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Agenda

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Financial (il)literacy: do consumer education programmes work?

'A bat and a ball cost $1.10 in total. The bat costs $1 more than the ball. How much does the ball cost?' The aim of financial education programmes is to improve financial capability and ultimately lead to improved financial outcomes for consumers. Governments are keen to ensure that consumers make optimal decisions, particularly as financial markets and products become increasingly sophisticated and complex. But are these programmes effective?

Financial education is one of the instruments available to policy-makers to improve the decision-making and financial outcomes of consumers. What attempts have been made to assess the effectiveness of financial education, and how can these benefits be analysed?

Various financial capability surveys present statistics that indicate a lack of financial literacy among respondents. In the UK, it was found that 40% of those who had invested in an equity Individual Savings Account were unaware that its value fluctuated with the stock markets.[1] Furthermore, an OECD report found that 71% of respondents surveyed in Japan knew nothing about investment in equities and bonds.[2]

In analysing responses to the question posed above regarding the price of a bat and a ball, Professor Shane Frederick of the Sloan School of Management (MIT) found that 50% of Princeton students and 56% of students at the University of Michigan gave the wrong answer.[3] The initial tendency to answer 10 cents rather than the correct answer of 5 cents is likely to arise because the sum $1.10 separates naturally into $1 and 10 cents. Although this example may be considered tangential to the issue of financial capability, it does highlight the extent to which biases and other behavioural tendencies can influence decision-making. The combination of such behavioural issues and a lack of financial capability may result in considerable consumer detriment.

A policy-making priority

A range of terms such as 'capability', 'literacy', 'understanding', 'knowledge', 'education', and 'advice' are often used interchangeably in the context of financial education. 'Financial capability' is predominantly a UK concept and is defined in terms of an individual's ability to manage personal finances, identify appropriate financial products, plan ahead, and make use of relevant information.

The European Commission states that 'financial literacy' is:

> to be aware of financial risks and opportunities and to make informed decisions in their choice of financial decisions. It is a life long issue.[4]

Regardless of whether the term capability or literacy is used, it is important to distinguish it from financial education, which may be viewed as the policy instrument employed to achieve the desired outcome.

Although enhanced financial capability has been a priority for policy-makers for some time, initiatives for coordinated public provision of financial education programmes are relatively recent, meaning that research into their long-term impacts has been limited. In the past, research has largely been undertaken by academics, although there is now evidence that policy-makers (governments and other public bodies) are also beginning to assess the effects of financial education. The UK Financial Services Authority (FSA) recently stated that:

> This year we will implement more robust evaluation of the overall financial capability programme to improve the way we measure outcomes and changes in behaviour.[5]

At the European level, the Commission has adopted a Communication on financial education that gives basic guidance to financial educators, and has launched some practical initiatives.[6] More than 200 schemes have been identified in a survey of financial literacy schemes in the EU 27.[7]

In the USA, a diverse range of public and private sector organisations are engaged in developing financial education programmes: the US Treasury's Office of Financial Education, the Board of Governors of the Federal Reserve, the National Council on Economic Education, and the Financial Literacy and Education Commission, among others. US research into the effectiveness of such programmes has been more prevalent than in Europe, but its findings have often been inconclusive

At the international level, the OECD has taken an interest in financial literacy, and has been developing a methodology that policy-makers can use to compare public and private strategies and programmes.[8]

Overview of the literature

The economic literature that examines financial education and associated concepts is developing as interest from policy-makers and academics increases, but it remains in its infancy. However, the literature that does exist on financial education tends to fall into two categories:

- assessment of levels of financial literacy or capability;
- establishing whether financial education improves financial behaviour and decision-making.

There have been several studies that have examined the level of financial literacy among households. The US National Council on Financial Education commissioned a report in 2005 that showed that 28% of adults and 60% of high school students received an F grade (representing an average score of 53%) in an economics test.[9] Other financial literacy surveys in the USA have produced similar results.

In the UK, the FSA conducted a (baseline) survey of financial capability in 2006, which concluded that most individuals were not preparing adequately for retirement, unexpected expenses or reduction in income, and, furthermore, that many consumers were inadvertently taking on financial risks due to choices that were not suitable to their needs.[10]

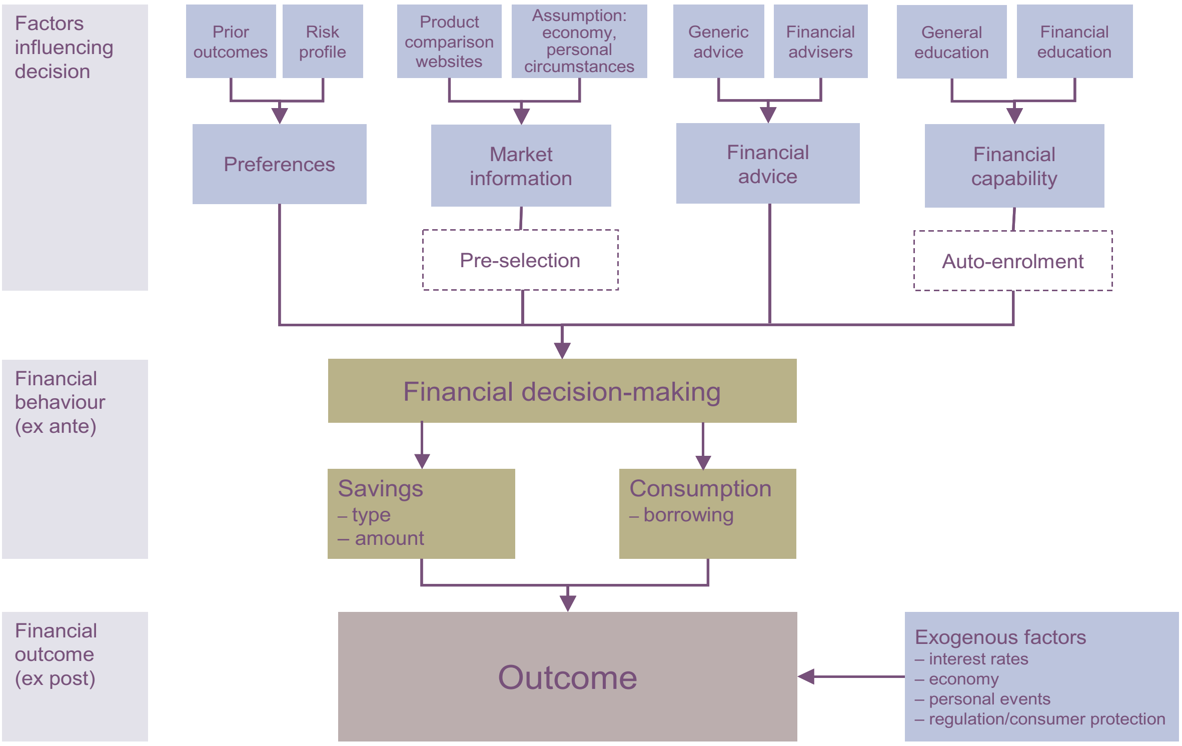
The economics literature tends to assume that changes in financial behaviour lead to improved decision-making. A number of studies use the increase in uptake of certain financial products as a proxy for improved decision-making following financial education programmes. For example, in the area of pensions, there is a growing body of literature suggesting that such programmes can have a positive effect, at least on the rate of pension savings and the level of retirement wealth accumulated. The evidence is mainly from the USA due to its longer history of defined-contribution pension schemes and programmes specifically designed to improve individual decisions regarding pensions. Bernheim and Garrett (2003) found that nearly all measures of retirement accumulation were significantly higher on average when financial education is offered in the workplace.[11] Similarly, Bayer, Bernheim and Scholz (1996) show that workers who participated in retirement seminars in the workplace had higher participation rates in voluntary pension plans.[12] Comparable findings are reported in Clark and d'Ambrosio (2002) and Clark et al. (2003), who show that individuals participating in financial education seminars adjusted their retirement goals in response to information provided in the seminar about the level of income needed in retirement.[13] Bernheim, Garrett and Maki (2001) found that introducing financial education in the secondary education curriculum has positive effects in the long term.[14]

Influences on financial decision-making

When evaluating the impact of financial education programmes, an assumption is often made of a direct link between financial education and improved consumer outcomes, and this assumption appears to underpin many of the public policy initiatives in this area. While there may well be a correlation between these two variables, causality and the precise mechanisms by which education programmes lead to enhanced capability, and thereby better outcomes, also need to be established.

To determine the nature of the linkages between financial education and improved consumer outcomes, it is necessary to identify the various factors that might influence financial decision-making (see Figure 1). These factors include the advice that consumers receive, their level of financial capability, the information available to them about products, and their personal preferences. Specific measures such as pre-selection of suitable products, auto-enrolment and default solutions can also be used to affect the decision-making of less confident or capable consumers. Taking account of all of these factors, an individual will make an initial decision to save or consume (the latter may involve borrowing). Both saving and borrowing will involve a choice being made between different financial products. The outcome of this choice will be determined by the appropriateness, at the time, of the financial decision made, together with exogenous factors that may affect the individual or chosen product in the future. Financial education programmes that serve to enhance financial capability are just one of the means by which a more optimal financial decision may be achieved.

Figure 1 What influences financial decision-making?



Note: This is a stylised representation. It does not illustrate any of the feedback loops that might occur.
Source: Oxera.

Identifying and measuring relevant consumer outcomes

Financial education programmes can be regarded as an intervention by government or other public authority with the objective of achieving certain desired outcomes. One way of viewing these outcomes may be as the alleviation of consumer detriment which results from less than optimal choices regarding financial products. Consumer detriment may be alleviated in the following ways.

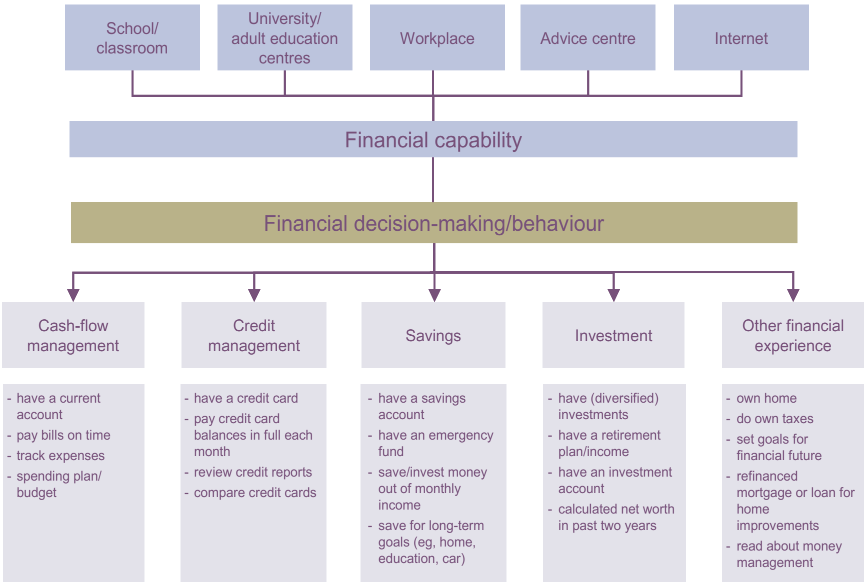
- Individuals who are financially capable are more likely to purchase an appropriate financial product and less likely to purchase an unsuitable product.
- They will have a better understanding of the choice of products available to them, and will therefore have a wider range of products from which to select the most appropriate.
- A consumer who makes more prudent choices in terms of diversification in order to reduce risk will be better prepared for an unexpected change in personal or external circumstances.
- Financially capable consumers who shop around for the most appropriate financial products may generate greater competition between both providers and intermediaries. This may manifest itself in a reduction in costs for consumers, as well as product innovation.
- A financially capable consumer who was previously excluded from the market (eg, no access to a current account) is now able to participate and manage their financial affairs, although often with help from financial advisers.
- A benefit of consumers making more appropriate choices may be that there is less risk for providers in terms of defaults on payments, as well as a reduced risk of claims that products are mis-sold. This in turn may lead to a reduction in the cost of regulation and consumer redress.

Figure 2 identifies some of the avenues through which financial education can be delivered and the dimensions of financial decision-making that can be targeted. These dimensions identify various indicators that can be used to show that financial capability exists across the different channels of financial decision-making. In order for these education schemes to be optimally deployed, the impact of each should be identified so that the best scheme can be targeted at the appropriate demographic.

Measuring the impact of financial education programmes

To conduct a cost–benefit analysis of a financial education scheme in a systematic way, the questions that need to be addressed are: what to measure, and how to measure?

Figure 2 Delivery avenues for financial education schemes and dimensions of financial decision-making



Source: Oxera; dimensions identified in Hilgert, M., Hogarth, J. and Beverly, S. (2003), 'Household Financial Management: The Connection between Knowledge and Behavior', *Federal Reserve Bulletin*, July, pp. 309–22, and product variables taken from the University of Michigan's Surveys of Consumers.

Using the chain described in Figure 1, all the different steps from the education programme to the final financial outcome need to be identified, as illustrated in Figure 3.

The direct benefits of financial education could be measured as the reduction in consumer detriment that should arise from making a more informed choice of financial product. Different measures of financial outcome such as net income, total wealth, and projected/actual pension could be used. However, with this wide range of indicators, some of which will not become available for some time, this becomes an increasingly complex task. In many cases, such as those concerning retirement savings, the impacts will only be known many years after participating in the educational programme.

The fact that it is difficult to directly measure improvements in final outcomes for consumers explains why many empirical evaluations examine the relationship between financial education and intermediate outcomes, such as uptake of financial products. Inferences about improvements in final outcomes then depend on there

Figure 3 How financial education can improve consumer welfare

Source: Oxera.

being a direct causality, not only between financial education and intermediate outcome, but also between intermediate outcome and final outcome (eg, greater uptake of a specific product does indeed make the consumer 'better off'). This requires testing the validity of the chain of causal links between policy measure (ie, adoption of a financial education programme) and the desired final outcomes for consumers.

Figure 4 sets out the links that may need to be identified and measured, assuming that a financial education programme has been put in place that is designed to improve savings and investment decisions of consumers, and the possible metrics devised to quantify these effects.

The first column lists a set of possible indicators that relate to improved financial capability. The second column lists some of the ways in which the indicators of enhanced financial literacy could be measured. Actual measurement will require consumer surveys and, using developments in empirical research in the area of behavioural economics, controlled experiments to understand how consumers make decisions and how they change their decisions as a result of new information or being more qualified to make those decisions.

Conclusions

This discussion has highlighted some of the factors that influence an individual's financial decision-making. Any of these can affect the desired final outcome of reducing consumer detriment arising from mismanagement of personal finances or being sold unsuitable financial products.

A framework for measuring the specific benefits provided by financial education schemes, in comparison with other policy instruments such as measures to improve the quality of advice or ensuring the effective delivery of appropriate financial information, is essential in order to identify the most effective and cost-efficient form of government intervention. However, even if it can be shown that better financial education does result in improved consumer outcomes, it is also important to be able to identify which specific initiatives offer the greatest benefits relative to their cost. It is likely be the case that different groups in society will require programmes that are tailored to their individual needs, but further research is needed to ensure that the design and management of these is effective.

Ultimately, financial education should not be viewed in isolation. It may indeed be the case that effective and well-managed education programmes will, over the longer term, provide benefits to consumers. However, it is clear that the effectiveness of other policy options should also be assessed, and the most appropriate of these should be used to complement education schemes in order to achieve the best outcome for consumers.

Figure 4 Measuring the effects on financial capability

What to measure?	How to measure?
- Has there been an improvement in financial capability? Are consumers better able to: - assess their own risk profile? - assess the impact of factors that might change their own risk profile? - assess their financial needs? - understand risk and (net) returns from products? - understand the factors that affect risks and (net) returns from products? - distinguish between good and bad advice? - decide when their investment portfolio should be changed in light of exogenous factors or changes in their own circumstances?	- Using consumer surveys (to track actual or potential decisions) and controlled experiments: - consumers who are aware of their personal risk profiles could be asked to identify suitable products from a range of possibilities; - it might be possible to determine whether an individual's perception of their own risk profile matches their actual risk profile given their answers to certain questions; - once consumers are aware of their own risk profiles and needs, they could be tested to see if they could identify between appropriate and inappropriate advice; - consumers could be tested on their ability to assess the impact of exogenous factors on the investments they have chosen; and - consumers could be tested on their ability to assess the impact of lifestyle changes on their financial requirements.

Source: Oxera.

[1] FSA (2006), 'Financial Capability in the UK: Establishing a Baseline', March, p. 5.
[2] OECD (2006), 'The Importance of Financial Education', Policy Brief, July, p. 4.
[3] Cited in Kahneman, D. (2002), 'Maps of Bounded Rationality: A Perspective on Intuitive Judgment and Choice', Nobel Prize Lecture, December 8th, p. 451.
[4] European Commission (2007), 'Communication from the Commission: Financial Education', December, p. 1.
[5] FSA (2008), 'Business Plan 2008/09', January, p. 29.
[6] European Commission (2007), op. cit.
[7] Evers, J. (2007), 'Survey of Financial Literacy Schemes in the EU27', report for the European Commission, Annex 1.
[8] Available at www.oecd.org. See the Financial Education section.
[9] For a review of financial literacy evidence in the USA, see Lusardi, A. and Mitchell, O. (2007), 'Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education', *Business Economics*, **42**:1, pp. 35–44.
[10] FSA (2006), 'Financial Capability in the UK: Establishing a Baseline', March, p. 3.
[11] Bernheim, B.D. and Garrett, D.M. (2003), 'The Effects of Financial Education in the Workplace: Evidence from a Survey of Households', *Journal of Public Economics*, **87**:7–8, pp. 1487–519.
[12] Bayer, P., Bernheim, B. and Scholz, J. (1996), 'The Effects of Financial Education in the Workplace: Evidence from a Survey of Employers', NBER Working Paper 5655.
[13] Clark, R.L. and d'Ambrosio, M. (2002), 'Saving for Retirement: The Role of Financial Education,' TIAA–CREF Institute Working Paper n. 4–070102–A; and Clark, R.L., d'Ambrosio, M., McDermed, A.A. and Sawant, K. (2003), 'Managing Retirement Accounts: Gender Differences in Response to Financial Education', TIAA-CREF Working Paper 12-07013, TIAA-CREF, New York.
[14] Bernheim, B.D., Garrett, D.M. and Maki, D.M. (2001), 'Education and Saving: The Long-term Effects of High School Financial Curriculum Mandates', *Journal of Public Economics*, **80**:3, June, pp. 435–65.

If you have any questions regarding the issues raised in this article, please contact the editor, Derek Holt: tel +44 (0) 1865 253 000 or email d_holt@oxera.com

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