



Literature Review on Personal Credit and Debt

Families at Risk Deciding on Personal Debt

By Supriya Singh, Warren McKeown, Paul Myers and Marita Shelly

20 May 2005

Table of Contents

1. Overview.....	4
2. Introduction.....	4
3. Perceptions of Money and Credit	4
3.1 Money and Markets	4
3.2 Money is Socially Shaped.....	5
3.2.1 Money is Personal.....	5
3.3 Cultural Differences Around Money	5
4. Information Provision	6
4.1 Sense-making.....	6
5. Decision-Making.....	8
5.1 Rationality and Decision-Making	8
5.2 Psychological and Social Influences on Decision-Making.....	9
5.2.1 Risk Tolerance and Decision-Making	9
5.3 Decision Making and Channels of Information.....	10
5.3 Decision Making in Different User Groups.....	11
5.3.1 Low Income Groups and Consumer Credit	11
5.3.1 Gender and the Management of Money.....	12
6. Case Studies of Financial Decision Making	13
6.1 Choosing Fund Managers: The Role of Individual Choice	13
6.2 Individual Shareholders' Decision Making	15
7. Conclusion	18
Acknowledgments.....	18
References.....	19

Literature Review on Personal Credit and Debt

1. Overview

In this literature review we chart the theoretical frameworks informing our approach to the study of *Families at Risk Deciding on Personal Debt*. It complements the literature review on personal credit and debt in Australia.

Our basic tenet is that credit is not just an economic phenomenon. Decisions about credit are influenced by economic, social, cultural and psychological factors. We draw on all these literatures to illuminate three issues: perceptions of money and credit; the relationship between information and decision-making; and case studies of financial decision-making.

There is useful consideration of these themes in the literatures we examine. There is however, a lack of connection and integration of the different perspectives. This gap means that the non-economic literatures have not as yet sufficiently influenced consumer protection and consumer education.

2. Introduction

The literature review examines how people decide issues of personal debt and credit. We focus on the poorest households for they are the most vulnerable to changes in financial circumstances.

The questions addressed in the study are:

- What are the psychological and social factors influencing decisions about different kinds of personal debt?
- What is the relationship between disclosure, information and decision-making?

3. Perceptions of Money and Credit

Money and credit have most often been seen as economic market phenomenon. Economists define money according to its functions. Money is a medium of exchange. Classical sociologists also saw money as belonging to the market. In the 1980s, sociologists began to focus on how money shapes and is shaped by social relations and cultural values. Money is also seen as a medium of the communication of power, sovereignty, love, trust and kinship. However, the discussion of money is seldom framed by the concepts of culture, media and communication. For the most part, money remains in the domain of economics and finance and influences the legislative view of decision making about money.

3.1 Money and Markets

In economics, the focus is on the functions of money rather than its nature. Money is defined in terms of its three basic functions. It is a store of value, a medium of exchange and a unit of account. Classical sociologists such as Karl Marx ([from 1927]1971); Georg Simmel ([1900] 1990) and Max Weber (1947; 1978) also saw

money as part of the market and defined the market in terms of money (Marx, 1971; Simmel, 1990; Weber, 1947). Money in the market was individually owned, impersonal and depersonalising. They emphasised different effects of money on society and culture, but did not consider the social and cultural shaping of money. It is the economists' and classical sociologists' concept of money that underlies much of economic policy and Western law.

3.2 Money is Socially Shaped

In the mid-1980s a social theory of money was more clearly articulated. Dodd (1994) argued that money is not necessarily defined by its function. Money is not necessarily always a store of value, a unit of account or a medium of exchange. It is a person's use and perception of money that distinguishes its nature, rather than the function or inherent characteristics of payment instruments (Dodd, 1994).

Zelizer's work (1994) showed that money shapes, and is shaped by, social relations and cultural values. She demonstrates that there are different kinds of money, that market money differs from domestic money, and that money is not a homogenous phenomenon (Zelizer, 1994).

Singh's work (1997) shows that the nature of money not only differs between the domestic arena and the market, but that even in banking, the meanings of money differ from the ideal type of market money (Singh, 1997).

3.2.1 Money is Personal

Research in the 1990s revealed that money for Anglo-Celtic middle-income married couples was very personal. Credit was seen as a commitment, rather than something to be purchased. Banks were chosen as much for the history of relationship with the family, as for the services they offered. A mortgage was the single most important personal investment decision. Much of the anger against banks was directed at the impersonalisation of banking, where this personal dimension was not recognized (Singh, 1997).

Money in the bank was not solely a matter of price. Unlike the theory that underpins competitive markets, not a single person interviewed spoke of 'banking money' that is, money in the bank as a commodity to buy and sell. They did not see depositing money as 'selling' money, or credit as 'buying' money at a price.

More recent research is needed to show how attitudes towards the price of banking products have changed, as banking transactions have become more impersonal (Singh, 2004).

3.3 Cultural Differences Around Money

The social theory of money most often assumes money to be Western money. This is illustrated in four ways:

- Money in modern societies is more often studied as a medium for payments and transfers rather than gifts. Gift money is seen as a 'special' kind of money, usually studied by anthropologists studying non-Western and traditional societies.
- The design of global payments as seen in electronic payments instruments takes for granted a Western computerised banking system

with trusted paperless payments instruments and transaction channels that do not depend on face-to-face interaction.

- Money is seen to be individually owned, unless otherwise stated.
- The married couple is most often the financial unit for the management and control of domestic money.(Singh, 1997)

These assumptions about money marginalize cultural concepts that are not part of mainstream Western money.

A study of Aboriginal money in Australia shows that gift money is an important part of money available to a household. Money is shared within an extended family, kinship group or household cluster and saving is seen as selfish. Frameworks for electronic money fail in remote communities where there is little literacy, poor access to telephones, no bank branches and where cash is only available in limited amounts when you use EFTPOS for purchases (Sansom, 1988; Senior, Perkins, & Bern, 2002). The same issues are true for Islander and Maori families in New Zealand (Fleming, Taiapa, Pasikale, & Easting, 1997).

Banking for non-English background people with low financial literacy is similarly a troubled issue .

4. Information Provision

Legislation and education on consumer financial decision-making assumes that people make rational decisions taking all the relevant information into account. It is also assumed that informed consumers will in turn lead to competitive markets. Behind this approach is the market view of money, where money is rational, impersonal, individual and calculative. This approach also posits perfect rationality and perfect information. This assumption has been behind efforts to protect consumers through adequate disclosure policies and credit codes.

Underlying the notion of a perfectly informed consumer is the idea that information is a physical commodity that can be transmitted. Studies of information increasingly focus on how information is received, rather than on its provision alone. Effective information takes into account the way people make sense of information. Timing, format and language are important factors to be taken into account.

Recent studies have shown that information is a necessary though not sufficient condition for consumers to make decisions that would not disadvantage them in the future. Studies of financial literacy are the best approach to date of addressing issues of financial responsibility, commitment, attitudes to money and credit and linking them with the use of information (See literature review on personal credit in Australia).

4.1 Sense-making

Brenda Dervin has been influential in moving the idea of information as a commodity that is transmitted to focusing on how users make sense of information . She sees information as a construct of the user (B. Dervin & P. Dewdney, 1986). Information is something to be constructed. There is no information unless it has been communicated and understood. Methodologically, this is important, for it shifts the

emphasis from information provided by the supplier, to information used and understood by the user. Dervin pointed out:

Almost all our current research applies an observer perspective. We ask users questions which start from our worlds, not theirs: What of the things we can do would you like us to do? What of the things we now offer do you use?... The difficulty is that the data tell us nothing about humans and what is real to them (B. Dervin, 1992).

Seeing information as a user construct leads to the focus on information as the user's way of making sense of new and unfamiliar situations. Though this sense-making exercise is unique to every individual and differs in time and space, it has three constant elements. The first is the need to make sense. This occurs when a person faces a new or unfamiliar situation. The second element is that there is a visible gap that needs to be bridged by new information, for previously held knowledge is no longer sufficient (B. Dervin & P. Dewdney, 1986), as "internal sense runs out" (B. Dervin & Nilan, 1986). The gap makes for questions that lead to a search for answers to bridge the gap. The third element in the model is how a person uses this resulting information to make new sense of the situation (B. Dervin & Nilan, 1986).

Dervin's situation-gaps-uses model helps explain differences in the way people observe and understand what they observe across time and space. Situating the information process helps question the stereotype of the "informed consumer" who uses multiple information sources and is an efficient processor of information. It enables an analytical examination of information without assuming there is one standard kind of information and one standard way of seeking information in every situation.

In other ways, Dervin's model of the information process is limited. Like much of the work in information and communications studies, the social and cultural context is seen as a given. The situation-gaps-use model has methodological value, but presents the information process as linear rather than multi-dimensional. Her model does not explain that at times, it is the information that reveals there is a gap, rather than the realisation of the gap that triggers the information search. Her emphasis is on information that is obtained, though in social life, there is much information that is incidentally received. Moreover, there is information that could be sought but is not, because the questions have been silenced by ritual, trust or power.

Moreover information may be obtained, but not always "used" in that it is translated to decisions or action. Martha Feldman's (1989) work on information production and policy making showed that much of the information commissioned and produced in large bureaucracies was not directly used in policy making (Feldman, 1989). This was for a variety of political, practical and organisational reasons. My study of women, information and the family business (Singh, 1995) shows how with some women, the information is there, but they feel helpless to transform this information into key decisions for the business. Hence it is possible to have an "informed powerlessness".

Despite these limitations, the situation-gaps-uses model is a useful methodological tool for consciously tracing the way a person seeks information to make sense of a situation. The "user construct" approach to information also fits in with the anthropological approach and is a step towards investigating the way people construct the meaning of market phenomena (Singh, 1997).

Another important factor in the way we make sense of information is the connection between risk tolerance and decision making. We discuss this in the next section.

5. Decision-Making

In this section, we draw on the literature to ask: What are the psychological and social factors influencing financial decision-making? Decision-making is hard to study for it is difficult to correctly record or recall decision-making within the everyday rhythms of life. Often there is no single remembered point when a decision was seen to be taken. The main conclusion from a longitudinal study of decision making was that no one model of decision making was possible (Kirchler, Rodler, Holzl, & Meier, 2001).

It is important to note that perfect information is a myth that has been discounted now in the study of markets. Information asymmetries have been associated with herding behaviour amongst international investors in which traders tend to follow the lead of others assuming their information set is more complete than their own. This type of behaviour is thought to explain why currency and stock market crashes in emerging markets are so severe and often spread to other emerging markets (referred to as contagion).

Behavioural finance is a nascent area of the academic literature. It takes into account the psychology of human decision making, arguing that humans do not make rational decisions as is assumed in the standard suite of finance models.

We also explore a sociological approach to money, which differs from the economists' focus on function. We examine how money shapes and is shaped by social relations and cultural values. This sociological approach to money connects with seeing financial decisions as being socially and culturally shaped (Singh, 1997).

5.1 Rationality and Decision-Making

Behavioural economics is increasingly questioning the notion of absolute rationality. Rationality itself is bound by context and directed to personal and community ends. There is no one rational outcome for every financial decision. As Arrow (1986) says, rationality:

...gathers not only its force but also its very meaning from the social context in which it is embedded. It is most plausible under very ideal conditions. When these conditions cease to hold, the rationality assumptions become strained and possibly even self-contradictory. They certainly imply an ability at information processing and calculation that is far beyond the feasible and that cannot well be justified as the result of learning and adaptation (Arrow, 1986).

The difference between seeing the choices as rational and seeing the procedure at arriving at the choices as rational is an illuminating distinction. Simon's concept of bounded rationality and the need to study the behaviour is particularly important for the study of consumer financial decision making (Simon, 1986). Simon says, to judge a certain behaviour as rational it must be viewed against its goals, the definition of the situation and the available computational means to determine how the goals can be attained (Simon, 1986).

5.2 Psychological and Social Influences on Decision-Making

Some of the psychological phenomena that are used to explain why investors behave irrationally are: representativeness heuristic; conservatism; overconfidence and self-attribution.

To understand the concept of representativeness, consider the following example. After a series of positive earnings, financial analysts will most likely believe that the next period earnings will again be positive and fail to consider the probability of a decrease. The representativeness heuristic is the behavioural explanation of why overreaction occurs on the stock market

Conservatism refers to the process by which individuals modify their beliefs in light of new information. Not only are beliefs based on short run trends, but the principle of conservatism suggests that individuals are slow to modify their beliefs in light of new information. In experiments, individuals are found to update their prior beliefs in the right direction but comparatively, still not enough to the rational Bayesian benchmark that assumes full weight is given to all new information. Traders subject to conservatism might disregard the full information content of public announcements. As a result they partially adjust to new information.

Finally, behavioural finance suggests that investors tend to overestimate the precision of their knowledge. Researchers have found that people overestimate their ability to do well on tasks and these overestimates increase with the personal importance of the task. People tend to be unrealistically optimistic about future events, and would expect good things to happen to them more often than to their peers.

5.2.1 Risk Tolerance and Decision-Making

Risk tolerance is an important concept that has a direct and obvious link to the investment decision-making process (Droms, 1987; Simon, 1986). Yet, despite its importance, little is known about risk tolerance and many unanswered questions exist in particular, with respect to the 'determinants' of risk tolerance. Although a number of factors have been proposed and tested, a brief survey of the results reveals a distinct lack of consensus on risk and the influence of age, gender, education, income and marital status.

First, it is generally thought that risk tolerance decreases with age (McInish, 1982; Morin & Suarez, 1983; Palsson, 1996; Wallach & Kogan, 1961) although this relationship may not necessarily be linear (V.L. Bajtelsmit & VanDerhei, 1997; Riley & Chow, 1992). Intuitively this result can be explained by the fact that younger investors have a greater (expected) number of years to recover from the losses that may be incurred with risky investments. Interestingly, there is some suggestion that biological changes in enzymes due to the aging process may be responsible (Harlow & Brown, 1990). More recent research however, finds evidence of a positive relationship or fails to detect any impact of age on risk tolerance (Gollier & Zeckhauser, 2002; J.E. Grable, 2000; J.E. Grable & Joo, 1997; J.E. Grable & Lytton, 1998; Hanna, Gutter, & Fan, 1998; Hariharan, Chapman, & Domian, 2000; Wang & Hanna, 1997)

A second demographic which is frequently argued to determine risk tolerance is gender. It is believed that females have a lower risk tolerance for risk than males. However, others find that gender is not significant in predicting financial risk

tolerance (V.L. Bajtelsmit & Bernasek, 1996; V.L. Bajtelsmit, Bernasek, & Jianakoplos, 1999; J.E. Grable, 2000; J.E. Grable & Joo, 1999; Hanna et al., 1998; Jianakoplos & Bernasek, 1998; Palsson, 1996; Powell & Ansic, 1997). Another point to keep in mind is that husbands and wives have different views about the income and wealth of the household. Quantitative research (Zagorsky, 2003) shows that half of all couples provide family income values that differ by more than 10 percent and net worth values that differ by more than 30 percent. The typical husband states the family receives more income each year and holds more gross assets than his wife states. The typical wife reports the family owes more debts than her husband" ((Zagorsky, 2003).

Education is a third factor which is thought to increase a person's capacity to evaluate risks inherent to the investment process and therefore endow them with a higher financial risk tolerance (Baker & Haslem, 1974; Haliassos & Bertaut, 1995; Sung & Hanna, 1996). Shaw (1996) derives a model that suggests an element of circularity in this argument however, as the relative risk aversion of an individual is shown to determine the rate of human capital acquisition (Shaw, 1996).

Income and wealth are two related factors that are hypothesised to exert a positive relationship on the preferred level of risk (Bernheim, Skinner, & Weinberg, 2001; Blume, 1978; Cohn, Lewellen, Lease, & Schlarbaum, 1975; Friedman, 1974; J.E. Grable & Lytton, 1999; Riley & Chow, 1992; Schooley & Worden, 1996; Shaw, 1996). For the latter, however, the issue is not clear cut. On the one hand, wealthy investors can more easily afford to incur the losses resulting from a risky investment and their accumulated wealth may even be a reflection of their preferred level of risk. Alternatively, wealthy people may be more conservative with their money while people with low levels of personal wealth may view risky investments as a form of lottery ticket and be more willing to bear the risk associated with such payoffs. This argument is analogous to Bowman's (1982) proposition that troubled firms prefer and seek risk (Bowman, 1982).

Investigation of the investment decisions made by married individuals presents a unique challenge to researchers as the investment portfolio of the couple may reflect the combined risk preferences of the couple (Bernasek & Shwiff, 2001). The available evidence suggests that single investors are more risk tolerant (Roszkowski, Snelbecker, & Leimberg, 1993) although some research has failed to identify any significant relationship (Haliassos & Bertaut, 1995; Masters, 1989; McInish, 1982).

5.3 Decision Making and Channels of Information

What is the relationship between the provision of information via different channels and the ways in which consumers understand that information so as to be able to use it for making decisions? The literature relating to this question is scanty.

We do know from the study of financial management and electronic money, that different transaction channels and payments instruments yield different kinds of information. Given trust and the appropriateness of social meaning, a person chooses a particular form of payment because it yields the information that is required for different payments activities and income streams. The relevant dimensions of information are those that relate to time; range, immediate record, and context (Singh, 1999).

The questions behind these information dimensions are: Does the form of payment give immediate information or deferred information? Is the information on money

spent or also money still in hand or in the account? Is the immediate record evidential, discretionary, or is there no record at all? Is the transaction context personal or impersonal, mechanical or virtual? These four information dimensions distinguish forms of payment that are used to pay for specific goods and services.

Cash obtained from branches and paid in a person-to-person transaction gives immediate information about money spent or received and money in hand or still in the account. Cash can yield a discretionary record in a receipt, but if the customer does not request that record, a cash transaction remains the most untraceable of all transactions. Cash received via the ATM and EFTPOS as in Australia, that is, ATM cash and EFTPOS cash, usually generate a receipt automatically.

With ATMs, the customer can obtain immediate information about money in hand and money still in the account, but the transaction lacks any personal element. EFTPOS cash is similar to obtaining cash from the branch in that there is a person across the counter, but, unlike the ATM, it does not provide information about money still in the account. This difference is one reason that people, uncertain about the sufficiency of funds, hesitate to use EFTPOS.

The information yielded by various kinds of cash matches the information required for shopping for groceries, incidental purchases or gambling. With grocery money, the most immediate need is to know how much one has spent and how much is left. This information is particularly important if one is operating within a tight budget or needs to control the flow of money. For many people, there is no need to account for this money to an outside party. But the attraction of EFTPOS is that it offers a record of expenditure useful for budgeting and for monitoring the flow of money from joint marital accounts. Similarly, for incidental purchases, where the amount of money involved in each transaction is seen as inconsequential, there is not the same need to keep record. Gambling money usually does not come from a specific budget category but is seen as part of household shopping money or incidental expenses, and people who gamble often do not want to know how much they've spent on this activity .

5.4 Decision Making in Different User Groups

In this sub-section, we partly address the question: Are particular groups more vulnerable to poor decision-making? We examine two groups: low income groups in relation to consumer credit and gender and the management of money.

5.4.1 Low Income Groups and Consumer Credit

The classic work connecting credit and low income is Caplovitz' work *The poor pay more: Consumer practices of low-income families*. Studying the use of credit for the purchase of durables in the United States, Caplovitz found that it was the purchase of goods that was central to the decision, rather than credit. Low income consumers thus ended up by paying more, not only because of the practices of providers, but also because of their lack of shopping for goods at a better price (Caplovitz, 1963). When they were cheated, consumers did not go for redress.

He is not hopeful of information campaigns that target their need to purchase. The provision of information alone will not work. The information has to be personalised and shaped to the needs of the person. Teaching people how to shop better, and making them aware of redress mechanisms is more hopeful.

5.4.2 Gender and the Management of Money

In the 1980s there was a spate of work on money management and control within the household, particularly in Australia and the United Kingdom. This moved away from the usual economists' assumption that the household was an undifferentiated "black box" that earned and spent as an individual. It was assumed that resources were shared equally (Jan Pahl, 1989; J. Pahl, 1990). Some economists such as Amartya Sen have questioned the models and theories of family economics, in the light of empirical evidence of the unequal distribution of resources in the family (Sen, 1977, 1984, 1992). This has led them to question "common preference" models, the price theory, assumptions of general competitive equilibrium, 'rational' behaviour and the concept of equality.

Consumer financial decision-making has to be studied within the context of the management and control of money. Drawing on an extensive qualitative and quantitative study of money and marriage in the United Kingdom, Pahl (1995) identifies six systems of money management and control for couples. These were associated with socio-economic groupings. She says,

Male-managed systems were associated with higher income levels and with male privilege in terms of decision-making and personal spending money. Female-managed systems were associated with lower income levels and with greater financial deprivation for wives. Equality between husband and wife was greatest where money was pooled and managed jointly, but these constituted only one fifth of all households (Jan Pahl, 1995, p. 361).

Pahl also finds that gender is significant as men make more use of new forms of money than women. Men tend to dominate the use of new technologies such as Internet banking. She says this dominance is "changing the gender balance of financial power within families" (Jan. Pahl, 1999, p. 5). Singh and Ryan's (1999) work on gender, money and electronic commerce also arrived at the same conclusions (Singh & Ryan, 1999).

Studying the management and use of money within the household reveals differences in access to money. In some cases, there is so little access to money that it results in "financial abuse". As Branigan (2004) notes "financial abuse of women in intimate partner relationships happens when men control and limit women's access to, and use of, money" (Branigan, 2004). A qualitative study of 64 women in Melbourne found that instances of financial abuse include being

...denied access to bank accounts, information and decision making rights regarding family finances; kept totally financially dependent; denied enough money to pay bills or buy food, clothes and sanitary products; coerced into servicing their partner's debts or subsidising their entertainment. Women from a range of culturally and linguistically diverse communities were denied money to send to their families in their countries of origin. Following relationship breakdown, financial abuse commonly continued through minimisation of child support responsibilities, constrained options for affordable housing and men's misuse of bureaucratic procedures designed to mediate the relationships between families and money (Branigan, 2004).

In another area, a study of women, information and the family business, found that information does not necessarily translate into decision making power, leading to an “informed powerlessness” (Singh, 1995). But as Waseem notes, much of this work was done with families with dependent children. Hence a large gap in the study of the management and control of money is the way it works in non-traditional families (Waseem, 2004).

6. Case Studies of Financial Decision Making

How are financial decisions within the same group taken for different financial activities? We draw on case studies in superannuation and individual decisions for investment in shares.

6.1 Choosing Fund Managers: The Role of Individual Choice

Why do individual members of superannuation funds select a particular fund manager for their retirement savings? Evidence from research into the investor behaviour of individuals may have significant relevance for Australian superannuation fund members who may be given a wide choice in selecting investments within their own superannuation funds. In this section we also draw on empirical research in Australia.

Research from the United States may point to factors relating to choice of fund managers in Australia.

The 401 (k) plans available to individual investors in the US are promoted as retirement savings plans to support a person’s social security pension on retirement.

Research shows that increased risk accompanies greater choice. Iyengar and Lepper (2000) found that while people greatly value choice, they are also easily overwhelmed by it (Iyengar & Lepper, 2000). They suggest that individuals want to be told what they should do, but not what they have to do. They suggest that the phenomenon of choice overload may be exacerbated in contexts (such as the decisions about major stock purchases) where the costs associated with making the “wrong” choice, or even the beliefs that there are truly “wrong” choices, are much more worrying to an individual.

Sethi-Iyengar, Huberman and Jiang (2004) studied the choice available to investors in 401 (k) plans and proposed that choice overload may result in a participation rate. Their findings indicate that limiting the number of choices to a manageable few may provide more positive outcomes for individuals. They suggest that the excessive number of choices may lessen the motivation to choose and the subsequent motivation to commit to a choice (Sethi-Iyengar, Huberman, & Jiang, 2004).

In a report prepared for ASIC (2004) on the matter of consumer decision making at retirement, Chant Link & Associates found that many retirees make decisions about their retirement at the time of retirement with incomplete understanding of the income stream and other options available to them. It is only after the decision making process has been completed that retirees have a greater understanding of the choices that they had made. The findings suggest that little thought is taken about the retirement decision making process until the actual time of the retirement and then, there is a heavy reliance on professionals to unravel the meaning of terminology, choices of products, social security and taxation effects of the various options

available to them. This is in spite of various pieces of information being made available to them prior to retirement (Australian Securities & Investments Commission, 2004).

Lucas (2002) in her study of online use of investment advice, noted that the average employee is a long way from being investment savvy (Lucas, 2002). She found that only 17 percent of employees were effecting change in their 401 (k) planning as a result of the complete online investment advice offered to employees. She found that 37 percent did not even log on to access the advice.

The John Hancock survey (2001), *Insight into Participant Investment Knowledge and Behaviour*, indicated the low level of investor education knowledge (reported by Lucas, 2002). The survey found that only nine percent of participants recognized that money market funds contain only short-term securities; 44 percent believed that money market funds include stocks; and 43 percent believe they include bonds. In addition, the average participant ranks a company stock as a less risky investment than diversified stock funds.

Lucas, (2002) also reported that Hewitt's 2001 *Trends and Experience on 401 (k) Plan Survey* found that 401 (k) plan sponsors believe participants are not making the most of the choices offered. Their study of diversification and risk taking behaviour revealed three main findings: the typical participant portfolio is poorly diversified; participants do not tailor their portfolios to their time horizon and portfolio risk levels are uniformly fairly aggressive. The authors suggest that strong market performance may play a role in an over-weighting of stocks in portfolios over the 1990s. The authors concluded that plan sponsors have registered concern about the wisdom of participant's decision making.

Hershey (2002) noted that the lessons of the strong bull-run in the stock market during the 1990s carried lessons for investors (Hershey & Robert, 2002). He suggested that investors became carried away with high returns and lost money on specific stocks rather than diversifying into a portfolio that carried various types of investments, despite the claim that investors are generally better educated on financial matters.

Faced with the high probability that individuals make poor investment decisions with consequent implications for consumer welfare, including their retirement income savings, research into consumer behaviour provides insights into reasons why this issue is of concern. Belsky (1995) suggests "once investors develop a preference for an investment, a 'preference bias' may lead them to perceptually alter new information so that they may discount the information and fail to trigger problem recognition" (Belsky, 1995, p.76). Langer (1983) suggested that where preferences are based on investor choices, there is more 'ego involvement' and attachment to the preferences, suggesting a heightened level of preference bias, even to the extent of perceiving that they have achieved larger returns than reported (Langer, 1983). Madsen (1994) suggested that when people have some initial position with respect to the probability of some future event such as high returns on a managed fund, it may lead to a preference bias toward that initial position such that they are more motivated to find information supportive of that position (Madsen, 1994). Such a biased information search can cause a person to be 'overly optimistic' about their investment.

Schiller (1993) contends that many investors do not have data analysis and interpretation skills that would allow them to understand relevant market data. He argues that individual investors are more likely to base their investment decisions on

information received from a non-scientific source (Schiller, 1993). Alexander, Jones and Nigro (1996) found that 20 percent of their sample of individual investors believed that 'higher fund costs means better than average returns' (Alexander, Jones, & Nigro, 1996). Kirmani and Wright (1989) found that consumers infer the magnitude of advertising expense from advertising campaigns and accept the expense as a signal of product quality. They suggest that the effects of perceived advertising expense on product quality should be greatest in complex information environments where intrinsic cues are unavailable or are ambiguous. The implications of this finding are that consumers are likely to invest in a top performer, perceiving past performance as more credible, and retain their investment despite the evidence that persistence is less likely to occur (Kirmani & Wright, 1989).

Smith, Kaye, Hannon and Egan (1996) note that while few investors ever actually succeed in beating the market, most investors believe that they can (Smith, Kaye, Hannon, & Egan, 1996). Langer (1983) contended that 'there is an element of chance in every skill situation and an element of skill in every chance situation'. He suggested that investors may attribute 'wins' to skill and 'losses' to chance, which leads them to interpret a successful investment as evidence of skill and reinforcing their ability to select a 'winning' investment (Langer, 1983). On the other hand, Shefrin and Statman (1993) suggest that when investors see a 'past decision' would have led to a higher return than the one chosen, an 'avoidance of regret' can influence their future decision making (H Shefrin & Stateman, 1993). Arkes, Dawes and Christensen (1986) suggest that in making judgments in probabilistic choice situations, a decision maker may shun decision rules that increase the probability of making correct judgments if following the rule precluded a 'perfect outcome' because they are uncomfortable with any strategy that may lead to an imperfect outcome (Arkes, Dawes, & Christensen, 1986). Langer (1983) contended that as decision-makers see themselves as more competent and knowledgeable, they are more likely to see chance events as controllable, as well as believing they have the skill to predict responses. With a rising price of a share, investors may exhibit a form of herd mentality. Andreassen (1988) suggested that the arousal resulting from the 'market noise' may accentuate the herd behaviour and lead to emotional decision making by individual investors (Andreassen, 1988).

Concerns indicated by the literature on consumer behaviour have implications for the proposal to allow members of superannuation funds to have a wide choice in selecting a portfolio suited for their retirement fund.

6.2 Individual Shareholders' Decision Making

It is entirely probable that the behaviour and characteristics of investors making credit related decisions do not follow the assumptions in our economic and accounting models.

It is estimated that the number of individuals' directly owning shares in Australia has increased from 15.5 percent of the adult population in 1991 to over 25 percent in 1997, 41 percent in November 1999 and 55 percent in 2004. This is approximately 8 million adults (Australian Stock Exchange, 1994, 1997, 2000, 2005). (The increased number is due to a range of factors occurring in the 1990s that include:

- Privatisation of a number of government enterprises such as Commonwealth Bank, Qantas Airlines and Telecom;

- Demutualisation of large insurance companies such as National Mutual; and
- Increase in employee-share schemes - for example, Tabcorp and Telstra introduced such schemes as part of their privatisation arrangements.

Within the accounting literature, the major objective of financial reports in countries such as Australia, United States and United Kingdom is that accounting information supplied by entities will enable the investors to make rational economic decisions and to enable management to discharge their accountability.

To achieve the aim of providing decision-useful information, certain assumptions have been made in relation to the behaviour, characteristics and views of users. These include the assumption that the information needs of users of financial statements are homogeneous and that accounting information supplied in general purpose financial reports can meet these needs. This implies that the users of financial accounting have the same information needs, use the information in the same way, and have similar characteristics. Such accounting information is described as relevant and reliable.

Research into the relevance of accounting information has concentrated on shareholder use of annual reports. Studies by Anderson and Epstein (1995); Epstein and Pava (1993); Chang and Most (1985) and Lee and Tweedie (1975) have all tested the usefulness of annual reports to the individual shareholder (Anderson & Epstein, 1995; Chang & Most, 1985; Epstein & Pava, 1993; Lee & Tweedie, 1975). The objectives of financial reporting clearly suggest that users (shareholders) of financial reports should be able to rely on the accounting information that is supplied to them by the company to make economic decisions. If shareholders have to seek alternative information to confirm the credibility of information in financial reports before they can use it, this implies that they do not believe they can rely on this information.

Myer (2001) surveyed over 1600 individual shareholders in four Australian companies about their share decisions. Australian shareholders have a high level of faith in the regulatory environment and believe that information is reliable (Myers, 2001). However these shareholders do not use this information to make decisions on the selling of shares. Generally the assumptions about the behaviour of institutional shareholders is not displayed by individual shareholders.

Individual decision-making is also a theme in the psychology literature. Its main context is an investigation into the behaviour of individuals when making gains or sustaining losses. A brief review of this literature raises questions about the assumption that individual shareholder make rational economic decisions.

In a range of articles on making decisions under uncertainty the issues involved in selling and retaining shares have been covered. Kahneman and Tversky (1979) developed a model of decision-making called Prospect Theory (Kahneman & Tversky, 1979). The main aspect of this theory developed an alternative model to rational economic behaviour. Prospect theory suggests that individuals assign value to gains and losses and generally assign more weight to losses. This was described as loss aversion whereby individuals perceived losses to be much more significant than gains, and this affects their rational economic decision-making.

In the initial experiments, individuals who did not have any predetermined characteristics such as share ownership were given a series of hypothetical choices.

These choices had defined outcomes such as a gain or a loss and the probability of making more profit or less gain. For example, Tversky (1972) used students to answer questions about which preference they had for a set of scenarios, which had various probabilities of winning and losing relatively high and low amounts (Tversky, 1972). The results indicated that individuals would make riskier decisions when they had suffered a loss. For example, rather than realise a loss the subjects would choose an option that could involve further losses. This behaviour did not occur when they had an opportunity to realise a gain or risk further gain or loss. In this circumstance, they were more likely to realise the existing gain. From these types of experiment, it was concluded that people normally perceive outcomes as gains or losses, rather than a final state of welfare. This finding conflicts with the tenets of accepted economic theory, which would posit that each decision should be made with the purpose of increasing total welfare. It does suggest that individual behaviour can be significantly different from what is interpreted from aggregate behaviour as typified in capital market research.

The difference between individual and aggregate behaviour can be also seen in studies by Shefrin, Statman and Constantinides (1985). They further developed Kahneman and Tversky (1979) aversion to loss realisation theory to identify a behaviour pattern of selling winners too early and riding losers too often (Kahneman & Tversky, 1979). To establish this behaviour they looked at the realisation patterns of selling shares and tested whether the decision to sell was the result of tax planning or other behavioural influences. Their findings provide evidence that individual shareholders do use available information to make rational economic decisions (H. Shefrin, Statman, & Constantinides, 1985).

H. Shefrin et al (1985) identified four elements that would affect decision-making: prospect theory; mental accounting; seeking pride; and avoiding regret and self control (H. Shefrin et al., 1985). Mental accounting explains that individuals see decisions to buy or sell in terms of gain or loss rather than a swap into new assets. Seeking pride and avoiding regret explains one reason why gains are realised more readily than losses as individuals wish to confirm their decisions and do not want to accept that they made a mistake. Self control is the will power to accept a loss at a predetermined time, for example, when the share price goes below a certain price. This appears to be the attribute that should overcome the aversion to loss and prevent the investor throwing good money after bad. In these experiments the information given to the subjects was based on the price of the share.

This research has been largely based on controlled experiments of small numbers of participants which may not apply to the population of shareholders who are making economic decisions. Nonetheless, it does provide evidence of that individuals do not always behave according to accepted economic theory.

Most of the research has used the demographics of the natural shareholders as an indicator of sophistication; for example, age and experience in share ownership are commonly used. In this section, the literature on characteristics of shareholders is reviewed.

There have been a number of attempts to identify the sophisticated shareholder. The major studies include: Epstein (1975); Lee and Tweedie (1977); Chang and Most (1985); Epstein and Pava (1993) and Anderson and Epstein (1995) (Anderson & Epstein, 1995; Chang & Most, 1985; Epstein, 1975; Epstein & Pava, 1993; Lee & Tweedie, 1977). In a series of studies; Epstein (1975); Epstein and Pava (1993) and

Anderson and Epstein (1995) investigated the individual shareholder's use of annual reports (Anderson & Epstein, 1995; Epstein, 1975; Epstein & Pava, 1993). The sophistication of shareholders was identified in the three studies to determine whether it affected the use of reports. Five characteristics were identified as indicators of the level of sophistication:

- Experience
- Percentage of wealth
- Wealth
- Age
- Education

Such classifications of shareholders do not take into account the behaviour of investors that may be a better indicator of sophistication, i.e., if investors make rational decisions then they can be considered sophisticated regardless of education.

7. Conclusion

The literature regarding money, information and decision-making is broad, covering economic, social and psychological factors. It is this broader framework that informs our questions about information and consumer credit. So our study will seek to elicit some of the ways in which people seek information and make decisions about money in their social and cultural context.

Acknowledgments

We would like to acknowledge the funding from the TPA Consumer Trust which made this study possible. We also want to thank our Consultative Committee for their feedback. The members of the Committee are:

Carolyn Bond	Consumer Credit Legal Service
Clare Marlin	Australian Securities & Investments Commission
Genevieve Sheehan	Brotherhood of St Laurence
Peter Gartlan	Financial and Consumer Rights Council
Denis Nelthorpe	Consumer Lawyer
Wendy Smith	Education Advisor, Consumer Affairs Victoria
Colette McInerney	Good Shepherd Youth & Family Services Victoria
Patricia Toohey	ANZ Bank

References

- Alexander, G., Jones, J., & Nigro, P. (1996). *Report of the OCC/SEC Survey of Mutual Fund Investor*.
- Anderson, R., & Epstein, M. (1995). *The Usefulness of Annual Reports: An International Comparison*. Greenwich, Connecticut: JAI Press Ltd.
- Andreassen, P. (1988). Explaining the Price-Volume relationship: The Difference Between Price Changes and Changing Prices. *Organizational Behavior and Human Decision Processes*, 41(41?), 371-389.
- Arkes, H., Dawes, R., & Christensen, C. (1986). Factors Influencing the Use of a Decision Rule in a Probabilistic Task. *Organizational Behavior and Human Decision Processes*, 37(37?), 93-110.
- Arrow, K. J. (1986). Rationality of Self and Others in an Economic System. In R. M. Hogarth & M. W. Reder (Eds.), *Rational Choice: The Contrast between Economics and Psychology*. Chicago: University of Chicago Press.
- Australian Securities & Investments Commission. (2004). *Consumer Decision Making at Retirement*. Retrieved 17 May, 2005, from [http://www.fido.asic.gov.au/asic/pdflib.nsf/LookupByFileName/consumers@retirement_report.pdf/\\$file/consumers@retirement_report.pdf](http://www.fido.asic.gov.au/asic/pdflib.nsf/LookupByFileName/consumers@retirement_report.pdf/$file/consumers@retirement_report.pdf)
- Australian Stock Exchange. (1994). *Australian Shareownership Survey 1994*. Sydney: Australian Stock Exchange.
- Australian Stock Exchange. (1997). *Australian Shareownership Survey 1997*. Sydney: Australian Stock Exchange.
- Australian Stock Exchange. (2000). *Australian Shareownership Survey 2000*. Sydney: Australian Stock Exchange.
- Australian Stock Exchange. (2005). *Australian Shareownership Survey 2004*. Retrieved 18 May, 2005, from <http://www.asx.com.au/about/pdf/ShareStudy2004presentation.pdf>
- Bajtelsmit, V. L., & Bernasek, A. (1996). Why Do Women Invest Differently than Men? *Financial Counseling and Planning*, 7, 1-10.
- Bajtelsmit, V. L., Bernasek, A., & Jianakoplos, N. A. (1999). Gender Differences in Defined Contribution Pension Schemes. *Financial Services Review*, 8, 1- 10.
- Bajtelsmit, V. L., & VanDerhei, J. L. (1997). Risk Aversion and Pension Investment Choices. In M. S. Gordon, O. S. Mitchell & M. M. Twinney (Eds.), *Positioning Pensions for the Twenty-First Century*. Philadelphia: University of Pennsylvania Press.
- Baker, H. K., & Haslem, J. A. (1974). The Impact of Investor Socioeconomic Characteristics on Risk and Return Preferences. *Journal of Business Research*, 2, 469-476.
- Belsky, G. (1995). Why Smart People Make Major Money Mistakes. *Money*, 76 - 85.
- Bernasek, A., & Shwiff, S. (2001). Gender, Risk and Retirement. *Journal of Economic Issues*, 35, 345 - 356.

- Bernheim, B. D., Skinner, J., & Weinberg, S. (2001). What Accounts for the Variation in Retirement Wealth among US Households. *American Economic Review*, 91, 832 - 857.
- Blume, M. (1978). *The Changing Role of the Individual Investor*. New York: John Wiley and Sons.
- Bowman, E. H. (1982). Risk Seeking by Troubled Firms. *Sloan Management Review*, 23, 33 - 42.
- Branigan, E. (2004). *'His Money or our Money?'* *Financial Abuse of Women in Intimate Partner Relationships*. Coburg, Vic: The Coburg Brunswick Community Legal and Financial Counselling Centre Inc.
- Caplovitz, D. (1963). *The Poor Pay More: Consumer Practices of Low-Income Families*. London: The Free Press of Glencoe.
- Chang, L., & Most, K. S. (1985). *The Perceived Usefulness of Financial Statements for Investors' Decisions*. Miami, FL: University Press of Florida, Florida International Press.
- Cohn, R. A., Lewellen, W. G., Lease, R. C., & Schlarbaum, G. G. (1975). Individual Financial Risk Aversion and Investment Portfolio Composition. *Journal of Finance*, 30, 605-620.
- Dervin, B. (1992). From the Mind's Eye of the User: The Sense-Making Qualitative-Quantitative Methodology. In J. D. Glazier & R. R. Powell (Eds.), *Qualitative Research In Information Management*, (pp. 61-84). Englewood, Colorado: Libraries Unlimited.
- Dervin, B., & Dewdney, P. (1986). Neutral Questioning: A New Approach to the Reference Interview. *RQ*, 25(4), 506-513.
- Dervin, B., & Dewdney, P. (1986). Neutral Questioning: A New Approach to the Reference Interview. *RQ*, 25(4), 506-513.
- Dervin, B., & Nilan, M. (1986). Information Needs and Uses. In M. E. Williams (Ed.), *Annual Review of Information Science and Technology* (Vol. 21, pp. 5-33). White Plains, NY: Knowledge Industry Publications for the American Society for Information Science.
- Dodd, N. (1994). *The Sociology of Money: Economics, Reason and Contemporary Society*. Cambridge: Polity Press.
- Droms, W. G. (1987). Investment Asset Allocation for PFP Clients. *Journal of Accountancy*, April, 114-118.
- Epstein, M. J. (1975). *The Usefulness of Annual Reports to Corporate Shareholders*. Los Angeles: Bureau of Business and Economic Research, California State University.
- Epstein, M. J., & Pava, M. L. (1993). *The Shareholder's Use of Corporate Annual Reports, Studies in Managerial and Financial Accounting*, vol. 2. Greenwich, Connecticut: JAI Press.
- Feldman, M. S. (1989). *Order Without Design: Information Production and Policy Making*. Stanford, Calif.: Stanford University Press.

- Fleming, R., Taiapa, J., Pasikale, A., & Easting, S. K. (1997). *The Common Purse*. Auckland: Auckland University Press.
- Friedman, B. (1974). Risk Aversion and the Consumer Choice of Health Insurance Option. *Review of Economics and Statistics*, 56, 209-214.
- Gollier, C., & Zeckhauser, R. J. (2002). Horizon Length and Portfolio Risk. *Journal of Risk and Uncertainty*, 24, 195 - 212.
- Grable, J. E. (2000). Financial Risk Tolerance and Additional Factors that Affect Risk Taking in Everyday Money Matters. *Journal of Business and Psychology*, 14, 625-630.
- Grable, J. E., & Joo, S. (1997). Determinants of Risk Preference: Implication for the Family and Consumer Science Professionals. *Family Economics and Resource Management Biennial*, 2, 19-24.
- Grable, J. E., & Joo, S. (1999). Factors Related to Risk Tolerance: A Further Examination. *Consumer Interests Annual*, 45, 53-58.
- Grable, J. E., & Lytton, R. H. (1998). Investor Risk Tolerance: Testing the Efficiency of Demographics as Differentiating and Classifying Factors. *Financial Counsel and Planning*, 9, 61-74.
- Grable, J. E., & Lytton, R. H. (1999). Assessing Financial Risk Tolerance: Do Demographic, Socioeconomic and Attitudinal Factors Work? *Family Relations and Human Development/Family Economics and Resource Management Biennial*, 80-88.
- Haliassos, M., & Bertaut, C. C. (1995). Why Do So Few Hold Stocks? *Economic Journal*, 105, 1110-1129.
- Hanna, S., Gutter, M., & Fan, J. (1998). *A Theory Based Measure of Risk Tolerance*. Paper presented at the Proceedings of the Academy of Financial Services.
- Hariharan, G., Chapman, K. S., & Domian, D. L. (2000). Risk Tolerance and Asset Allocation for Investors Nearing Retirement. *Financial Services Review*, 9, 159-170.
- Harlow, W. V., & Brown, K. C. (1990). Understanding and Assessing Financial Risk Tolerance: A Biological Perspective. *Financial Analysts Journal*, 46, 50-62.
- Hershey, J., & Robert, D. (2002, Jan 2 2002). Individual Investors, While Chastened, Are Not Giving Up. *New York Times*.
- Iyengar, S. S., & Lepper, M. R. (2000). When Choice is Demotivating. Can One Desire Too Much of a Good Thing? *Journal of Personality and Social Psychology*, 79, 996-1006.
- Jianakoplos, N. A., & Bernasek, A. (1998). Are Women More Risk Averse? *Economic Enquiry*, 36, 620 - 630.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica*, 47(2), 263 - 291.
- Kirchler, E., Rodler, C., Holzl, E., & Meier, K. (2001). *Conflict and Decision-Making in Close Relationships: Love, Money and Daily Routines*. Hove, East Sussex: Psychology Press.

- Kirmani, A., & Wright, P. (1989). Money Talks: Perceived Advertising Expense and Expected Product Quality. *Journal of Consumer Research*, 344-353.
- Kliger, B. (2000). *The Cultural Diversity of Money, Credit & Debt: A Case Study of Arabic-Speaking People, and People from the Horn of Africa and Vietnam*. Melbourne: Financial and consumer rights council Inc.
- Langer, E. (1983). *The Psychology of Control*. Beverly Hills: Sage Publications.
- Lee, T. A., & Tweedie, D. P. (1975). Accounting Information: An Investigation of Private Shareholder Usage. *Accounting and Business Research*, Autumn 1975, pp. 280 - 291.
- Lee, T. A., & Tweedie, D. P. (1977). *The Private Shareholder and The Corporate Report: A report to the Research Committee of The Institute of Chartered Accountants in England and Wales' in Shareholder Use and Understanding of Financial Information*. New York: Garland Publishing, Inc.
- Lucas, L. (2002). Meeting the Financial Planning Needs of a Diverse and Paradoxical 401 (k) Population. *Benefits Quarterly*(Fourth Quarter).
- Madsen, J. (1994). Test of Rationality Versus an 'Over Optimist' Bias. *Journal of Economic Psychology*, 15(4), 587-599.
- Marx, K. (1971). Economic and Philosophical Manuscripts (D. McLellan, Trans.). In D. McLellan (Ed.), *Karl Marx: Early Texts* (pp. 130-183). Oxford: Basil Blackwell.
- Masters, R. (1989). Study Examines Investors' Risk-Taking Propensities. *Journal of Financial Planning*, July, 151-155.
- McInish, T. H. (1982). Individual Investors and Risk-Taking. *Journal of Economic Psychology*, 2, 125-136.
- Morin, R. A., & Suarez, A. F. (1983). Risk Aversion Revisited. *Journal of Finance*, 38, 1201-1216.
- Myers, P. (2001). *The Conceptual Framework - The Views of Natural Shareholders in Australia*. RMIT University, Melbourne.
- Pahl, J. (1989). *Money and Marriage*. London: Macmillan.
- Pahl, J. (1990). Household Spending, Personal Spending and the Control of money in Marriage. *Sociology*, 24(1), 119-138.
- Pahl, J. (1995). His money, Her Money: Recent Research on Financial Organisation in Marriage. *Journal of Economic Psychology*, 16(3), 361-376.
- Pahl, J. (1999). *Invisible Money: Family Finances in the Electronic Economy*. Bristol: The Policy Press.
- Palsson, A. M. (1996). Does the Degree of Risk Aversion Vary With Household Characteristics. *Journal of Economic Psychology*, 17, 771 - 787.
- Powell, M., & Ansic, D. (1997). Gender Differences in Risk Behaviour in Financial Decision-Making: An Experimental Analysis. *Journal of Economic Psychology*, 18, 605-628.
- Riley, W. B., & Chow, K. V. (1992). Asset Allocation and Individual Risk Aversion. *Financial Analysts Journal*, 48, 32-37.

- Roszkowski, M. J., Snelbecker, G. E., & Leimberg, S. R. (1993). Risk Tolerance and Risk Aversion. In S. R. Leimberg, M. J. Satinsky, R. T. Leclair & R. J. Doyle Jr. (Eds.), *The Tools and Techniques of Financial Planning* (4th ed.). Cincinnati, USA: National Underwriter.
- Sansom, B. (1988). A Grammar of Exchange. In *Being Black: Aboriginal Cultures in 'Settled' Australia* (pp. 159-177). Canberra: Aboriginal Studies Press for the Australian Institute of Aboriginal Studies.
- Schiller, R. (1993). Stock Prices and Social Dynamics. In R. H. Thaler (Ed.), *Advances in Behavioral Finance* (pp. 167-217). New York: Russell Sage Foundation.
- Schooley, D. K., & Worden, D. D. (1996). Risk Aversion Measures: Comparing Attitudes and Asset Allocation. *Financial Services Review*, 5, 87 - 99.
- Sen, A. K. (1977). Rational Fools: A Critique of the Behavioral Foundations of Economic Theory. *Philosophy and Public Affairs*, 6, 317-344.
- Sen, A. K. (1984). *Resources, Values and Development*. Oxford: Basil Blackwell.
- Sen, A. K. (1992). *Inequality Reexamined*. New York: Russell Sage Foundation.
- Senior, K., Perkins, D., & Bern, J. (2002). *Variation in Material Wellbeing in a Welfare Based Economy* (No. Working Paper No. 6). Wollongong: South East Arnhem Land Collaborative Research Project, University of Wollongong.
- Sethi-lyengar, S., Huberman, G., & Jiang, W. (2004). How Much Choice is Too Much? Contributions to 401(k) Retirement Plans. In O. S. Mitchell & S. P. Utkus (Eds.), *Pension Design and Structure: New Lessons from Behavioral Finance* (pp. 83-95). New York: Oxford University Press.
- Shaw, K. L. (1996). An Empirical Analysis of Risk Aversion and Income Growth. *Journal of Labor Economics*, 14, 626-653.
- Shefrin, H., & Statman, M. (1993). The Disposition to Sell Winners Too Early and Ride Losers Too Long. In R. H. Thaler (Ed.), *Advances in Behavioral Finance* (pp. 507-525). New York: Russell Sage Foundation.
- Shefrin, H., Statman, H., & Constantinides, G. M. (1985). The Disposition to Sell Winners Too Early and Ride Losers Too Long: Theory and evidence. *Journal of Finance*, July, 777 - 792.
- Simmel, G. (1990). *The Philosophy of Money* (T. B. A. D. Frisby, Trans. 2nd ed.). London: Routledge & Kegan Paul.
- Simon, H. A. (1986). Rationality in Psychology and Economics. In R. M. Hogarth & M. W. Reder (Eds.), *Rational Choice: The Contrast between Economics and Psychology*. Chicago: University of Chicago Press.
- Singh, S. (1992). *Banks and Migrants: An Untapped Market*. Melbourne: Consumer Credit Legal Service Inc.
- Singh, S. (1995). *Women, Information and the Family Business*. Melbourne: Consumer Advocacy and Financial Counselling Association of Victoria (Inc.).
- Singh, S. (1997). *Marriage Money: the Social Shaping of Money in Marriage and Banking*. St. Leonards, NSW: Allen & Unwin.

- Singh, S. (1999). Electronic Money: Understanding its Use to Increase the Effectiveness of Policy. *Telecommunications Policy*, 23(10&11), 753-773.
- Singh, S. (2004). Impersonalisation of Electronic Money: Implications for Bank Marketing. *The International Journal of Bank Marketing*, 22(7), 505-521.
- Singh, S., & Ryan, A. (1999). *Gender, Design and Electronic Commerce* (No. Research Report No. 25). Melbourne: CIRCIT at RMIT.
- Smith, A., Kaye, S., Hannon, K., & Egan, J. (1996, 8 July 1996). Going for Gold. *U.S. News and World Report*, pp. 56-65.
- Sung, J., & Hanna, S. (1996). Factors Related to Risk Tolerance. *Financial Counsel and Planning*, 7(11-2).
- Tversky, A. (1972). Elimination by Aspects: A Theory of Choice. *Psychological Review*, 79(4), 281 - 300.
- Wallach, M. M., & Kogan, N. (1961). Aspects of Judgment and Decision Making: Interrelationships and Changes with Age. *Behavioral Science*, 6, 23-26.
- Wang, H., & Hanna, S. (1997). Does Risk Tolerance Decrease with Age? *Financial Counseling and Planning*, 8, 27-32.
- Waseem, S. (2004). *Household Monies and Decision-Making* (Policy Research Paper 23). Canberra: FACS.
- Weber, M. (1947). *The Theory of Social and Economic Organization* (A. M. Henderson & T. Parsons, Trans.). New York: The Free Press.
- Zagorsky, J. L. (2003). Husbands' and Wives' View of the Family Finances. *Journal of Socio-Economics*, 32(2), 127-146.
- Zelizer, V. (1994). *The Social Meaning of Money*. New York: Basic Books.