



# Assessing Ability to Pay

## Credit Scoring and Credit Control XIII

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August 2013



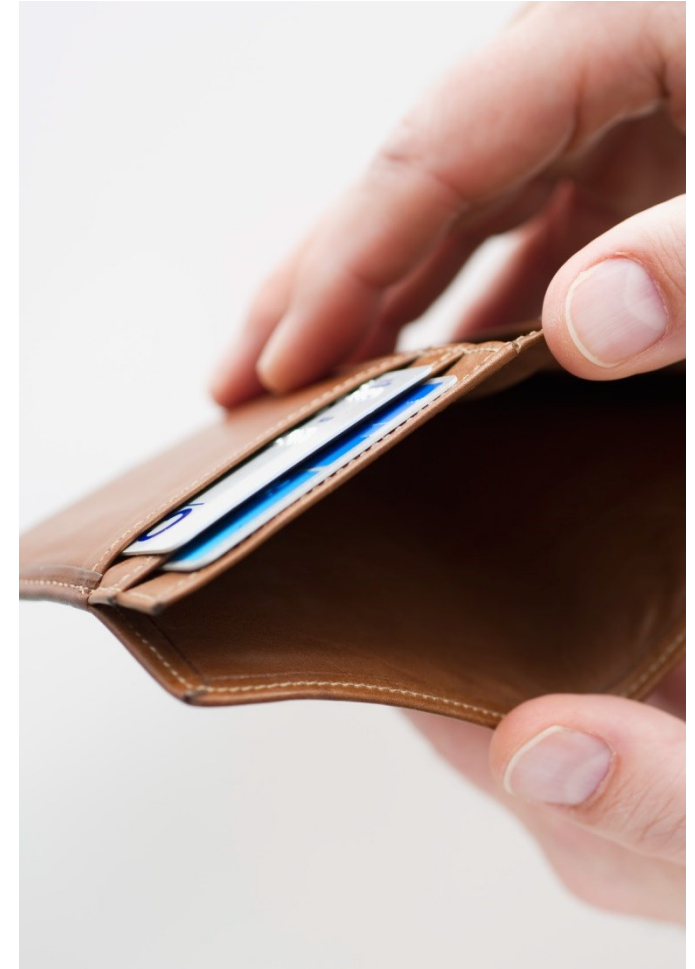
# Assessing Ability to Pay

## Introduction

Managing consumer affordability is a significant challenge for the UK credit industry and is a priority for the industry's regulatory authorities

- The Mortgage Market Review (MMR) makes lenders responsible for assessing the affordability of a mortgage and provides guidance on what should be considered when making this assessment
- In addition to implementing the MMR the Financial Conduct Authority have wider objectives around securing appropriate protection for customers

Given this increased emphasis on ability to pay the focus of this presentation was to evaluate the data available to address this and consider how the issue could be addressed.





# The Mortgage Market Review



## Mortgage Market Review (MMR)

The MMR set out the case for reforming the mortgage market to ensure it is sustainable and works better for consumers. The policy statement and final rules were released in October 2012 and come into effect on 26<sup>th</sup> April 2014. Part of these rules addressed responsible lending, a major component of which is the assessment of affordability.

## Mortgage: Conduct of Business (MCOB)

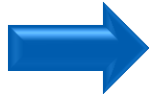
MCOB 11.6 – Responsible Lending & Financing states that lenders must undertake an affordability assessment. This must take account of the customer's income, net of national insurance and income tax and as a minimum a customer's **committed expenditure**, **basic essential expenditure** and **basic quality of living costs**

## MMR: Data Reporting

The Data Reporting Consultation paper CP13/2 was released on 15<sup>th</sup> May 2013. Mortgage lenders submit two forms once a quarter which the FCA use to monitor and supervise conduct in the mortgage market. Given the changes in mortgage regulation that come into effect in April 2014 they are proposing that additional data items are collected. One of the key changes is to **collect enhanced affordability data** which includes the components of the affordability calculation (e.g. basic essential expenditure, basic quality of living costs, credit commitments)



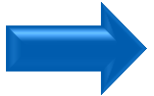
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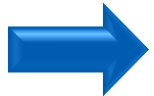
Traditional Risk Assessment



Income Estimation



Current Account Turnover



Residual Household Income



Incorporating Ability to Pay within Decision Process



# Traditional Risk Assessment

## Ability to Pay



Ability to pay is not the same as willingness to pay. With no verified source of income this means that ability to pay can be overlooked within credit decisions.

Historically many credit providers have not even captured income.

Increased focus 10-15 years ago because of high profile debt problems within the press led to products such as the Consumer Indebtedness Index (CII).

Although income was not included within the CII, emphasis on debt profile rather than overall position helped identify financial stress.

CII and other similar products were successfully adopted because they helped improve scorecard discrimination, particularly for individuals with high outstanding debt and no arrears history.



# Relationship of Income to Debt Profile

## Importance of Income

In isolation income is not a strong predictor of credit risk.

However there is a strong correlation between income and debt profile.

	Income (per annum)					
CII	< 15k	£15-20k	£21-25k	£25-30k	£30-40k	> £40k
Limited Credit	Red	Pink	Light Blue	Blue	Dark Blue	Blue
1-5	Dark Blue	Blue	Light Blue	Pink	Red	Red
6-40	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
41+	Red	Red	Red	Light Blue	Blue	Blue

Individuals with 'high' income applying for credit will generally have an established credit history and a low risk profile. They may have few debts with different lenders and/or use a low proportion of their available credit.

Correspondingly 'low' income credit applications are much more likely to have very little existing credit or have several credit agreements with different providers.

**CII discriminates strongly between good and bad risk applicants and generally income is not misaligned.**



# Debt to Income Characteristics

## High/Low Incomes

Debt to income ratios can be used to enhance risk scorecards. Examples of key characteristics are:

- Revolving Credit Commitments as a % of Net Monthly Income
- Mortgage Payment as a % of Net Monthly Income
- Total Credit Limit as a % of Gross Annual Income
- Total Unsecured Balance as a % of Gross Annual Income

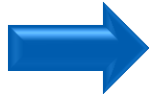
The addition of this type of characteristic is likely to have little overall impact on the scorecard Gini but should give uplift for some sub-populations. In particular 'low' income applicants with significant existing borrowing.



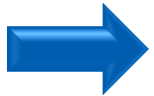


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# Income Estimation Sources of Income

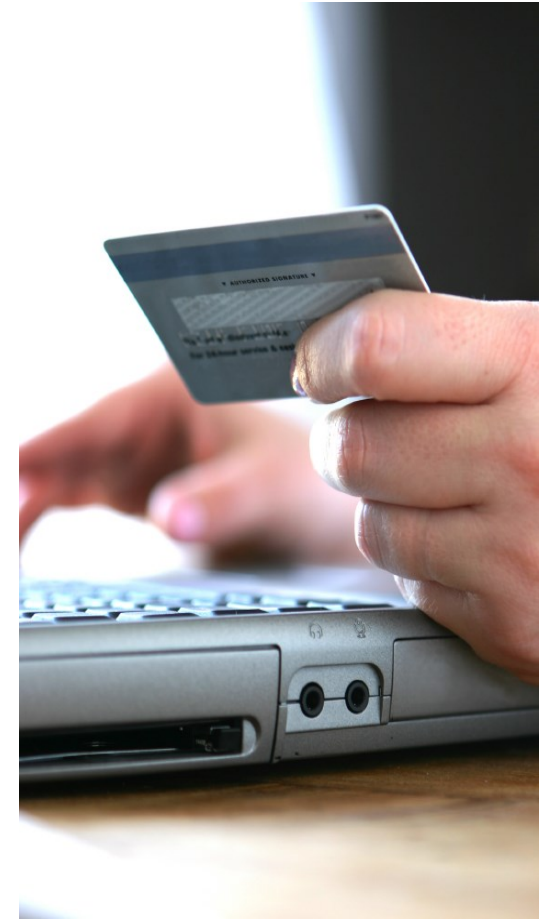
Income based characteristics have not traditionally been included within risk scorecards because there is no reliable income estimate available other than what is supplied by a credit applicant.

Historically income could not be automatically verified though estimates are available from:

- Previous credit applications - income is collected as part of many credit applications and stored by Experian for fraud purposes.
- Bureau based income models

Neither of these sources is ideal in terms of accuracy when trying to identify applicants exaggerating income.

In a majority of cases income provided on application forms is however reasonably accurate and can be used within affordability decisions



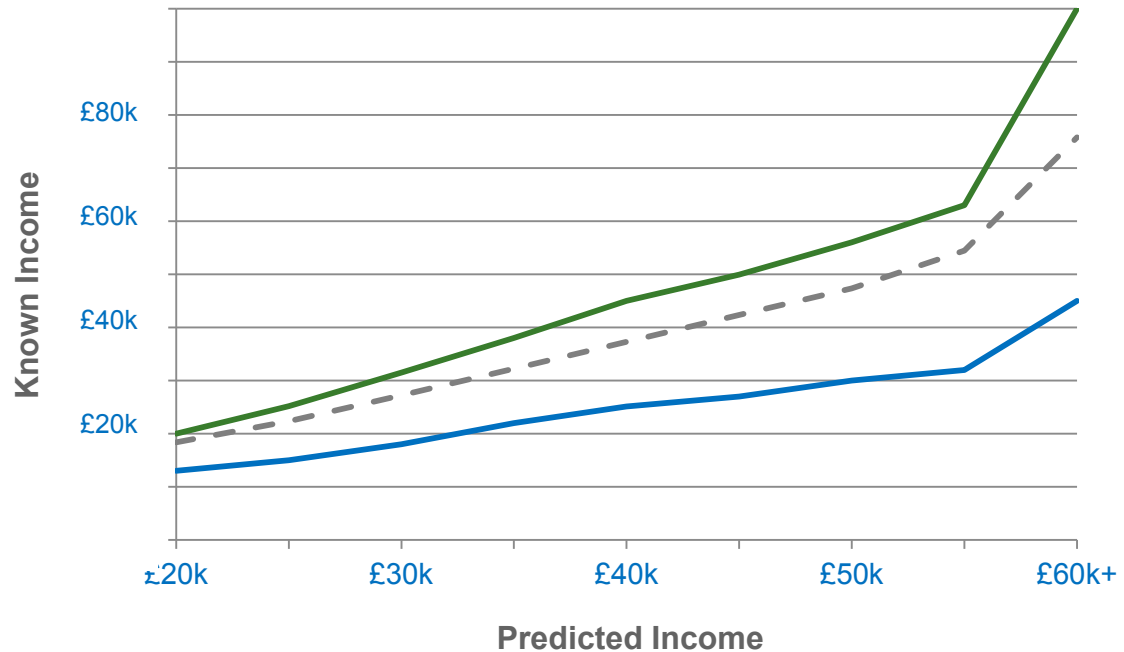


# Bureau Based Income Estimate

## Variance of Average Income Estimate

Typically the first quartile is within 35% of the average income estimate, while the third quartile is much closer within 10%.

- Ave Predicted Income
- First Quartile
- Third Quartile



Bureau based income estimates are principally based on geo-demographics, mortgage amount and credit card limits. They are stronger in mid income ranges.

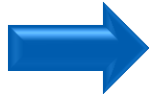
Generally income models provide a good estimate of average income but high variance means that error can be significant.

Typically only main applicant income may be available from the application form. In this case Bureau Income Models can be used to estimate Family Economic Unit (FEU) income.



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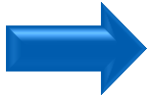
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# Current Account Turnover Income Estimates



UK retail banks share credit turnover (CATO) on current accounts through Credit Reference Agencies.

The use of this data is controlled by a BBA Forum. It allows pound value income estimates to be returned to data contributors and income verification for non-data contributors.

The Experian CATO Warning Flag allows income provided as part of an application process to be verified based on current account turnover.

Value	Description	Applicant Supplied Income as % of Income Estimate
1	Supplied Income Significantly Overstated	> 150%
2	Supplied Income Overstated	111% - 150%
3	Supplied Income Consistent with CATO income estimate OR Supplied Income lower than CATO Income	0 - 110%

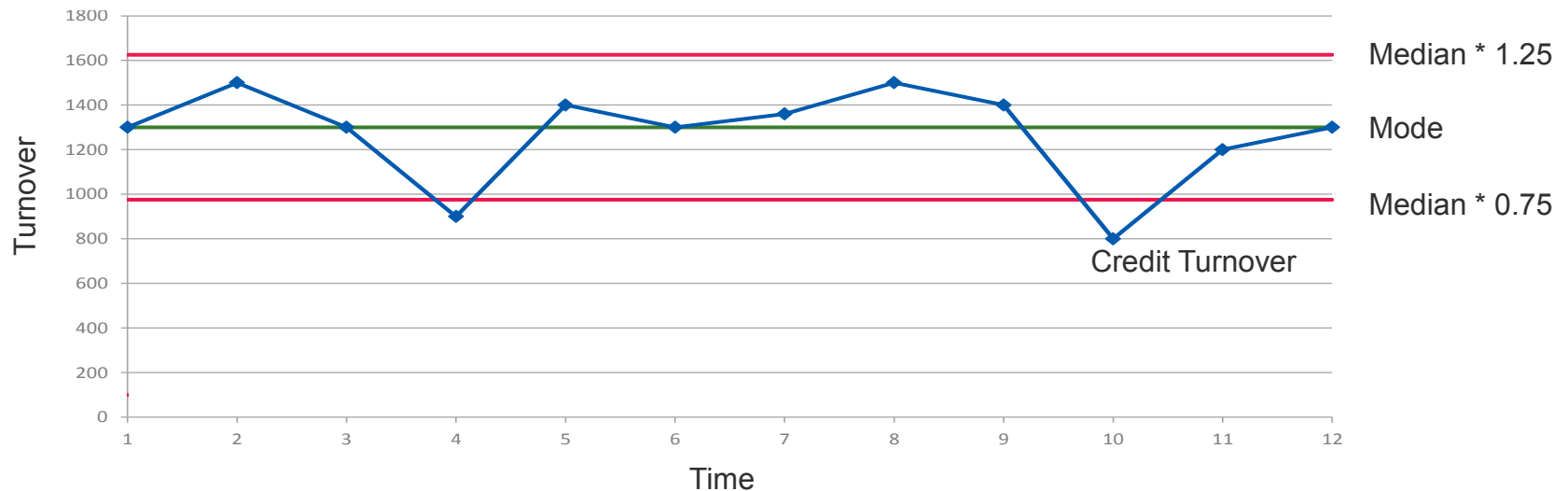


# Current Account Turnover Income Estimation Algorithms

Individual banking relationships can be complicated and this means that income estimation is not trivial.

Algorithms defined for several key segments to account for:

- Single / multiple accounts
- Sole / joint accounts
- Stable/fluctuating/irregular credit turnover (not stable for around 40-50% of accounts)

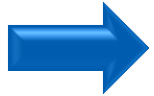


CATO income estimates available for main applicant, joint applicant/SPA and family economic unit



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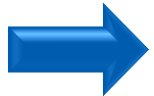
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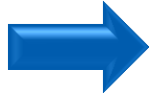
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# Calculating Disposable Income

## Family Spending Survey

Calculation of disposable income is typically based on income from the family economic unit (generally supplied as part of the application process), monthly rent/mortgage payment, credit commitments and other outgoings.

Credit commitments can be taken from credit bureau data and in most cases mortgage payment will also be available from the credit bureau.

Other outgoings are defined from the Office for National Statistics (ONS) annual household expenditure survey.



Around 12,000 households are included within the survey, with a response rate of 50-60%.

Results are aggregated to family economic group and split based on marital status and dependents. It is published annually, in November, for the previous year.



# MMR Expenditure Definitions

## Basic Essential Expenditure & Quality of Living Costs

**MCOB 11.6.12 (3)** – in taking account of the **basic essential expenditure** and **basic quality of living costs** a firm may obtain details of the actual expenditure. Alternatively, it may use **statistical data** or other modelled data appropriate to the composition of the customer's household...

### Basic Essential Expenditure

- Housekeeping (food & washing)
- Gas, Electricity & Other Heating
- Water
- Telephone
- Council Tax
- Buildings Insurance
- Ground rent and service charge for leasehold
- Essential Travel (including to work / school)

### Basic Quality of Living Costs

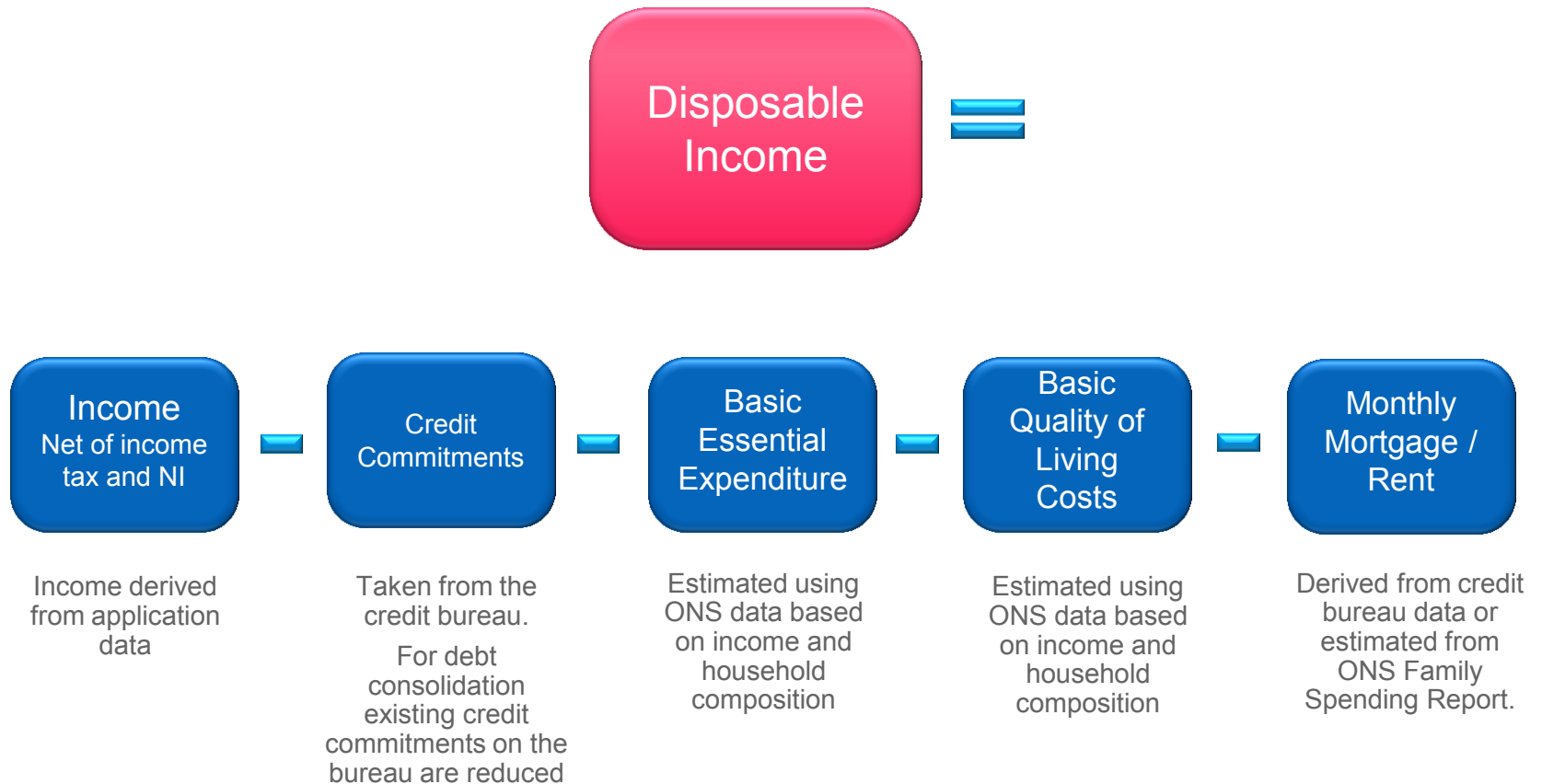
Examples include

- Clothing
- Household goods (e.g. furniture / appliances) and repairs
- Personal Goods (such as toiletries)
- Basic Recreation
- Childcare

Other living costs can then be omitted from disposable income calculations as this is considered to be discretionary.



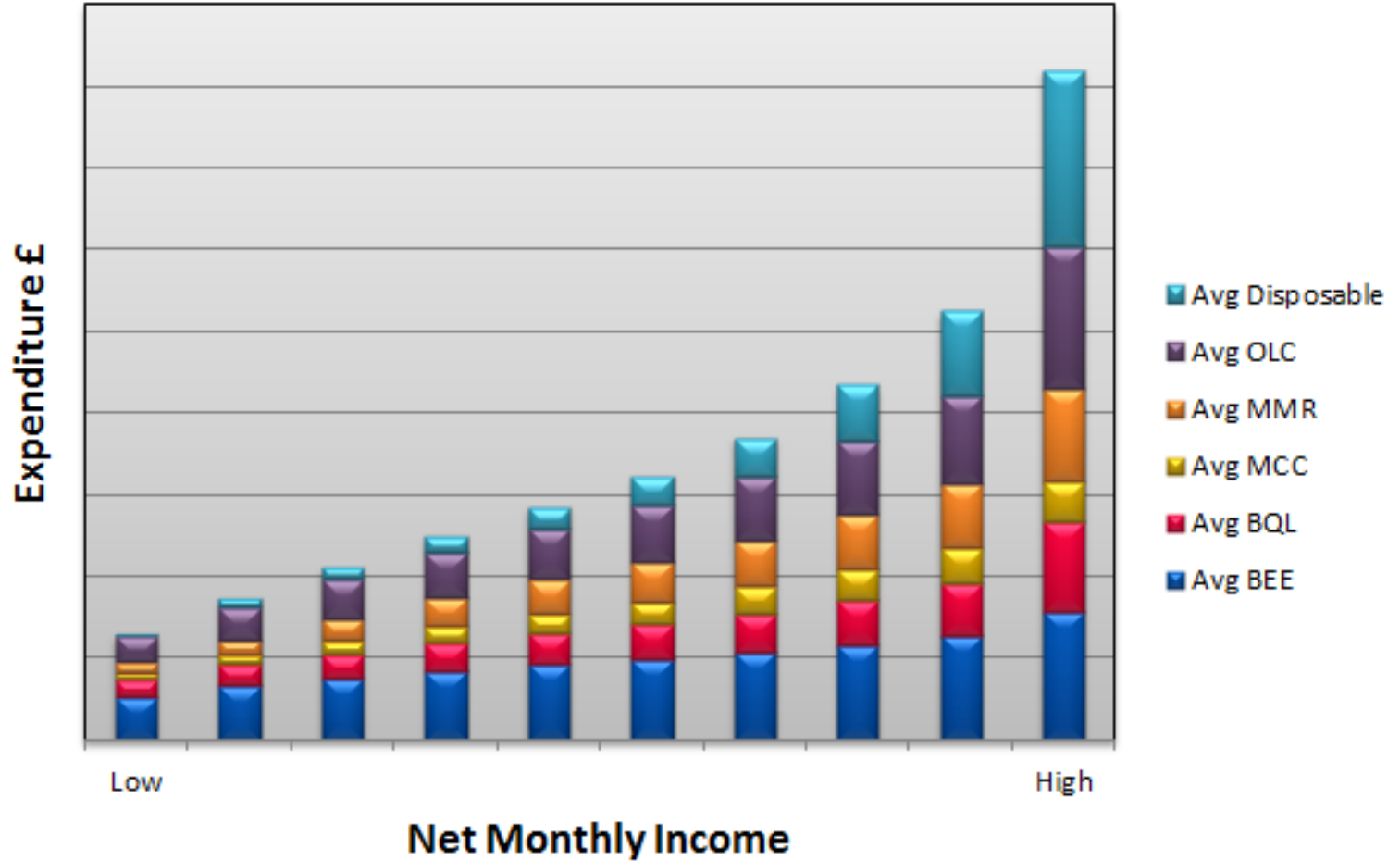
# Disposable Income Calculation



Other sources would need to be explored to obtain other contractual commitments (e.g. child maintenance, alimony).



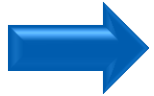
# Expenditure by Income





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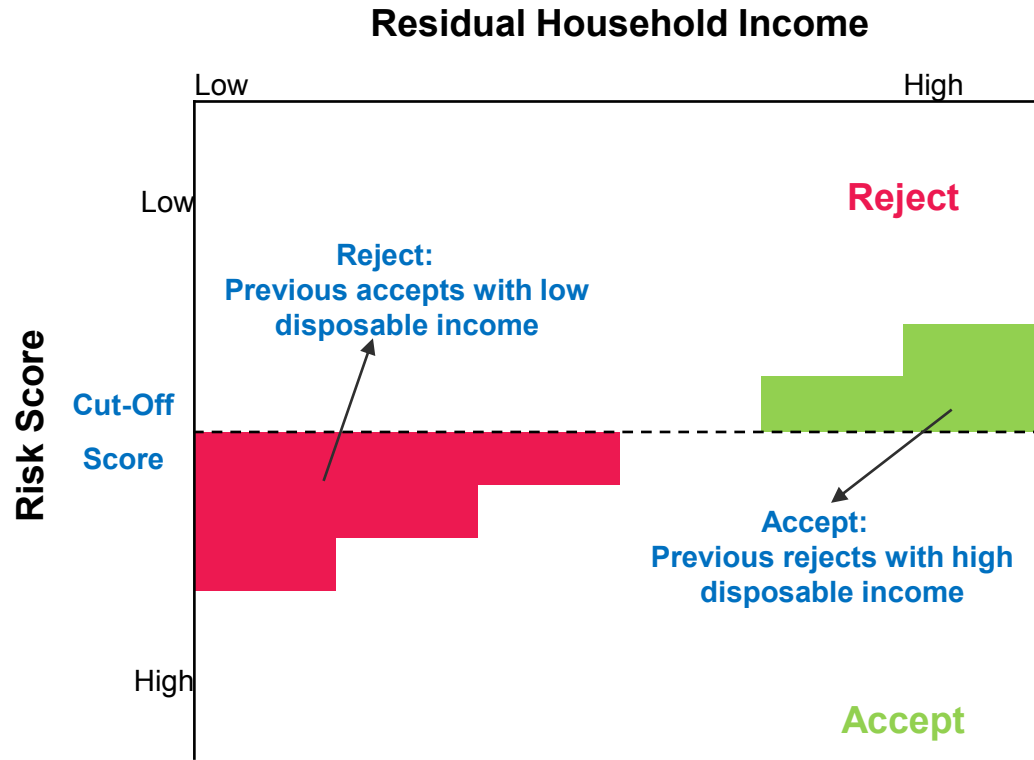


**Incorporating Ability to Pay within Decision Process**



# Risk Score by Residual Household Income

## Enhancing the Risk Decision



If Residual Household Income (RHI) is not correlated with the traditional risk score then a matrix approach will enable the scorecard cut-off to be optimised.

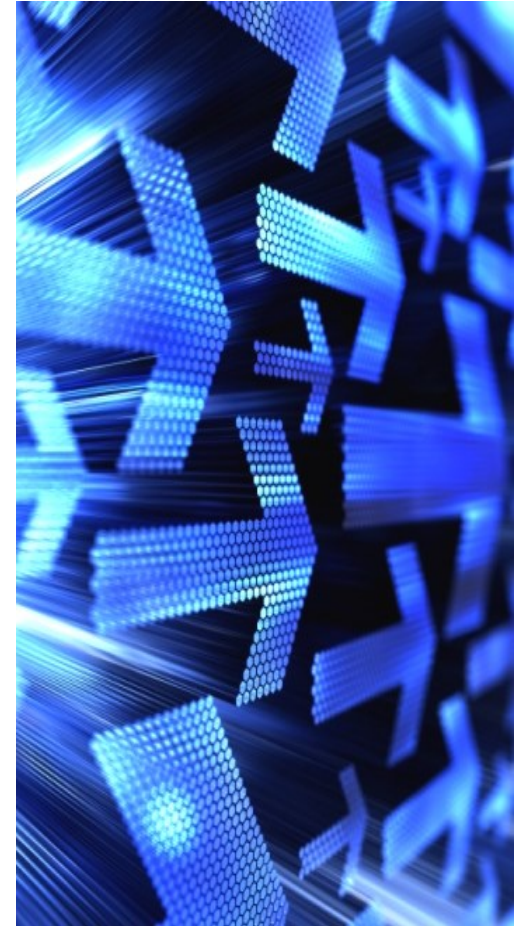
Previous rejects with high disposable income may be a better credit risk than previous accepts with low disposable income.

Significant improvements have been observed through incorporating RHI into the new business decision, however this depends on the predictive power of the risk score in use.



# Assessing Ability to Pay Conclusions

- Debt profile characteristics significantly enhance scorecard performance and are correlated with income
- Deriving RHI can be difficult and is based on ‘averages’ which can be inaccurate for some cases – potentially not fully allowing for discretionary spend
- It may be possible to enhance the calculation of RHI in the future through further data sharing (e.g. utilities data through CRA) and initiatives such as the Experian Rental Exchange
- Although in some instances a matrix of risk against RHI has enhanced the decision process – more significant improvements only result with less powerful risk scores



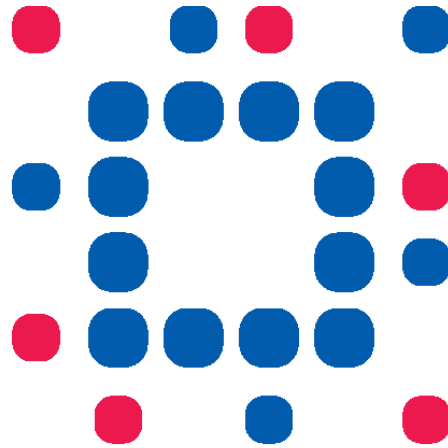


# Assessing Ability to Pay

## Incorporating Ability to Pay within the Decision Process

- Although risk decisions may already incorporate affordability to some extent this is not transparent enough for regulatory requirements around assessing ability to pay.
- A key part of assessing ability to pay is to understand income of the family economic unit (FEU) income. Therefore verification of income provided as part of the application process is vital. The Experian CATO Warning Flag is ideal for this purpose.
- Bureau income models can be useful in estimating FEU income but give more accurate results where main applicant income is known.
- Experian provide comprehensive products and data to support the calculation of disposable income
- Policy rules should be used to identify 'extreme' cases where it is clear that applicants cannot meet credit repayments based on the information provided – possibly policy declined or referred for further investigation





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