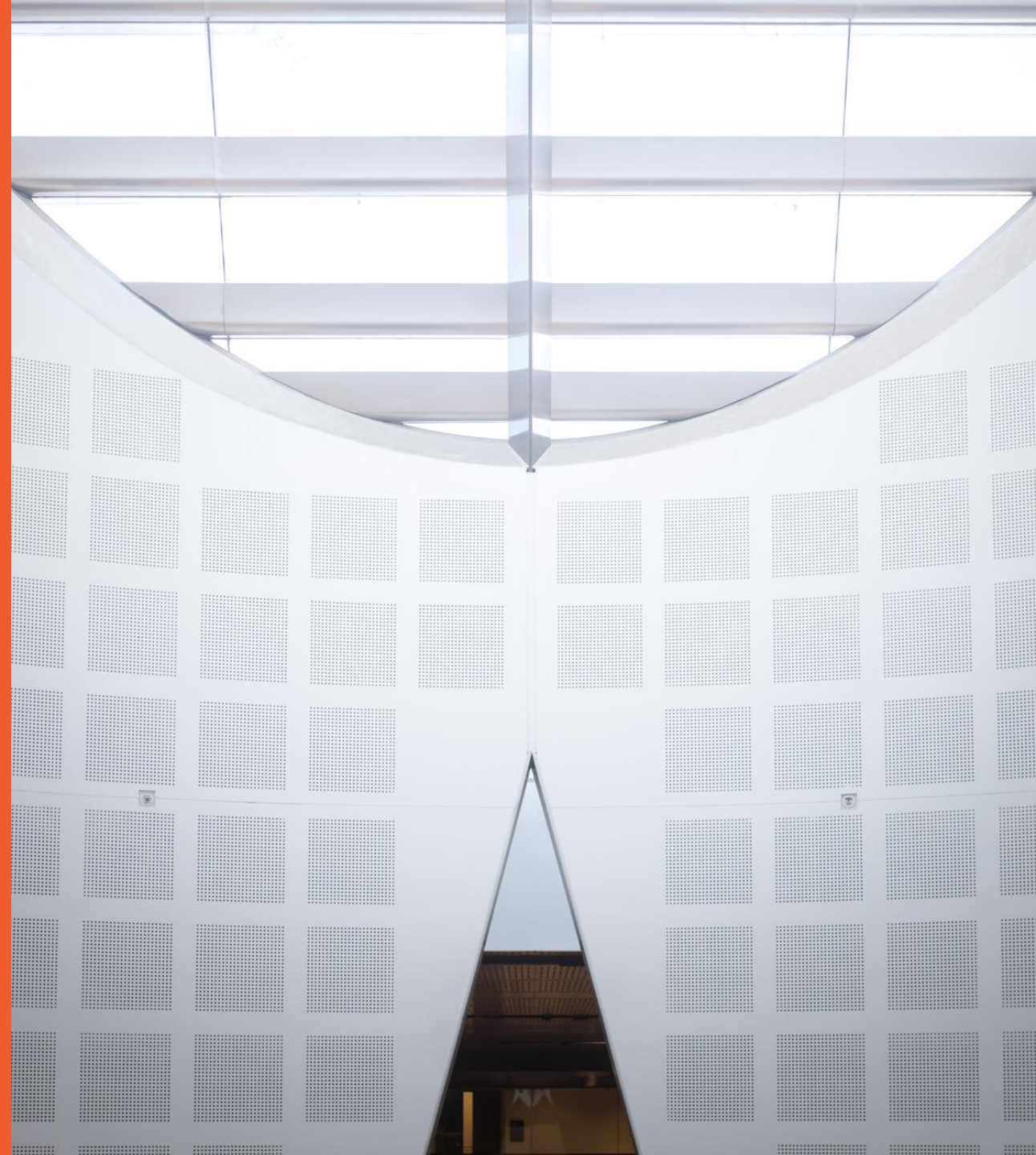


Facilitating decision making in the fintech era

Andrew Grant, Senior Lecturer, Finance
Discipline,
The University of Sydney Business School



Introduction

- How is does changing technology help or hinder financial decisions made by consumers?
- Banking Royal Commission has highlighted concerns over lack of financial literacy amongst Australian consumers?
- Need to rebuild trust, or to empower consumers into improving their own decisions

Issues

- Comprehensive Credit Reporting
 - What is it?
 - How is it expected to affect consumer decision making?
- Open banking
 - Expected benefits for the consumer?
- What Fintechs are doing
 - Marketplace Lending
 - Banking Apps

Changes to the information dynamics of consumer credit markets in Australia

- Mandatory Comprehensive Credit Reporting, starting July 1, 2018.
- Open Banking Regime, from July 1 2019.
- Reports on lack of competition from the Productivity Commission (2017)
- Banking Royal Commission – renewed focus on service to customers and ‘responsible lending’.

Consumer credit literacy and behaviour

- 71% of consumers are not aware of their credit score

Experian White Paper 2018

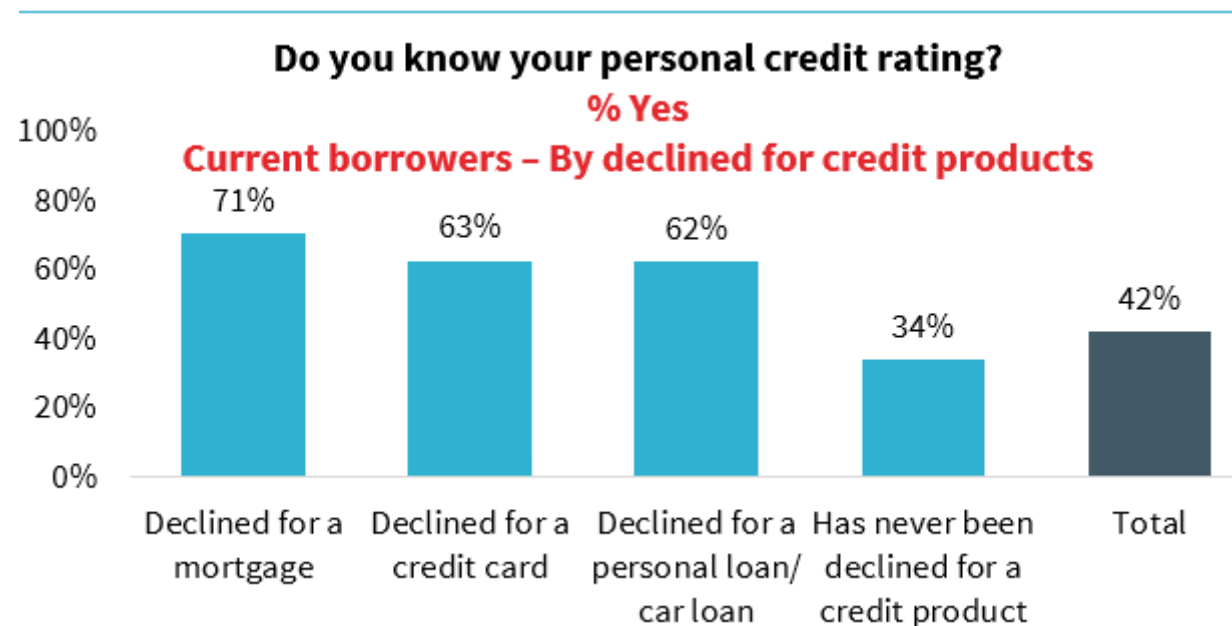
- Households value the ability to learn detailed information about their cost of credit (particularly less experienced households)

• Liskovich and Shaton (2017)

- Consumers are reluctant to switch service providers due to a lack of financial literacy -> understanding what products are available to consumers through a knowledge of credit scores will help.

• Productivity Commission's draft report (2018)

People who know their credit scores are mainly those who have been denied credit



<https://www.rfigroup.com/rfi-group/news/australia-comprehensive-credit-reporting-benefit-australia>

Mandatory CCR will improve the quality of credit information available to all credit market participants

‘Negative’:

- ✓ Details of a person’s overdue payments
- ✓ Details of a person’s defaults
- ✓ Bankruptcy or court judgements against that person.

‘Positive’ or Comprehensive:

- ✓ Number of accounts a person holds
- ✓ Maximum credit available to a person
- ✓ Repayment history information (RHI)
- x Will not include outstanding balances

Impact of positive credit reporting

- Credit scores are particularly important for unsecured loans (e.g. personal loans, credit cards).
- The shift towards Comprehensive Credit Reporting is expected to benefit the population in aggregate
- Prior research in other countries has suggested that increased sharing of information by lenders leads to following outcomes:
 - Increase in discrimination of credit assessment models
 - Lowered Adverse Selection Costs,
 - Growth in lending volumes
 - Lower interest rates overall
 - Increases borrower awareness of their own credit score
 - Self-discipline as borrowers are encouraged to 'treat their credit score as an asset'

Ratio of improving credit scores to declining credit scores (previous work)

GROWTH OPPORTUNITIES out of 100,000 enquires

CCR reveals additional lower risk customers based on the comparison of Equifax Apply Negative to Equifax Apply Comprehensive credit score for individuals who have enquired within the last 3 months.

✓ Previously high or medium risk, now low risk

✗ Previously low or medium risk, now high risk



AUTO LOANS

✓ 7,290

✗ 1,280



CREDIT CARDS

✓ 9,670

✗ 1,110



MORTGAGES

✓ 3,450

✗ 340



PERSONAL LOANS

✓ 7,090

✗ 1,520

Equifax (October, 2017) State of the Industry Infographic
Expected aggregate shift upwards, benefits to consumers.

What are Australian Fintechs doing?

- Useful to identify common threads in the Australian Fintech space
 - Only those with a consumer focus, non-cryptocurrency
- <https://australianfintech.com.au/directory-all/>
- Neobanks
- Foreign Currency Transfers
- Personal Loans
- Comparison Sites
- Consumer Aids

Neobanks (e.g. 86400)

• Why 86 400?

We're Australia's newest bank and first smartbank.

A bank which tells you what's actually going on with your money, so you feel in control every second of every day.

All **eighty-six four hundred** of them. Because managing your money shouldn't require a maths degree.

A bank with great rates and no monthly fees, which uses smart technology to show the most relevant information about your spending, saving and bills, so you can plan forward, as well as look backward.

We exist to offer a real alternative to how you bank today, to strip out the waste and give back to customers, to challenge the status quo of what banking is and how it's done.

Neobanks (e.g. Archa)

Founded in Melbourne, Archa came about because our founder Ollie was frustrated by the lack of innovation in Australian banking services and products. Inspired by the world's leading tech companies, Ollie set out to create a platform that will change the way we think about money.

Archa is a cutting-edge mobile account and social wallet that makes managing and spending your money fast, simple and fun.

By using groundbreaking technology like machine learning, Archa provides you with better ways to manage your money, pay off debt and grow wealth. We are not just some finance app – we are the future of money.

We give simplified solutions to a variety of money problems that we all face on a day to day basis. We make spending social and fun. We help you overcome the money mayhem, so you can start living a better life.

Loans (e.g. MoneyMe)

Why choose MoneyMe?



You get more with MoneyMe

Cheaper loans tailored to your credit profile and history




5 minute application

The experience is simple, online and quick



Money straight to your bank

Anytime, anywhere in as little as 5 minutes 



We get it, and you

A new generation of credit for millennials, by millennials

Loans (e.g. Nifty)

No fuss, no paperwork.
Just Nifty loans.

- ✓ 100% Online
- ✓ Easy Application
- ✓ Fast Outcomes

How much do you need to borrow?

\$300 **\$3,000** \$5,000

How long do you need to repay your loan?

9 Months **12 months** 24 Months

\$82.48 Weekly	\$165.55 Fortnightly	\$361.92 Monthly
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APPLY NOW

513 people have applied today!











🔒 We're easy-going, but take security very seriously.

The Interest Rate for Secured Medium Loans is 48%. Example comparison Rate 65.86% p.a.

This comparison rate is true only for the examples provided below and may not include all fees and charges. Different terms, fees or other loan amounts might result in a different comparison rate with the lender that finances your loan.






Comparison Sites (e.g. CreditCardCompare)

Popular features
Find your next credit card with the features you want.

 0% purchase	 Balance transfer	 Best credit cards ¹	 Frequent flyer	 Instant approval
 Low interest	 No annual fee	 No foreign transaction fee	 Rewards	 Travel insurance

[Explore all features >](#)

Popular rewards programs
Find a credit card for your preferred rewards program.

				
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[Explore all rewards programs >](#)

Comparison Sites (e.g. Uno)

Need a winning deal?

Get us actively managing your home loan by starting with a great home loan deal.¹

uno matches your needs with 1000's of home loan deals from 29 of Australia's great lenders. Our home loan experts work with you on the best strategies and support you all the way to settlement.

I'm buying a property

I want to refinance



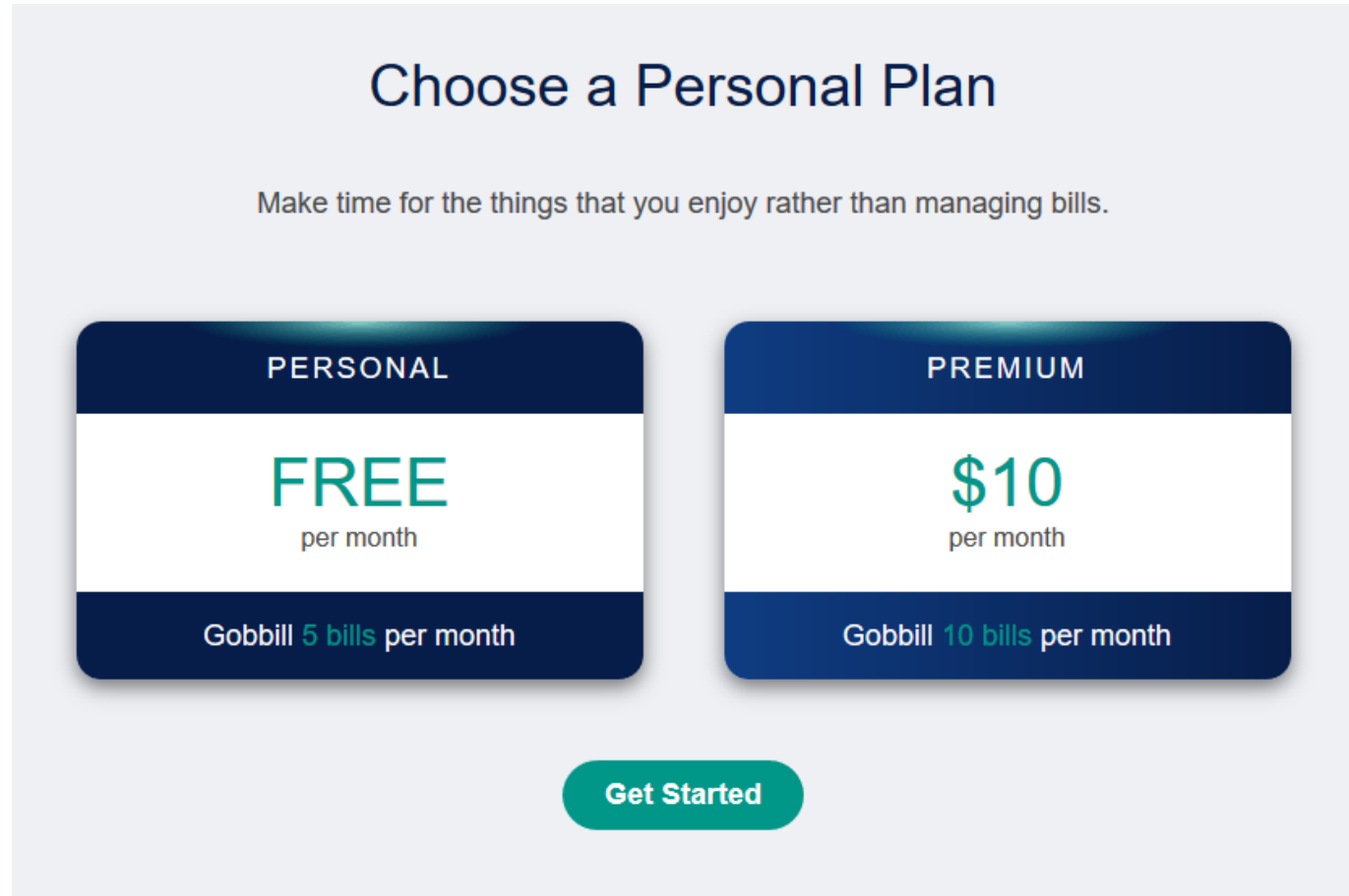
Consumer Aids (e.g. Gobbill)

Choose a Personal Plan

Make time for the things that you enjoy rather than managing bills.

<p>PERSONAL</p> <p>FREE per month</p> <p>Gobbill 5 bills per month</p>	<p>PREMIUM</p> <p>\$10 per month</p> <p>Gobbill 10 bills per month</p>
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[Get Started](#)



Consumer Aids (e.g. MapMyPlan)

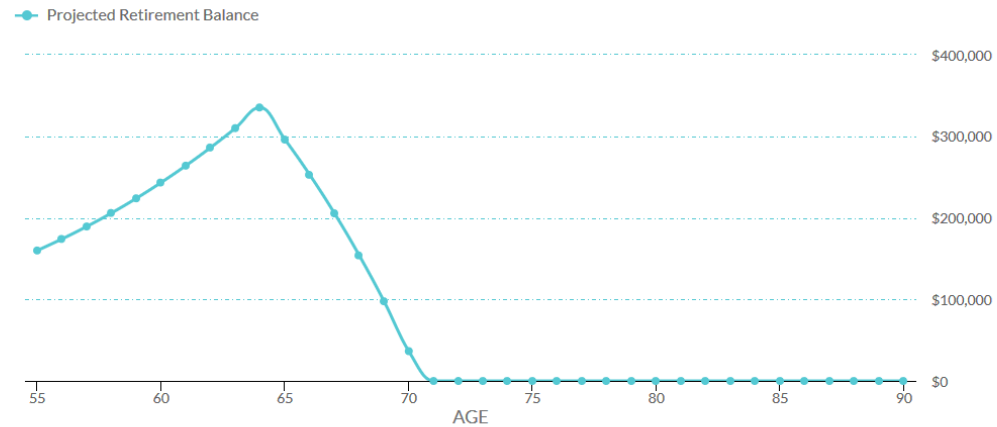
Retirement test drive

Here is a projection of your retirement savings at age 65. We predict you will run out of super by the time you are 71 years old.

At the moment, this graph is based purely on your current income and age. [Sign up for a free account](#) so we can more accurately calculate your retirement goals and help you plan a better retirement.

get started for free

55 Current Age	65 Retirement Age	\$75,000 Current Income	\$146,663 Estimated Current Superannuation	\$335,360 Projected Retirement Balance	\$ 313,986 Projected Balance in 2019 dollars
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[This graph is based on the following assumptions >](#)

Consumer Aids (e.g. PictureWealth)

How can PictureWealth help you?

We help you understand and manage your money in three simple steps:

Picture your wealth

A picture paints a thousand words.

We help you paint your financial picture by organising all your money matters in one place.

Your **Welfie** (Wealth + Selfie) shows you your big picture.

You can drill down into more detailed pictures - even as far as individual transactions.



Consumer Aids (e.g. QuietGrowth)

Automated investment management

Step 1



ANSWER QUESTIONS

Answer a series of questions to evaluate your investment risk tolerance.

Step 2



VIEW PORTFOLIO

Know about your diversified global portfolio of ETFs with a long term focus on optimised risk-adjusted returns.

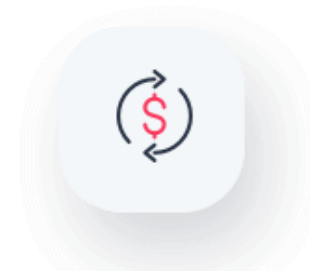
Step 3



CREATE ACCOUNT

View your Statement of Advice, and sign the MDA contract to allow us to serve you. We will create a brokerage account for you.

Step 4



INVEST

Invest in your QuietGrowth portfolios, and we will manage your wealth for a low QuietGrowth fee.

Consumer Aids (e.g. Raiz)

Why Raiz?

> What is Raiz?

✓ How does Raiz work?

Raiz helps you proactively invest. One key feature is round-ups; we round up each of your transactions to the nearest dollar, and invest the change into a diversified portfolio. Simply connect a debit card, or other funding source, then provide us with some basic information. We give you the option of choosing a portfolio that is in line with your investment goals and the amount of risk you're comfortable taking.

Note that Raiz offers other great ways of investing besides round-ups, for more info please see [this article](#).

> What makes Raiz different?

Consumer Aids (e.g. SavR)

How it Works?

Save for your next vacation the easy way



Link your bank account

Link the SavR App to your everyday bank account or card. We support 95% of USA and AUS Banks.



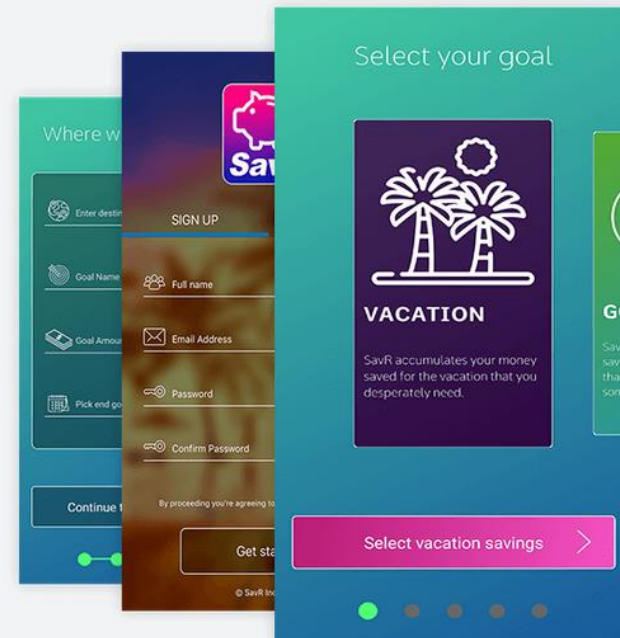
Process Round-Ups

Your roundups, plus any additional amount you have selected, will be calculated daily. Your saved amount will be transferred to your dedicated vacation account automatically!



Watch your money grow.

Set and Forget - Your automated savings will start to grow, and you will barely even notice the money has gone. There has never been an easier way to save.







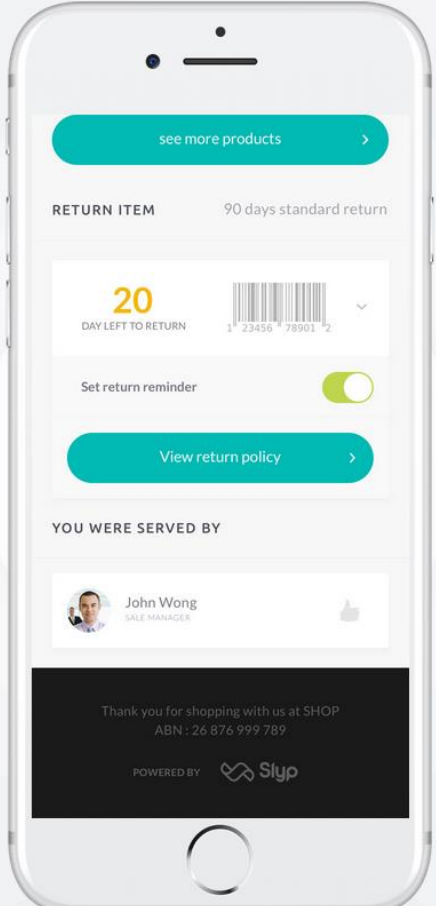
Consumer Aids (e.g. Slyp)

Plans

The Slyp Receipt™


SMART FEATURES that delight customers

- Never lose a receipt again 
- Easier to reconnect with the retailer 
- Flexible filing and storage options driving a better customer experience 
- Smarter expense reconciliation at tax time 



see more products >



RETURN ITEM 90 days standard return

20 DAY LEFT TO RETURN 


Set return reminder





View return policy >

YOU WERE SERVED BY

 John Wong
SALE MANAGER 

Thank you for shopping with us at SHOP
ABN : 26 876 999 789

POWERED BY 

-  Actionable offers relevant to customers
-  One-click, "Uber-style" customer ratings and feedback
-  Set reminders for returns and warranties
-  Faster transacting and servicing

Improving consumer decision-making, financial outcomes using Fintech

- Many of these fintech applications aim to help consumers to make better decisions, or help consumers to obtain better deals
 - Ease of comparison between credit cards, mortgage products, energy products
 - Lower cost personal loans, or accessible personal loans for those who are unable to obtain funds from traditional providers
 - Unconventional methods of loan underwriting
 - Lower cost payments (mainly in foreign currency transactions)
 - Alternatives to traditional financial service providers (neobanks).
 - Tools to benefit distracted / disinterested individuals manage finances (automated investing, bill payments, rounding up from purchases to savings accounts)
 - Tools to help consumers better understand their financial position (visualisations of savings goals, retirement income).

How are these fintech providers helping

- Scant evidence that these products help improve consumer outcomes
 - Counterfactuals are difficult to obtain, many platforms are relatively new and will take some time to develop outcomes
- I will review some research I (plus colleagues!) have been working on covering various issues across this space.

Marketplace Lending

- Obtained data from Society One – Australia’s largest marketplace lender – over period 2012-2017.
- Personal loan platform targeting high-credit quality borrowers
 - Arguably competing against the banks for same pool of loan applicants
 - Most commonly used for debt consolidation, but also vehicles, holidays etc.
- Loans are assessed and underwritten by the platform
- Loans are priced based on risk → driven by the credit score mainly.
- Accepted loans are ‘fractionalised’ and sold to sophisticated investors (mainly self-managed super funds, building societies, hedge funds)

Acceptance Rates on Society One

	Loan Outcome Proportions			Loan Outcome Numbers			
Veda Score Range	No Quote	Declined	Purchased	No Quote	Declined	Purchased	Total
Negative	89.40%	10.60%	0.00%	2,470	293	0	2,763
Zero	89.70%	10.28%	0.02%	22,521	2,581	4	25,106
Below Average (0,509]	64.40%	35.14%	0.46%	22,910	12,500	162	35,572
Average [510,621]	35.89%	50.94%	13.16%	6,138	8,711	2,251	17,100
Good [622,725]	21.81%	50.63%	27.55%	3,192	7,409	4,032	14,633
Very Good [726,832]	23.10%	42.98%	33.92%	2,363	4,396	3,469	10,228
Excellent [833,1200]	29.36%	37.13%	33.51%	2,194	2,775	2,504	7,473
Total	54.74%	34.25%	11.01%	61,788	38,665	12,422	112,875

No Quote: Rejected by platform before underwriter. Declined: Declined by Underwriter.

Purchased: Accepted onto the platform.

Only 11% of individuals are accepted onto the platform, Most of these from high credit score ranges.

Platform automatically rejects large numbers of borrowers based on low credit score alone.

Substantial work in underwriting loans required to get high-quality borrowers.

Do Comparison Sites Help?

- Platform provides information on the source of the borrower
 - Using information from cookies on their web browser
- We separate out borrowers that came from 'rate comparison' sites and 'credit check' sites
 - Do applicants appear to be more likely to be accepted from these sites?

Do Comparison Sites Help?

Veda Score Range	Rate Comparison Site	Credit Check Site	Neither	Total
Negative	160	231	2,372	2,763
(Proportion of Category)	(5.79%)	(8.36%)	(85.85%)	(100.00%)
Zero	2,339	2,757	20,010	25,106
(Proportion of Category)	(9.32%)	(10.98%)	(79.70%)	(100.00%)
<u>(0,509] – (Below Ave. – Average)</u>	2,702	4,465	28,405	35,572
(Proportion of Category)	(7.60%)	(12.55%)	(79.85%)	(100.00%)
<u>[510,621] – (Average)</u>	1,620	3,287	12,014	16,921
(Proportion of Category)	(9.57%)	(19.43%)	(71.00%)	(100.00%)
<u>[622,725] – (Good)</u>	1,800	2,319	10,693	14,812
(Proportion of Category)	(12.15%)	(15.66%)	(72.19%)	(100.00%)
<u>[726,832] – (Very Good)</u>	1,351	1,543	7,334	10,228
(Proportion of Category)	(13.21%)	(15.09%)	(71.71%)	(100.00%)
<u>[833,1200) – (Excellent)</u>	896	1,235	5,342	7,473
(Proportion of Category)	(11.99%)	(16.53%)	(71.48%)	(100.00%)
Total	10,868	15,837	86,170	112,875
(Proportion)	(9.63%)	(14.03%)	(76.34%)	(100.00%)

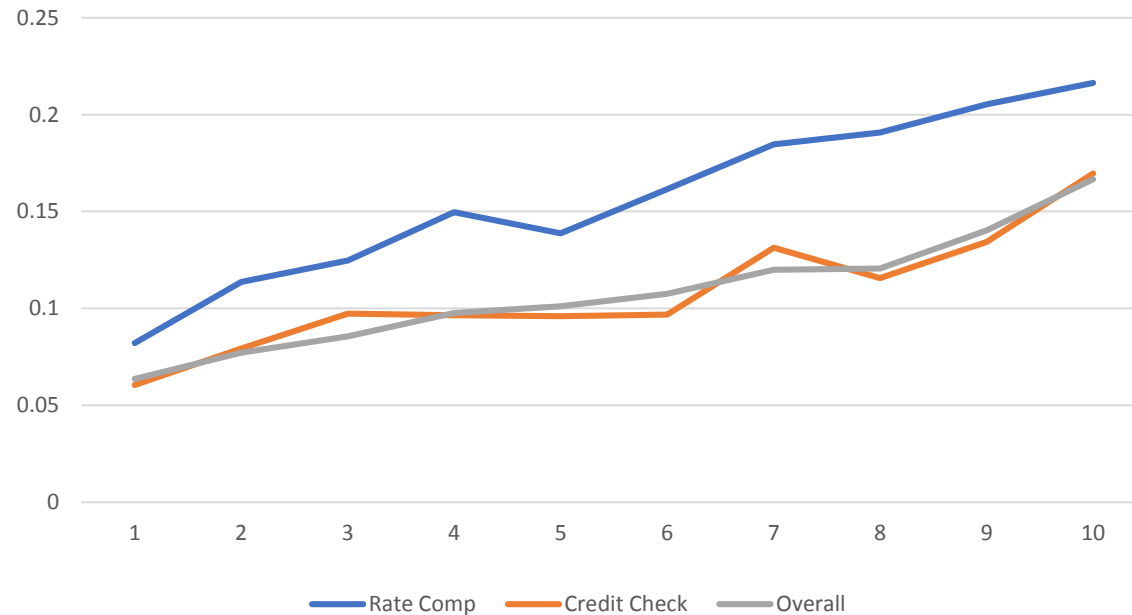
Somewhat higher likelihood of 'Good,' 'Very Good,' or 'Excellent' quality borrower from Rate comparison site. Credit check sites appear to get 'Average' quality borrowers – lower acceptance rates than general population. Consistent with borrowers only knowing credit score once they have been declined.

Purchase Rates by Source of Applicant / Loan Purpose

	Rate Comparison Site	Credit Check Site	Neither	Total
Debt Consolidation	17.57%	13.58%	13.34%	13.77%
Auto Loan	14.99%	6.30%	6.29%	7.00%
Holiday/Wedding	18.40%	13.72%	10.76%	12.02%
Home Improvement	24.68%	14.50%	14.88%	16.01%
Other	12.57%	8.59%	8.29%	8.74%
Total	17.11%	11.06%	11.11%	11.68%

Some evidence of rate comparison site differences across loan purposes. Home improvement, vehicle loan applications are much more likely to be accepted.

Purchase Rates by SEIFA Decile



Applicants using Rate comparison sites are more likely to be purchased on the platform across all Socioeconomic areas.

Which borrowers more likely to default?

	SEIFA 1-7				SEIFA 8-10				Difference		
Rate Comparison Website	158	20	178	11.24%	142	16	158	10.13%	336	1.11%	0.3714
Credit Check Website	73	20	93	21.51%	46	6	52	11.54%	145	9.97%	0.0667*
Neither Website	488	146	634	23.03%	445	72	517	13.93%	1151	9.10%	0.0000***
Total	719	186	905	20.55%	633	94	727	12.93%	1632	7.62%	0.0000***

Where does this seem to matter? Much lower default rate for borrowers from Lower-Middle Socioeconomic areas (SEIFA 1-7) if they were sourced from a Rate comparison site. (11.24% vs. 20.55% overall). Potentially more sophisticated?

Comprehensive Credit Reporting

- How do the changes to credit reporting affect the population?
- Does the addition of 'positive' information (repayment history information) and sharing of information among credit providers benefit credit applicants?
- Who are those that stand to benefit most from the changes?
- Data sourced from one of the major credit bureaus
- Applicant level information, credit scores plus demographics with
 - 'Negative' information only (prior to regime shift)
 - 'Comprehensive' information (following regime shift)

Shifts in population credit scores

	Mean	Std. Dev
	Increasing Scores (n = 258,495, 67.5% of population)	
Negative Score	697.43	127.58
Positive Score	758.64	128.04
Difference (Positive – Negative)	61.22	0.46
	Decreasing Scores (n = 124,726, 32.5% of population)	
Negative Score	733.59	202.24
Positive Score	641.75	267.09
Difference (Positive – Negative)	-91.84	64.85

Around 2/3 of population see score increase. Larger decrease for those that experience a decline. Evidence of more discrimination among credit scores, mainly driven by those who decrease.

What is the difference between ranges of credit scores for the population?

Panel A: Personal Loans							
Range	Num. Offers	Unique Providers	Ave. Rate				
Below 480	2	2	27.50%				
480-600	5	5	16.84%				
600-720	11	11	12.13%				
Above 720	13	12	12.28%				

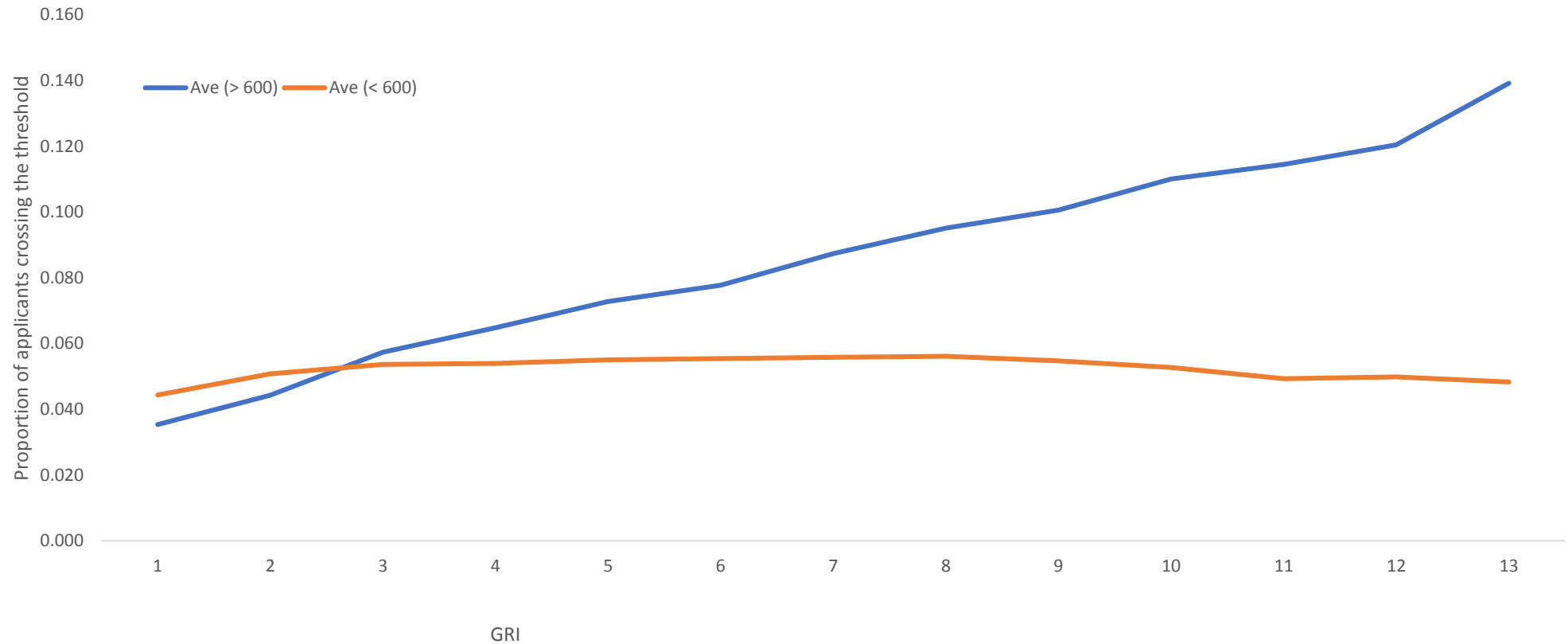
Panel B: Credit Cards							
Range	Num. Offers	Unique Providers	Ave. Rate	Ave. Min. Credit Limit	Ave. Max Credit Limit	Points / Dollar	Ave. fee
Below 480	3	3	12.67%	\$1,000	\$15,000	0.33	\$ 45.00
480-600	5	5	14.15%	\$2,000	\$20,000	0.45	\$ 53.00
600-720	36	10	18.23%	\$6,889	\$64,444	0.76	\$ 161.47
Above 720	46	11	18.26%	\$5,913	\$64,143	1.02	\$ 193.04

Crossing the 600 Threshold

	Applicants Moving Above Threshold			Applicants Moving Below Threshold			Difference			
Panel A: Proportion Crossing Threshold										
Apps in last month	N	Ave (> 600)	Std. Dev	N	Ave (< 600)	Std. Dev	Ave Diff	Sp	T-stat	P-value
1	24,619	0.073	0.261	17,578	0.052	0.223	0.021	0.202	10.516	(0.000)
2	5,273	0.131	0.337	2,349	0.058	0.234	0.072	0.282	10.349	(0.000)
3	717	0.131	0.337	233	0.042	0.202	0.088	0.294	3.987	(0.000)
4	99	0.090	0.286	25	0.023	0.149	0.067	0.256	1.176	(0.242)
5	19	0.061	0.240	6	0.019	0.138	0.042	0.208	0.429	(0.672)
Total	30,727	0.0802	0.272	20,191	0.0527	0.223	0.027	0.214	14.132	(0.000)

Crossing the 600 score threshold is important. 8% of the population see a score rise above 600 with the introduction of CCR. Only 5.27% drop below 600; net difference of approx. 2.75%. This is the difference between 'prime' and 'below prime' borrowers.

Applicants in riskier geographic areas are more likely to increase above the 600-score threshold



Younger borrowers are more likely to benefit

GRI	Score increase above threshold			Score decrease below threshold			Average Score Difference	N. obs
	480	600	720	480	600	720		
Panel A: Applicants Older than 30								
1-4	0.44%	3.81%	14.77%	2.98%	5.28%	3.22%	10.94	113,280
5-9	0.91%	6.69%	14.12%	4.44%	6.02%	2.78%	10.58	118,232
10-13	1.92%	9.67%	12.18%	5.60%	5.73%	2.48%	8.84	57,146
Total	0.93%	6.15%	13.99%	4.10%	5.67%	2.89%	10.38	288,658
Panel B: Applicants Aged 30 and Younger								
1-4	1.81%	10.79%	16.60%	4.39%	4.41%	1.15%	20.90	31,809
5-9	3.00%	14.34%	11.68%	5.75%	4.15%	1.06%	13.98	40,096
10-13	4.93%	16.79%	7.36%	6.85%	3.36%	1.00%	5.45	22,658
Total	3.06%	13.73%	12.30%	5.55%	4.05%	1.08%	14.26	94,563

Strong benefits for younger borrowers (particularly at lower score thresholds).
 Repayment information makes it easier for prudent behaviour to be seen.

Conclusion.

- Overall, Fintech appears to present opportunities to help improve competition and financial literacy in the Australian marketplace
- Comprehensive credit reporting should encourage greater discipline among borrowers, who are able to be rewarded for good credit behaviour
 - Credit score will be more informative. How lenders respond remains to be seen.
- Fintech trying to help consumers stay on track, nudging individuals towards better behaviour.
- Potential role in helping identify quality borrowers?

Loan Purposes (Purchased Loans) and SEIFA Decile

	Panel B: Purchased Loans				
SEIFA Decile	Debt Consolidation	Auto Loan	Holiday/ Wedding	Home Improvement	Other
1	47.40%	11.59%	15.16%	11.00%	14.86%
2	47.45%	13.70%	11.21%	11.08%	16.56%
3	50.78%	10.75%	10.27%	12.90%	15.29%
4	50.08%	10.30%	13.90%	12.23%	13.48%
5	52.92%	9.59%	10.79%	12.39%	14.31%
6	54.90%	10.71%	12.39%	8.83%	13.17%
7	54.28%	9.90%	11.72%	10.91%	13.20%
8	53.35%	11.28%	11.48%	11.61%	12.28%
9	55.84%	8.62%	11.06%	11.02%	13.47%
10	55.19%	8.45%	13.22%	9.36%	13.78%
Overall	53.12%	10.13%	12.03%	10.96%	13.77%

Loan Purposes (Applications) and SEIFA Decile

	Panel A: Loan Applications				
SEIFA Decile	Debt Consolidation	Auto Loan	Holiday/ Wedding	Home Improvement	Other
1	36.63%	19.86%	14.11%	8.78%	20.62%
2	40.06%	20.21%	12.14%	7.97%	19.63%
3	42.12%	19.51%	10.84%	7.78%	19.75%
4	42.87%	17.98%	11.82%	8.73%	18.60%
5	45.45%	17.43%	10.92%	8.13%	18.07%
6	45.49%	16.94%	11.57%	7.64%	18.37%
7	46.88%	15.93%	11.83%	7.63%	17.73%
8	48.02%	16.01%	10.86%	8.01%	17.09%
9	49.33%	14.18%	11.20%	7.71%	17.58%
10	50.92%	12.61%	11.78%	7.70%	16.98%
Overall	45.07%	16.90%	11.68%	7.99%	18.36%

Rate Comparison Site and Credit Check Site Usage by Veda Score Band

Veda Score Range	Rate Comparison Site	Credit Check Site	Neither	Total
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[510,621] – (Average)	1,620	3,287	12,014	16,921
(Proportion of Category)	(9.57%)	(19.43%)	(71.00%)	(100.00%)
[622,725] – (Good)	1,800	2,319	10,693	14,812
(Proportion of Category)	(12.15%)	(15.66%)	(72.19%)	(100.00%)
[726,832] – (Very Good)	1,351	1,543	7,334	10,228
(Proportion of Category)	(13.21%)	(15.09%)	(71.71%)	(100.00%)
[833,1200) – (Excellent)	896	1,235	5,342	7,473
(Proportion of Category)	(11.99%)	(16.53%)	(71.48%)	(100.00%)
Total	10,868	15,837	86,170	112,875
(Proportion)	(9.63%)	(14.03%)	(76.34%)	(100.00%)

Introduction