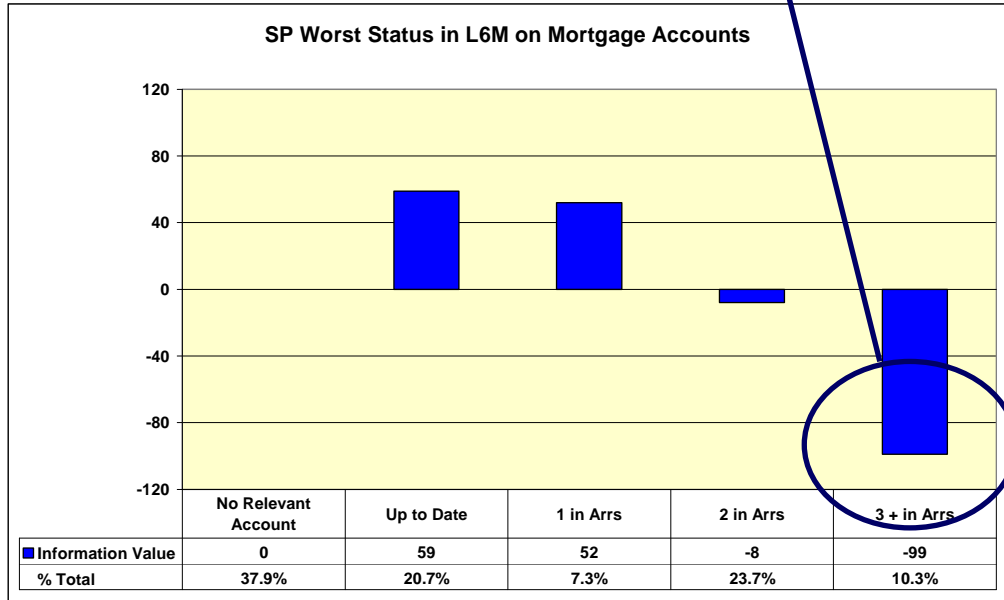
■ Information Value	-8	56	27	-1	-12
% Total	14.5%	9.1%	9.3%	17.2%	40.8%

Secured vs. Unsecured Arrears

Analysis of both secured and unsecured arrears is important. Arrears on unsecured products can be the starting point towards further items of Public Information and Defaults.

Arrears on a Mortgage Account seen as more severe.

Up to date on all accounts indicative of a low risk customer.



The Product Matrix

The product matrix is driven mainly by a combination of sales and risk.

	Near Prime	Light	Medium	Heavy	Unlimited
CCJs & Defaults	<= £2,500	<= £5,000	<= £7,500 / Defaults Ignored	<= £10,000 / Defaults Ignored	Unlimited
Secured Arrears	Where CCJ / Default registered no Missed Payments in L6M	Where CCJ / Default registered up to 1 Missed Payments in L6M	Up to 2 Missed Payments in L6M	Up to 2 Missed Payments in L6M	Unlimited
Maximum LTV	95%	90%	85%	80%	75%
Bankruptcy	None	None	Discharged > 12m	Discharged	Discharged
IVA's	None	None	Settled > 12m	Settled or Maintained > 12m	Maintained > 6m

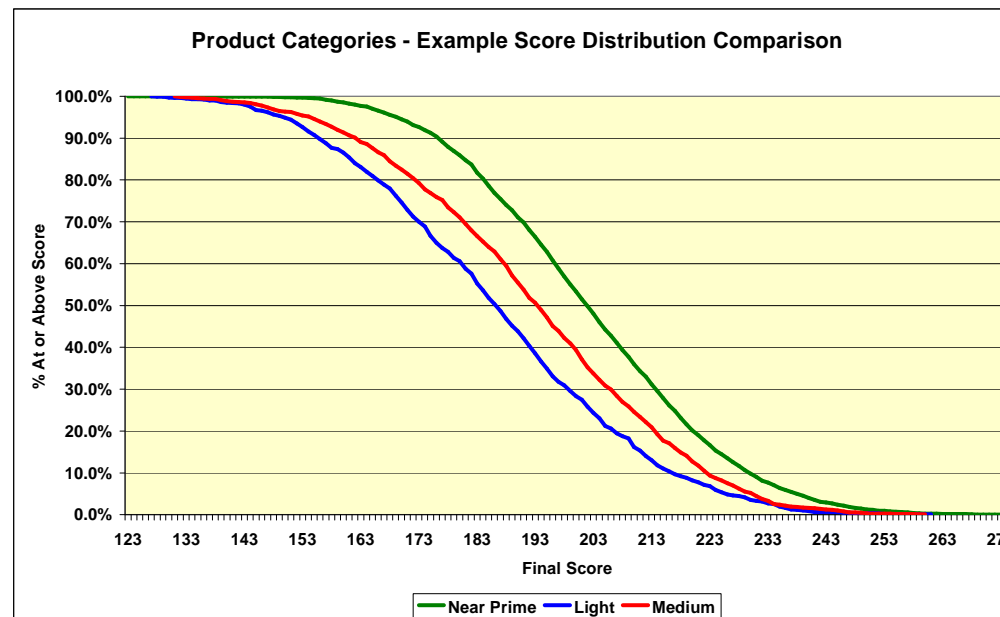
Here an applicant can have no CCJ or Default and be heavily in arrears on a Mortgage.

Here an applicant can have CCJs and Defaults and be up to date on Mortgage payments.

Risk Alignment on a Product Matrix

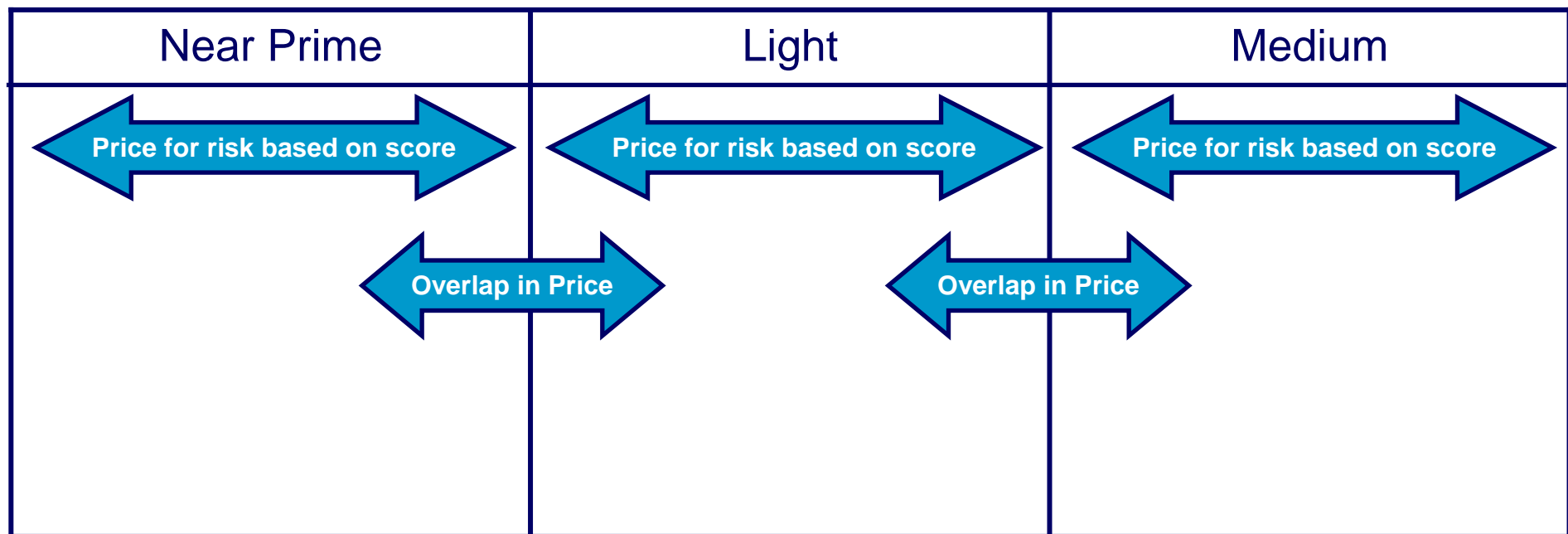
The construction of the Product Matrix often appears subjective and can lead to misalignment of risk between categories.

How can misalignment such as this be managed? Are packages being offered to consumers that don't relate to their actual risk?



Use of Scoring within the Product Matrix

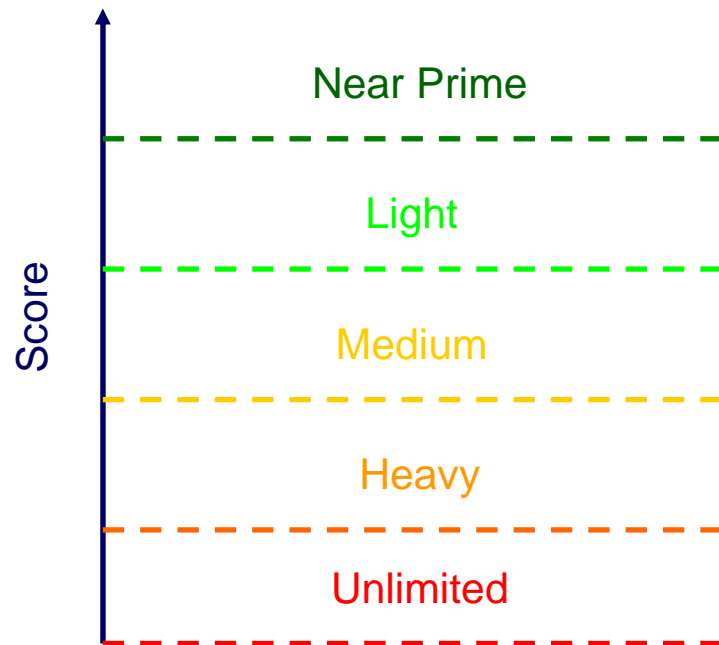
Pricing for risk within each Product Category based on score will fully assess applicant risk while ensuring clear distinction between products.



Overlap will be necessary to counteract different risk profiles between the categories.

Deriving the Product Matrix through scoring

The true analytical approach would be to assign product categories based on the outcome of a scoring model. This approach enables alignment of risk and no overlap in pricing.



Would an initial score derive the categories then a further score within categories provide a full risk assessment and price?

Responsible lending – risk to the consumer

The risk and affordability matrix will enable those applicants with affordability constraints to be managed responsibly.

Factors such as estimated disposable income and affordability modelling can be successfully deployed.

