



TRANSACTION DATA CATEGORISATION FOR CREDIT DECISIONING



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Open banking: the implementation of PSD2



What is it?

- A project that requires **banks to share personal or business current account, credit card, savings, ewallet & payments data (read & write) with third-party companies or apps via APIs**
- Led by **Open Banking Implementation Entity**



Why is it great?

- **Instant:**
Access to up-to-date real time data
- **Granular**
Shows a direct copy of online statement
- **Bigger picture:**
Delivers a comprehensive view of income and expenditure

Personal or Business Current Accounts, via APIs

Affordability FCA consultation paper



Points relating to **transaction data**

- › FCA will **clarify expectations on affordability** as there is a wide ranging interpretation in the industry of what is required.
- › Unless the firm can demonstrate that it is obvious in the circumstances of the particular case that the customer is able to make repayments or the customer has indicated clearly an intention to repay wholly using savings or other assets:
- › The firm must take reasonable steps to **determine the amount, or make a reasonable estimate**, of the customer's **current income**.
- › For the purpose of considering the *customer's* income it is **not generally sufficient to rely solely on a statement of income made by the customer** without independent evidence (for example, in the form of information supplied by a *credit reference agency* or documentation of a third party supplied by the third party or by the *customer*).
- › Where a firm is required to establish or estimate income, it must also establish or estimate **non-discretionary expenditure**

Affordability FCA consultation paper



Points relating to **transaction data**

- › On data for affordability risk:
- › “However, there are data sources that are not currently shared via CRAs, or where data sharing is limited – for example, rental payments and **transaction-level personal current account data**. This may particularly affect non-bank lenders, given current data sharing arrangements, **although the development of open-source application programming interfaces (APIs) in banking should help.**”

What can we see from my account...

Date	Transaction	Amount	Balance
11/07/2017	INTL XXXXXX UBER TRIP	5.16 DR	3124.44
13/07/2017	HITACHI CAPITAL	79.44 DR	3045.00
14/07/2017	EDGWARE ROAD MARKS AND SPENCER	4.99 DR	3040.01
14/07/2017	CASH TSBA	300.00 DR	2740.01
14/07/2017	WIMBLEDON WICKES	130.13 DR	2609.88
15/07/2017	BT GROUP PLC	23.99 DR	2585.89
16/07/2017	CONCUR TECHNOLOGY	43.21 CR	2629.10
17/07/2017	EDGWARE ROAD MARKS AND SPENCER	7.39 DR	2621.71
17/07/2017	NATIONWIDE B S	850.00 DR	1771.71
18/07/2017	VIRGIN ACTIVE	110.00 DR	1661.71
19/07/2017	INTL XXXXXX UBER TRIP	10.33 DR	1651.38
20/07/2017	CASH SAINSBY	200.00 DR	1451.38
21/07/2017	EDGWARE ROAD MARKS AND SPENCER	2.99 DR	1448.39
22/07/2017	SMITH A B	50.00 CR	1498.39
23/07/2017	INTL XXXXXX UBER TRIP	11.82 DR	1486.57
24/07/2017	LAURA HALES SAVINGS	500.00 DR	986.57
25/07/2017	HSBC CREDIT CARD	190.96 DR	795.61
26/07/2017	SANTANDER CARDS LMT	200.00 DR	595.61
27/07/2017	EQUIFAX	2000.00 CR	2595.61
28/07/2017	WIMBLEDON WICKES	27.97 DR	2567.64
28/07/2017	AO RETAIL LIMITED	503.99 DR	2063.65
28/07/2017	CACTUS WORLDWIDE LTD	160.00 DR	1903.65
28/07/2017	LONDON W2 ITSU PADDINGTON	3.99 DR	1899.66

MULTIPLE TAXI USAGE

WICKES / AO MULTIPLE USAGE
- HOME IMPROVEMENTS?

MORTGAGE

APPARENT GYM USER

NUMEROUS CREDIT ACCOUNTS

SPENDS A LOT OF TIME IN
PADDINGTON/ EDGWARE ROAD
AREA

CASH USER

SAVINGS

EMPLOYED BY EQUIFAX

What can we not see from this account...

Date	Transaction	Amount	Balance
11/07/2017	INTL XXXXXX UBER TRIP	5.16 DR	3124.44
13/07/2017	HITACHI CAPITAL	79.44 DR	3045.00
14/07/2017	EDGWARE ROAD MARKS AND SPENCER	4.99 DR	3040.01
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UTILITY BILLS

COUNCIL TAX

TRANSPORTATION COSTS

OTHER CURRENT ACCOUNTS

CREDIT CARD TRANSACTIONS

SAVINGS ACCOUNT
TRANSACTIONS

TOTAL DEBT VALUE

DELINQUENCY



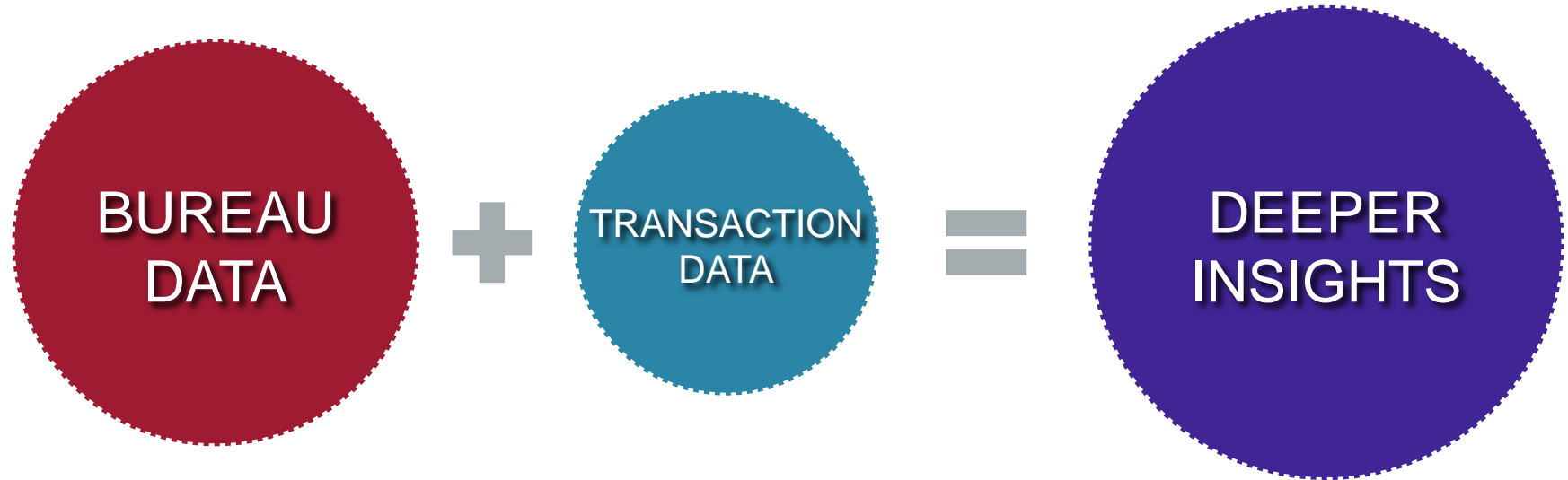
Transaction Data vs. Bureau Data

Feature	Bureau Data	Transaction Data (via open banking)
Data updates	Updated monthly	Updated intra-day
Data scope	Multiple credit products – mortgages, loans, cards, current accounts, telco, utilities, etc.	Current accounts (Jan 2018)
Data definition and granularity	Balances, limits, payment status, turnover, account flags, etc.	Payments at transaction level, balances
Data breadth	View across multiple creditors	Single creditor view
Coverage	Most credit agreements for large majority of population	Online banked only
Shared under	Notification, legitimate interest purposes	Explicit consent
Permitted use	Specific: typically credit risk, customer management, fraud and ID	Any, <u>provided explicit consent</u>
Retro capability	Yes	No



What does the future hold for credit scoring?

Credit scores are not dead – but they are evolving



Combination approach allows for the best of both worlds



How predictive is income data?

High Bad rate
Medium Bad rate
Low Bad rate

Results using Bureau Data PLUS Equifax Affordability Data

TRADITIONAL BUREAU SCORE

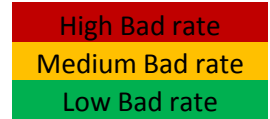
1 (high risk)	112,247
2	112,822
3	109,475
4	112,014
5	113,564
6	114,354
7	107,092
8	115,675
9	110,877
10 (low risk)	117,347

+ AFFORDABILITY SCORE

		Affordability Score		
		Low	Med	High
1 (high risk)		37,048	65,775	9,424
2		21,041	74,238	17,543
3		17,465	69,967	22,043
4		13,768	70,591	27,655
5		10,753	70,722	32,089
6		7,458	67,304	39,592
7		5,550	60,231	41,311
8			62,418	49,181
9		9,683	54,231	53,729
10 (low risk)			54,791	59,866

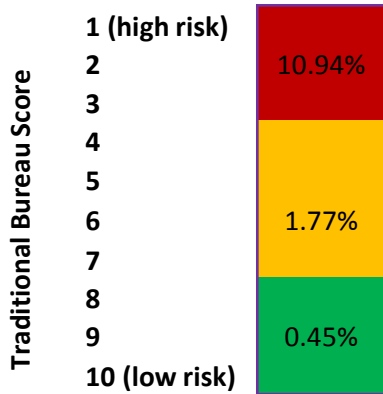
9% increase in volumes in top tier

How predictive is income data?

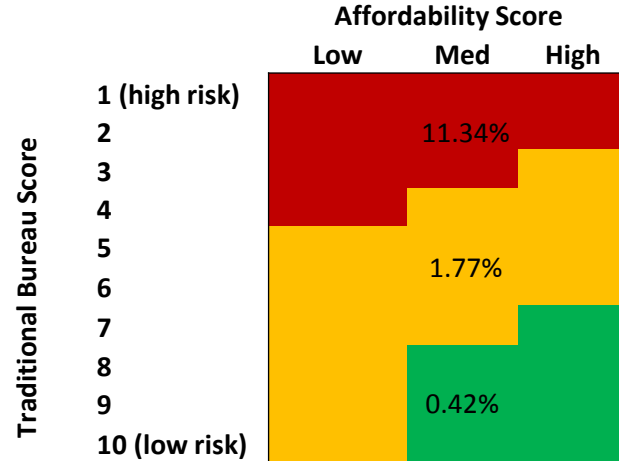


Results using Bureau Data PLUS Equifax **Affordability Data**

TRADITIONAL BUREAU SCORE



+ AFFORDABILITY SCORE



7% reduction in bad rate for top tier



Transaction Processing and Categorisation

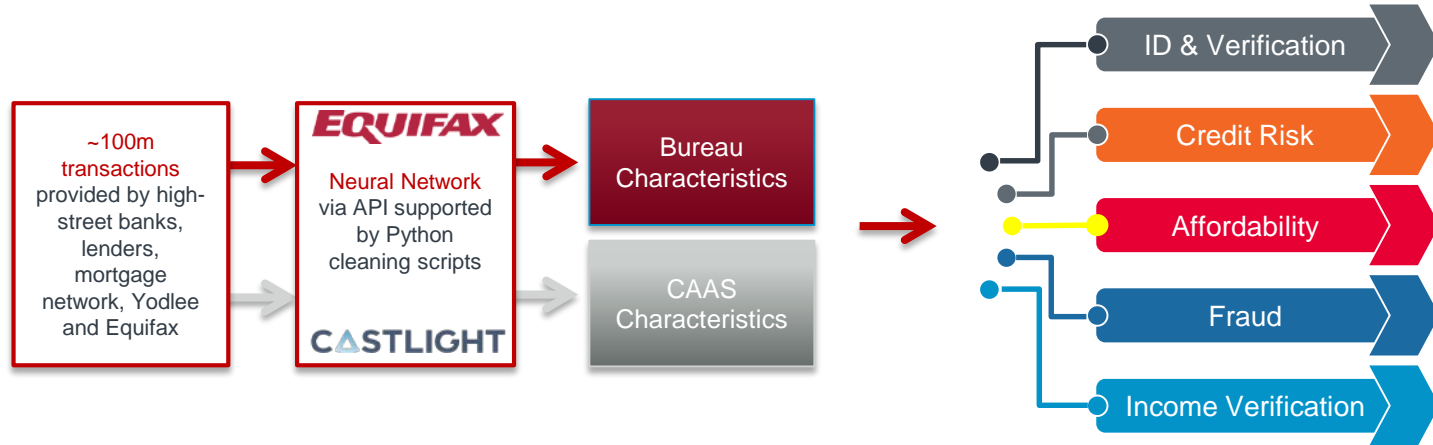
Processing

- › Type of data required
- › One-off or repeat access
- › Permitted use
- › Primary account identification
- › Aggregating accounts from multiple banks
- › Account to person verification
- › Data storage
- › Anonymisation and minimisation

Categorisation

- › Purpose
- › Structure – granularity
- › Accuracy and completeness
- › Versioning and update process
- › Methodology – Manual vs machine learning
- › Customer feedback loop
- › Other data sets to augment
- › Data differences e.g. in descriptions by current account provider

Castlight Categorisation Process

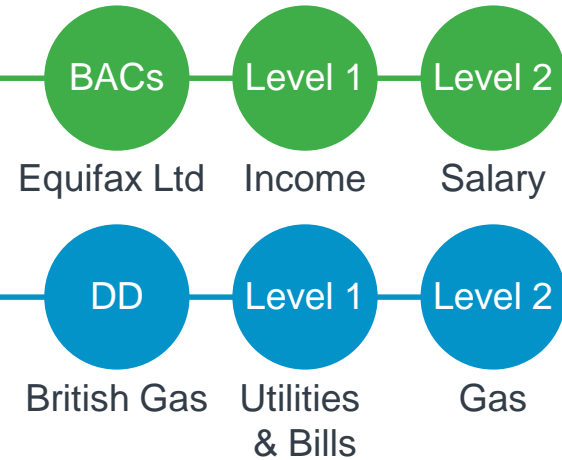


Categorisation Levels

Credits	
Level 1	5 categories
Level 2	25 categories

Debits	
Level 1	21 categories
Level 2	130 categories

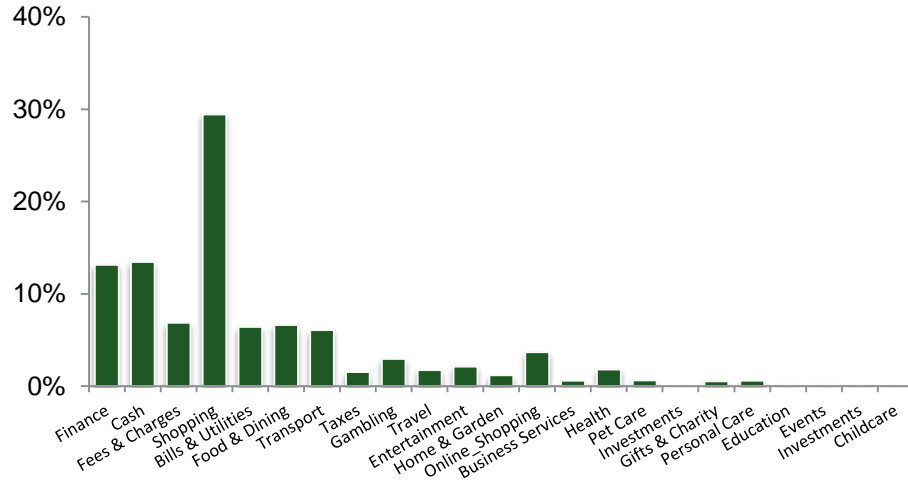
Example



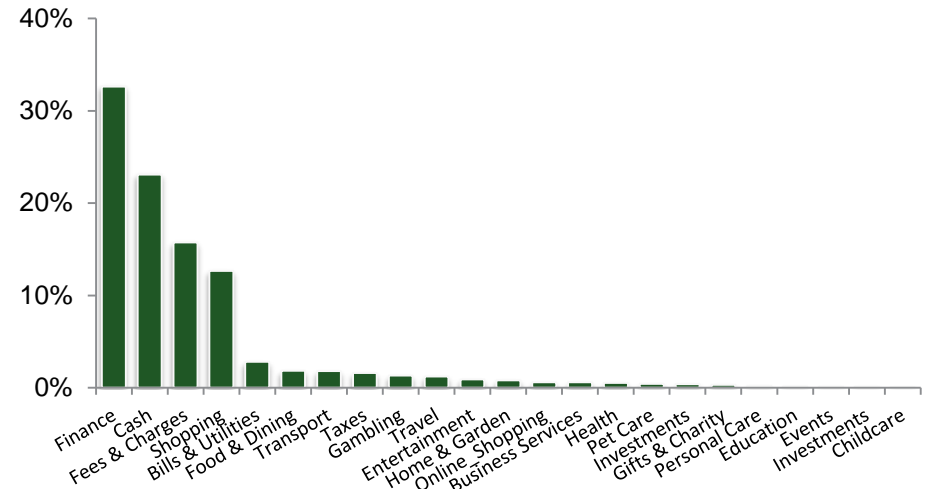
- › Categorisation optimised for Creditworthiness and Affordability assessment
 - Essential vs discretionary expenditure
 - Particular emphasis placed on key income and expenditure

Categorisation: Insight into spending habits

Spend (#)

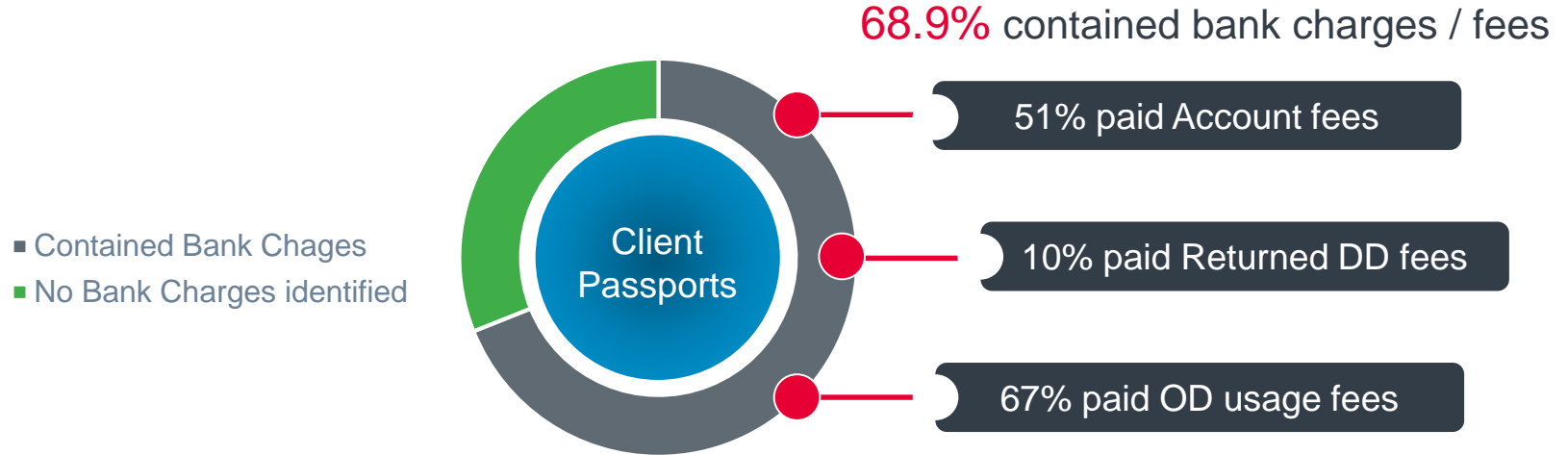


Spend (£)



Data used for analysis: UK banking portfolio

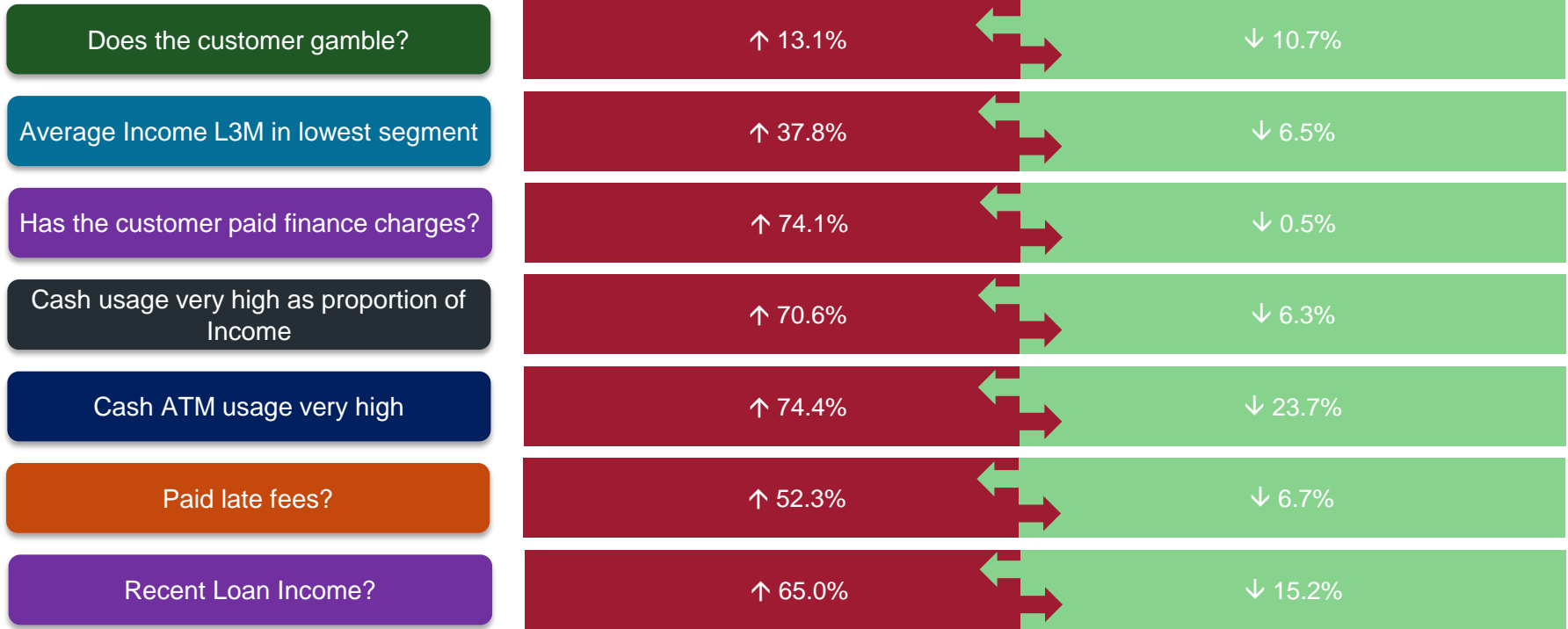
What the data tells us...



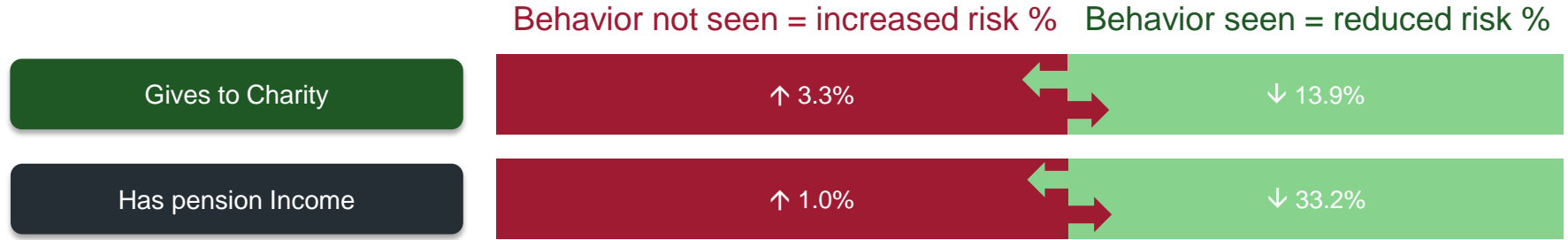
Data used for analysis: IVA sample of customers Jan 2017

Categorised data: Highly predictive of bad debt performance (Negative Behaviours)

Behavior seen = increased risk % Behavior not seen = reduced risk %



Categorised data: Highly predictive of bad debt performance (Positive Behaviours)



Data used for analysis: Likely Loans part of Oakbrook finance

Affordability Passport™ can be provided direct to the customer

Overview
This is the overview of your report, below you will find summary details about your spending and income over the last 12 months.

Debt Overview

Unsecured Debt	£11,109.00	Unsecured Debt: Debt that does not fall within the definition of secured debt.
Missed Payments (12 Months)	0	Missed Payments: A committed payment for an agreed-upon financial obligation which has been missed.
Defaults (60 Months)	0	Defaults: Failure to fulfill an agreed-upon financial obligation, such as making a loan payment.
Credit Limit	£30,400.00	Credit Limit: Your credit limit is determined by your income and your outgoing commitments. If you have more income or you reduce your outgoing commitments your limit will increase.
Credit Used	£2,822.00	
Credit Used %	9%	

Personal
The personal section contains information about mortgages, hire purchases and gambling activity. We've checked your credit report to determine your mortgage details and hire purchases.

Mortgage and Hire Purchase

Home Owner	Yes
Outstanding Mortgage Amount	No Mortgage
Mortgage Term	0
Missed Mortgage Payments	No Hire Purchase
Hire Purchase Term	No Hire Purchase
Hire Purchase Amount	No
Active Gambling Account	No

Income & Expenditure
Income and Expenditure deals with your monthly average movement of finances. Income can come from your salary, savings or another source of receiving money. Expenditure is what you spend your money on, this can be mortgages, entertainment or any other outgoing transactions.

Monthly Averages

Income	£4,484.97	Average Monthly Income: The average amount of money that an employee earns in one month. The UK Average salary as of Sept 2016 was £27,650.
Salary	£2,588.29	Disposable Income: The money that you can spend as you want and not the money that you spend on taxes, food, and other basic needs.
Spend	£2,288.50	
Disposable Income	£2,196.47	
Total Savings	£89,389.45	

Your Pro Affordability Passport
Mr. Roger Haynes
User Completed: 21/03/2017
User: Castlight
Creditref Ref No: 8279
View as a PDF

Overview

Total Unsecured Debt	£12,020.00	Number of Missed Payments (12 Months)	0
Number of Defaults (12 Months)	0	Number of Defaults (60 Months)	0
Total Credit Used	£30,400.00	Total Credit Used	£2,822.00
Total Credit Used Percentage	9%		

Personal

Home Owner	Yes	Outstanding Mortgage Amount	No Mortgage
Mortgage Term	0	Missed Mortgage Payments	0
Hire Purchase Term	0	Hire Purchase Amount	No Hire Purchase
Hire Purchase Amount	No	Active Gambling Account	No

Income & Expenditure

Monthly Average Income	£4,484.97	Monthly Average Salary	£2,588.29
Monthly Average Spend	£2,288.50	Monthly Average Disposable Income	£2,196.47
Active Gambling Account	No	Total Savings	£89,389.45

Credit Search
CommsSupplyAccount

CLUB 24 (KILLIM) WES ENCUERY

Current Balance	£5.00
Credit Amount	£0.00
Creditor Type	Communication Supplier
Start Balance	£0.00
Start Date	01/08/2016
End Date	Not Available
Terms	08/15monthly
Update Date	01/02/2017
Default Date	Not Available
Delinquent Balance	£0.00
Joint Account	False
Latest Status	ZERO

CLUB 24 (KILLIM) WES ENCUERY

Current Balance	£3.00
Credit Amount	£0.00
Creditor Type	Communication Supplier
Start Balance	£0.00
Start Date	01/07/2014
End Date	Not Available
Terms	08/15monthly
Update Date	01/02/2017
Default Date	Not Available
Delinquent Balance	£0.00
Joint Account	False
Latest Status	ZERO



The most comprehensive view of
Credit & Affordability

THANK YOU

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