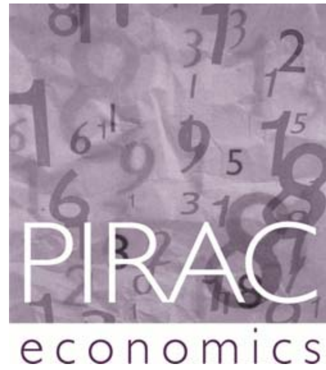

Behavioural Economics: bridging the gap between theory and government policy

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BEHAVOURAL ECONOMICS: BRIDGING THE GAP BETWEEN THEORY AND GOVERNMENT POLICY

For some time there has been debate about whether traditional economic theories are deficient because they do not realistically reflect the choices people make, particularly when faced with uncertainty and risk. The work of behavioural economists has raised significant doubt about the validity of the assumptions about rationality, self-interest and information that underpin traditional economic models. But only relatively recently has this analysis been extended to consider the implications these conclusions have for government policy and when and how governments should intervene in markets.

Behavioural economics has demonstrated the reasons why traditional economic models may, in some markets, be poor predictors of consumer behaviour and market outcomes. It has also identified instances where governments, in applying those economic models, have adopted inefficient or counterproductive policies. Such an analysis tells us what we have been doing wrong but not how to do it right. Just because economic models are not good predictors of market outcomes does not automatically mean that markets are not working or that government intervention is justified. The OECD in its roundtable on demand side economics for consumer policy (OECD 2006 p. 19) recognised that whether markets are working effectively or not is the central theme underlying all market analysis.

The next important step in applying behavioural economics is to consider the insights it provides for identifying when markets are not delivering the community's economic efficiency and social justice objectives and how we should respond to these deficiencies.

It is also important to develop tools for policy makers that assist in applying behavioural theories to policy problems. It is naïve to expect all government policy makers to have a detailed understanding of behavioural economics, or even consistent access to such expertise. A framework is therefore needed to help policy makers work through behavioural questions. Additional research is needed in four areas to develop such a framework and the tools necessary to apply behavioural economics theories to policy processes.

1. With such a diverse range of behavioural biases and responses, categorisation is important. Grouping behaviours into categories facilitates analysis of when economic or social problems are likely to arise, and the government interventions that would most effectively redress problems caused by different types of behaviours.

2. Because much of the past analysis focused on deficiencies in economic models and not when behaviours generate economic or social problems in markets, there is still lack of clarity and considerable debate about the case for government intervention.

3. A framework is needed to assist policy makers step through the questions necessary to identify when government intervention should be considered.

4. More work is needed to identify the policy tools that would most effectively redress the problems caused by different categories of behaviours, and the areas of government policy most susceptible to generating unintended outcomes because of unanticipated behavioural responses.

This paper comments on the categorisation of problems, when behaviours can lead to economic and social problems in markets and the identification of policy responses, but focuses on the third issue. It proposes a decision making tree that could be used to assist policy makers work through the questions that determine whether government intervention should be considered and, if so, whether that intervention should focus on overcoming economic efficiency or social policy concerns.

It is recognised that there is debate about the extent to which behavioural problems arise in markets (see for example the interview with Gary Becker conducted by *The Region* (2002, p. 8)) and whether government intervention is a necessary or practicable way of addressing those problems. There is no consistent view on which markets are affected by behavioural problems. For those markets that are affected, some question whether problems reduce over time as consumers learn, or whether the problems are confined to small groups of consumers, such that government intervention to help a few would potentially impose costs on others. (See for example Epstein 2006)

However, the body of literature, which shows real world examples where behavioural responses have a significant effect on market outcomes and the effectiveness of government policy, is growing (some illustrative examples are presented in box 1). And while this paper does not attempt to identify those markets where consumer behaviour creates a need for government intervention, it recognises that there are some markets where consumer behaviours will affect the economic and social problems arising in the market and the most appropriate approach to government action. The range of markets where these problems arise is also likely to be increasing. The process of comparing and deciding among alternatives is often easier for goods than it is for services but consumer spending on services is increasing, as is the complexity of the types of services on offer. The paper provides a framework for identifying such situations, but leaves open the questions about the frequency and scope of such cases.

Box 1: Consumer behaviours affect market outcomes and the effectiveness of government policy

Impacts on market outcomes

Justin Sydnor observed, based on US data, that people often pay very high premiums to insure against small losses, typically 400 per cent more than the expected valued of the insurance to reduce their household insurance excess (or deductible) from $1000 to $500 or $250. Sydnor investigated a range of reasons for such extreme aversion to losses, including liquidity constraints, miscalculating risk and the incentives offered insurance sales agents. He found that the explanation that best reflected the data was that people tend to ignore their absolute level of wealth and look at the consequences if individual risky events in isolation. As a result, the ongoing known cost of the premium is preferred to the risk of unexpected losses that cannot be recouped through insurance. (Sydnor 2005, p. 1)

A major market based trial in South Africa tested the impact of including psychological factors in loan offers. It demonstrated that such factors had a significant impact on people's decision to take up a loan. The results included, for example, that loan letters that included fewer choices were more likely to be taken up than those offering multiple choices. Choice acted as a disincentive. Including information on only one offer, rather than a choice of options, encouraged take up of the loan, increasing 'demand by 9 per cent, the equivalent of a 2.3 percentage point decrease in the monthly interest rate'. (Bertrand et al 2005)

Other studies have also illustrated how a proliferation of choice can, in some circumstances, discourage people from buying a good and service because of their difficulty assessing and deciding between many options. People's reluctance to choose is illustrated in their preference for avoiding choice by relying on defaults when choosing a pension funds. A UK study by Hewitt, Bacon and Woodrow indicated that 80 per cent of UK consumers put their money in the default investment option for defined contribution pension schemes, rather than assessing and choosing from other available alternatives (Bridgeland 2002, p. 3). Similar results have been found in the US, where studies show that 65 to 87 per cent of participants in pension plans choose the default contribution rate and half stay with the default plan (Choi et al 2001, p. 5). Similarly, a further experiment reported by James Choi, David Laibson and Brigitte Madrian demonstrated that providing a quick easy default option, rather than requiring employees to choose a plan, tripled participation rates among new employees and encouraged between 10 and 20 per cent of existing non-participating employees to enrol (Choi et al 2005, pp. 15-16)

A study by Sheena Iyengar and Mark Lepper also reported the results of a test that looked at consumers' responses to choice. A tasting booth for jams was set up in a supermarket on two consecutive Saturdays. One Saturday a range of 24 jams was offered for tasting and on the other, six jams were offered. The greater choice encouraged more people to stop at the booth (60 per cent of customers, compared with 40 per cent with six jams). In both cases the average number of jams people tasted was similar. Following the tasting 30 per cent of customers purchased a jam when the six jams were on display, compared with only 3 per cent when 24 jams were being tasted. (Iyengar and Lepper 2007, p. 5)

Various studies on the stock market have investigated how investors react to information, movement in stock prices, risk and uncertainty. Many argued that price movements do not reflect a quick objective incorporation of all relevant information, and a range of investor behaviours deviate systematically from such a model. For example, stock prices have momentum — 'price moves in one direction or another are frequently followed by a continuation in that directions, without any "new news" to justify the trend'

(Langevoort 2002, p. 10, see also other research cited in Langevoort 2002). People tend to overreact to unexpected and dramatic news events and place disproportionate importance on short run economic developments (De Bondt and Thaler 1984). Investors tend to disproportionately hold on to losing investments, sell winners and engage in excessive trading due to overconfidence. (Barber and Odean 1999)

Responses to government policy
There is US evidence that cost-effective energy saving technologies are not being picked up by consumers, even when they are aware of the benefits of these technologies, and the payback periods are relatively short, less than five years (Yates and Aronson 1983, p. 436). Suzanne Yates and Elliot Aronson argued that policies to encourage the adoption of energy saving technology were not fully effective because the social, cognitive and personal forces that affect their adoption were not understood and incorporated into policy design. For example, energy audits were being used to provide individuals with information on how they could save energy in their homes. While a review of these audits showed some increase in energy saving measures, the results were less than hoped (Yates and Aronson 1983, pp. 436-437). The Pacific Gas Electric Company in California modified its audit program as follows.

> *First, auditors began communicating with vivid, personal information. For instance, rather than simply pointing out cracks around doors, the auditor would compare the cracks to a hole the size of a basketball. Also, suggestions were framed in terms of what was lost by not undertaking the home improvements. Second, auditors were instructed to involve the customer during the home visit. For example, home owners might be asked to take measurement or read meters. (Aronson 1990, p. 1)*

As a result of these changes to the audit program, the number of people making energy efficiency changes increased to three times the national average.

A pilot program in the United States to promote the use of public transport tested price and behavioural incentives. Participants were divided into four groups, one was given free bus tickets, one was asked to make a commitment to travel on the bus twice a week, one was given the tickets and asked to make a commitment and one was a control. While the free tickets did increase the number of trips their effect was greatest on those who already used the bus system. Obtaining a commitment from individuals was far more effective in encouraging new passengers. (Bachman and Katzev 1982, pp. 1-2)

Research has also shown that information disclosure alone may not be sufficient to correct misinformation and lack of understanding in markets. New Zealand research indicated that New Zealanders were not investing in Managed Funds because 43 per cent believed that they were so complicated that they were only suitable for expert investors. This was despite a discloser regime, which included an investment statement that market testing had shown was understandable and useful. The availability of the investment statement, which provided all the information necessary to make an investment choice, did not, on its own, overcome consumers' uncertainty about the market. (Ministry of Economic Development 2006, p. 10)

1. CATEGORISATION OF BEHAVIOURS

1.1 Why categorise behaviour?

Just as people are diverse and multifaceted, so are the theories and observations about their behaviour. Psychologists, sociologists and behavioural economists have identified an extensive list of behaviours that can affect the way consumers choose between goods and services. People can be affected by values that relate to fairness and social responsibility, and may choose products and suppliers because of their effects on others, not just because of the personal benefits they receive. When faced with complex decisions, people often use a range of shortcuts to simplify the information they need to assimilate and analyse. The behavioural economic literature refers to such shortcuts as heuristics. If shortcuts (or heuristics) are applied inappropriately they can result in biases in decisions making. Biases and other natural responses can drive people's choices, causing them to ignore or misinterpret information, even if it is available. The OECD roundtable on *Demand-side Economics for Consumer Behaviour* (2006) provided an extensive list of examples of behavioural biases.

In itself, this diversity in behaviour creates a challenge for applying behavioural theory to public policy questions. It makes it difficult to analyse and provide guidance on how to identify the economic and social concerns that can arise from various types of behaviours, and the government policies and interventions that would be most effective in dealing with those categories of behaviours.

While some attempts have been made to categorise behaviours there is no agreed categorisation, and those that do exist have not necessarily been developed to facilitate policy development and analysis. Often behavioural economics is divided into two branches of theory — heuristics and prospect theory. Heuristics considers the processes by which people use approximations or rules of thumb to assist in decision making and compensate for the difficulties they experience assimilating and processing large amounts of complex information. Prospect theory uses psychology to explain how people make decisions under uncertainty.

Other approaches to categorisation include Colin Camerer et al, for example, who noted that 'a large part of behavioural economics describes ways people sometimes fail to behave in their own best interests' (Camerer et al 2003, p. 1217). They then categorised three types of such behaviours: people with self-control problems may fail to carry out their desired course of action; people fail to process information as Bayes's rule would require (the process of consistently and objectively updating expectations in light of new information); and people exhibit systematic mispredictions about the costs and benefits of their choices (Camerer et al 2003, p. 1217-1218).

Peter Earl (2005) provided a more detailed categorisation of 'the set of "hard-core" theoretical ideas that its practitioners have come to use' summarised in Box 2.

Box 2 Earl's Categorisation of Behavioural Characteristics

Peter Earl argued that consumers' choices are an 'unfolding *process of coping* with the complexities of everyday life in a changing world, *not the selection of an optimal set* of activities at a point in time' (Earl 2005 p. 12). He categorised the behavioural responses that affect this process as follows.

Opportunity costs and constraints are personally constructed — Actions depend on how people perceive a situation and two individuals may construct very different arguments about the pros and cons of a given situation.

Decision making is normally characterised by bounded rationality — People face cognitive barriers to formulating and solving complex problems when there is uncertainty and/or information overload.

Choice is a satisficing activity that attempts to meet aspiration levels, but aspiration levels tend eventually to adjust into line with what seems feasible — People use simple cut-offs to determine if they will pay attention to something or should stop searching. Thus they focus on things that pass a cognitive threshold.

Choice can be based on reasoning in terms of decision rules, and on emotions, but choices that involve reasoning are impossible without an emotional anchor — People's underlying values, such as a non-negotiable view of their identity, provide the boundaries for how they behave and the choices they make.

The forms that decision rules take may vary considerably depending on how decision makers see the context of choice — In some situations, choices are made using highly simplified decision rules. In others, people engage in extended problem solving. Consumers may use different rules in different situations, with some looking at a range of characteristics, choosing the option with the best mix of features, while others use rules to filter options, rejecting an option that fails in a critical area regardless of how well it performs overall. There are many potential decision making rules, such as choosing the best product in a particular, single dimension, choosing the top-selling product in the category, or choose the underdog brand on the basis that they may try harder and could, therefore, be under-rated.

Decision makers learn in the sense of changing how they look at the world, but their ways of looking at the world may limit their ability to change how they see things — People's perceptions about a situation affect their responses. In London, for example, it is perceived as normal and safe to drink recycled water. In Australia, however, consumers reject recycled water because of a fear of drinking sewage.

Agency has an inherently social nature — People construct their identity and self-image by comparing and contrasting themselves with others. Wellbeing is more a function of relative, rather than absolute, levels of consumption.

It is not uncommon for consumer behaviour to be to some degree pathological in nature — Some consumers are prone to addictive or impulsive behaviour.

Perceptions and judgements under uncertainty are commonly shaped by heuristics and biases, that conflict with mainstream analysis and competent use of statistical techniques — Heuristics and biases in obtaining information can affect the way people acquire and process information, choose between goods or services and justify or rationalise their choices once they have been made.

Source: Earl 2005, *Behavioural Economics and the Economics of Regulation* — Briefing paper prepared for the New Zealand Ministry of Economic Development, pp. 7-12

Rhonda Smith and Stephen King refer to the categorisation by Bowels who identified three assumptions about consumer preferences and decision-making in behavioural economics.

> *First, many behaviours are best explained by what are termed social preferences: in choosing to act, individuals commonly take account not only of the consequences of their actions for themselves but for others as well. Moreover, they often care not only about consequences but also about the intentions of other actors.' Second, 'individuals have limited capacity and predisposition to engage in extraordinarily complex and costly cognitive exercises.' As a consequence, often they apply 'rules of thumb'. Third, behaviour is context-dependent. '…our preferences are situationally specific and endogenous.' Options tend to be evaluated from the current state of the decision maker (or at least the experience of the decision-maker's reference group). (Smith and King 2006, pp. 58-59)*

This paper does not attempt a comprehensive classification. It does, however, distinguish between two broad behavioural categories:

1. behaviours reflecting different preferences; and
2. behaviours affecting decision making processes.

These categories are described below. They are separated because the have different implications for the nature of economic and social concerns in consumer markets and government policy responses.

1.2 Behaviours reflecting different preferences

Rigid interpretations of traditional economic models are based on assumptions that consumers objectively choose the products and services that will deliver them the maximum personal benefit and that their preferences are defined and rational (including symmetrical and stable over time). Behavioural economics takes a more empirical approach and has identified a range of circumstances in which these assumptions do not apply. Behaviours reflecting different preferences are those where people's preferences diverge from the assumptions in traditional economic models. This could arise because people choose on grounds other than self interest or the criteria they use differ from the model's definition of rationality.

The distinguishing feature of behaviours reflecting different preferences is that they do not result from errors in decision making. Rather they result from people seeking features of products, services, sources of supply or the processes of choosing, purchasing or paying for goods and services that do not readily fit with traditional economic assumptions. This distinction was recognised by Colin Camerer et al (2003 p. 1254), who noted that while, in some cases, outcomes that appear to be different from those predicted by traditional economic models can be the result of errors in decisions. In other cases, they may result from consumers having different

preferences, with a good reason for the choices they make, even if that reason does not appear logical.

Self-interest

The assumption of self-interest may be invalid when consumers take the environmental consequences of their choices into account, consider the social credentials of the product or company they select, shop locally or buy local products because of the benefits this has for the local community, or choose based on fairness rather than self-interest. People are motivated by 'doing the right thing'. As noted by Matthew Rabin (2002, p. 13) people care about fairness and equity and the intentions and motivations of others. This has implications for how people respond to the way goods and services are sold and marketed, and react to government policies, including those designed to protect vulnerable and disadvantaged consumers. This is illustrated in the way, in some cases, the introduction of monetary rewards can be demotivating, discouraging rather than promoting the desired behaviour.

The New Zealand Ministry of Economic Development (2006 p. 19) noted a UK example where nurses were offered small performance bonuses for exceeding targets specified in their job description. In practice, the bonus undermined the pride the nurses had in their job performance. They felt they were being bribed to perform well and were not trusted by the employer. The policy had a negative effect on overall performance.

In 1970, Richard Titmuss compared the level and quality of blood donations between the UK and Wales, where donors were volunteers, and the US, where donors were paid. His results indicated that more people gave blood and the quality of the blood was higher, under a voluntary system. (NEF 2005, p. 6)

People's perceptions of fairness can also affect their demand for goods and services. Ian McAuley argued that this is the case for the Sydney Tunnel. Use of the tunnel is considerably less than expected, given the low toll ($A3.50) and the level of congestions on alternative routes. Ian McAuley argued that people's views on the fairness and legitimacy of the toll resulted in many deciding not to use the tunnel. (McAuley 2007, p. 9)

Rationality

Under the definition of rationality used in traditional economic models, people's choices are consistent over time and mathematically symmetrical — so that $1 gained has the same value as $1 lost and consumers value the same good equally, regardless of whether or not they own it.

Behavioural economics, however, has identified a range of situations where people's preferences are inconsistent with these assumptions. First, people's preferences may be inconsistent over time. Time inconsistent preferences arise when people place less value on future losses than current losses, even if the loss is equivalent (that is it has the same net present value). For example, 'we are more averse to delaying today's gratification until tomorrow than we are averse to delaying the same gratification for 90 days to 91 days from now'. (Rabin 2002, p. 18)

Second, people's preferences may be asymmetrical, for example loss aversion and endowment effects. The work of Daniel Kahneman and Amos Tversky has estimated that the value people attach to a moderate loss is about twice that they attach to an equivalent gain (Royal Swedish Academy of Sciences 2002, p. 16). Their work concluded that people are not concerned so much about the final value of their wealth but base their decisions around changes in wealth compared with the status quo (Royal Swedish Academy of Sciences 2002, p. 17). This has implications for how people respond to risk. Justin Sydnor (2005) noted how Daniel Kahneman and Amos Tversky's findings can explain the observations that consumers often pay high prices to insure against relatively low risks. (Sydnor's findings are summarised in box 1.)

Third, consumers' preferences may not be fixed and their perception of their wealth and utility may be influenced more by comparisons with their peers or changes from their current state, rather than its absolute level. Daniel Kahneman (2002, p. 461) argued that the carriers of utility are likely to be gains and losses, rather than the state of wealth. He noted that utility cannot be divorced from emotion and emotion is triggered by change. This view was supported by Rabin. (2002, p. 9)

Overall, this means that people's preferences can result in them deciding not to sell shares that they would not buy if they did not already own them, continuing subscriptions when they would not choose to buy the instalments of goods individually, being attracted to credit schemes with interest or payment holidays, even if the total cost of finances is higher than alternative schemes, and being influenced by fads and fashions even if they do not use the products purchased. In addition, consumers' preferences can also be affected by loyalty and habit so they buy from the same shop, for example, even if they know they could get better quality and price elsewhere.

1.3 Behaviours affecting decision making processes

Traditional economics recognises that information problems can result in inefficient market outcomes. Consumers may not be able to choose between products and services effectively because of a lack of information, information is difficult or costly to obtain or consumers do not have the skills to understand and use information. Governments already implement policies to overcome these problems. Financial literacy programs in schools, for example, are designed to increase young people's ability to make sound financial decisions (CAV 2006a, p. 15). Similarly, information and education programs often target consumers buying goods or services in markets where problems are more common or costly, such as building and renovating, buying and selling real estate, buying a car or renting a home. (CAV 2006a, p. 13-14)

Some of the consumer responses identified through behavioural economics, however, go beyond our traditional understanding of information problems. They indicate that, even when consumers have ready access to understandable information, they may still fail to choose the product or service that best suits their needs because they ignore or misinterpret relevant information or fail to act on that information because of other barriers to them changing their behaviour (Cope 2006, p. 2). Such behavioural issues are often misdiagnosed as information problems and

behavioural economics has drawn attention to the fact that traditional approaches to trying to resolve such problems by supplying more or different information are often ineffective.

The distinguishing feature of behaviours affecting decision making processes is that they result from short-cuts, biases or errors in decision making, consumers do not or cannot objectively analyse available information and they base their choices on partial information or other criteria. Such behaviours can result in consumers making choices that are inconsistent with them achieving the outcomes they desire.

Behaviours affecting decision making that result in poor choices need to be distinguished from situations in which consumers knowingly make risky decisions that unfortunately result in the outcome they hoped to avoid — such as buying a painting that does not appreciate in value or buying tickets to an outdoor sporting event and having to sit in the rain. As recognised by the New Zealand Ministry of Economic Development, not all bad outcomes are necessarily the result of bad decisions (Ministry of Economic Development 2006, p. iv). In contrast, behaviours that affect decision making are characterised by consumers do not recognise that their decision making processes may be inconsistent with them achieving the outcomes they expect.

Types of behaviours affecting decision making processes

Behaviours affecting decision making are many and diverse. This paper does not comprehensively review these behaviours but notes that they can affect any part of the decision making process and the environment in which decisions are made.

Behaviours affecting decision making can be driven by consumers' natural psychological dispositions, shaping their expectations and perceptions about a decision and, therefore, the information they believe is relevant to their decision making. For example, people are often overoptimistic about their ability to avoid problems and assume that their chances of achieving their goals are better than average (Weinstein 1980 and Wenglert and Rosén 2000). This can lead consumers to overestimate the likelihood that they will pay back a loan on time, continue in a well-paying job, or avoid an accident or illness. Overoptimism affects consumers' decisions even if they have accurate, easy to understand information on the probabilities of problems arising — many simply assume they will be in the group that does not experience the problems.

Consumers may also not ignore money they have already spent and cannot recover (sunk costs) when they make future spending decisions, because of a desire not to be wasteful, or a failure to recognise and correct past mistakes because of a tendency to rationalise and justify previous decisions.

Some consumers may be prone to compulsive or addictive behaviours. With such behaviours, people feel compelled to consume something, alcohol, cigarettes, gambling, even when they would prefer not to. Addictive behaviour or problems with self control can also extend to other activities, such as overeating or not exercising or saving money. Often consumers recognise such weaknesses and use pre-commitment devices to assist them to continue the behaviour they want

to maintain by, for example, signing up to a savings or diet plan, committing to regular sessions with a personal trainer or having larger amounts of superannuation deducted directly from your salary.[1] While such devices can assist in many situations, they are not available to or practical for all consumers.

Others behaviours affect how consumers respond to the decision making environment. Consumers may be influenced by peer pressure, social norms and habits. They may also react to the complexity of the decision making environment or the way information or products or services are presented to them. Choice overload is an example of such a reaction. Choice overload occurs when people, confronted with too many complex options, avoid choice by staying with their current product or supplier or deciding not to buy, or base their choice on a highly simplified subset of criteria. The first of these outcomes has been documented in the electricity sector. A study of switching between electricity suppliers in the United Kingdom (Wilson and Waddams-Price 2005) indicated that significant numbers of consumers were not switching supplier even if they could obtain significant costs savings, some that did switch did not choose the lowest cost provider and a third of those that switched moved to a more expensive provider. This was despite 77 per cent of consumers that switched saying that a reason for their change was to obtain lower prices. The results also indicated that the gains appropriated by consumers (relative to the maximum savings available) fell as the choice of firms increased (Wilson and Waddams-Price 2005, p. 22). These results were despite considerable policy effort to simplify the switching process and the availability of information to electricity consumers. (Brennan 2005, p. 3)

Behaviours can also be driven by people developing strategies to overcome difficulties they have assimilating and analysing large amounts of complex information, or calculating probabilities. Thus consumers may ignore information because their decision is based on different criteria, adopt decision making short cuts to assist in filtering information and making choices, or fall back on a limited number of principles to simplify the analysis of information. Examples of a few such short cuts are presented in Box 3.

Box 3: Bias in decision making under uncertainty

Attribute substitution occurs when someone, faced with a difficult question, looks for an easier alternative to approximate the original question:

> *Thus, a person who is asked 'What proportion of long-distance relationships break up within a year?' may answer as if she has been asked 'Do instances of swift breakups of long-distance relationships come readily to mind?' This would be an application of the availability heuristic.* (Kahneman 2002, p. 466)

Substituting known information to answer more difficult questions can result in systematic bias in choices because, for example, people may:

1 Pre-commitment has been discussed by Thomas Schelling (see for example Schelling 1984)

- overestimate the reliability of a short sequence of observations and use this information to predict longer term or broader issues. 'For example, the excess sensitivity of stock prices may be a result of investors overreacting to short strings of good news'; (Royal Swedish Academy of Sciences 2002, p. 14)

- judge the likelihood of an event by how easy it is to think of relevant examples, so undue weight is given to easy-to-remember information, such as information with a high media profile. Vivid information is easier to recall and, therefore, is given more weight in decision making. Significant biases can result when people place more emphasis on avoiding low, but vivid, risks, such as the risk of an airline crash, but give less attention to higher, less salient, risks, such as the risk of a road accident; or

- find it easier to assess average characteristics of a group, rather than extending the analysis to the specific probabilities of a particular case. This may result in decisions based on stereotype.

In some situation people may also place greater weight on new information, underestimating the significance of base or historical data and, therefore, overestimating the extent to which the new information will reflect future trends. Stock market investors display this bias in some situations. (Mullainathan and Thaler)

In addition, putting more weight on information from friends than from other, perhaps more informed, sources reinforces popular misconceptions, and underestimating the risks of familiar products and overestimating the risk of unfamiliar products makes people reluctant to change in some situations or less cautious than they should be in others.

Source: Cope, D. 2006, 'Information and education strategies for modern consumer policy', presentation to the *Third National Consumer Congress*, pp. 4-5

Categorisation of behaviours affecting decision making processes

Behaviours affecting decision making processes could be classified in a range of ways, for example, distinguishing between:

Natural human biases — the behaviours that result from the way people subconsciously respond to information and decision making, which can lead to them ignoring information, because they mistakenly think it is not relevant, or misinterpreting information;

Difficulty in processing information — the behaviours that result from the short cuts or proxies consumers use because of the difficulty they have accessing, understanding and assimilating large amounts of complex information; and

Other barriers to change — the behaviours that cause consumers not to act on information, even though they may have understood that information and concluded that change would be beneficial. Such barriers might include information overload or habit.[2]

Such a categorisation may provide insights into the types of policy responses that would be needed to influence classes of behaviours. Natural biases, for example, are often ingrained and very difficult to influence. If such problems are causing market failure or social concerns, policy may need to focus on mitigating the consequences of those behaviours or mandating outcomes. On the other hand, the strategies people use to manage detailed, complex information may be easier to influence, by bringing ineffective strategies to people's attention and assisting them to adopt new strategies, or presenting information in a way that is consistent with their preferred decision making process. Barriers to change present a different challenge. Because they occur when (despite being fully informed and recognising the need for change) people have difficulty putting that information into practice, the policy responses may need to extend beyond standard approaches to information and education campaigns.

Alternatively, the categorisation could distinguish situational factors that affect the decision making environment from internally generated behaviours that affect a consumers' choice regardless of the circumstances of the decision. The New Zealand Ministry of economic development distinguishes between:

> *The 'situation' includes events, and other social factors such as rules, peer behaviour, time limits, social roles (behaviour 'expected' of a person because of their role – as parent, manager or teacher, for example). 'Person factors' include personality traits, character traits, perceptions, emotions, moods, beliefs.* (Ministry of Economic Development 2006, p. 12)

Such a categorisation would distinguish between behaviours for which the government may need to influence the decision making environment from those where it would be necessary to change the approach taken by individual consumers.

A further option is to separate behaviours into the stages of the decision making process, distinguishing factors that affect how consumers form their preferences from those that affect the process of choosing (such as how they manage information and form beliefs about products) and those that affect the way consumers decide on a preferred outcome (such as whether they seek to maximise welfare or base their choices on other benchmarks)[3]. Categorisation that separates the stages of decision making processes may assist in targeting policy, so that policy interventions engage consumers at or before the point where the behaviour affects their decision making.

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2 There is a range of other barriers to change that go beyond information based biases and also undermine the effectiveness of polices designed to overcome information problems. (See CAV 2006b, *Social Marketing and Consumer Policy*, Research Paper No. 4)

3 This categorisation is similar to that used by Consumer Affairs Victoria in its discussion of behavioural economics in the context of analysing consumer detriment. (CAV 2006c, pp. 27-30)

1.4 Challenges in categorising behaviours

While distinguishing between behaviours that reflect different preferences and those that affect decision making processes is useful, it may not always be easy. Some of the behaviours that reflect different preferences can be accompanied by information issues. It may be difficult in practice to determine the extent to which time inconsistent preferences, for example, result from people not fully understanding future risks and being over optimistic about their chances of avoiding or managing those risks. Some also categorise time inconsistent preferences as a lack of self control which can result in consumers overconsuming if they are naïve about their lack of control (Gans 2005, p. 43). Thus it is not clear whether time inconsistent preferences reflect the fact that people truly value current gains over future losses, or whether they are more akin to information behaviours where important information about future losses is being ignored in decision making processes.

Similarly, preferences are affected by situational factors, such as the influence of peers and social norms, endowment effects and the way choices are framed (for example whether they are presented in terms of gains or losses). Such situational factors can also be closely linked to behaviours affecting decision making, for example framing may affect what information is accessible and, therefore, comes to consumers' attention. They can also trigger consumers to fall back on natural biases or short cuts, so that if an insurance policy is presented to consumers in terms of the losses they can avoid, the potential losses are more salient and consumers' natural loss aversion is likely to be triggered. The same policy presented in terms of savings is likely to have less impact.

There are some behaviours that are difficult to classify, for example the impact of regret on decisions. Regret may cause people to prefer safe options (Lunt et al 2006, p. 85). People also tend to regret adverse outcomes more if they result from their own actions than if they result from inaction. Richard Thaler (1980, p. 53) noted several examples, including patients being reluctant to participate in decisions about their health care because they do not want to be responsible for choosing an alternative that results in unnecessary pain or adverse results. This could be interpreted as a barrier to change, and therefore one of the behaviours affecting decision making, because consumers are more inclined to stay with the status quo. It could also be interpreted as a behaviour reflecting different preferences because it results from consumers' real desire to avoid such regret.

Such complexities do not mean that classification should be avoided. Even if there is debate about how some behaviours should be classified, the process of considering and debating the characteristics of behaviours is in itself beneficial to understanding their policy implications.

2. WHAT BEHAVIOURAL ECONOMICS TELLS US ABOUT ECONOMIC AND SOCIAL PROBLEMS IN MARKETS

There is a case for government intervention in consumer markets if, on their own, these markets are:

- not delivering on the community's economic efficiency and social policy objectives;
- government intervention (which might be regulatory or non-regulatory) could address the problems effectively; and
- the benefits of such intervention would outweigh its costs.

Behavioural economics can provide new insights into the nature of economic and social problems that arise in consumer markets and whether government intervention could improve market outcomes. This section discusses how the economic efficiency and social policy problems that can arise in markets relate to the behaviours identified in the previous section. The discussion provides background for the following section, which looks at the decision making criteria policy makers could use to analyse whether the behaviours observed in some markets warrant government intervention and, if so, whether that intervention should focus on improving economic efficiency or addressing social policy concerns.

2.1 Economic efficiency and social policy objectives

Governments recognise the importance of economic efficiency in ensuring that the economy can grow and improve citizens' welfare. Economic efficiency is reduced when market failure causes a long run breakdown in the processes of demand and/or supply, such that consumers do not get the products and services they value most. To affect the efficiency of the market this breakdown needs to be sustained, widespread and systematic, resulting in a change in the range, characteristics or price of the goods or services offered for sale.

Economic inefficiency can arise when a consumer, who can objectively describe the outcome they want from a particular transaction, chooses in a way that will not deliver that outcome. There is a divergence between what consumers want and the signals they are sending to producers about what they should supply. Thus the market is inefficient because consumers are not buying, and traders are not producing, the goods and services that would maximise consumer welfare. As noted by Peter Earl, such inefficiency means that consumer demand has shifted away from the efficient level:

> *…positions of demand curves could be wrong, too, with consumers being more willing to pay for some products than they needed to be, because of shortcomings in the ways that they sought to cope with the problem of choice. (Earl 2005, pp. 31-32)*

Behavioural economics provides guidance on when market failure could arise by identifying situations where there is a breakdown in consumers' decision making processes, resulting in them choosing goods or services that are inconsistent with their real or true preferences.

Government policy is not only used to achieve economic objectives but also to advance the community's social policy goals. It can be difficult, however, to get a clear view on the appropriate social benchmark. The assessment of acceptable social policy standards is more subjective than identifying economic market failure, because it is affected by community values and dependent on the capacity and vulnerability of the people affected. For example, a large loss borne by the wealthy usually has fewer social policy implications than a much smaller loss suffered by those who are already disadvantaged. Similarly, if behaviours are making it more difficult for consumers to participate in economic processes or seek redress if things go wrong, the social consequences of such barriers are likely to be greater for people already experiencing economic exclusion in other areas. Some attempts have been made, however, to define social standards relating to consumers. In 1985 the UN Assembly adopted eight basic consumer rights.

(1) *The right to safety* — to be protected against products, production processes and services which are hazardous to health or life.

(2) *The right to be informed* — to be given facts needed to make an informed choice, and to be protected against dishonest or misleading advertising and labelling.

(3) *The right to choose* — to be able to select from a range of products and services, offered at competitive prices with an assurance of satisfactory quality.

(4) *The right to be heard* — to have consumer interests represented in the making and execution of government policy, and in the development of products and services.

(5) *The right to satisfaction of basic needs* — to have access to basic essential goods and services, adequate food, clothing, shelter, health care, education and sanitation.

(6) *The right to redress* — to receive a fair settlement of just claims, including compensation for misrepresentation, shoddy goods or unsatisfactory services.

(7) *The right to consumer education* — to acquire knowledge and skills needed to make informed, confident choices about goods and services while being aware of basic consumer rights and responsibilities and how to act on them.

(8) *The right to a healthy environment* — to live and work in an environment which is non-threatening to the well-being of present and future generations. (ACA 2006, p. 1)

In most cases addressing the economic efficiency problems cause by consumer behaviour will also advance social policy goals. For example, government intervention that overcomes economic market failure resulting from people not being able to identify and avoid products or services that

have health and safety risks also supports consumers' right to safety. Similarly, empowering consumers with information and skills to make better choices not only stimulates competition in markets but also supports consumers' rights to be informed, to choose and to have consumer education.

But only correcting market failures will not automatically address all social policy concerns. Social concerns can arise in the absence of any economic market failure. If problems are confined to a small group of consumers, for example, they may not affect overall economic efficiency, but the personal or family costs of poor choices by this small group may be large enough to be considered unacceptable.

2.2 Behaviours reflecting different preferences

For the behaviours reflecting different preferences described above, people may choose on a basis that is inconsistent with the assumptions underlying traditional economic models, but they are still getting the goods and services they want and value. This is clearly the case when consumers choose on grounds other than self-interest. Choosing cosmetics that have not been tested on animals, eggs laid by free range chickens or locally grown food, even if they cost more, will reflect some people's desire to support animal welfare or local farmers and, therefore, is consistent with them maximising their welfare. When this is the case, there is no economic justification for government intervention. It is also rare for choices based on broader community interest to raise social policy concerns. Such choices are, therefore, generally not of policy concern in their own right. Though there may be policy issues around the appropriate government response if consumers, who want to choose goods and services that are environmentally friendly or reflect certain social standards, do not have the skills or knowledge to identify and select those products.

There is greater debate about the role of government for time inconsistent and asymmetric preferences. For many of these behaviours there is an argument that there is no economic problem because markets are delivering what people want, even if others believe that what they want is not in their best interest — for example, in cases where consumers truly value immediate gains or are willing to pay the high cost of future losses. Others argue that governments should be concerned if people are making decisions that are not in their financial interest and that they later come to regret. Even if it is concluded that government intervention is not justified on economic grounds, there may be social policy concerns if the decisions made by some consumers are causing losses that result in unacceptable levels of long term financial hardship. In practice, governments often treat problems that arise from inconsistent time preferences as social policy problems, providing safety nets and counselling for those who are unable to manage the consequences of their choices.

When individuals are making choices that cause them or their families considerable loss or harm this often generates debate about whether governments should intervene to change their preference and behaviours. Such an approach does not sit well with traditional economic models for government intervention, because such models are based on assumptions that consumers have

a fixed set of preferences. It is assumed that forcing consumers to make choices that are inconsistent with those preferences would reduce individual welfare and reduce community welfare unless designed to address costs or benefits that are affecting third parties and that consumers are not taking into account in their decisions. Government efforts to intervene on other grounds are criticised as paternalistic, overriding people's preferences and forcing them to act in a way that government believes is good for them. Opponents also argue that often government is not good at judging what is in an individual's best interest.

Fields such as sociology, psychology and marketing, however, have long recognised that people's preferences are affected by the environment in which decisions are made, so that a consumer can prefer different outcomes depending on situational factors surrounding their decisions, such as the views of their peers, what the community considers is normal or appropriate and how options are presented. By changing situational factors governments could potentially induce consumers to move from one consumption pattern to another, without reducing overall consumer welfare.

Government campaigns to encourage behavioural change are not new. In Australia they have been used to protect children for sunburn, encourage women to have regular testing for cervical and breast cancer and encourage people to identify and seek treatment for skin cancer. Some have also suggested that governments should play a greater role in changing community attitudes to discourage high levels of consumption and debt. Such strategies, however, should be approached cautiously. Where effective, they may reduce the incidence of choices that impose the costs on individuals and the community, without undermining consumers' freedom to choose or reducing their welfare. But introducing effective behavioural change strategies is not easy and requires a good understanding of the behaviours that need to be changed and the drivers and barriers to behavioural change. Not all behaviours are amenable to such strategies and they can be costly, so the potential benefits from reducing the costs associated with current consumption patterns would need to be large enough to justify the costs.

2.3 Behaviours affecting decision making processes

Many of the behaviours affecting decision making processes have the potential to result in market failure. They can cause consumers to choose in a way that is inconsistent with selecting goods and services that reflect their true preferences. Consumers get the goods or services they request, but the products they demand do not maximise their welfare. These problems are likely to be most significant for goods and services where it is difficult for consumers to assess the consequences of their decisions[4], or where it could take years for consumers to realise the costs of a poor choice.

The example of commercial small amount lending was raised in the Victorian Review of consumer credit (Victorian Government 2006). While, on the whole, high interest rates on such loans appear to reflect the costs of providing credit. The justification for other loan costs is less clear. The Australian Financial Services Association (which represents micro-lenders) noted that:

4 Goods and services with characteristics that cannot be verified even after consumption are known as credence goods.

…reports by a number of micro-lenders [are] that 95 per cent of new customers ring the outlet first and arrive, in person, with their mind made up to borrow. (AFSA 2005, p. 10)

Given that borrowers are emotionally committed to the loan they are less inclined to review terms and conditions in contracts or disclosure documents:

98% of respondent micro-lenders reported that their customers did not care about the contents of the documentation and that up to 93% of customers did not read their documentation, despite being asked to do so by the lender. (AFSA 2005, p. 9)

Even if consumers read the documents, such an emotional commitment can lead to a confirmation bias, where they only acknowledge information that reinforces their choice and ignore information that undermines that choice. This lack of attention to the contract, combined with consumers who enter into such loans assuming they will make their repayments, mean that borrowers pay little attention to the costs of late payment and default charges (Victorian Government 2006, p. 75). This conclusion is supported by a research report that documented such fees. It noted that for payday loans, usually around $200:

If the direct debit transactions fail, lenders normally charge a dishonour fee between $15 and $55, excluding bank fees…Some lenders also charge default fees that include fixed charges of up to 48% per annum while others charge $1.57 per day. Several lenders provide rollover facilities, with some charging fixed rates of $15 per loan while others charge 25% of the amount advanced. (MISC 2006, p. 70)

Such fees and charges can quickly mount up, with a loan increasing ten fold in less than a year if a consumer gets into financial difficulty, and because consumers do not choose among suppliers based on these fees, there is little competitive pressure to keep them low.

A key area of debate is, therefore, the extent to which governments should intervene in markets where producers are effectively delivering the goods and services consumers ask for. Calls for such intervention are often criticised as paternalistic. From an economic efficiency perspective, however, it is important to consider whether the market is maximising efficiency. Clearly, in cases where consumers are using decision making techniques that systematically deliver goods and services that are inconsistent with them maximising their welfare in the long term, there is potential to improve market efficiency. The question about whether individuals should take responsibility for their own decisions is a value judgement and hence a social policy issue, rather than an economic efficiency question.

Nevertheless, it is important to consider carefully whether behaviours that affect decision making processes are generating economic inefficiency if government intervention is being considered. Such behaviours may not result in economic problems if:

- consumers are still choosing goods and services that are consistent with their true preferences, even if the choices are based on incomplete or inaccurate information;
- the problems are only temporary and the market would automatically correct poor decisions as people learn from their mistakes; and
- the problems do not affect the market equilibrium, thus the overall price, range and quality of the available goods and services is not altered. This could result if problematic behaviours are concentrated within a small group or the effects of such behaviours are random and do not result in systemic biases in demand. (The circumstances under which behaviours that affect decision making may generate economic inefficiency are discussed further in the following section.)

Even in cases where behaviours do not result in economic efficiency problems they may still generate social policy concerns. Some behaviours, although temporary, can have devastating effects on the individuals involved — for example, making a one-off mistake that has severe health or financial implications, such as consuming food that triggers a severe allergic reaction, losing your home or retirement savings, or getting locked into debilitating long term debt. Similarly, even if the problem is concentrated within a small group but the impact on individuals in that group is large, there may be social policy reasons why governments would want to intervene.

2.4 Externalities

Externalities arise when the production or consumption of a good or service has costs or benefits that affect people other than the buyer or seller of the product. External costs can include, for example, environmental degradation or the costs to taxpayers of poor consumptions choices that increase the call on the public health or welfare systems. Where there are external costs that are not being taken into account in people's consumption decisions, society incurs a loss because too much of the product is sold.

The application of behavioural economics affects the assessment of the need for government action to address externalities, and the types of policy responses that may be appropriate. First, there may be less need for government intervention to address some environmental or social problems. As noted in the discussion on preference based behaviours, people often want to choose goods and services because of their broader environment or social benefits. If enough people are concerned about these problems and willing to change their consumption choices to reduce adverse effects, the costs of externalities may be minimised with less government involvement.

Second, in some cases, consumers may want to choose goods or services that would have flow on benefits to others or the environment but they have difficulty identifying such products. Even after a product has been purchased and consumed, consumers may have difficulty verifying that it

was produced with minimum impact on the environment, sourced from local industries or developed or produced without compromising animal welfare.

Sometimes industry may overcome the problems of verifying a product's credentials by developing programs to independently accredit the product or certify producers' claims. The RSPCA, for example, accredits egg and pork producers. Accredited producers pay a royalty to the RSPCA and the royalties are used to pay inspectors who monitor accredited properties, and to fund the development of certification standards and ongoing animal welfare campaigns (RSPCA 2007, p. 1). In other cases there may be a role for government to make information available or to ensure that the information industry provides is not inaccurate, misleading or deceptive.

Finally, as noted in the previous discussion on behaviours reflecting different preferences, the environment in which people make decisions and the views and actions of others can affect people's preferences. Behavioural change strategies, therefore, provide another mechanism government can use to address externalities. Behavioural change techniques are increasingly common in the health and environmental fields. They have been used to encourage people to have their children immunised, buy and use reusable supermarket bags, recycle garbage and save water. While such techniques can be combined with regulation, their role is often to increase the effectiveness of that regulation, encourage compliance without the need for heavy handed enforcement and reduce the need for more onerous regulatory controls.

In areas where consumption patterns have broader community costs, such as environmental costs or costs to the health or welfare systems, behavioural change strategies may provide a mechanism that activates people's desire to make choices that also benefit others, changes community norms so that people are less inclined to make damaging choices, or shifts decision making environments so that the tendencies that push people towards damaging choices are not activated. Again, however, it is also important to consider the costs of such strategies and whether sufficient benefits can be achieved to justify such costs, and whether, on their own, behavioural change initiatives are sufficient to correct the market failure, or whether they need to be combined with other forms of government intervention.

3. IDENTIFYING WHEN GOVERNMENTS SHOULD INTERVENE

Policy development processes, particularly those that relate to regulation, are well established in Australia. The Commonwealth Government guidelines, which are illustrative of the framework advocated by various governments, involve:

1. defining the problem to provide the justification for government involvement;
2. describing the objectives of government action;
3. determining the options for government action;
4. analysing the impact of the options, their costs and benefits, and how they would affect relevant stakeholders;
5. consulting with stakeholders;
6. developing conclusions and recommended options; and
7. implementing and reviewing the policy. (OBPR 2006, p. xv)

The incorporation of behavioural economics theories into policy development processes does not require significant change to these processes. Rather, behavioural economics simply adds to the sophistication of the analysis by taking a more realistic approach to the nature of problems in consumer markets and how consumers and traders respond to government action to reduce those problems.

The flowcharts presented in this section are intended to facilitate such an analysis. Once behaviours have been identified, these charts assist in analysing whether such behaviours generate economic efficiency or social policy concerns that may warrant government action. Because of their differences, behaviours reflecting different preferences and those affecting decision making processes are considered separately.

The framework in the flowcharts looks at economic efficiency questions first. Addressing economic efficiency concerns will, in many cases, automatically enhance social policy outcomes. The framework recognises, however, that even in efficient markets some social policy concerns may remain. Therefore, it incorporates an assessment of social policy issues within an overall assessment of the need form government action.

Such an approach is amenable to systematically considering all relevant issues and can be readily incorporated into existing policy development processes. It is not intended, however, to undermine the validity of intervention on social policy grounds, nor does it suggest that there will never be a case for social policy interventions that have efficiency costs.

3.1 Framework for considering behaviours reflecting different preferences

As discussed in section 2.2, behaviours reflecting different preferences arise when the reasons why consumers select particular goods and services are different from the assumptions of self-interest and rationality in a rigid interpretation of traditional economic models. The paper argues that such choices are consistent with consumers selecting the goods and services they value most and, therefore, do not reduce economic efficiency.

It is still possible, however, that such choices may result in socially unacceptable levels of financial hardship or risks to personal safety, or undermine justice or equity, causing social policy concerns.

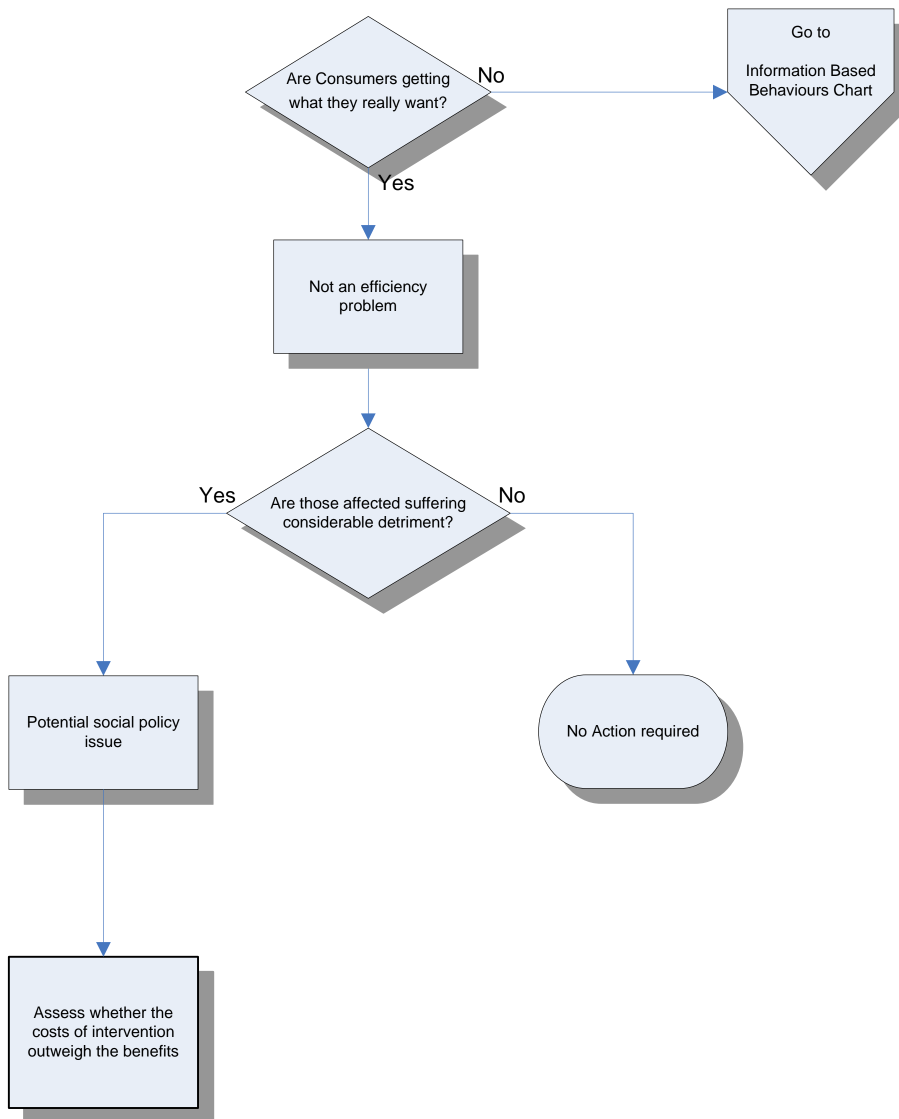
Application of the framework in chart 1 requires that, once preference based behaviours have been identified in a market, policy makers who are considering government action should ask the following questions.

Are consumers getting what they really want?
That is, are decision making processes delivering outcomes that are consistent with consumers' true preferences? This question checks whether the behaviour is purely preference based or whether other factors also distort decision making.

If yes — the behaviour is a preference based behaviour and is not distorting consumers' choices away from efficient outcomes. There may still be social policy concerns, which are considered subsequently.

If no — other factors are distorting consumer choices so that consumers are selecting goods and services that are inconsistent with maximising their welfare. Such behaviours are better analysed using the framework in chart 2.

Chart 1: Behaviours Reflecting Different Preferences: Decision tree



Are those affected suffering considerable detriment?
Consumer detriment is 'the range of impacts on people that occur when goods and services do not meet their expectations' (CAV 2006c, p. iii). Such detriment includes the cost of replacing or repairing goods or services that do not meet consumers' expectations, the time and money spent on dispute resolution, and the cost to consumers of their rights not being maintained.

In a few cases, behaviours reflecting different preferences may result in consumers making choices that result in levels of detriment or hardship that society considers unacceptable. Such hardship could arise, for example, if consumers, who have limited capacity to weather future costs have a short-term focus, taking on too much debt or buying goods or services on impulse, and compromise their ability to meet other needs, or fail to budget for upcoming bills or unexpected expenditure. That is, their focus on the present puts them or their family at risk of being unable to meet basic needs or taking on unmanageable levels of debt.

The cost to individuals can be accompanied by additional costs borne by society or taxpayers, if individual hardship flows on to affect social cohesion or results in long term personal or family costs that require government assistance through the public health or welfare systems.

If yes — there is a social policy problem in the market and an assessment of whether there are cost effective ways of addressing that problem should be undertaken (section 3.3).

If no — people's preference based behaviours are not resulting in levels of consumer detriment that raise social policy concerns and government action is not necessary.

3.2 Framework for considering behaviours affecting decision making processes

As noted previously, behaviours that affect decision making processes arise if consumers ignore or misinterpret information or choose goods and services because their decision making process is biased, based on short-cuts or proxies (rather than an assessment of all relevant information) or uses criteria other than the available information. Sometimes such choices cause neither economic nor social policy concerns. In other cases, however, economic efficiency may be compromised because consumers' decision making processes result in markets not delivering the mix of goods and services that would maximise welfare. Social policy objectives may also be compromised if consumers' decision making processes result in unacceptable levels of financial hardship, risks to personal safety or restricted access to justice, for example.

The framework in chart 2 recognises that, in order to generate outcomes that are inconsistent with economic efficiency, information based behaviours need to result in long term breakdowns in decision making processes, in which a large number of consumers systematically selects goods and services that are inconsistent with their true preferences. These requirements are reflected in the individual questions in the chart.

Are consumers getting what they really want?
This question checks whether the behaviour is distorting the outcomes from consumers' decision making processes.

In some cases, the proxies and shortcuts consumers use in decision making may still reflect the underlying characteristics of the good or service. Such shortcuts may make complex decisions manageable and result in consumers reaching the right conclusion. The New Zealand Ministry of Economic Development illustrated this with the following example.

> *… the recognition heuristic is a heuristic whereby if people have heard of something, they think it must be for a reason, and so 'having heard of something' is a simple rule for making a decision. For example, where one is asked 'which city is bigger, New York, or Iasi, Romania? Most people think 'I have never heard of Iasi, so it cannot be very important, and therefore big, so I will choose New York.' They have applied the recognition heuristic to very limited information and based on one reason — having heard of it— they have made the right decision: New York is bigger than Iasi (Iasi has around 800,000 people). (Ministry of Economic Development 2006, pp. 9-10)*

If yes — consumers are getting the goods and services they want, even if their choices are based on partial information or decision making criteria that are not directly related to the available information. The behaviour is not distorting consumer's choices away from efficient outcomes.

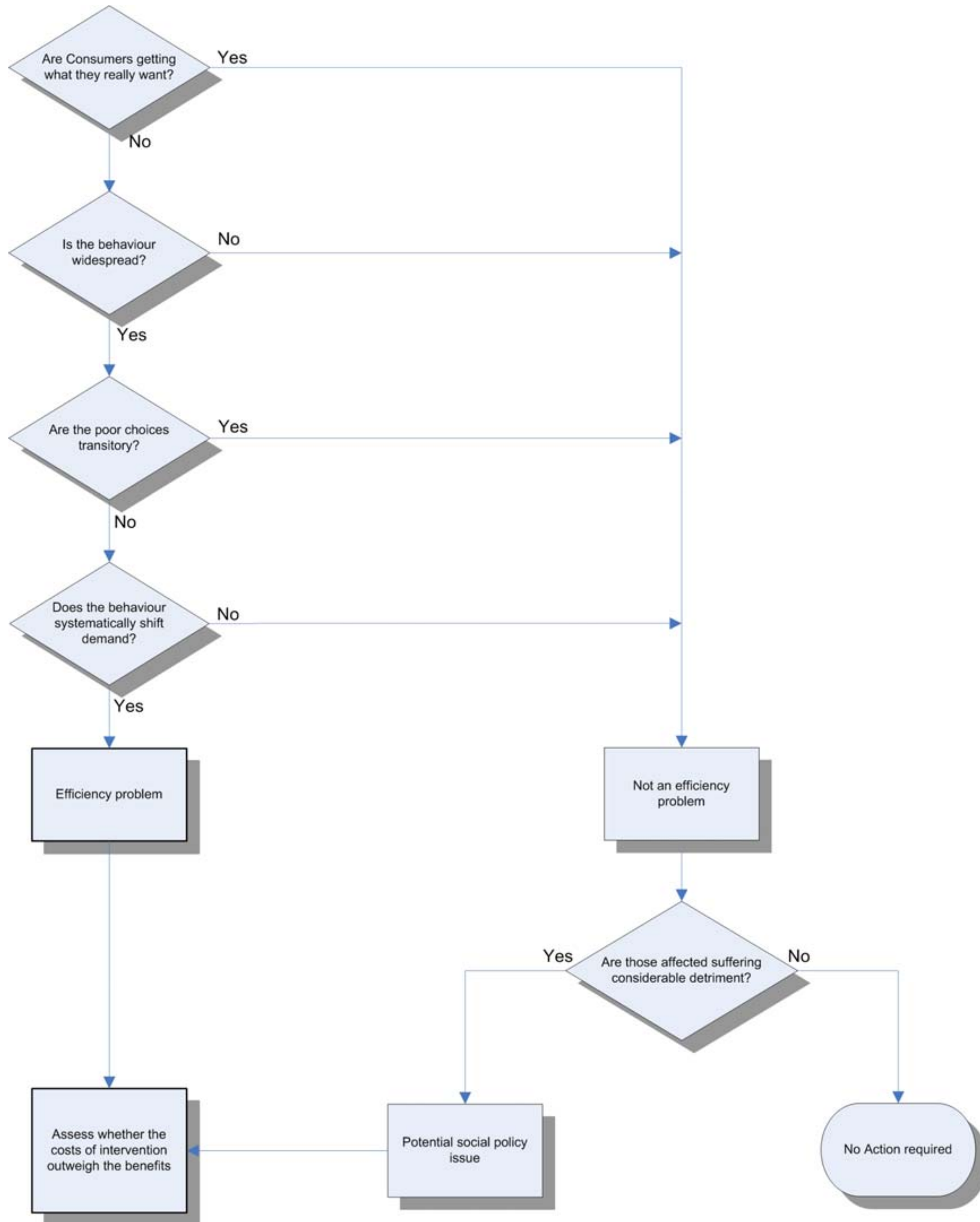
If no — at least some consumers are choosing in a way that will not deliver goods and services that are consistent with their true preferences, so there may be economic efficiency problems in the market.

Is the behaviour widespread?
Behaviours affecting decision making processes may affect a large number of consumers or be isolated to a small group or groups. For the behaviour to reduce economic efficiency a sufficient proportion consumers needs to be affected to change the market equilibrium, that is the characteristics, range or price of the goods or services on offer.

If yes — a significant proportion of consumers are choosing in a way that will not deliver goods and services that are consistent with their true preferences, so there may be economic efficiency problems in the market.

If no — the behaviour is restricted to a smaller group of consumers and is not sufficiently widespread to affect the market overall. There may still be social policy concerns, which are considered subsequently.

Chart 2: Behaviours Affecting Decision Making Processes: decision tree



PIRAC economics

Are the poor choices transitory?
Consumers rarely make purchasing choices without ever making mistakes. In many cases they learn from those mistakes so that, over time, their choices improve and the problems of poor choice are only transitory. In other cases, the market may develop mechanisms to reduce poor choices. If businesses can obtain a market advantage by assisting consumers to make better choices, there are incentives for some to do so and benefit from increasing their customers and being able to charge higher prices.

Government intervention in this process can be risky because the intervention may undermine the learning process or the incentives for business to assist consumers to make better choices. As governments will never be able to perfectly predict and reflect the diverse range of consumer preferences, government action could simply replace short term market failure with long term government failure.

Nevertheless, learning or market processes will not overcome all problems caused by behaviours that affect decision making processes. First, the markets in which there is potential for businesses to voluntarily develop market based solutions are limited. For established markets, business initiatives should have already eliminated problems cause by behaviours affecting decision making where this is likely. Taking care not to stifle market based responses is more of an issue in new or changing markets, but will still be limited to those markets where individual businesses can obtain a direct financial benefit that outweighs the cost of such initiatives.

Second, sometimes consumers may not learn. Some biases are so ingrained that people do not realise their decision making process is not delivering the goods and services they want, nor will they necessary respond to business initiatives to improve that decision making. Consumers may not have the opportunity to learn. If the information behaviour affects goods and services that most consumers purchase on a few occasions, at most, in their lifetime, such as buying a house, superannuation or major medical procedures, then the opportunities to learn are limited. Thus the learning process may be very slow or ineffective. In other cases, the market may be changing so quickly, through technological change for example, that consumers do not have the capacity to keep up to date and informed.

If yes — the behaviour will correct itself over time. There may still be social policy concerns, which are considered subsequently.

If no — the behaviour is not self correcting and is likely to continue in the long term, so there may be economic efficiency problems in the market.

Does the behaviour systematically shift demand?
Traditional economic theory has recognised for some time that not all consumers make perfect choices. It assumes, however, that, on average, errors in choice are distributed around a mean that reflects rational informed decision making. If this is the case, the market would still deliver efficient outcomes. In contrast, behavioural economics literature proposes that behaviours affecting

decision making can result in systematic shifts in consumer choices, so that the average outcome shifts away from an efficient outcome.

If yes — the behaviour results in a systematic shift in the market away from an economically efficient outcome. This bias in demand, combined with the other market features identified above, means that there are economic efficiency problems in the market and an assessment of whether there are cost effective ways of addressing these problems should be undertaken (section 3.3).

If no — the outcomes of the behaviour are random and it does not result in a systematic shift in the market away from an economically efficient outcome. There may still be social policy concerns, which are considered subsequently.

Are those affected suffering considerable detriment?
As noted in the discussion on behaviours reflecting different preferences, consumer detriment is 'the range of impacts on people that occur when goods and services do not meet their expectations' (CAV 2006c, p. iii). Such detriment includes the cost of replacing or repairing goods or services that do not meet consumers' expectations, the time and money spent on dispute resolution and the cost to consumers of their rights not being maintained.

Behaviours that affect decision making processes may result in unacceptable levels of consumer detriment, even if they do not affect market efficiency overall. Behaviours that only affect small groups of consumers may still have a devastating impact on individuals in that group. Similarly, even if the mistakes that cause detriment are transitory or occur randomly, the cost of a significant number of consumers making one-off mistakes may be large enough to be of concern and warrant government action. This applies for all affected consumers but is particularly the case if those affected are already vulnerable or disadvantage.

As with the behaviours that reflect different preferences, consumer detriment related to the behaviours that affect decision making can also be accompanied by additional costs that flow on to society or taxpayers.

If yes — there is a social policy problem and an assessment of whether there are cost effective ways of addressing that problem should be undertaken (section 3.3).

If no — behaviours affecting decision making are not resulting in levels of consumer detriment that raise social policy concerns and government action is not necessary.

3.3 Assessing whether the costs of intervention outweigh the benefits

If it has been determined that the behaviours discussed above are resulting in society not achieving its economic efficiency or social policy objectives the next step is to consider whether government action would be able to reduce these problems and, if so, which type of government response would have the greatest benefits at the lowest possible cost. In some cases, even if social or economic problems have been identified, government action is not warranted because

government attempts to rectify the problem are likely to be ineffective or impose costs that outweigh their benefits.

In analysing policy options it is also important to take a broad perspective on economic and social policy costs and benefits, and the interaction between economic and social policy issues. First, for those markets where economic efficiency problems have been identified, it is important to consider whether addressing efficiency problems would also address all social policy concerns, or whether additional action is needed.

Second, the assessment of policies to improve economic efficiency should consider how the proposed policy responses might affect social policy concerns and whether they risk exacerbating social policy problems. For example, if improving choice and competition in a market for an essential service substantially increases the analytical sophistication needed to access that market, those who are already disadvantaged may have more difficulty selecting a product that satisfies their needs. In such cases, economic and social policy responses may need to be combined and coordinated to ensure both economic and social policy objectives are achieved.

Equally important, the assessment of policies to improve social outcomes should also consider how the proposed policy responses might affect economic efficiency. For example, a policy that protects vulnerable consumers from making poor choices by restricting the types of goods and services that can be sold may also disadvantage other consumers who were not having difficulty selecting the right product for them. In such cases, consideration should be given to whether it is possible to achieve social policy goals, and assist vulnerable and disadvantaged consumers, without imposing costs on other consumers. The work of Colin Camerer et al advocated choosing policies that assist those that have difficulty choosing the products and services they want, but do not impose excessive costs on those who are able to make effective choices on their own. (Camerer et al 2003)

4. DESIGNING EFFECTIVE POLICY

As with other aspects of the application of behavioural economics, the work on its implications for government policy is limited. The work that has been done recognises two issues. First, the causes and nature of behavioural problems are different to traditional information problems — thus policy needs to target these problems differently. (See for example Ministry of Economic Development 2006 and NEF 2005.) Second, an understanding of behaviours reflecting different preferences and those affecting decision making processes can improve the effectiveness of government policy. This has been illustrated in work on defaults and information disclosure, for example.

To put policy development processes in context, it is worth noting that governments can target economic or social policy problems at three levels:

1. removing the cause of the problem;
2. changing problematic behaviour; or
3. offsetting the resulting consumer detriment. (Cope 2006, p. 8)

The most effective tools are likely to be those that remove the cause of the problem and, therefore, solve the problem at its source. This would include, for example, introducing competition into a market where a monopolist is charging excessive prices or providing information if consumers are unable to make good choices because they lack access to such information. Current government policy development processes facilitate such an approach as they start by defining the problem that government intervention is trying to solve.

Caution is needed, however, to avoid taking an overly simplistic view of how problems arise, as actions that do not target the real causes of problems would be futile (Cope 2006, p 8). In addition, it is not always possible to remove the cause of problems, particularly for many preference and information based behaviours. Behaviours are often so ingrained that removing their underlying cause is impossible. It is not possible to change teenagers' desire to fit in with their peer group, people's inability to fully process large amounts of complex information or people's lack of time.

When this is the case, policy options should consider changing behaviour, which could include facilitating behavioural change or mandating change, or mitigating the consequences of poor choices.

4.1 Making policy more effective

Behavioural economics not only contributes to a better understanding of the situations in which behavioural change strategies may be needed, it also makes such strategies more efficient by improving the understanding of the behaviours that policy makers are trying to change and how

consumers are likely to respond to change strategies. The following examples illustrate how an understanding of behavioural issues can improve the effectiveness of government policy.

Information disclosure

Behavioural insights can assist in making decisions on when and how policies that increase access to information would influence consumer behaviours. The pitfalls of assuming that information provision would automatically improve market outcomes is illustrated in the example of the US Department of Housing and Urban Development's proposal to use information disclosure to ensure that consumers who use mortgage brokers can recognise whether the choice of loan their broker proposes is affected by the commissions the broker receives from lenders (box 4).

Box 4: Effect of mortgage broker compensation disclosure

In the United States, the Department of Housing and Urban Development was concerned that consumers were paying too much for loans supplied through mortgage brokers because they did not know the amount the broker received from the lender and, therefore, brokers could increase their commission by putting consumers on high cost loans without the consumer knowing.

The solution proposed was to require brokers to declare their commission as part of the loan's information disclosure requirements. The disclosure requirements were to apply to brokers but not other loan sources. Several approaches to disclosure were tested to see how additional information affected consumers' choice of loan and loan provider.

The study results indicated that information disclosure seemed to confuse, rather than inform, consumers. When presented with a choice of loans, where the broker provided loan was the cheapest, consumers were more likely to select the other, more expensive, loan when brokers' commissions were disclosed (about 90 per cent selected the cheaper loan in the two control groups, compared with 63 to 72 per cent under information disclosure).

Information disclosure also created a bias against brokers. When the two loans offered cost the same, consumers were more likely to choose the non-broker loan when the amount of information brokers were required to disclose increased.

It was predicted, therefore, that disclosure of broker commissions would disadvantage consumers by increasing the number of people that mistakenly take out a more expensive loan, and creating an artificial bias against brokers, potentially reducing competition in the loan market. Consumers' responses to disclosure appeared to be created by confusion about what the information provided meant, an aversion to the added complexity in the broker supplied loans and focusing consumers' attention on broker remuneration and away from the overall loan cost.

Source: Federal Trade Commission 2004, *The Effect of Mortgage Broker Compensation Disclosures on Consumers and Competition: A Controlled Experiment*

While these results cannot be generalised, as each form of information disclosure in each industry will be different, they do illustrate that it should not be automatically assumed that more information is better.

In addition to consumers not necessarily responding to information as expected, there are cases where information is necessary, but not sufficient to generate behavioural change. There is a considerable gap between people being provided with a comprehensive set of facts and them making sustained changes to their behaviour. In order to transfer knowledge into action people need to also:

- have a desire to change;
- have the skills necessary to visualise the steps required to achieve change;
- be optimistic that their efforts are likely to be successful;
- be able to overcome barriers to change so that the change process is as simple, quick and low costs as possible;
- be stimulated into taking action and overcoming inertia and habit; and
- receive feedback and recognition that reinforces their actions, so that the changed behaviour continues. (Robinson 1998, pp. 5-7)

Effective government policy may, therefore, need to break down barriers to behavioural change as well as ensuring that understandable information is available and accessible.

Changing the decision making environment

Sometimes policies that make relatively minor changes to the decision making environment can have a significant effect on consumer choices. The example most commonly used to illustrate such effects is defaults.

- In New Jersey and Pennsylvania legislation was introduced to require companies to offer insurance that limited the right to sue after an accident. In New Jersey the limited right to sue was the default, with customers required to pay extra to acquire full rights to sue. In Pennsylvania the full right to sue was the default. In New Jersey only 20 per cent of drivers chose to purchase full rights to sue. In Pennsylvania about 75 per cent retained the full right. (Camerer et at 2003, pp. 1225-1226)
- There are several international examples where countries have changed defaults to encourage retirement saving. The results of these initiatives consistently show that changing the default from non-participation to participation in such schemes, while still allowing employees to opt out if they choose not to participate, significantly increased the rate of saving (Ministry of Economic Development 2006, p. 24). Examples of such schemes

include the automatic 401(k) savings plans in the United States and Kiwisaver in New Zealand. (Iwry 2006)

- Similar results have been observed with differences in defaults for organ donation. In countries like Austria, in which consent is presumed unless the person registers not to be a donor, the rates of organ donation are very high (over 90 per cent). In countries like Germany and New Zealand, in which people must opt in to become a donor, the rates of donation are much lower (below 20 per cent). (Ministry of Economic Development 2006, p. 25 and Amir et al 2005, p. 10)

In addition to defaults, other situational factors can also change people's choices. For example, the way choices are ordered and presented can have a significant impact on the option chosen, as people tend to avoid extremes and choose options that are not at either end of a list. Similarly, changing the presentation of options from losses to gains can change the way consumers respond to those options.

> *In a recent paper, Epley, Idson, and Mak (2004) examined why the effect of the 2002 tax return on the economy was smaller than anticipated. Based on a series of experiments the authors conclude that if the tax reduction had been framed as a "bonus" rather than a "rebate," people would have spent significantly more of it.* (Amir et al 2005, p. 12)

Internal and external drivers of behaviour

Biases in people's behaviour may be influenced by both internal and external drivers. When the drivers of behaviour are internal, for example the effect of individual habit, then policies will probably need to target the individual. In contrast, when the drivers of behaviour are external, for example the effect of community norms and expectations, then policies that target community level change may need to be considered. This example further illustrates the importance of understanding the behaviours being targeted.

Mandating behaviour

In some cases, strategies to encourage behavioural change are unlikely to be effective because behaviour is the result of natural human psychological biases, for example. The alternative approaches available to government then include, mitigating the consequences of poor choice if problems arise or mandating (regulating) particular behaviours.

Government may regulate either consumer or trader behaviour. For example, banning products that are considered dangerous, requiring businesses supplying services such as pest control to use particular equipment or safety procedures, or prohibiting consumers from buying services from suppliers who do not hold minimum qualifications, because of a concern that consumers do not fully account for the risks of engaging an unqualified supplier.

Mandating behaviour is most effective for high cost problems where there is little feasible choice, but it has several disadvantages:

- in markets where experience and learning can reduce problems, these forces are neutralised. Consumers' propensity to make poor decisions may increase as they rely on the government to reduce the risks for them and they pay less attention to the decision they are making;

- if the problem is restricted to a small segment of the market, for example a social policy problem affecting a small group, regulation that mandates behaviour or choice across the whole market may adversely affect those not subject to the behavioural problem; and

- regulation of one behaviour may encourage avoidance that undermines the regulation's effectiveness. For example, caps on prices, such as interest rate caps, can simply encourage producers to increase other fees and charges (Victorian Government 2006. p. 114). More encompassing price regulation can encourage businesses to restructure their services so that at least some of their activities fall outside the regulation.

Mitigating the consequences of poor choices

Policies to mitigate the consequences of poor choices are often used for social or economic problems where the market failure imposes little or no cost on most consumers, but has a significant effect on a small number of people. In these cases, mitigating the consequences of poor choices can assist those that have suffered a loss without requiring extensive regulation of those who do not experience problems. Policies that provide a general safety net are also useful if the consumers affected are difficult to identify and target ex ante. Examples of policies to mitigate the costs of poor choices include:

- alternative dispute resolution, which involves low cost and accessible procedures that assist consumers to resolve disputes with businesses if a problem arises. A wide range of alternative dispute resolution services are available — general mediation services are offered though consumer affairs agencies and specific services are available in industries such as banking and finance, insurance, utilities and health care;

- mandatory insurance, which must be taken out by travel agents, car dealers and builders, can be called on to compensate consumers if specific problems occur, for example the service provider goes into liquidation; and

- general laws that allow consumers to seek redress if they have been the victim of misleading or deceptive conduct, or they have been sold goods that were not of merchantable quality or were not fit for the purpose for which they were sold.

Such policies are rarely costless and can add to the cost of products and service for all consumers. Therefore, as with all types of government intervention, their costs need to be weighed against their potential benefits.

The need for further policy research

The capacity of behavioural economics to inform government policy development has not yet been fully realised. One of the reasons for the reluctance of policy officers to embrace behavioural theories is that, unlike traditional economic theories, there is no ready tool kit or framework available to policy makers to assist them to sift through the multitude of theories, identify those that are relevant to particular policy problems, and develop effective solutions to those problems.

To address these shortcomings, additional research is needed in two key areas. First, as noted previously, because behaviours are diverse and multifaceted, more work is needed on categorising behaviours, so that the policy tools best suited to addressing particular types of behaviours can be identified.

Second, while some work is available that analyses the contribution behavioural economics can make to improving the effectiveness of existing policy approaches, such as information disclosure, there is still considerable potential for behavioural theories to inform policy development and implementation. Additional research would be useful in areas such as:

- how consumers and businesses respond to mandated restrictions on their activities or choices, and how the government can design policies that maximise compliance and minimise avoidance of such restrictions;
- when policies should target individuals and when they should try to influence individuals through their broader social networks; and
- how government departments and regulators can encourage businesses to comply with existing laws, therefore reducing the incidence and cost of market problems and avoiding the need for additional regulation.

Overall, before the contribution behavioural economics can make to consumer policy development is fully realised, further research is needed on understanding the relationship between consumer behaviour and existing and potential consumer policy tools, and drawing together the existing work into a framework that can be more easily applied by policy makers.

BIBLIOGRAPHY

ACA (Australian Consumers' Association) 2006, *The eight basic consumer rights*, http://www.choice.com.au/viewArticle.aspx?id=100736&catId=100528&tid=100008&p=1&title=The+eight+basic+consumer+rights, accessed 2 May 2006

AFSA (Australian Financial Services Association) 2005, *Australian Financial Services Association Inc Submission to the Consumer Credit Review 2005*, Sydney

Amir, O., Ariely, D., Cooke, A., Dunning, D., Epley, N., Koszegi, B., Lichtenstein, D., Mazar, N., Mullainathan, S., Shafir, E. and Silva, J. 2005, *Behavioural Economics, Psychology, and Public Policy*, Marketing Letters (Special Issue for the Sixth Choice Symposium), 16:3/4, 443-454

Aronson, E. 1990, 'Applying social psychology to desegregation and energy conservation', as reported in *Improving Energy Conservation with Effective Home Audit Programs in California Using Communication and Commitment*, http://www.cbsm.com/CasesDatabase/Detail.lasso?-KeyValue=90&-KeyField=ID, accessed 31 March 2007

Bachman, W. and Katzev, R. 1982, 'The effects of non-contingent free bus tickets and personal commitment on urban bus ridership', reported in *Promoting Public Transit in Urban Areas with incentives and commitment*, http://www.cbsm.com/CasesDatabase/Detail.lasso?-KeyValue=94&-KeyField=ID, accessed 31 March 2007.

Barber, B.M. and Odean, T. 1999, 'The courage of misguided convictions', in *Financial Analysts Journal*, November/December

Bertrand, M., Karlan, D., Mullainathan, S., Shafir, E. and Zinman, J. 2005, *What's Psychology Worth? A field Experiment in the Consumer Credit Market*, http://www.princeton.edu/~rpds/downloads/Shafir_2006What's%20Psych%20Worth_%20South%20Africa.pdf, accessed 22 August 2007

Brennan, T. 2005, *Consumer Preference Not to Choose: Methodological and Policy Implications*, Discussion Paper, Resources for the Future, Washington

Bridgeland, S. 2002, 'Choices, choices…', *The PMI Trustee Group News*, December 2002, Issue No. 36, pp. 3-5

Camerer, C., Issacharoff S., Loewenstein G., O'Donoghue T. and Rabin M. 2003, 'Regulation for conservatives: Behavioural economics and the case of "asymmetric paternalism"', in University of *Pennsylvania Law Review*, Vol 151: 1211-1254

CAV (Consumer Affairs Victoria) 2006a, *Information Provision and Education Strategies*, Research Paper No. 3, Melbourne

— 2006b, *Social Marketing and Consumer Policy*, Research Paper No. 4, Melbourne

— 2006c, *Consumer Detriment in Victoria: A Survey of its Nature, costs and Implications*, Research Paper No. 10, Melbourne

Choi, J. J., Laibson, D. and Madrian, B. C. 2005, *Reducing the Complexity Costs of 401(k) Participation Through Quick Enrollment™*, http://www.economics.harvard.edu/faculty/laibson/papers/reducing_complexity.pdf, accessed 15 August 2007

Choi, J. J., Laibson, D., Madrian, B. C. and Metrick, A. 2001, *For Better or For Worse: Default Effects and 401(k) Savings Behavior*, http://www.economics.harvard.edu/faculty/laibson/papers/forbetter.pdf, accessed 15 August 2007

Cope, D. 2006, *Information and education strategies form modern consumer policy*, presentation to the Third National Consumer Congress, Melbourne

De Bondt, W.F.M. and Thaler, R. 1984, 'Does the stock market overreact?', in *Journal of Finance*, Volume 40, Issue 3, Papers and Proceedings of the Forty-Third Annual Meeting American Finance Association, Dallas, Texas, December 28-30 1984, (July 1985), pp. 793-805

Earl, P. 2005, *Behavioural Economics and the Economics of Regulation,* Briefing paper prepared for the New Zealand Ministry of Economic Development

Epstein, R. 2006, *Behavioural Economics: Human Errors and Market Corrections*, http://lawreview.uchicago.edu/issues/archive/v73/winter/07.Epstein.pdf, accessed 22 April 2007

Federal Trade Commission 2004, *The Effect of Mortgage Broker Compensation Disclosures on Consumers and Competition: A Controlled Experiment*, Federal Trade Commission Bureau of Economics Staff Report

Gans, J.S. 2005, 'Protecting consumers by protecting competition: Does behavioural economics support this contention?', *Competition and Consumer Law Journal*, pp. 40-49

Iwry, J. M. 2006, *Automating Saving: Making Retirement Saving Easier in the United States, the United Kingdom and New Zealand*, RSP Policy Brief No 2006-2

Iyengar, S. and Lepper, M. 2007, *When Choice is Demotivating: Can One Desire too Much of a Good Thing?*, http://www.columbia.edu/~ss957/whenchoice.html, accessed 31 March 2007

Kahneman, D. 2002, *Maps of Bounded Rationality: A Perspective on Intuitive Judgment and Choice*, Nobel Prize lecture, 8 December

Langevoort, D.C. 2002, 'Investor psychology and securities regulation: Lessons for the online world', paper given at the *12\th Annual Corporate Law Teachers Association Conference*, Melbourne 10-12 February 2002

Lunt, P., Miller, L., Körting, J. and Ungemah, J. 2006, *The psychology of consumer detriment: A conceptual view*, paper prepared for the Office of Fair Trading, London

McAuley, I. 2007, *Behavioural Economics and Public Policy: Some Insights, http://www.home.netspeed.com.au/mcau/academic/bepubpol.pdf, accessed 20 August 2007*

Ministry of Economic Development (New Zealand) 2006, *Behavioural Analysis for Policy: New Lessons from Economics, Philosophy, Psychology, Cognitive Science, and Sociology*, Wellington

MISC (Market Intelligence Strategy Centre) Australia 2006, *Consumer Credit Report*, prepared for the Department of Justice, Consumer Affairs Victoria

Mullainathan, S. and Thaler, R.H., *Behavioural Economics*, http://www.iies.su.se/nobel/papers/Encyclopedia%202.0.pdf, accessed 3 May 2007

NEF (New Economics Foundation) 2005, *Behavioural Economics: Seven Principles for Policy-Makers*, United Kingdom

OECD (Organisation for Economic Cooperation and Development) 2006, *Roundtable on Demand-Side Economics for Consumer Policy: Summary Report*, DSTI/CP(2006)3/FINAL, Paris

OBPR (Office of Best Practice Regulation (Australia)) 2006, *Best Practice Regulation Handbook*, Canberra

Rabin, M. 2002, *A Perspective on Psychology and Economics*, Paper E02'313, Berkely

Robinson, L. 1998, 'A 7 step social marketing approach', paper presented at the *Waste Education 98 Conference*

Royal Swedish Academy of Sciences 2002, *Foundations of Behavioural and Experimental Economics: Daniel Kahneman and Vernon Smith*, Stockholm

RSPCA 2007, *Accredited RSPCA Products*, http://www.rspcavic.org/help_rspca/accredited_products.htm, accessed 5 May 2007

Schelling, T. 1984,'The Intimate Contest for Self-Command', in Schelling, T., *Choices and Consequences: Perspectives of an Errant Economist*, Harvard University Press

Smith, R. and King, S. 2006, 'Insights into consumer risk: Building blocks for consumer protection policy', in *Roundtable on Demand-Side Economics for Consumer Policy: Summary Report*, OECD Committee on Consumer Policy, DSTI?CP(2006)3/Final

Sydnor, J. 2005, *Sweating the Small Stuff: The Demand for Low Deductibles in Homeowners Insurance*, Berkeley

Thaler, R. 1980, 'Towards a positive theory of consumer choice', in *Journal of Economic Behaviour and Organisation*, 1 (1980) p. 39-60

The Region 2002, *Interview with Gary Becker*, Federal Reserve Bank of Minneapolis

Victorian Government 2006, *The Report of the Consumer Credit Review*, Melbourne

Weinstein N. 1980, 'Unrealistic optimism about future life events', in *Journal of Personality and Social Psychology*, Vol 39. pp. 806-820

Wenglert, L. and Rosén, A. 2000, 'Measuring optimism — pessimism and beliefs about future events', in *Personality and Individual Differences*, 28(2000) 717-728

Wilson, C.M. and Waddams-Price, C. 2005, *Irrationality in Consumers' Switching Decisions: When More Firms May Mean Less Benefit*, ESRC Centre for Competition Policy, Norwich

Yates, S.M. & Aronson, E. 1983, 'Psychology in action: a social psychological perspective on energy conservation in residential buildings', *American Psychologist* 38(4), April, pp. 435–444