Implications of behavioural economics for financial literacy and public policy

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ABSTRACT
This paper summarizes and highlights different methodological approaches to behavioural economics in the context of the conventional economic wisdom and the implications of these different methodological approaches for financial literacy, related institutional change, and public policy. Conventional economics predicts no substantive improvement from improvements to financial literacy. The errors and biases approach to behavioural economics suggests limited improvements to decision making from financial education as errors and biases are largely hardwired in the brain. Government and expert intervention affecting individual choice behaviour is recommended. The evidence suggests that the bounded rationality approach to behavioural economics, with its focus on smart decision makers and the importance of institutional and environment constraints on decision making, is the most promising lens through which to analyse financial decision making. From this perspective, financial decision making can be improved by providing decision makers with better quality information presented in a non-complex fashion, an institutional environment conducive to good decisions, an incentive structure that internalizes externalities involved in financial decision making, and financial education that will facilitate making the best use of the information at hand within a specific decision-making environment.

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1. Introduction
A standard definition of financial literacy is “having the knowledge, skills and confidence to make responsible financial decisions.” The institutional environment is also important to financial decision making and greatly affects choices, influencing the extent and quality of relevant information and incentives. Financial literacy is of increasing concern to government and other public policy makers. Surveys in OECD countries find that financial literacy is very low amongst individuals and households irrespective of income and education, but especially amongst groups with lower income and less education. Even stock ownership and trading in financial assets do not appear to improve the level of financial literacy. Most people have difficulty answering questions about compound interest, inflation, or risk diversification, and have difficulty understanding budgeting and saving programs and financial information in general. This appears to be the case in Canada, the United States, the United Kingdom, Australia, New Zealand, Korea, and the Netherlands (Munshaw, 2008; OECD, 2005; Yoong, 2010). Serious gaps in financial literacy are of mounting concern, with the increasing number of financial products and services on the market,

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their increased complexity, and the escalating importance of financial decision-making to individuals and society at large, especially as life expectancy is increasing.

The topic of financial literacy raises the issue of the potential role that might be played by education, quality information, and incentives in improving decisions. It can be argued that with a less than ideal education, information sets, and incentives, individuals cannot make the best decisions. By contributing to financial literacy, financial education should contribute to more informed and effective decisions on financial matters such as contributions to pensions, use of credit cards, household budgeting, mortgages, and investing on the stock market. Improvements to relevant information, with a focus on quality (and truthfulness), make possible the effective use of financial education. Financial education and quality information go hand and hand, forming key ingredients to effective financial literacy (Lusardi and Mitchell, 2007).

This perspective on financial literacy, I would argue, runs contrary to the standard economic wisdom. It presumes that individuals have the physiological and psychological capabilities, and are in an informational, governance, and social environment, that will allow them to make optimal decisions. If the typical individual is so endowed, financial education can have little impact on improving choices. In effect, one might argue that in the conventional approach individuals either are assumed to be financially literate or that they make choices consistent with financial literacy. Financial literacy can be improved only if individuals persistently make unwise choices that can be corrected by interventions in the decision-making process or in the decision-making environment. But this possibility is assumed away by the conventional wisdom.

Research in behavioural economics suggests quite different behavioural and institutional assumptions. There are two key perspectives in behavioural economics that yield distinct implications for financial literacy and financial education (Altman, 2008), both of which deny that individuals typically behave as rationally as assumed by conventional economics. Behavioural economics also questions the conventional assumption that the environment in which financial decisions are made is necessarily ideal (Altman, 2012).

This article discusses the implications of the two approaches of behavioural economics for possible improvements to financial literacy and, therefore, to financial decision making. What I refer to as the Kahneman–Tversky approach maintains that individuals often make systematic errors and biases in decision making that are largely rooted in the hard-wiring of the brain. Errors and biases occur when individuals deviate from conventional (neoclassical) decision-making rules. Education can have little effect on such behaviour. This approach is much more supportive of government policy that nudges consumers into making decisions that some might argue are in the best interest of consumers. Experts are assumed to know better than individual decision makers what is in their best interest (Thaler and Sunstein, 2003, 2008; see also Camerer et al., 2003; de Meza et al., 2008; Shefrin, 2002; Thaler, 1980, 2000; see Sugden, 2008, 2009, for a critique of Thaler and Sunstein).

What I refer to as the Simon–March approach, argues that individuals are physiologically incapable of behaving as prescribed and predicted by conventional economic wisdom. As a result, they develop heuristics, or experience-based decision-making shortcuts, to make choices that are rational even though often inconsistent with the conventional behavioural norms. It is also recognized that the typical choice environment is characterized by asymmetric information, incomplete information, and even false information and poor education. Both physiological and environmental constraints can, but need not, result in errors in decision making, such as relatively poor investment decisions. Because choice environments can be changed, this approach provides a much stronger rationale for enhancing the quality of financial decision making through improvements to financial education and the decision-making environment. This would include improved access to and improved availability of quality and pertinent information, appropriate decision-making rules and regulations, and appropriate financial education. On the whole, individual preferences, which are regarded as multi-faceted across decision makers, are respected and less attention is paid to nudging unless individual choices can be shown to cause social harm (negative externalities). This perspective is well reflected in the research of Shiller (2001, 2008, 2009, 2010), a leading behavioural finance scholar.

These different approaches to financial decision-making are summarized in Table 1.

2. The conventional wisdom

The standard set of assumptions of the conventional wisdom is well articulated by Simon (1987), who was awarded the Nobel Prize in Economics in 1978 for his contribution to the then nascent field of behavioural economics. He argues that the essence of the conventional economic decision-maker is embodied in the notion of Homo Economicus, which is characterized by: (1) a stable set of preferences or wants or desires; (2) perfect knowledge of alternatives relevant to a choice problem; (3) the ability to forecast the expected consequences of particular choices in the present and into the future even when the future is highly uncertain; (4) the ability to make use of this knowledge to maximize personal economic well-being or happiness; (5) rapid updating of behaviour based on new information (Bayesian updating); (6) consistency in the choices made by the individual; and (7) the insubstantial role of emotions and intuition in decision making (p. 221).

An underlying assumption of these analytical assertions is that individuals have unbounded knowledge of relevant choice alternatives and unbounded computational capacities to determine outcomes of alternative choices. Individuals are assumed to make such choices independently of other individuals. They are unaffected by other people’s choices. It is also assumed that individuals have the capability and power to make the choices that they prefer to make. Other individuals do not, therefore, interfere with these choices. Moreover, it is assumed that rational decision-making takes place independently of emotional and intuitive behavioural drivers. Finally, it is assumed that rational individuals are narrowly selfish, most interested in maximizing their own material well-being. Deviations from such narrowly self-interested behaviour will not be welfare-maximizing (or maximizing happiness) and hence would be irrational. It is further assumed that individuals’ choices are sensitive to relative prices and income levels as well as to changes to these variables. The latter assumption refers to an underlying premise of the conventional wisdom, accepted by most behavioural economists, that incentives matter in decision making.

3. Fast and frugal decision-making (smart heuristics)

With regard to the rationality or smartness of choice behaviour, March (1978), a close associate of Simon and one of the pioneers of behavioural economics, argues that individuals are typically rational or intelligent when it comes to engaging in decision making even if their behaviour is at odds with conventional benchmarks for optimal behaviour. What appears irrational from the perspective of the conventional wisdom might be very rational and intelligent if one digs a bit below the surface (p. 589).

Herbert Simon led the way in developing behavioural economics as an analytical perspective to better explain rational human choice behaviour or decision making that is consistent with real human beings, endowed with limited computational
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