

# Responsible Lending, Automated.

## Towards A Consumer-Centric Operational Approach.



White Paper



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### Thank You

This White Paper emerges as a result of the conversations the authors have had with a broad variety of stakeholders since the Expense Verification Framework Initiative was launched in February 2019. We wish to thank everyone who has shared their perspectives, given feedback and shared data and anecdotes. This is very much a team effort.

### Your Comments Are Welcome

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If you have specific comments, data or questions, please share your request and the relevant page number.

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## 1. Executive Summary

*The major focus of this White Paper is how expense verification should be conducted during the application process. This mirrors the focus of the Expense Verification Framework Initiative to date.*

*We start this White Paper where the first one<sup>1</sup> left off. Having determined that good automation is vital to support both the responsible lending goal and all the other system goals for lending, we ended the first White Paper identifying:*

- We must ensure that the broader sets of community goals are taken into account in addition to responsible lending, otherwise other critical community outcomes will be compromised.*
- Good automation in lending is good for Australia. This requires responsible lending compliance being automation friendly.*
- In order to ensure that responsible lending compliance is automation friendly, we must tackle responsible lending from the spirit and policy aspect down, and make sure that there is clarity on requirements without discouraging innovation. If the existing responsible lending provisions of the NCCP legislation (or the guidance relevant to that legislation) is not fit for that purpose, it should be fixed.*
- Lastly, wherever possible, a disciplined ‘design thinking’ approach needs to be taken, where all stakeholders are involved in defining what is possible, as opposed to iterating from what currently is. We do not believe there is a silver bullet for responsible lending compliance (e.g. the Consumer Data Right), but we do believe that creative, design thinking with all stakeholders engaged will result in a far better outcome.*

***The irony of the current responsible lending controversy is that it is happening just as the age of digital disruption dawns. Are we going back to the 1950s or forward to the digital age of finance? Our efforts, including this White Paper, are aimed at making automated responsible lending a reality for everyone’s benefit.***

*This White Paper advocates making consumer-centric, automated responsible lending an operational reality by outlining a Design and Evaluation Framework for affordability assessment processes. The framework can be used both to inform lenders<sup>2</sup> thinking as they update (or revisit) their existing approaches and by key stakeholders and the community to assess compliance.*

*Having established this framework, in the next White Paper in this series we will develop, as a case study, an example affordability assessment process - showcasing how models and benchmarks (and different types of data) could be used as inputs to that process. We will also showcase how the upfront assessment process might focus on meaningful engagement with consumers rather than introducing data driven distraction.*

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<sup>1</sup> Responsible Lending, Automated. Better Outcomes for Everyone, May 2019

<sup>2</sup> We use the word ‘lender’ in this White Paper -, as short-hand for all ‘credit providers’ (as defined in the *National Consumer Credit Protection Act 2009*), which also includes consumer lease providers.

*We introduce this Design and Evaluation Framework with an extensive analogy to public health. We do this to provide a neutral case to assist us to develop a shared language for responsible lending issues.*

*We note that in our public health analogy, upfront assessment is only part of the system wide solution to preventing harm. In our view, the same can be said for responsible lending. Since not all cases of foreseeable substantial hardship will be picked up at the application stage, focusing only on affordability assessment misses two significant opportunities. Firstly, the opportunity to design more responsive post-contract hardship processes. Secondly, the opportunity to better understand the harm we are solving for, by measuring and monitoring the incidence of substantial hardship that was foreseeable (at the pre-contract stage). This monitoring needs to happen at the industry and individual lender level.*

*Outside of the scope of this White Paper series, which focuses on policy matters, we are also releasing a series of Technical Briefings that highlight specific models and approaches that are inputs to affordability assessment processes – examining them in the context of the Design and Evaluation Framework we put forward in this White Paper. The first briefing in the Technical Briefings series will examine the use of models in expense verification (such as HEM<sup>3</sup>) and the second will tackle some nuances with regards to the role of expense declaration by the applicant in the affordability assessment process.*

## Our Conclusions in Brief

*As you will see from this White Paper, all consideration of application stage assessment must stem from a data driven statement of the obvious – that no matter how good a lender’s responsible lending processes are, **cases of foreseeable substantial hardship** will be missed in the application process.*

*So, whatever processes lenders put in place, the entire system must recognise, accept and allow for this reality – which was succinctly stated by the FCA in this quote:*

*“Both affordability and credit risk assessment have material probabilistic components”<sup>4</sup>*

*Five conclusions flow from this fact and only three of these relate to responsible lending assessments at the point of application. As the diagram at the end of this section 1 indicates, perhaps we are fixated on one point in the overall system, and collectively failing to consider the system as a whole.*

1. **Design for Practical Affordability Assessment:** *Expense verification in the application process needs to be operationally practical. This is the focus of this White Paper. We have a strong view that industry and regulators should focus on agreeing to and supporting (better yet, endorsing) a design and evaluation framework for operational practices, rather than seeking prescription on data or process. This amounts to accepting that ‘scalability’ is a key concept and, as such, it needs to be ‘bottomed out’ at a more operational level. We believe that any other approach (e.g. prescribing process or data usage) would significantly hinder innovation and prevent lenders responding to what is operationally possible for their customer segments and the data that is available at the time of the application.*

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<sup>3</sup> Household Expenditure Measure

<sup>4</sup>Extract from the Financial Conduct Authority Policy Statement, July 2018, Assessing creditworthiness in consumer credit – Feedback on CP17/27 and final rules and guidance (PS18/19), Chapter 1

*For a start, given the complexities in the use of Consumer Data Right information (both consent to obtain and data quality<sup>5</sup>), our view is that lenders and regulators should not assume reliable access to digitally sourced bank transactional data (unless they are also prepared to tacitly encourage, and even endorse, screen-scraping methods).*

2. **Evaluation Framework: Responsible Lending Compliance – Evidence of Foreseeable Substantial Hardship Is Not Proof Of A Responsible Lending Breach:** *If the reality that past expenses are probabilistic indicators of future expenses is accepted by industry and regulators, then the other point that must be accepted is that identifying a case of substantial hardship post-contract, that theoretically could have been foreseen pre-contract, is not of itself evidence of a breach of responsible lending obligations. At the pre-contract application stage, those obligations need to be assessed in the context of what can reasonably be operationalised. If our point about the design premise (made in 1. above) is accepted, then creating an Evaluation Framework that ‘matches’ that design premise is required. The two go together.*
3. **Consumer Agency Matters Throughout:** *Given that a key system goal is encouraging increased levels of consumer financial literacy, and given the fact that more educated consumers will hopefully be better able to navigate and ‘self-help’ to avoid harm, our view is that industry should strive for constructive, educational friction at the pre-contract application stage (as opposed to just getting more and more data, which risks distraction and missed opportunities for insights for lenders and consumers).*

*We argue that there is significant value in **asking consumers** important questions (e.g. do any of your children go to private school?) rather than asking them for access to bank accounts to second guess them. We are not saying that lenders can devolve their accountabilities to consumers, nor are we dismissing the role of data. Rather, our view is that there is plenty of potential to involve consumers actively in the process of assessing affordability and using that as an opportunity to promote financial literacy.*

*Subject to the consumer’s answers, the right way to reliably predict their post-contract expenses will necessarily vary. Likewise, by engaging at a lifestyle level with consumers, there is a greater opportunity to help them appreciate the consequences that may flow from the loan they are applying for. In turn, by engaging meaningfully with consumers, lenders might identify some of those foreseeable substantial hardship cases. We stress that this does not mean laborious form filling is required, or that the process won’t be elegant from a consumer experience point of view. Good design and positive customer experience are possible here.*

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<sup>5</sup> Experience from the UK Open Banking regime suggests that the quality of data obtained using the Consumer Data Right (CDR) might plausibly be only 30-40% of the informational richness obtained via screen-scraping. In Australia, the debate centres on the fact that data holders do not have to supply data under the CDR that is ‘materially enhanced’. The operational question is how useful is the raw data. Ironically, consumers already have access to the enriched data through their banking portal and via screen-scraping. So, consumers are faced with the choice of safe ‘raw’ data or problematic access to the enhanced data. The counter argument is that there are IP rights associated with the enrichments, but leaving that debate aside, operationally, the challenge is that reduced data quality will almost certainly restrict the effectiveness of automated transaction categorisation tools which will limit the opportunities for automation. We would welcome data holders sharing insights on what data quality levels can be expected when CDR is live with consumer data – as lenders are making operational plans based on minimal information. One metric to evaluate this is the literal size of data packet per transaction. While this is crude, it does directionally point to the richness of the transactional data. We would welcome a screen-scraping versus CDR comparison metric being published by data holders.

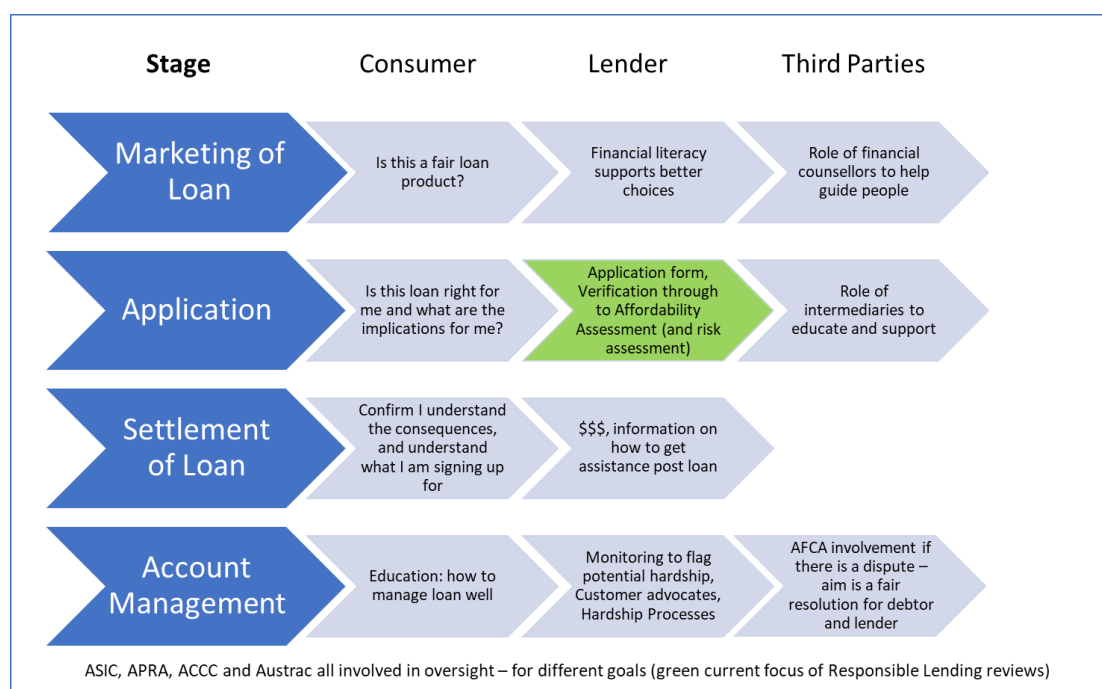
**How this reality affects the broader system of lending is beyond the scope of the White Paper, but these two points are key:**

4. **Mitigation of Harm Is the Greater Priority:** Since every case of foreseeable substantial hardship has devastating personal consequences, those consequences need to be mitigated as an absolute priority. We argue that industry and regulators should collectively shift some of the focus of responsible lending on to encouraging and implementing better treatment paths in hardship processes for those cases where hardship has occurred. We do not address what such a process would look like in this series of White Papers. It would be great to see industry and regulators pick up on this opportunity and develop it further.
5. **System Wide and Lender Level Monitoring: Outcome Metrics Are Needed:** The industry as a whole has a distinct lack of data on hardship (including 'substantial hardship') rates and causes. This is somewhat unavoidable as 'hardship' and 'substantial hardship' are not currently defined. However, to enable lenders to design and implement processes to avoid causing that harm, the harm needs to be empirically observed.

At minimum, our view is that stakeholders should agree working, operational definitions of 'hardship' and 'substantial hardship' as part of the 'common language' that needs to be developed (even if they are not perfect and have no legal standing). Then, at the system level, lender level statistics could be aggregated and analysed, to enable those definitions to be fine-tuned. We expect that as part of that analysis, lenders would attempt to categorise their hardship cases into:

- a. foreseeable substantial hardship
- b. unforeseeable substantial hardship, and
- c. other hardship.

Each step in the lending system (shown in the diagram below), and each party involved, is capable of being measured and monitored. However, there are currently no publicly available, aggregated substantial hardship statistics, nor any metrics designed to provide feedback loops to all parties (including consumers) as to the causes of foreseeable substantial harm and how to avoid it.





## 2. Introduction to the Application Process: Trade-Offs Are Unavoidable

*The community goals for lending do not end with responsible lending. As we articulated in our first White Paper, a range of not entirely compatible goals exist - which implies that trade-offs will need to be made. We are not alone in making this observation – the Financial Conduct Authority (FCA) in the UK also makes this point. We restate the FCA’s position below (with our emphasis added)<sup>6</sup>:*

***We want to protect consumers from the harm that can arise when they are granted credit that is predictably unaffordable at the point it is taken out. At the same time, we want consumers to be able to access credit where it is affordable.***

*We want firms to make a reasonable assessment, not just of whether the customer will repay, but also of their ability to repay affordably and without this significantly affecting their wider financial situation. This should minimise the risk of financial distress to customers.*

*At the same time, we want to avoid being too prescriptive, as this could have harmful unintended consequences, including for the cost and availability of credit. We want firms to take a proportionate approach, taking into account the costs and risks of the credit for the individual customer.*

*We do not want to discourage the use and development of automated systems that may provide more reliable results than asking the customer for large amounts of information or documentation.*

*Both affordability and credit risk assessment have material probabilistic components, given the potential impact of unforeseeable events and of individual behaviour. While there are metrics that can be used to inform firms’ assessment of credit risk (the probability of default), there are no established metrics that can provide certainty of affordability at loan origination. Creditworthiness assessment is not an exact science, and we recognise that affordable loans can become unaffordable due to a change in the customer’s circumstances or wider economic events. It can also be affected by how the customer operates the agreement and organises their finances, which may be influenced by behavioural biases or low financial capability.*

*However, we do expect firms to have effective processes in place aimed at eliminating lending that is foreseeably unaffordable. This should reduce the level of false positives (credit advanced that will turn out to be unaffordable). At the same time, we want to reduce false negatives (applications declined when the credit would be affordable) arising out of a mistaken view of what is required by our rules, as both may cause harm to consumers.”*

*Beyond the trade-offs specifically related to lending, we identified in our first White Paper some additional goals that matter to the community, which also need consideration. For sake of completeness we have added the FCA’s statement of responsible lending goals to our other system goals.*

- 1. Responsible Lending: “We want firms to make a reasonable assessment, not just of whether the customer will repay, but also of their ability to repay affordably and without this significantly affecting their wider financial situation. This should minimise the risk of financial distress to customers”<sup>7</sup>*
- 2. Assess whether the customer is likely to repay the loan and make a risk appetite decision on whether to lend (or not)*
- 3. Automation: Fast, frictionless, appropriate effort for consumers*

<sup>6</sup> These comments are extracts from the FCA’s Policy Statement, July 2018, Assessing creditworthiness in consumer credit – Feedback on CP17/27 and final rules and guidance (PS18/19), Chapter 1

<sup>7</sup> Ibid.



4. *Respectful of privacy. In other words, the process is not creepy<sup>8</sup> and wherever possible takes a Privacy by Design approach*
5. *Promote consumer education/financial literacy*
6. *Transparency*
  - a. *Consistency across credit licensees*
  - b. *Processes that are practical, explainable and transparent.*

*You will note that automation of the lending process is not, of itself, a system goal. The point of our first White Paper is that in order to have the possibility of achieving all of the system goals, good automation is required (which does not necessarily mean 100% automation). Certainly, what will not enable the achievement of all system goals is one by one, manual affordability assessment processes. Quite possibly, applying the pareto principle might be a good starting point – for example, automated processes for 80% of credit applications and intervention via manual processes for the remaining 20% of applications - to ensure that lender resources can be targeted to those applicants whose capacity to service the debt is not ‘obvious’.*

*However, rather than arbitrarily set percentage goals, our view is that the right approach is to use data to inform system (and lender) settings for automated v. manual processes. If a data driven approach is used to identify appropriate levels of automation, human effort will be focused on where it can make a difference to real lives. In other words, when lenders do determine a higher level of interaction is appropriate for an applicant, that applicant can be taken on a journey in which they can reflect on and consider their lifestyle choices (and possible trade-offs they will need to make). Facilitating that process would likely result in an applicant becoming more educated about financial matters. This would seem to be a far better use a lender’s resources than fiddling with declared expense lines and reams of bank statement data.*

## What We Need Right Now – A Framework in Which to Design

All good design starts with a context. You cannot write a Haiku if you don’t know the rules<sup>9</sup>. To get responsible lending right in the application process, we need an appropriate framework for evaluation of the design choices lenders inevitably and unavoidably must make. In building a Design and Evaluation Framework, we will necessarily tease out the issues inherent in evaluation of those design choices. Absent this clarity on how to evaluate choices, all stakeholders will struggle with working out what ‘good’ looks like.

Lenders need to be able to design operational implementations that satisfy the ethical obligations of responsible lending, the NCCP legislative requirements, the regulatory and tribunal assessments of their performance in regard to NCCP, commercial objectives and

community goals. The more coherent the requirements – meaning they can be expressed within the same framework so that the trade-offs can be articulated - the easier it is to deliver a design that meets them.

Once a framework is in place, the design and evaluation process should identify where the level of satisfaction of each of the different objectives may need to be traded off against each other. The identification of necessary trade-offs provides a basis for rational discussion of those trade-offs.

To support the discussion of trade-offs, the Design and Evaluation framework we develop here highlights the need for designs for responsible lending to explicitly identify operating parameters that can be adjusted (e.g. minimum acceptable uncommitted income) to control the trade-off of objectives (e.g. probability of approval versus probability of hardship).

<sup>8</sup> Note that the use of the word ‘creepy’ is deliberate. The ‘creepy test’ is a way that data analytics is often assessed – using a subjective not objective test. Whether or not a specific consumer feels their right to privacy has been compromised is not a legal matter, but rather an experiential reality. If something feels creepy – it is. It may, at the same time, be perfectly compliant with privacy law.

<sup>9</sup> A haiku is a traditional Japanese poem that describes nature. It contains 17 syllables in three lines of poetry.

## Hunting for An Analogy to Nudge Us Towards Shared Understanding

One of the key problems in this industry (with its diverse stakeholders) is that we currently lack a common language to discuss affordability assessment designs. So, we start our journey with our best shot at developing that common language.

Hopefully, if the sense and value of using a shared language for design resonates with stakeholders, we can collectively iterate the language over time. We start with a totally unrelated case study – which forces us into a position of having to start from scratch – leaving room for reflection and abstraction. We will come back to lending, and when we do, we will be armed with a systems' view of the issues at hand.

Please note that all the data cited in this case study is totally invented for the purposes of making the key points. The predictivity of any diagnostic test referred to is illustrative only!

## Running – Lessons from Public Health

It's 6am, in the icy depths of winter. You get out of your car for your morning run and as you struggle to breathe in the cold air a uniformed Council worker stands in your way: "Stop. Have you got your cardiogram licence?"

That is nuts – obviously. No one would insist that someone out for a run has to do a cardiogram before they are allowed to start. And yet, statistically, some people who are running will experience a heart attack.

Let's consider what the Council might do in response to the accusation that they were not doing enough to prevent exercise induced heart attacks<sup>10</sup>. Let's imagine the process they might go through.

## Firstly – What Is the Harm They Are Concerned About?

The Council reviewed the adverse impacts of jogging and decide that they are only really focused on preventing heart attacks because of the possibility of a fatality.

To reinforce the point – fatality, not pain, was determined to be the harm they sought to avoid. Muscle pains are in some cases as painful as a heart attack, but from the Council's point of view these are not of concern as death is not a likely outcome of muscle pains. Likewise, spraining an ankle through to breaking a leg is unfortunate and painful. But again, the Council did not, on reflection, feel that anything to do with leg injuries was something they should seek to prevent.

In any case, the Councillors knew that the track was properly maintained to eliminate trip hazards, so any limb injuries that arose must be for reasons unrelated to the track and therefore not foreseeable and controllable by the Council.

The Council also reflected on the fact that, in many cases, the greater harm arises from people not exercising. They recognised the imperative to encourage people to exercise regularly to reduce the prevalence of lifestyle diseases – which are at epidemic levels. In other words, there are potential harms from jogging and also harms from not jogging.

These potential harms necessarily require a trade-off to be made. There is no way that the Council can simultaneously minimise both harms. Instead, they must choose actions that result in a satisfactory balance.

## Secondly – How Might We Prevent the Harm?

The Council had vigorous debate on this and then recessed to consider possible harm prevention measures. Suffice to say, their first thoughts were not inspired:

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<sup>10</sup> For those who are curious – heart attacks are sometimes fatal, mostly if they lead to cardiac arrest. [https://cpr.heart.org/AHA/ECC/CPRandECC/AboutCPRFirstAid/CardiacArrestvsHeartAttack/UCM\\_475893\\_Cardiac-Arrest-vs-Heart-Attack-Infographic.jsp](https://cpr.heart.org/AHA/ECC/CPRandECC/AboutCPRFirstAid/CardiacArrestvsHeartAttack/UCM_475893_Cardiac-Arrest-vs-Heart-Attack-Infographic.jsp)

1. **Ban Jogging.** While this might fix the problem, at least in Council controlled areas, given the potential harm of not exercising, this was not considered ideal. This also had the potential to create a jogging 'underclass' who might, instead of jogging in well-lit and monitored areas, be forced instead to jog in more dimly lit and less safe locations.
2. **No Jogging When Puffing.** Shortness of breath is a signal of an impending heart attack. The Council only momentarily toyed with the idea of forcing anyone who experiences shortness of breath to stop jogging or face a penalty. While it is true that shortness of breath is often associated with heart attacks, observing shortness of breath is not helpful because it is also a sign of unfit or high exertion – both of which are going to happen frequently when people engage in vigorous exercise. So, stopping people jogging because they are breathing in tight, short breaths is not helpful, leaving aside the practicality of doing so.
3. **Identify High Risk Populations and Ban Them from Jogging.** The 'ban jogging' voting block hadn't quite given up – they had one more idea. Evidence was produced that men who are over 40 and overweight have a significantly higher chance of having a heart attack during exercise. Some suggestion was made of banning obese men over 40 from jogging on Council land. That was ruled out since if that cohort was jogging responsibly, being fitter was also shown to mitigate the risk of exercise-induced heart attack. The other problem was that only a small percentage of men in that cohort would ever have a heart attack, so this measure had all the downside of banning jogging, and in addition probably had more PR downside than a blanket ban (not to mention the psychological harm caused by 'fat shaming').

## Finding Practical Ways to Prevent Harm

The Council realised that this problem was a little more nuanced than previously anticipated, and that preventing the potential harm without

creating unintended harm (of potentially greater magnitude) was going to take a bit more effort.

They decided to go through a more rigorous process led by a respected public health academic. That process involved the five steps described below.

1. **Decide to Focus on Avoiding Reasonably Foreseeable, Substantial Harm Only.** That rules out sprained ankles and similar injuries. It also raised the question of which heart attacks were reasonably foreseeable as a consequence of exercise. It turns out that heart attacks do just happen, somewhat randomly. And while they can be exercise induced, they often are not.
2. **Review the Diagnostic Options Available to Reasonably Foresee an Exercise-Induced Heart Attack.** Cardiograms are pretty good at diagnosing underlying vulnerability to heart attack. However, they are an expensive and somewhat invasive procedure. Usually they are only given to people who have already shown symptoms of angina. A cheaper option was to review medical histories; unfortunately, this was found to be of no help. Asking people if either parent had ever experienced a heart attack wasn't sufficiently predictive. You could not reasonably stop people jogging on that basis. Asking a person, and identifying from their response, that they personally have had an exercise induced heart-attack would indicate that person was in an at-risk population - but wouldn't solve for identifying risk in the whole population in an operationally viable way. And the Council wasn't ready to ban any at-risk population. So, to prevent exercise induced heart attacks, we come back to the use of cardiograms to weed out the higher risk groups in the population **at the moment in time they are about to go jogging**, some of whom already know they are at risk, some who don't.
3. **Review the Error Rates of The Diagnostic Options.** In the case of cardiograms, let's say every person who was about to jog had one done (assuming a portable tool existed), then the best you could hope for was a test that assigned a risk score to each

of the runners. For convenience, the risk scores are then grouped into risk categories – from say green light (no problem), blue light (slight risk), amber light (mild risk) and red light (high risk). The medical advice was that, based on sampling done in other contexts, 1 in 2 people (50%) who get the red light would have a heart attack if they started running.

Also, of concern to the Council was that people who got the green light would still have a 1 in 100 chance (1%) of having a heart attack while jogging. This is because no diagnostic test is infallible. **Diagnostic tests predict probabilities of outcomes, not certainties.** The test will necessarily have false negatives (get the green light but have a heart attack on the run) and false positives (get the red light but don't have a heart attack on the run). Even though this diagnostic test is very powerful (a red-light runner is 50 times more likely to have a heart attack while running than a green-light runner) this fallibility can lead to counter-intuitive consequences.

Assume testing the population of people who want to run shows 98% have the green light and 2% have the red light. If 10,000 runners were allowed to run regardless of risk status, 9,702 green light runners and 100 red light runners would be OK, while 98 green-light runners and 100 red-light runners would have heart attacks. Forbidding the red-light people from running would prevent 100 heart attacks (approximately half) and needlessly prevent 100 people (the other half of the red-light runners) from having their run.

The only way to avoid the remaining 98 heart attacks (in the green-light runners) would be to forbid everyone from running (at the cost of 9,802 people being needlessly prevented from running). The Council decided not to completely ban jogging but had to accept that the remaining heart attacks were effectively outside their ability to accurately predict and control.

This inability to avoid all heart attacks is a consequence of the fallibility of the

diagnostic test, even though it is very predictive. If all the risk levels were present (not just red and green) the Council would have a choice of thresholds. As the banning threshold is moved from red to amber to blue, the false positive rate increases while the false negative rate decreases. If the test was less predictive, then the trade-off would be worse. That is, the false positive and false negative rates would be higher.

This highlighted to the Council that no matter how good the diagnostic test was, in the absence of any ability to predict the outcome with certainty for any particular jogger, the reality was a choice between two kinds of harm - preventing the benefits of jogging or preventing a small incidence of exercise induced heart attacks.

4. **Review the Practicality of The Use of The Diagnostic.** In this case, it turned out that, currently, a portable cardiogram that is even remotely cost effective for this operational use is not available. However, even assuming the devices were affordable, the Council felt that using it would irritate the jogging public and would be high cost for them to administer. Realistically, the Council estimated they would have to levy a \$50 annual jogging fee and then resource up to collect the fee - and supervise and enforce the regime. There was also a feeling that asking people to bare their chests at 6am in public was problematic. Issues of privacy came up (not to mention decency).

Someone came up with the idea of a Cardiogram Card which indicated you had had a cardiogram in the last month, with staff policing that at peak periods. That was quickly knocked on the head by medicos who pointed out that it would lead to a surge in Medicare costs and would make it harder for the people who really need cardiograms to get one. It was also pointed out that if that was implemented, many fun runs would have to be cancelled.

There were some realities too about administering the cardiogram. There was concern about the impact of sweat and rain on the adhesive pads. If the electrodes are not placed in the right position the test will

indicate high risk no matter what the actual risk band. That pretty much meant a cardiogram test wouldn't be fit for its intended purpose of preventing reasonably foreseeable heart attacks in the jogging population. In other words, its predictive power would decline leading to more joggers being stopped from jogging (more false positives).

## 5. Appropriate Targeting of Diagnostic

**Actions.** Since every diagnostic test has a different range of predictability and accuracy, and a different cost and practicality profile, it makes sense to target different cohorts in the population differently. For instance, one 'policy rule' might be to ask three quick questions and use that as the basis of whether or not to administer cardiograms. If people indicate they are professional athletes or under 25 – no cardiogram is administered.

Alternatively, one might always check people who had ever experienced any kind of heart issue (asking this one key medical question would be a very good use of medical history in the jogger assessment process).

Using targeting, better diagnostic performance can be delivered at lower aggregate cost. Now. Might joggers lie in the survey? That was possible. The Council decided that their job was to prevent as many cases of exercise induced heart attacks as reasonably possible but that their remit did not extend to tackling jogger fraud. They would assume that joggers were ultimately interested in the same outcome – no exercise induced heart attacks – whilst acknowledging that cardiograms were inconvenient, and some level of fraud was probable.

## What the Council Learned

In the course of looking at the cardiogram idea, they realised a few things about operationalising their scheme which they would take to their next public health dilemma:

## Diagnostic Optimisation

Since diagnostic tests have differing levels of accuracy and different levels of cost/invasiveness, a better answer was to use less costly, accessible methods on the general population and reserve more costly, invasive tests for the most at-risk populations. However, in the case of heart attacks there wasn't a less costly, accessible method. The Council vowed to keep hunting for solutions and were increasingly convinced that asking joggers a few targeted questions was a good way to focus their interventions.

## Better Heart Attack Responsiveness

Since it was so difficult to determine (with any degree of certainty) who would have a heart attack, at least as much focus had to be on implementing measures to avoid potential harm, once there was some kind of observable event.

For this, they considered two new initiatives:

- Giving joggers relevant information by placing signs along the jogging track that showed the symptoms of heart attack (with a QR code to a web page with more detailed information)
- Installing defibrillators at 1km intervals along the jogging track (with security cameras on them to stop vandals).

## Self-Identification of Being in An At-Risk Population

The Council decided to get the jogging public to help them in this, since there was a clear alignment of interest. No one wants to have a heart attack. They decided to let those at risk self-identify. The Council worked with the State Government to pioneer a 'Cardiogram Card' which runners could keep in their pocket. Then, if they showed signs of distress, first aiders and ambulance staff would know a heart attack was very likely to be happening and intervene more rapidly. This achieved the goal without creating social stigma.

However, if a heart attack eventuated from someone with a Cardiogram Card, the Council could see there was a potential liability issue. Returning to their pre-jogging heart assessment policy settings, they had already made the decision that preventing jogger fraud was not

their objective. The question now was, would the courts agree that the Council couldn't be held liable for causing a jogger's heart attack if that jogger lied to the Council staff to avoid doing the cardiogram, in those cases where a thorough check of the jogger's pockets could have revealed the jogger had a Cardiogram Card?

The Council decided to hold their heart assessment policy settings steady but added an 'opt out' response to make it possible for both jogger and Council worker to handle those who didn't want to participate in the heart assessment. In their view, joggers could always opt-out of the cardiogram diagnostic test, but in doing so they flagged themselves as 'sophisticated' joggers – educated about and aware of the potential risks and capable of making their own risk assessment. The question was, could such a jogger sue the Council for believing them (and not rummaging through their pockets) and therefore not administering a cardiogram before they started running? The Council decided to accept the risk and added the 'opt out' alternative to the jogger assessment process.

### Community Exercise Literacy

The Council realised that the best solution to avoiding this kind of potential harm was people understanding that jogging was vigorous exercise and that it carried risks with it.

They decided to work with the relevant stakeholders to make sure that advertising around jogging shoes etc. showed people walking as well. They made sure that their community messages prompted people to see their GP before starting a new exercise program.

The Council felt that, as in most things, the Australian community was capable (in the main) of making sensible decisions, as long as they were given the right information. In other words, literacy was the key to better community outcomes.

### Reliable Statistics and Ongoing Monitoring

Ultimately, the Council realised that all of their combined interventions needed to be monitored

for effectiveness. They decided to monitor the 'Jogging Toll' - being jogging induced heart attack fatalities.

They also decided to keep a watching brief on the incidence of heart attacks that happened in the vicinity of key running tracks, and they asked nearby hospitals to track and report back on whether those heart attacks were reasonably foreseeable by some characteristic of the person running, the time or temperature of the day or whatever, to work out what their future operational intervention plan should be.

### Development of a Design and Evaluation Framework

Based on all their hard work, the Council created a template Design and Evaluation Framework in which they could articulate their operational interventions, their rationale for what they were doing (and were not doing) and the trade-offs they were making. In summary, the key steps the Council determined to undertake the next time they had to tackle a public policy issue would be to design (explicitly tabling key trade-offs), deploy and then periodically evaluate the effectiveness of their approaches. This framework would guide all their work in setting policy. In regard to the design process step, the key steps would be:

- Decide what harm (including severity) you seek to prevent
- Review the diagnostic options
- Review the process options for deploying those diagnostics
- Review the error rates of the diagnostic options
- Review the practicality of the use of the diagnostic
- Assess diagnostic reliability
- Consider the potential to target the diagnostic more finely and
- Compare the design options and decide on the design to deploy.



### 3. From Jogging to Lending: A Design and Evaluation Framework

*The design process for creating a workable operational process to affordability assessment mirrors the learnings of the Council. The rest of this paper examines some key issues that need to be grappled with in terms of the goal, the operational process and the diagnostics. To start with, there needs to be a clear (and shared) understanding of the meaning of the harm we seek to avoid or minimise, and an acceptance of the reality that eliminating all cases of harm is impossible (of course the only way to eliminate all risk of harm is to stop doing business completely). That's the first trade-off that would need to be made – minimisation of harm to an acceptable level relative to the other consequences as the goal, not elimination of all harm. That is, the inevitability and necessity of trade-offs needs to be recognised by all stakeholders in order to enable productive dialogue on the appropriate levels for those trade-offs.*

#### What is the Harm being Prevented?

##### **Foreseeable, substantial, hardship**

Responsible lending laws are designed to stop lending practices that are predatory in nature, or that fail to give adequate consideration to the financial circumstances of more 'vulnerable' consumers. The harm those laws are intended to prevent is reasonably foreseeable, substantial hardship.

In achieving that goal, we believe that the community does not want to create other forms of harm. For instance, an underclass of consumers who remain excluded from mainstream lending. That would result in a different kind of harm.

Nor does our community want to see the lending process regress to the old days of suiting up and, cap in hand, trotting off to see the bank manager about a loan. Not when we see the promise of a better, digital lifestyle. Again, the risk here is of time wasting (and time is precious). That's applicant time but also lender time, which in the latter case, translates to higher cost of credit.

We proceed on the basis that as a community we want to enable lending to happen, that we want lending to be efficient (in terms of both cost and time effort) and that we want lending available to everyone who wants to borrow – as long as that lending is done responsibly.

#### Minimisation of Risk, Not Elimination, Should Be the Goal

If risk minimisation is the goal is to be met, then the design process should focus on the operational ways that harm can be minimised. The first step is to consider what diagnostic tests can be developed to enable lenders to identify the cohorts of applicants more likely to be harmed by the lending in such a way that the lending process does not adversely affect those not likely to suffer harm. Noting that all diagnosis is probabilistic, meaning there will be errors – both in missing foreseeable harm and in incorrectly determining that harm is not foreseeable.

In the case of responsible lending, the diagnostic tests are a range of ways to estimate income and expenses in order to assess affordability. For this purpose, bank transactional data and benchmarks such as HEM have been used. We make the obvious (and yet often unacknowledged) point that even collecting three months of bank transactional data to estimate income and expenses is, in fact, a model - in so far as historical data is being used to predict future behaviour.

Our focus for the rest of this White Paper will be twofold:

Firstly, we look at design considerations in the expense verification aspect of affordability. Shifting from jogging to lending we abandon the diagnostic tools of cardiograms and medical



histories and move into the realm of application form information provided by the borrower and a range of models designed to estimate and thereby verify expense.

Secondly, we explore how an affordability assessment should be evaluated. Both in terms of evaluating the efficacy from a responsible lending perspective, but also from a customer perspective, a lender perspective, and a community perspective. In our view, the settings

for a responsible lending operational regime should be calibrated by the value sets and norms of the society in which it is deployed, which may change over time. So, the key is having a framework that enables that tweaking. One key observation that makes responsible lending different to our jogging example is the lack of clear performance metrics – the equivalent of the ‘jogging toll’. These are absolutely needed to make sure that the affordability process designs in place continue to be effective.

## 4. Goal - Consumer Centricity: Towards Responsible Borrowing via Financial Literacy

*In addition to responsible lending, we believe the community wants to see responsible borrowing education – as a key aspect of financial literacy. The reason for this is that access to credit is a powerful financial tool that, if used responsibly, can yield many benefits and great outcomes for consumers (including those who may be considered more vulnerable).*

*Managing financial life for consumers involves managing household assets, managing household liabilities and managing household risks that affect them. Part of managing financial life is the ability to use liabilities to manage cashflows – which enables consumers to have the use of ‘assets’ before they have enough cash to pay for those assets outright. Assets in this sense includes homes, cars, holiday experiences and services such as medical/dental treatments, school fees and so on.*

*Prudent use of borrowed funds is a life enhancer. Unwise use of borrowing is a road to misery. We task the industry with helping steer people to the right path in this regard and ensuring that even vulnerable cohorts can sensibly access and use credit. We believe that rethinking automated responsible lending with this as the stretch goal will lead to a win for consumers, for the broader community and for commerce.*

### Consumer: Passive or Active

*It is interesting to note that at a systems level, current responsible lending processes tend to assume the consumer is passive in the process. Their only role is to answer a set of application form questions.*

*As a result of increasing regulatory scrutiny of responsible lending processes, many lenders are*

*responding by asking applicants for more and more granular disclosure of their expenses. This appears to be a case of getting more expense data simply because it is assumed that getting more data will inevitably lead to better responsible lending outcomes. We do not agree. What is needed is better data – to provide insights to inform lending (and borrowing) decisions.*

### The application form – largely unexamined

In this age of obsession with consumer experience online, it is strange that the ‘information insights value’ (with respect to affordability assessment) of the credit application form appears to have been given only cursory examination. What if an online application form could be radically shortened and still enable the lender to obtain the quality of data that could result in powerful insights? And, to the extent that shortening the application form saves both lender and consumer time, not to mention broker time, could that capacity be allocated to helping the applicant to understand and really appreciate the impact the loan will have on their budget and spending habits.

In a future technical briefing paper, we intend to look at the expense categories that lenders ask for and pose the question – what if we could run focus groups and consider radical re-engineering? We suspect that asking people to disclose expenses in 20 plus categories is at best irritating and time-wasting to them, and at worst leads to diminished accuracy in the disclosure. But who really knows for sure? The authors of this paper have only found anecdotal data on this issue, which of itself proves our point. However, what we did find is, in our view, sufficient to strongly suggest that industry should embrace the task of testing approaches to expenses and affordability assessments before they deploy processes.

In answer to the suggestion of whether we can bypass consumer declarations and cut to digital retrieval of bank statements – we suggest that consumer research is important on the psychological dynamics of that approach. We need to know whether it engenders passivity (the opposite of what we want for financial literacy) not to mention the information consequences for all but the most standard of applicant situations.

## Consumer Engagement – Playing It Back

Think about the last time you took a plane trip. You may have yawned your way through the in-flight safety video. You might have noted, with irritation, that you have seen it all before. However, it is an aviation regulation that passengers must be taken through a safety briefing on every flight. Is there a need for a similar a device when consumers apply for credit? Let's call it a 'responsible and safe borrowing' briefing (that allows for a level of interaction). A process that provides credit applicants with a moment to reflect on what they are doing, what the consequences are, and to let them know how to signal for help if they later find themselves in financial distress. And, it goes without saying that we would like to see safety messages that are engaging and enlightening as opposed to boring!

We think there is plenty of opportunity to prevent data driven distraction and instead substitute meaningful interaction with applicants at the level that most of us think about our money – that is, the lifestyle level.

Lending processes affect a large part of the community, and the time of making a loan application is a good opportunity to talk about financial consequences. If there is a moment of friction, we think there are choices to be made. Is the time best spent getting consumers to recollect their expenses in more and more detail, and is lender time best used in interpreting their bank statements, or are the parties better off interacting meaningfully about lifestyle impacts

and risks of the loan they are taking out? Our view is that the latter is the most meaningful engagement, and we are also confident that this interaction can be largely automated - resulting in a good consumer experience.

These comments are made with clear recognition that this in no way abrogates a lender's obligation to lend responsibly. Nevertheless, our working hypothesis is that more educated consumers are less likely to get into financial difficulty.

## Consumer Choice – Having A Say in How They Are Treated

In addition, our view is that there is an opportunity for consumers to have a say in how they would like to be treated in the lending process. Perhaps this is for exploring at a later date, but our initial thoughts are that consumers might be able to signal to lenders that they are nervous about borrowing, or that they are experienced borrowers who are and not at all nervous about it. Such an approach might enable applicants to be given the lending process with 'safety wheels' or the 'built for speed' with fewer safety features - but a faster, more streamlined experience.

## Australians – Achieving Community Financial Wellbeing

Whether this is a symptom or a cause, the reality is Australia has relatively disappointing levels of financial literacy. The 2018 HILDA survey<sup>11</sup> run by the Melbourne Institute began including five financial literacy questions. Interestingly, 13.4% of the surveyed population answered two or less of the five questions correctly. The average of 3.9 out of five is good but not great. There would appear to be plenty of opportunity to engage with consumers on these matters.

This literacy aspect ties into the role of consumers in the process. We note that a considerable body of research suggests that people learn more when they actively participate in the learning process.

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<sup>11</sup> <https://melbourneinstitute.unimelb.edu.au/hilda/publications/hilda-statistical-reports>

Increasing levels of financial literacy is crucial for all Australians. Poor borrowing decisions can have dire life outcomes. In this context, how can lenders support individuals being empowered to achieve better life outcomes?

### Operationally, Where There Is No Clear Answer – Models Required

Anyone who does not fit into the categories where 'safety wheels' or 'built for speed' are

appropriate is definitionally in an area where more diagnostic work is needed to complete an affordability assessment. Whatever operational processes and assessment work is done, and whatever models or benchmarks are used, this will need to be designed and evaluated according to the concepts we outlined in the jogging case study.

## 5. Process Reality in NCCP: Scalability, Substantial Hardship

*A fundamental question is - to what extent a lender, using reasonable inquiries (and reasonable verification), can actually foresee likely substantial hardship at the point of application, where what is reasonable is scalable to the particular circumstances.*

- *Can likely substantial hardship be foreseen?*
- *If so, using what methods (and are they reasonable)?*
- *How does scalability change the ground rules?*

*In our view, 'scalability' and 'substantial hardship' are key concepts to assist in translating the goal of responsible lending into operational practice. Those concepts, and the concept of 'reasonable inquiries' are the ones that do the heavy lifting in terms of the work happening every day in loan application processes.*

*A clearer, shared understanding of these concepts may enable us to bridge the divide between operational reality and the letter of the NCCP law, by allowing lenders to operationalise processes that are focussed on achieving outcomes that give effect to the intent of the law.*

*None of those concepts (scalability, substantial hardship, reasonableness) are currently defined in the responsible lending regime (which includes the NCCP Act, the NCCP Regulations, and ASIC's regulatory guidance). We need definitions that get us to the point where lenders can determine responsible lending inquiries and approaches to handle the 'edge cases' – where it is not obvious that customers can afford the loans they seek.*

*Our view is that all stakeholders would benefit from amending the NCCP Act to define at least two of those concepts - 'scalability' and 'substantial hardship'.*

### Question One: What is Scalability?

Interestingly, the term substantial hardship is used (but not defined) in the legislation (see box insert below), whereas the concept of scalability is not referred to at all in the Act in relation to responsible lending obligations<sup>12</sup> – only in ASIC's Regulatory Guidance 209. ASIC appears to have derived 'scalability' in relation to responsible lending obligations from the concept of what is reasonable inquiries and verification (probably because – most would agree - what is reasonable can only be determined in a context).

In other words, in our view, the way ASIC refers to scalability is very similar to the thinking that we have articulated in the jogging scenario. In turn

this suggests that what is needed is a Design and Evaluation Framework in which to deploy operational affordability assessment processes. If we all had a better and common understanding of the design options inherent in the term 'scalability' and a working understanding of tests for 'substantial hardship', not to mention good statistics on observed cases of substantial hardship, we could monitor the efficacy of operational affordability assessment processes in a clear, consistent way.

Lenders would be in a much better position to determine what reasonable inquiries and verification would be in their own particular context. ASIC would be able to maintain focus on the intent of the law. Likewise, there would be

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<sup>12</sup> Although it is referred to with respect to other obligations of licensees – the 'nature, scale and complexity' the lender's credit activities must be taken into account for the purpose of assessing whether lender is complying with its obligations to have adequate arrangements to ensure: (a) consumers are not disadvantaged by conflicts of interest, (b) representatives are trained and competent, (c) compliance systems and plans are documented, and (d) for non ADIs, adequate resources and risk management systems to engage in the credit activities and to supervise them (s48(2) of the NCCP Act).

clearer parameters in which AFCA could make case level determinations. Similarly, monitoring of the other goals of the system would enable discussion of those trade-offs.

A classic example of this would be tracking consents for Consumer Data Right sourced bank transactional data when that data was used. This is a compliance issue (freely given consent, used only for the purpose stated) but it is also a broader consumer experience/sentiment issue. Time to complete applications could also be tracked, and so this is also crucial to the overall consumer experience.

## Question Two: What Is Substantial Hardship?

### Legal Definition:

The Federal Court may, in its judgement in the ASIC v. Westpac case (as yet undecided) deliver much needed clarification of what constitutes substantial hardship.

Under current law<sup>13</sup>, positive obligations to consider 'hardship' apply at two points in time:

1. Before entering into a credit contract, a lender must assess whether the loan is 'not unsuitable' for the consumer. The loan will be unsuitable if (amongst other things) if it is likely that the consumer will be unable to comply with their repayment commitments or could only comply with substantial hardship.
2. After the loan is made (if a loan becomes unaffordable due to a debtor's change of circumstances), the debtor can apply to the lender for a change to the credit contract based on the hardship grounds of illness, unemployment or other reasonable cause.

The point here is, there must be a difference between what constitutes substantial hardship as opposed to hardship. But exactly what is it?

### Operational Definitions:

At one end of the scale, we know that if a debtor would need to sell their primary residence to meet repayment obligations that is substantial hardship – unless the lender can prove otherwise. We know this because current law provides a rebuttable presumption to that effect. Since consumers will and do change behaviour in order to service loans, substantial hardship that can be reasonably anticipated as a high probability (that is, likely to occur) at the point of application is a high threshold. We actually only need a definition that gets us to the point where we can work out what to do in the edge cases that are not obvious.

Let's look at some of the situations that get discussed in this regard.

On the one hand, the argument goes that some borrowers might repay their debts no matter what (and never seek 'hardship assistance' after being given a loan), by living on a diet of vegemite sandwiches, which would (some would say) constitute substantial hardship. On the other hand, we hear strong arguments that people with children in private school forced to move them out of said schools would experience substantial hardship. It is not clear, from those examples, whether substantial hardship is defined **relative to the borrower's current lifestyle** or instead at some more objective, absolute basis.

### Can Substantial Hardship Be Monitored?

Operationally, the detection of substantial hardship is extremely problematic – a working definition would help.

It is most likely a subset of the population of borrowers who are in default, most likely a subset of borrowers who have lodged hardship applications and certainly there will be hidden substantial hardship – hidden because the person suffering has not said anything or shown any observable signs. Probably a helpful indicator of hardship are patterns of late payments. Again, this

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<sup>13</sup> National Consumer Credit Protection Act 2009, Chapter 3 – Responsible lending conduct and the hardship provisions of the National Credit Code (contained in Schedule 1 of the Act).

is not decisive – plenty of people miss payments for administrative or temporary cashflow issues. But **operationally** we suggest substantial hardship be monitored by tracking:

- Default
- Hardship applications (ideally the sub-categories that look most like ‘substantial’ hardship – and ideally these definitions are standardised over the industry so that industry level statistics can be compiled
- Late payments (patterns thereof).

This is not to say that the universe of those suffering substantial hardship is defined by these operational metrics. What we are saying is that any operational measure is only a proxy for the concept we are testing for. The trouble is, you cannot track a concept operationally! Any Affordability Assessment Design and Evaluation Framework has to grapple with the inherent uncertainty that we can only track operational metrics, even though they are not exactly the thing we wish to monitor.

However, we are not limited to operational metrics alone. We think there is a role for tracking

**by survey** too. There are several financial wellbeing metrics that could play a role here including the ME Household Financial Comfort Survey<sup>14</sup> and the CBA-Melbourne Institute Financial Wellbeing scale<sup>15</sup>. The latter is particularly interesting because it uses both operational and survey data. We think this is a great step forward, as wellbeing has both subjective and objective aspects and note how industry could adopt this metric, tweak it to lending, and roll it out.

Survey work has a role to play to refine and fine-tune, the definitions over time. As the more that consumers are asked, the more we will all learn about what happens in cases of substantial hardship. In addition, if industry worked towards implementing special substantial hardship treatment paths in their hardship processes, then those treatment paths would require, and encourage and inform new tests for identifying substantial hardship.

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<sup>14</sup> The ME Household Financial Comfort Report – 14<sup>th</sup> Survey released in August 2018. The survey is designed, developed and produced biannually by industry super fund-owned bank ME with assistance from DBM Consultants and Economics & Beyond.

<sup>15</sup> Commonwealth Bank of Australia and Melbourne Institute Financial Wellbeing Scales Technical Report No. 1 March 2018



## 6. How Prevalent Is Foreseeable Substantial Hardship Anyway?

*This is actually an evidence-based question. However, there is a dearth of empirical evidence available to assist this inquiry. The incidence of the harm will affect how we choose to tackle it in a design sense.*

*Fortunately, in Australia, hardship and financial distress is not a widespread occurrence. Lender statistics suggest in most loan portfolios, less than 1% are in hardship processes at any point – noting that hardship processes and definitions of substantial hardship are not entirely congruent – nonetheless it's a reasonable start and probably overstates substantial hardship.*

*Within that small cohort of hardship cases, based on the ARCA statistics below, possibly less than 18.4% are due to financial overcommitment that existed pre-contract, in other words, **maybe less than 0.184% of the borrowing population in any year are experiencing substantial hardship.** What would help in the discussions around responsible lending operational processes would be better statistics in this regard. We have struggled to find data and when we did, noted the lack of industry standardisation around it.*

*This figure may be a surprise to some readers, because cases of responsible lending driven hardship got a lot of attention in the Hayne Royal Commission. That is a direct result, in our view, of the fact that the scope of that inquiry was to look into banking misconduct - not operational deployment of responsible lending. Unfortunately, for our purposes, the Royal Commission was not tasked with deepening the understanding of the 95%+ of loans where there is no hardship (or even default) and how these two cohorts could be distinguished from the rest of the application pool, at the point of application, with reasonable inquiries.*

### Where Does Our Estimate Come From?

The 1% hardship rate estimates come directly from lenders – absent any more formal statistics that we could find. This, we note, is a problem when it is a key statistic to monitor the health of the responsible lending regime.

In terms of hardship driven by financial distress (which we are isolating as the most likely to be foreseeable and socially appropriate to try to foresee), we do have some snippets of survey evidence. The Australian Retail Credit Association survey of members is all we could find on this.

Their survey results suggest that financial hardship is the cause of hardship in only 18.4% of cases with loss of income being 17.6%. While this is not a statistic to rely on (given the lack of industry standardisation around hardship categorisation), it is directionally of interest and points to the fact that since circumstance change in life. The empirical question is what proportion of that is foreseeable at the point of application

(and of course, a definitional question referred to earlier is what proportion of this would constitute substantial hardship).

“Responses from a survey of our Members indicate that the main life circumstances driving financial difficulty and hardship among customers who reach out for assistance are:

- illness or injury (average 19.9%)
- financial overcommitment (average 18.4%)
- unemployment or unexpected income reduction (average 17.6%)
- other financial difficulty (average 9.5%)

- relationship breakdown (average 0.4%).”<sup>16</sup>

While financial overcommitment seems likely to lead to foreseeable substantial hardship, and the casualisation of the workforce leads to more income instability, all the other categories above are events which happen pretty randomly, otherwise known as life!

Life happens to people on high incomes as well as low incomes; people who save regularly and those who don't.

In theory, lenders could set income to outgoing buffers very high to protect against adverse life events. However, the effect of that would be many people would be denied credit which they could have repaid easily. And, to the extent that those on high incomes find it easier to meet those buffers, the impact of such a policy would be to deny credit systematically to those on lower incomes.

This raises a policy trade-off between avoiding the potential harm that may be caused by the giving

of a loan to the potential harm that may result from not giving the loan.

Referring back to our jogging analogy and the performance metrics to be used in assessing a diagnostic, how should the equivalent in lending (being models of future income and expenses) be evaluated? In our view any model has to be evaluated on:

- **Predictivity** – when used as designed. Are they able (at the point the relevant decision is being made) to grade people in a way that makes it easy to accept some for a loan and reject others without too many false positives (falsely denying credit because you foresee substantial hardship) and false negatives (missing foreseeable substantial hardship).
- **Cost and Benefit** – both in time and effort and expense for the applicant and the lender and the benefit to lenders and borrowers from better decisions enabled by the model.

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<sup>16</sup> Australian Retail Credit Association: Submission to Attorney-General's Department review of financial hardship 22 June 2018.

## 7. Expense Assessment Diagnostics: What is Operationally Foreseeable?

*As we saw from the jogging example, while heart attacks can be exercise induced, that outcome is:*

- a) most reasonably foreseeable with any certainty at an aggregated jogging population level (in other words, we know heart attacks will occur), and*
- b) less reasonably foreseeable with any certainty at a cohort level of people who ‘look similar’ based on certain criteria or lack thereof (in other words, we can know that there is a probability of x% that heart attacks will occur in that cohort), and*
- c) least reasonably foreseeable at an individual jogger level (in other words, we cannot know with any certainty that a jogger who either does or does not have history or characteristics that indicate risk will definitely have a heart attack).*

*This distinction is critical to designing a viable operational framework for responsible lending decisions which are implemented is at the cohort ‘people like this’ level. So, that means, as the jogging example illustrated, that not all substantial hardship (or exercise induced heart attacks) will be prevented.*

### For Some Cohorts the Operational Treatment Is Clear

There are some pretty clear-cut cases where substantial harm from lending is either highly unlikely to occur, or highly likely to occur. Let’s get the easy cases out of the way first.

Certainly, you could anticipate that substantial hardship is likely to occur if you lend someone money and their repayment is more than any of that person’s:

- Income
- Income less their known liabilities<sup>17</sup>.
- Income less their known liabilities less some form of minimum survival budget estimate.

In the categories above you will note the absence of reference to assets. That is because generally (although there are exceptions) it is assumed that borrowers should be able to meet repayments from income, not from assets<sup>18</sup>. We believe that the role of assets in affordability assessment is important to clarify, since assets can provide ballast to affordability. Unless, of course, drawing down on assets creates automatic substantial hardship – noting that the hardship impact of

having to sell assets is likely to differ, based on the nature of the asset (selling family homes is different to selling the second car).

So, that’s easy. You would not lend to that person because you can anticipate that substantial hardship is likely to occur (due to the absence of disposable income). No lender or regulator would disagree with that assessment. Nor would any financial counsellor.

This is a separate assessment to the lender’s risk decision, based on their prediction of the person’s propensity to repay. Lenders make risk decisions based on their credit risk appetite and credit risk is not directly related to affordability (there are people on very high incomes who are reckless with their finances).

If you are neither high credit risk nor incapable of repaying the loan, the question is how should responsible lending be assessed?

Let’s tackle one other population. There is a ‘no regrets’ population – those with manifestly significant surplus cash each month and who, as a result, have no affordability issues. The question is, operationally, is there a level of surplus cash at which assessment in any detail is no longer

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<sup>17</sup> Unfortunately, in Australia, the new comprehensive credit reporting regime logs credit limits, not outstanding balances. In most cases, people’s actual liabilities will be less than their commitments. At any rate, credit limits will do the job as a proxy and a conservative one at that.

<sup>18</sup> RG 209 at 209.107

required? This we will leave for the next White Paper in the series.

## Operationally, Where There Is No Clear Answer – Models Required

Anyone who does not fit into the categories above is definitionally in an area where more diagnostic work is needed. Whatever operational processes and assessment work is done, and whatever models or benchmarks are used, this will need to be designed and evaluated according to the concepts we outlined in the jogging case study.

## 8. Operational Process Reality: Underlying Expense Behaviour is not Easy to Diagnose

*This White Paper is going to bypass the development of a mock affordability assessment process (the Deployment phase). Rather, we are going to move straight from Design to Evaluation.*

*However, for the purposes of this White Paper, the only point in terms of building an affordability assessment process we are going to make here is that operationally foreseeing substantial hardship is not easy and, as the FCA suggested, because of the probabilistic nature of expenses there will be no certainty at the individual case level. Just as in the jogging case. Why? Because people's expenses are volatile, and the categorization of expenses is problematic. We discussed this in the first White Paper. Let's recap on this and share with you some early analysis from the Data Phase of the Expense Verification Framework Initiative.*

*We will conclude this section with the observation that, if expense verification is analysed like the cardiogram was in the jogging case study, and was found not to be predictive of substantial hardship, then, inevitably the question we should ask ourselves is why do it?*

### Why Are Expenses Hard to Foresee?

If you missed this point from our first White Paper or from the section in this White Paper where we transitioned from jogging to lending, then it might come as a surprise that models – including benchmarks – play an important role in designing an operational approach to responsible lending. These are the diagnostics of lending – like the cardiograms of jogging.

The FCA mentioned the fact that affordability has “material probabilistic components”. In other words, the reality is that expenses vary over time, change with life circumstances and that even predicting using bank transactional data is a model (assuming 90 days of data from one bank account will predict the future – despite the fact that it is probably one of a range of payment methods).

The truth is expense estimation really is difficult because:

- expenses are volatile, varying week to week
- expenses are subject to large random shocks, like car repairs
- expenses are a product of lifestyle choices every day
- expenses change with life stage
- expenses are seasonal
- expenses are made over a range of payment methods (cards, EFTPOS, cash...) so unless you have access to all credit card statements as well as all bank statements you are missing the whole story
- expenses can be shared across households unevenly – “I will pay the gas bill if you pay for the holiday”
- expenses are very detailed – and tell you a lot more about a person's life than their payslip
- expense data is hard to categorise – feedback from the industry is that recorded, electronic details of a transaction may be brief, cryptic and impossible to interpret. Point of fact, anecdotally, the suggestion is that up to 30% of bank transactional data cannot be linked back to an obvious expenditure
- expenses are increasingly electronic – bank statements for a month can run into hundreds of payments including travel cards, coffees, parking etc. In the past these were handled in cash, so bank statements had far fewer line items
  - getting data about expenses requires consumer permission and effort.

Aggregating up from the individual expense line, models also need to deal with some realities about the human experience that are innately probabilistic. Work on these issues is being conducted as part of the Data Phase of the Expense Verification Framework Initiative.

Summaries of these results will be released in our Technical Briefings series – available to participants in the Initiative. Repeating the point made in the previous White Paper, all are welcome to join the Initiative – it is an ongoing, collaborative, program designed to deliver better outcomes for everyone.

### Personal Income/Expense Patterns

- **At the individual level:** For any particular person, income and expenses are volatile, with expenses probably being more volatile than income unless you are a casual employee or work in the gig economy. A summary of recent expenses over a relatively short period, such as three to six months, may not be completely representative of long-run expenses. So, it is hard to forecast what someone's future position will be.

Even if you could forecast long-run expenses and income with complete accuracy (which is impossible) the future fluctuations of these mean that it is possible to be caught short in any given month. Verifier is currently running analytics across transactional data for expenses and income in order to estimate their natural levels of volatility.

- **At the 'people like this' level:** If we look at cohorts of similar people, as all models (such as HEM) must do, the variation of expenses or income between households within the same similarity cohort can be quite significant.

This is to be expected, given the variables that are typically available to be used as predictors for such models do not fully capture the drivers of the underlying behaviour. So, care needs to be taken in

how to operationally deploy any model. We will discuss this in our third White Paper.

### Consumer Behaviour

It is convenient to imagine that consumers save regularly, and that as a result you can lend based on some buffer. However, savings patterns are themselves a consumer behaviour with probabilistic qualities:

- **Buffers – we are not all alike:** Analysis conducted as part of the Data Phase of the Initiative suggests that there are people who are regular savers. However, many people basically spend up to what they earn.

The big question is what they spend on and, more importantly for our purposes, what do they do if they want something extra?

- **What is observed belt-tightening behaviour?** We are using de-identified transactional data to see whether we can model how people adjust their other spending in times of financial stress. Early results suggest that belt-tightening does happen, however it also seems that people are quicker to spend extra cash than drop spend when income drops. Who knew!

### Expenses – Not That Predictive of Affordability

There appears to be a widely held assumption that reviewing expenses – and dealing with all the complexity described above - is helpful in predicting (and therefore avoiding) instances of foreseeable substantial hardship. As was demonstrated with respect to cardiograms in our jogging case study –there needs to be some rigour applied to determine whether expense verification can predict the harm we are seeking to avoid.

If it is proven that reviewing and verifying current expenses is not predictive at all for certain cohorts of customers – then clearly there would be a strong basis for doing that assessment in those cases.

Our view is that the widely held assumption of the predictive value of expense verification needs testing. There is only one academic paper we have found to this point (and the study was not conducted in Australia). In that paper, the authors found expense assessment only marginally predictive of affordability. The key element that was predictive was income, not expenses<sup>19</sup>. As a result, our view is that such a study should be

done locally, with a better proxy for substantial hardship than measuring default rates in repayment obligations. To do this properly will necessarily involve clarifying and operationally defining (so it can be measured) the substantial hardship outcome we are endeavouring to predict.

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19 Wilkinson G and Tingay J (2004). The use of affordability data—does it add real value? In: Thomas LC, Edelman DB and Crook JN (eds). *Readings in Credit Scoring. Foundations, Developments, and Aims*. Oxford University Press, Oxford, UK, pp 73–91.



## 9. Expense Assessment Evaluation: Responsible Lending Compliance

*Now that we have grounded ourselves in the analytical reality of expenses, let's assume a lender has developed an operational process for affordability assessment. Now they, or ASIC, Treasury, APRA and AFCA, want to evaluate the lender's effectiveness in minimising the incidence of substantial hardship occurring as a result a loan being given. How would the community and lenders evaluate effectiveness to achieve that goal and the broader community and commercial goals?*

### The Goals

As we have previously articulated, at the system level the goals we aim to design for are the following:

- Responsible Lending  
“We want firms to make a reasonable assessment, not just of whether the customer will repay, but also of their ability to repay affordably and without this significantly affecting their wider financial situation. This should minimise the risk of financial distress to customers.”<sup>20</sup>
- Avoid credit loss
- Automation: Fast, frictionless, appropriate effort for consumers
- Respectful of privacy – not needlessly intrusive - taking a Privacy by Design approach
- Promote consumer education/financial literacy
- Transparency in two respects:
  - Consistency across credit licensees
  - Processes that are practical, explainable and transparent
- Unintended consequences are considered and managed or neutralised.
- “At the same time, we want to avoid being too prescriptive, as this could have harmful unintended consequences,

including for the cost and availability of credit. We want firms to take a proportionate approach, taking into account the costs and risks of the credit for the individual customer.”<sup>21</sup>

- Continuous improvement is embedded into the system with data driven feedback loops.

Ultimately, each of the goals above can be assessed in some form of objective manner and reported on to the relevant stakeholders. Having said that, we need to call out the lack of responsible lending metrics. The reason, we believe, for the dearth of statistics is partially the lack of clarity on the outcome definition (substantial hardship) but, probably just as much so, the lack of focus on monitoring the ‘ends’ versus the ‘means’. To monitor intention, you need outcome metrics. To monitor process requires a different set of metrics, and it tends to be a bit easier to do.

In order to get responsible lending right both at the lender level and the system level, better measurement and monitoring approaches are essential.

What is needed are statistics that attempt to track foreseeable substantial hardship. Which means tracking hardship, tracking substantial hardship, and then categorising it into what is foreseeable and what is not.

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<sup>20</sup> FCA's Policy Statement, July 2018, Assessing creditworthiness in consumer credit – Feedback on CP17/27 and final rules and guidance (PS18/19), Chapter 1 at 1.14

<sup>21</sup> Ibid., at 1.15

## 10. Expense Assessment Evaluation: Frameworks not Checklists

*This White Paper builds on the prior paper, which pointed out that the best way to regulate operational processes is to do so at the intention level rather than being specific and mandating a particular process. In other words, we believe that process prescription is not the answer, the reasons are:*

- 1. Mandating processes creates systemic risk.** *If everyone is doing the process a particular way, then if that process is wrong, it affects the whole industry.*
- 2. Mandating processes stifles innovation.** *If everyone does affordability assessment the same way, the process will never get any better, even though better ways might be possible. Obviously, the key here is to prevent competition on responsible lending compliance while enabling competition on better, compliant processes. This is possible if compliance is determined on an intention/outcome basis and metrics enable monitoring.*
- 3. Mandating processes needs detailed knowledge and effort.** *This is probably not the best use of regulator budgets. As soon as regulators wade into the operational realities of data, models and process, they have to confront and deal with a level of operational complexity in order to determine what they want to have happen.*
- 4. Mandated processes create numerous non-systemic risks.** *For a start, it introduces implementation risk. Not every IT system is capable of making decisions exactly the same way. Some lenders may have valid constraints. They might be able to achieve the required outcome but may have to do so in a different way to other lenders. They will lose that flexibility if a process is prescribed.*
- 5. Prescription forces a point in time evaluation of the trade-offs of all the (sometimes competing) system goals.** *In doing so, the system loses its ability to respond to changes in the magnitude of the trade-offs and community priorities of the outcomes.*

### Prescribing Data

Even if the process is not prescribed, why would you not at least specify the data to be used? On the face of it, it sounds relatively easy to suggest that certain data be accessed.

However, in the case of bank transactional data, for instance, there are presently two ways to get that data. The first is manually. The second is via the problematic method of screen-scraping. ASIC points out in CP309 that some might suggest it is not reasonable to require people to compromise banking passwords. We would agree. The digital approach will be to get data through the Consumer Data Right.

However, a few observations. Firstly, at least for the next few years, it is not a whole of market

solution. Secondly, given the current battles going on around 'enhanced data' it is possible that whereas screen-scraping might get data categorization right about 70% of the time, CDR sourced data might be only be categorised correctly 30% of the time. This would have massive implications for the use of that data. Thirdly, the biggest issue of all is the question of whether the person would be deemed to have consented freely if they were asked to share CDR data as part of a loan application, since not sharing their data might result in no loan or a loan at a higher interest rate.

### Prescribing Models

Any use of data is a model, and so, another way to 'fix' affordability assessment would be to specify the analytics to be used. Of course, that specifies

data inherently, but goes one step further to specify how that data gets used.

As the jogging analogy has drawn out, models are very sensitive to the nature of the behaviour being modelled, the quality (and source) of the data, the purpose the models are being put to and the tolerances for false positives and false negatives. In other words, models are so terrain specific that they really could not be specified upfront without all of that complexity being handled.

## Policy Observations - Why Highly Prescriptive Law Is Discouraged

Aside from the points made by us, we thought it might be worth sharing the views of Australia's law makers in this regard.

Since the 31 January 2006 report and recommendations of a Regulation Taskforce<sup>22</sup> (established by the then Prime Minister) a principles-based approach to regulation has been supported by government.

In its report, the Taskforce noted that

*"The benefits of this approach need to be preserved by ensuring that guidance provided to regulated entities is not presented or interpreted as the required approach to meeting their regulatory requirements<sup>23</sup>".*

And further "...applying a principles-based approach to regulation in the financial and corporate sectors presents a significant challenge to APRA and ASIC. Performing their supervisory and compliance functions will require assessing the appropriateness of the approach adopted by regulated entities to meeting their regulatory obligations."<sup>24</sup>

Prescription on affordability assessment processes at this point in history runs counter to Australia's

legislative history and the digital transformation imperative.

The Regulatory Taskforce (2005) also made the following statements about risk and trade-offs:

*"Where trade-offs are involved, object clauses in legislation should make clear what balance is sought — for example, the need to pursue identified social or environmental objectives cost-effectively, taking into account wider economic interests — and how such balance is to be achieved.*

*Principles laid down to guide regulatory approaches should require regulators to use a risk-based approach, with any measures to be targeted at specified problem areas, and not designed to eliminate the risk of an event occurring. As many participants [who made submissions to the taskforce] observed, something equivalent to an 80:20 rule would in many cases achieve most of the benefits from regulation, while avoiding most of the unnecessary costs."*

As a result, the Regulatory Taskforce made the following recommendations:

### **"Recommendations 7.14–7.15:**

**7.14 Legislation should provide clear guidance to regulators about policy objectives, as well as the principles they should follow in pursuing them.**

**Guidance should be explicit about what balance is required, where trade-offs in objectives exist, and the need for risk-based implementation strategies.**

**7.15 Responsible ministers should highlight those elements referred to in recommendation 7.14 in parliamentary second reading speeches and in the Statements of Expectations that are to be developed following the Uhrig Report."<sup>25</sup>**

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<sup>22</sup> The Regulatory Taskforce was established on 12 October 2005. The main focus of the Taskforce was on any undue costs for business in the implementation of policy through regulation.

<sup>23</sup> Taskforce Rethinking Regulation report at page 127

<sup>24</sup> Taskforce report at page 127

<sup>25</sup> Taskforce report at page 224

The current Statement of Expectations - Australian Securities and Investments Commission April 2018 includes:

*“The Government’s preference is for principles-based regulation, which identifies the desired outcomes and allows industry participants to achieve the outcomes in their own way, rather than prescribing specific conduct. A principles-based approach is more flexible and is likely to accommodate change within the economy, allow for innovation and enterprise, and reduce compliance costs, by allowing regulated entities to determine the best way to meet regulatory objectives.”<sup>26</sup>*

To illustrate the point, we note the recent APRA changes to interest rate buffers in affordability assessments – which points to the fact that the lending landscape is continuously changing, and the competing goals require ongoing adjustments<sup>27</sup>. One might argue (and some lenders have<sup>28</sup>) that borrower capacity is driven by at two systems level levers – interest rate floors and responsible lending assessment. These can work in opposite directions (as they are now) regarding the net effect on borrower capacity, or they can work in concert.

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<sup>26</sup> Available here <https://treasury.gov.au/the-department/accountability-reporting/statements-of-expectations>

<sup>27</sup> <https://www.apra.gov.au/media-centre/media-releases/apra-finalises-amendments-guidance-residential-mortgage-lending>

<sup>28</sup> <https://www.corelogic.com.au/news/apra-looks-loosen-lending-limits>

## 11. In Conclusion

*In this White Paper we have proposed that a Design and Evaluation Framework is required for affordability assessment in responsible lending. Using a public health analogy (jogging induced heart attacks) we have highlighted the key steps required to implement a harm prevention program. These are:*

- *Design*
- *Deploy*
- *Evaluate*

*In this White Paper we focused on Design and Evaluation. We will leave discussion of Deploy for the next White Paper. In regard to Design the key steps are:*

- *Decide what harm (including severity) you seek to prevent*
- *Review the diagnostic options*
- *Review the process options for deploying those diagnostics*
- *Review the error rates of the diagnostic options*
- *Review the practicality of the use of the diagnostic*
- *Assess diagnostic reliability*
- *Consider the potential to target the diagnostic more finely and*
- *Compare the design options and decide on the design to deploy.*

*As we moved from jogging to lending, the word model is substituted for diagnostic. Models used currently would include HEM and bank transactional data, when it is used to estimate future behaviour (by definition that is a modelling exercise even though many consider bank data to be 'fact').*

*We then turned our attention to the need to evaluate any affordability assessment according to the goals it set out to achieve. We grappled with the conundrum that we cannot measure and monitor concepts (such as substantial harm) we can only monitor operational proxies for that. Unfortunately, the measures we have – default, hardship processes and late payments – are not exactly measuring substantial hardship, let alone foreseeable substantial hardship, however we can also consider including survey metrics in any monitoring regime. We noted too that we will not get better measures until we can better define what substantial hardship is.*

*Additionally, as in our jogging case study, we showcase the fact that in we need to evaluate any affordability assessment not just in terms of responsible lending, but also in terms of its impact on other systems goals. The fact that trade-offs are inevitable means that it must be safe for participants in the system to acknowledge they are making trade-offs. We can see this recognition in responsible lending in the adjustments by APRA to the lending interest rate buffers and in the following quote from Michael Hodge QC:*

*"If we require mainstream, compliant leaders to take greater responsibility for safeguarding borrows against the possibility of default, or to engage in more expensive processes that we think might reflect that greater responsibility, then we are also asking them to take less risks on borrowers. And the danger of that may be that borrowers who might otherwise have obtained credits at better rates and on better terms, will either not get credit or will be pushed to marginal credit products...And no-*

*one would think it will be a good outcome if in attempting to increase consumer protections, we end up feeding financially vulnerable Australians to predatory lenders.”<sup>29</sup>*

*Finally, having completed a discussion of what a Design and Evaluation Framework should be, the next White Paper in this series will develop a mock affordability assessment and run it through a mock evaluation process. Additionally, the technical briefing series will cover the specific types of model and data that can be used in affordability assessment and review them in the context of the Design and Evaluation Framework.*

*As we go through a mock design process, we will specifically call out the challenges in the current system with the existing metrics and evaluation processes. We note for now that one clear conclusion from our work to date is that an effort needs to be made to define ‘foreseeable substantial hardship’ operationally, and to find a way to measure instances of it at a systems level. Likewise, since AFCA is a key evaluation body in the system, we would welcome more transparency in terms of its evaluation criteria (which are currently public available).*

*Lastly, as per our initial comments, the truth of the matter is that affordability assessment is only one part of the program of work needed to prevent foreseeable substantial hardship causing harm. Better hardship processes for those experiencing substantial hardship that was operationally foreseeable at the point of the application are necessary to allow for the reality that not all such cases are going to be picked up pre-contract.*

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<sup>29</sup> Chanticleer, The Australian Financial Review, 23 July 2019, <https://www.afr.com/chanticleer/hodge-qc-warns-on-responsible-lending-s-other-conflict-20190723-p52a0s>