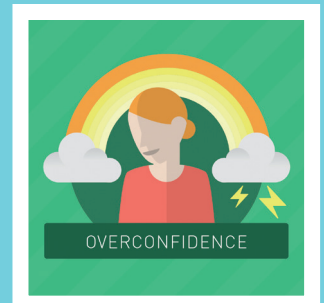


# Wired for Imprudence

Behavioural hurdles to financial capability  
and challenges for financial education

By Nathalie Spencer and Jeroen Nieboer with Antony Elliott  
Foreword by Paul Dolan  
May 2015



---

# Contents

---

About the authors	2
Acknowledgements	2
Foreword	3
Overview	4
Executive summary	5
1. Introduction	8
Framework and methods	10
2. What is financial capability?	11
Financial literacy	11
From knowledge to behaviour	12
A framework for financial capability	13
How financially capable are we?	14
3. Hurdles to financial capability – a behavioural science perspective	16
3.1 A closer look at behavioural hurdles to financial capability	17
Cognitive overload	19
Empathy gaps	21
Optimism and overconfidence	22
Instant gratification	24
Harmful habits	26
Social influence	27
What do these behavioural hurdles mean for us?	28
3.2 Addressing behavioural hurdles through financial education	28
3.3 Overview of Chapter 3	33
4. Teaching financial capability	34
4.1 The role of financial education in improving financial capability	34
4.2 Providing effective financial education	36
5. What next?	41
Recommendations and piloting	41
6. Conclusion and closing thoughts	43
Bibliography	45
Appendix: Impact assessment for Financial Education by Dr Jeroen Nieboer and Dr Jörg Weber	54

## About the authors

**Nathalie Spencer** is a Senior Researcher in the RSA's Social Brain Centre, part of the Action and Research Centre. The RSA is a charitable organisation with a mission to enrich society through ideas and action. We do this by carrying out research into today's biggest social challenges, and sharing these ideas through our highly respected events platform and network of 27,000 Fellows. The Social Brain Centre explores how a modern understanding of human nature can be used to meaningfully improve policy and practice, and has addressed topics as varied as curiosity and innovation, inequality in education, climate change, and spirituality, among others. Nathalie has an MSc in Behavioural Science from Maastricht University and a BCom from McGill.

**Dr Jeroen Nieboer** is a Research Fellow in Behavioural Science at the London School of Economics and Political Science. His research focuses on individual financial decision making, especially in social settings such as financial advice and consultation. He has worked with financial advice charities such as StepChange and the Citizens Advice Bureau to bring the findings of behavioural science to the policy realm. Jeroen holds a PhD in Economics from the University of Nottingham.

**Antony Elliott OBE, FCIB** is chief executive of The Fairbanking Foundation. He spent over 10 years as Group Risk Director of a major retail bank having worked for a number of UK and international banks previously. Antony has been actively involved in researching the field of financial well-being since 2004 and has a large number of published reports in the area. He founded The Fairbanking Foundation in 2008, which conducts research, provides advice and is a certification body for the Fairbanking Mark. Antony has a degree in Banking and International Finance from City University and a master's degree in Operational Research from Imperial College, London. In 2014 he was awarded an OBE for services to bank customers.

## Acknowledgements

This paper was made possible through the support of the RSA. Jeroen Nieboer would like to acknowledge financial support of the AXA Research Fund. The authors greatly appreciate receiving feedback on earlier drafts of this paper from RSA colleagues Dr Louise Bamfield, Dr Jonathan Rowson, Anthony Painter, Luke Robinson, and Rowan Conway, and wish to thank them all for their suggestions for improvement and their generosity of intellect. We would also like to thank Dr. Jörg Weber for his contribution to the section on financial capability, and Janet Hawken for proofreading. The behavioural hurdle icons were produced by Karoshikula. Finally, we wish to thank the course providers who gave us their time and/or access to their teaching materials in the good spirit of contributing to the early stages of our understanding of how to meaningfully improve our financial capability.

# Foreword

Recent advances in behavioural science have profoundly changed the way we look at behaviour change and policy. What started out as a body of academic knowledge on what drives human action, has now found its way into public policy making and corporate strategy. In 2010, with colleagues, I started working on the MINDSPACE report, which now informs many behaviour change strategies in the public, private and third sectors.

Behavioural science teaches us that most of what we do simply comes about rather than being thought about. We are influenced more by the context of our decisions than the cognitions of our minds. We act on emotion and impulse, sometimes in ways that improve our wellbeing but other times to our detriment. These lessons are now making their way into many areas of application.

I'm excited to see that this report takes some of the latest scientific insights and applies them to the very real challenge of helping people to better manage their finances. Being good with money does not come naturally to some people and the options in an information and opportunity rich world can seem daunting to most of us. More and better information can only get us so far, and not very far at all in fact. We need behaviour change programmes that go with the flow of human decision-making rather than trying to get us to swim against the tide.

Whatever we do, we need to measure the impact of our interventions, ideally in ways that allow us to show their causal effects, and certainly using outcome measures that really matter to those most affected by our policies. This report on financial education is testament to recent advances in behavioural science, underlining the importance of establishing what works and measuring what matters.



**Paul Dolan**

Professor of Behavioural Science,  
The London School of Economics and Political Science

# Overview

At its heart, this paper explores the natural human characteristics which, along with other factors, undermine financial capability. Specifically, these ‘behavioural hurdles’, as we call them, are: cognitive overload, empathy gaps, optimism and overconfidence, instant gratification, harmful habits, and the influence of social norms.

This subject is important not only because many people are struggling financially, but also because it highlights the point that poor financial capability is not simply a problem of lack of information. These dispositions are not character flaws, and do not affect only a select few: in general, we are not wired to handle money well. This psychological perspective suggests that, despite our best intentions, we are *wired for imprudence*.

The existence of these behavioural hurdles, coupled with various challenges to providing effective financial education, leads us to conclude that simply providing more financial education in its current form will not meaningfully improve financial capability. The courses provided currently need to systematically incorporate understanding from the existing research. As importantly, more research and better evaluation should be conducted to determine *what works best* to deliver lasting improvement in light of our human nature.

We hope that the line of reasoning and the behavioural insights included in this paper will be of interest to policy makers, education providers, financial services institutions, and anyone curious as to why managing money well can feel like an uphill struggle.

# Executive summary

- The capability to handle one's finances effectively has obvious financial benefits, and also psychological value in that it can prevent stress and improve wellbeing. Yet managing money is a difficult task for many. For example, over half of respondents to a recent survey say they are struggling to keep up with bills and other financial commitments, nearly a quarter would rather live for today than plan for tomorrow, and more than one in 10 people are unable to identify the balance on a bank statement.<sup>1</sup> Surveys show that as a nation our financial capability is mediocre with no signs of having improved over recent years.
- Financial capability is distinct from financial literacy. Whereas financial literacy reflects how much knowledge one has about various financial matters, financial capability is the ability to apply that knowledge in a meaningful way. We argue that effective financial capability is more than knowing about financial concepts (for example, what APR means), it is exhibiting behaviour which takes this knowledge into account (for example, calculating the expected interest needed to pay off a loan before deciding whether or not to take it out). A useful way of thinking about this distinction is the difference between *knowing that* and *knowing how to*.
- One framework for financial capability is that it comprises managing money well day to day, preparing for and managing life events, and dealing with financial difficulties. This framework, developed by the Money Advice Service, can be broken down further into the following activities: maintaining a budget; managing debt well; protecting dependants; being financially resilient by protecting assets; saving regularly; and saving for retirement.
- Inadequate financial capability is most likely due to a combination of external and internal factors. External factors such as stagnant wages until recently, changes in the labour market, increased complexity of financial products, and easier access to credit undoubtedly pose challenges to managing money well. But there is also a growing body of evidence from the field of *behavioural science* that suggests **that there are cognitive and social-psychological reasons why it is difficult to behave in our own financial best interest**. What's more, our behaviour is often systematic and predictable. And because we can predict our behaviour, the design of consumer financial policy, practice, and education can – and should – take it into account.
- These behavioural hurdles are not character flaws; they are natural aspects of human behaviour that seem to be largely universal, holding us back from optimally managing our finances. In other words, humans are not 'wired' to handle money well.

1 The Money Advice Service (2013).

- Six behavioural hurdles that have solid grounding in the literature as being problematic to financial capability are:
  - **Cognitive overload:** having a lot on your mind impairs decision-making and can tend to result in the simplest, but not necessarily most lucrative, option being selected or course of action taken.
  - **Empathy gaps:** overlooking how you might feel in a different situation can result in unnecessary purchases, such as when shopping for food on an empty stomach.
  - **Optimism and overconfidence:** wearing rose-tinted glasses can affect money management through unrealistic expectations about the future.
  - **Instant gratification:** seeking instant gratification can undermine long-term planning and savings.
  - **Harmful habits:** mindless behaviour can amplify a poor financial decision as it becomes a recurring event.
  - **Social norms:** the actions of others influence us in non-trivial ways; while this can be helpful in certain circumstances, it also contributes to the pressure to keep up with the Joneses through conspicuous consumption.

Each of these concepts is explored in more depth and in relation to how they affect one or more of the factors of financial capability.

- It may be tempting to conclude that more financial education in its current form is the solution to improving financial capability. After all, conventional wisdom is that existing financial education programmes (what is taught) lead to financial literacy (what is known, in abstract) which creates financial capability (what is done, in context). However, this is an unproven line of reasoning that we must address if we are to meaningfully improve financial capability.
- Such an approach of merely providing more of the same would be misguided. We know from behavioural science that information provision is not necessarily sufficient to change behaviour. Rather than simply providing *more* financial education, we argue that *better* education is required. But what is better education? The effectiveness of financial education is difficult to evaluate, not least because of selection biases, spill-over effects, and the relative dearth of longitudinal studies in this field. The dearth of clear evidence (reviewed in the Appendix) supports our call for more trials in an attempt to uncover what works – and what doesn’t – in financial education to improve financial capability. These trials should be long-term and designed from the start with these evaluation challenges in mind.
- Even if it were clear that financial education is effective in improving capability, there are evident challenges to offering financial education well. When delivered in a traditional classroom environment, the education provided is decoupled from the opportunity to practise these skills. Additionally, where financial education is provided as an elective, outside of a given curriculum, it can be difficult to ensure

that people show up, perhaps due to inertia or to the stigma (whether real or perceived) which may be attached to attending such a course. And finally, when the financial education is provided in school, not by a specialist provider, the teachers themselves may feel under-qualified to teach the subject.

- We recommend that more research is carried out to trial financial education interventions. Specifically, we propose that a programme is piloted to test the effectiveness of three approaches.
  - The first approach is to teach *heuristics or simple, action-based strategies* rather than, or in addition to, focusing on knowledge of financial concepts.
  - Another approach is to develop a financial education programme which is *experiential*, to shift the emphasis from knowledge to behaviour, increase the relevance of the curriculum, and to provide the opportunity to practise the skills being learned.
  - Finally, we would like to trial education that is *timely*. That is, building upon some basic level of financial education which should be taught early on in life, key learnings should be reinforced at crucial times when one is about to make an important financial decision.

These approaches could be trialled individually or together, and should include long-term evaluation to determine the persistence of effects. We welcome input from potential partners who would be interested in collaborating to undertake such research.

- Financial capability is an increasingly important life skill, vital for personal empowerment and enabling communities to thrive. There is an opportunity now to uncover what works best to ensure that the financial education provided to our communities is effective in helping us to achieve financial wellbeing.



---

# 1. Introduction

---

Making good financial decisions is a vital life skill. With the growing complexity of financial products, a seemingly ever-increasing number of financial decisions for all of us to make and the continued pressure on many households' budgets, we have a smaller margin for error than before. Moreover, scientific evidence is steadily accumulating that financial decisions not only have financial consequences, but also affect people's mental health and wellbeing.<sup>2</sup> When people struggle financially, they tend to struggle in other ways, too.

However, UK-wide surveys show that many people lack the knowledge, motivation or opportunity to make good financial decisions. In other words, they lack *financial capability*, or the ability to take the actions and decisions that make up positive financial behaviour. For example, over half of respondents to a recent survey say they are struggling to keep up with bills and other financial commitments, nearly a quarter admit they would rather live for today than plan for tomorrow, and more than one in 10 people are unable to identify the balance on a bank statement.<sup>3</sup> Additionally, recent research found that those in the lowest income quintile are worse off now than before the great financial crisis and, on average, have less than six days' worth of income saved.<sup>4</sup>

Given this situation, many will conclude that some form of education should be offered to people to improve their financial capability. Financial education as a policy remedy is often presented as a less invasive alternative to regulating or restricting the consumer marketplace for financial products. The 'education argument' is based on the reasoning that once people are given the tools to inform and improve themselves, those motivated will do so. Prominent examples are the inclusion of financial education in national school curricula, various programmes currently being developed for households affected by changes to the welfare system and new government financial advice services for pensions.

While these intentions are well placed, we know little about the effectiveness of financial education programmes. In fact, the most comprehensive recent reviews of evaluation studies find that financial education programmes often have no measurable or sustainable effect on people's finances.<sup>5</sup> Therefore, whether or not we need to provide

2 Vlaev and Elliott (2013); Taylor et al. [FSA] (2009); Taylor et al. (2011).

3 Money Advice Service (2013).

4 Broughton et al. (2015).

5 Fernandes et al. (2014); Miller et al. (2013).

access to *more* financial education, we need to investigate *what works best* in financial education to effectively bring about a real and sustained improvement in financial capability.<sup>6</sup> How do we best, and most cost-effectively, bring about sustained changes in behaviour and outcomes?

With this challenge in mind, we turn to a significant development in policy evaluation in recent years: the application of a *behavioural science* perspective.<sup>7</sup> This perspective has been very effective in devising programmes for behaviour change in areas such as retirement savings, high-cost credit and tax collection.<sup>8</sup> The success of behavioural science in policy is borne out of the principles that behaviour change initiatives have a higher chance of succeeding if they are designed around scientifically robust evidence about people’s psychology, and that the effectiveness of behaviour change initiatives can, and should, be subject to robust measurement.

Decades of research in the behavioural sciences teaches that many poor financial decisions are linked to a set of stable and identifiable psychological mechanisms. We summarise these mechanisms as six *behavioural hurdles* to financial capability: (1) cognitive overload; (2) empathy gaps; (3) overconfidence and optimism; (4) instant gratification; (5) harmful habits; and (6) social influence. These hurdles affect not just a few poor decision makers; the psychological principles that underlie people’s sometimes-complicated relationship with money are quite universal. In general, humans are not wired to handle money well.

But we also argue that “being bad with money” does not have to be a fixed feature of one’s life. With a better understanding of these behavioural hurdles, we can help ourselves both by creating better contexts for making financial decisions, and by designing financial products and financial education in such a way as to help us act in our own best interest.

*“When done well, we believe that it can lead to improved outcomes. The key is to determine what effective financial education looks like”*

Financial education is one, but of course certainly not the only, way of improving people’s financial outcomes. In some cases, an extreme example being the mis-selling of financial products, the financial markets regulator may wish to intervene directly. Some might argue that financial education will always be behind the curve, as financial institutions have a knowledge advantage over consumers, or even a degree of market power.

In this paper, we acknowledge that financial education alone is not a panacea, but when done well, we believe that it can lead to improved

<sup>6</sup> Together, the Money Advice Service and the Personal Finance Research Centre at the University of Bristol are currently developing an ‘evidence hub’. We welcome this as a helpful new resource which will enable researchers, funders, and providers of financial education to access the latest research in this field.

<sup>7</sup> Behavioural science is used as an umbrella term to describe insights about human behaviour from many different fields, including but not limited to: social psychology, behavioural economics, evolutionary psychology, and judgement and decision-making science.

<sup>8</sup> Increasing retirement plan participation and contributions: Madrian and Shea (2001); Thaler and Benartzi (2004). Choosing credit products: Bertrand et al. (2010); Bertrand and Morse (2011). Tax compliance and timely payment: Coleman (1996), Hallsworth et al. (2014).

outcomes. The key is to determine what effective financial education looks like. This is an essential research priority given the opportunity cost of providing education in its current form, and in a time when financial decisions are both complex and increasingly devolved to the individual.<sup>9</sup> Only by determining what works – and what doesn't – in financial education to improve financial capability, can we expect it to have a meaningful impact on people's lives.

### **Framework and methods**

From a review of the academic literature in the fields of economics, psychology, and finance, we identified six key behavioural hurdles to financial capability. We investigated the extent to which these hurdles are addressed by financial education programmes in the UK and identified further challenges to effective evaluation of financial education programmes. To support our research, we also consulted with financial education providers throughout the UK. We had meetings and phone interviews with a range of providers, attended financial education courses and reviewed materials from various providers. Finally, we carried out an on-line survey among financial education experts (educators and course developers). Our survey sample is modest and therefore the findings are not generalisable, but they provide us with valuable insight into how financial education programmes are perceived by at least some of the people that deliver them.

The rest of the paper is organised as follows. *Chapter 2* describes financial capability and how financially capable we are in the UK. *Chapter 3* explains six hurdles to financial capability from a behavioural science perspective and provides examples from course material that addresses these hurdles. *Chapter 4* explores issues around teaching financial capability, including a review of the literature about the effectiveness of financial education, and discusses why financial education can be hard to teach and difficult to evaluate. In *Chapter 5* we propose further research to evaluate a pilot financial education programme. *Chapter 6* concludes the paper with thoughts on the opportunities we face as consumers and as society.

<sup>9</sup> Offer, A. (2006).

---

## 2. What is financial capability?

---

Financial capability has attracted a lot of attention in recent years. Following the perilous state of UK households' finances after the latest recession, researchers, policy makers and regulators have made the case that something should be done to improve people's financial capability. A national "Financial Capability Strategy" was first drafted by the Financial Services Authority in 2006 and is currently being updated by the Money Advice Service.<sup>10</sup> Many initiatives that fall under this umbrella have sought to address financial capability through education programmes in schools, colleges, community centres, social housing and through other social services provided by government and the third sector.

Being financially capable is more than simply being informed or making correct decisions in a classroom setting – it is applying knowledge and skills at the right times in everyday choices. Financial capability, for the purposes of this paper, is having the knowledge, skills and opportunity to make good financial decisions. It "involves more than the reproduction of accumulated knowledge...[it] also involves a mobilisation of cognitive and practical skills, and other resources, such as attitudes, motivation and values".<sup>11</sup> This basic principle applies across life-stages and circumstances, whether managing a budget or pocket money, paying off debt, taking out insurance or making pension contributions.

### Financial literacy

The above is not to say that financial knowledge – or what is often referred to as *financial literacy* – does not matter in itself. There is plenty of evidence that people who are more financially literate have better economic outcomes.<sup>12</sup> People with high financial literacy are better at sticking to budgets,<sup>13</sup> save more for their children's higher education<sup>14</sup> and their own retirement,<sup>15</sup> are less likely to be over-indebted,<sup>16</sup> and

<sup>10</sup> Money Advice Service (2015).

<sup>11</sup> OECD (2014b) p.33.

<sup>12</sup> There is an implicit value judgement here that these outcomes are good in that they provide greater financial stability as compared with not achieving these outcomes.

<sup>13</sup> Hilgert et al. (2003); Shahrabani (2012).

<sup>14</sup> Huang et al. (2013).

<sup>15</sup> Agnew et al. (2007); Bell et al. (2009); Chan and Stevens (2008); Clark et al. (2011); Fornero and Monticone (2011); Mullock and Turcotte (2012); Sekita (2011); Utkus and Young (2011); Van Rooij et al. (2008).

<sup>16</sup> Lusardi and Tufano (2009); Gathergood (2012).

have better-diversified investment portfolios.<sup>17</sup> This association between financial literacy and better outcomes is probably a two-way street: having higher financial literacy may lead to more informed choices resulting in these outcomes, and making these choices may in turn improve financial literacy.

Academic studies typically measure financial literacy by asking people questions about financial products.<sup>18</sup> The more of these questions people answer correctly, the higher their financial literacy score. But in the context of financial education, financial literacy is usually defined in more practical terms. In a pre-course survey for a financial education course, educators may ask the participants how much they think it costs to run a car, pay for a wedding, or what the minimum earnings threshold for paying back a student loan is.

Many financial education programmes measure financial literacy before and after the programme. These measures are useful indicators of how much has been learnt during the course. But such before-after measures are often designed to evaluate the teacher; they do not tell us how long knowledge persists or how it influences behaviour. Some courses even measure financial literacy by asking participants to self-report their level of knowledge, for example by grading themselves on a scale from one to 10. These answers are tricky to interpret, however, as they may simply measure confidence instead of knowledge.

### **From knowledge to behaviour**

Knowledge is especially powerful when paired with skills and opportunity. For this reason, lessons from behavioural science can be of immense value to improving people's financial capability; research in this field provides insight into when people's financial capability is likely to be impaired, and why. Understanding the 'why' matters a great deal, because it enables us to identify and test ways of mitigating problems of financial capability.

Rather than assuming that people use financial knowledge to their own best interest, a behavioural perspective recognises that, despite good intentions, this isn't necessarily the case. Humans are complex, and part of that complexity includes our cognitive limitations, deep social connections, and systematic patterns of thinking. These are unpacked further into six discrete ways that can undermine financial capability in the next section of the paper.

Certainly, low financial capability is not only a matter of psychology. People may lack the opportunity to build financial capability due to poor access to financial products or trustworthy information and teaching.

<sup>17</sup> Choi et al. (2011); Glaser and Klos (2012); Hastings (2012); Abreu and Medes (2010); Giofre (2012); Graham et al. (2009); Guiso and Japelli (2009); Kamball and Shumway (2007); Van Rooij et al. (2011); Yoong (2010).

<sup>18</sup> In the academic literature, the most commonly used measure is a set of questions about interest rates, inflation, compound interest and risk diversification; it was developed by Lusardi (2008).

They may also be in a social context that hinders the development of their financial capability, such as a stressful situation at home. There are plenty of contextual factors that play a significant role and we do not deny their importance in the policy mix. In this report, however, we focus on what behavioural science teaches us about making financial education more effective.

### **A framework for financial capability**

A useful way of thinking about the distinction between financial literacy and financial capability is that literacy is what is known, in the abstract, whereas capability is what is done in context. Financial capability is thus expressed through actions or *behaviour*. If we plan to improve people's financial capability, we need to decide which aspects of their behaviour we would like to see a change in.

There are many frameworks of financial capability to draw from, some academic and some more policy focused. The Money Advice Service (MAS) recently proposed a framework based on managing money well day to day, preparing for and managing life events, and dealing with financial difficulties.<sup>19</sup> More specifically, these can be broken down into the six key components of financial capability they published last year:<sup>20</sup>

- *Maintaining a budget* can be thought of as 'making ends meet'. It means that people know how much they can spend and ensure they don't fall short on a regular basis.
- To *manage debt well* is to plan for 'inevitable' purchases on credit, such as buying a house or education. It involves securing good credit terms, making use of tax incentives and ensuring there is enough room within a budget for repayment.
- *Protecting dependants* means that partners, children and other dependants are protected in case anything happens to the main household income earner. Examples are taking out critical illness insurance, life insurance and joint pensions.
- *Achieving financial resilience by protecting assets* means being financially prepared for unexpected events – for example, medical emergencies, burglaries or car breakdowns. Examples are taking out insurance, reducing key risks and having a 'rainy day fund'.
- *Saving regularly* means putting some money aside (beyond an emergency fund), such as setting up a savings fund for holidays and household appliances.
- *Saving for retirement* includes behaviours such as forecasting future outcomes, ensuring enough money is saved to guarantee the desired pension and selecting the right 'mix' of investments for retirement savings.

The components of this framework are similar to those of other frameworks, such as those put forward by the MAS previously, the Financial Service Authority (FSA; now the FCA), and National Skills Academy for Financial Services (NSAFS), and as such we assume that

<sup>19</sup> Money Advice Service (2015).

<sup>20</sup> Money Advice Service (2014).

they are a fairly comprehensive list. The fact that these frameworks often shift, but only slightly, suggests that financial capability is not an exact science but that in general terms it refers to creating financial resilience in the short and long term.

In the remainder of this paper, these components will be used as a benchmark for highly financially capable behaviour. We discuss how human nature can provide hurdles to achieving this level of financial capability, as well as the prospects for financial education to make financially capable behaviour more likely.

### **How financially capable are we?**

Wide scale measurement of financial capability is a relatively recent development in the UK, and the general trend illuminated by this measurement is mediocre financial capability with no evidence of improvement over time.

Two representative surveys of the UK population, one a phone survey by the FSA in 2005 and the other an on-line survey by the MAS in 2013, provide information on the state of our financial capability.<sup>21</sup> For a measure of financial literacy only, we can also draw on the results of the 2008 wave of the YouGov Debt Tracker household panel survey.

In 2005, although the majority of respondents were capable and organised, many were poor at responding to unexpected events and planning for the future. For example, although 75 percent of respondents said they make sure they have money saved for a rainy day, this percentage is at odds with other figures within the same survey, as 70 percent of respondents have no personal provision to cover a drop in income, and half of respondents have no form of savings at all. Similarly, a significant percentage of people said they always (nine percent) or sometimes (31 percent) run out of money at the end of the week or month. And although the vast majority of people (81 percent) did not believe that a state pension will be enough to cover their needs in retirement, more than one third of these people (37 percent) had not made any extra provision for their pension. The FSA report documenting the survey makes specific mention of this contradiction in “attitudes versus behaviours”.<sup>22</sup>

In 2013, the picture was not better; although people generally feel confident about their money management skills, nearly half (49 percent) of respondents indicate that they were worried about their finances. Fewer people have money saved for a rainy day (from 75 percent in 2005 to 62 percent in 2013), more people are struggling to keep up with paying their bills and other household commitments (from roughly one in three

21 Financial Services Authority (2006) and Money Advice Service (2013). The FSA report had a sample size of 5,300 and the MAS report a sample size of 5,000. Note that the respondent groups are likely to differ in many respects due to the difference in time and survey method. According to their 2015/16 Business Plan, the MAS is now standardising their survey to facilitate comparability over time.

22 Financial Services Authority (2006), p.15.

people (35 percent) in 2005, to one in two people (52 percent) in 2013), and four in 10 people (42 percent) say they could not cover an unexpected £300 bill without having to think about how to pay for it. Only 30 percent of survey respondents were paying into a pension.

Although many people are confident (80 percent of people in the 2013 survey say they feel confident about managing their finances), this confidence does not seem to be based on financial literacy or knowledge. The YouGov Debt Tracker survey asked people three questions about interest and credit cards, and only 30 percent of people answered all three questions correctly.<sup>23</sup> The 2013 Money Advice Service survey found similarly low knowledge figures, especially for the under-35s.

Taken together, these findings of low literacy and capability indicate that “there is hard work to be done to improve the financial capability of the UK”.<sup>24</sup> The results from the 2005 and 2013 surveys suggest that there is no evidence of improvement of financial capability over time.

<sup>23</sup> Gathergood & Disney (2013), Gathergood (2013) and Gathergood & Weber (2014).

<sup>24</sup> Money Advice Service (2013).



---

# 3. Hurdles to financial capability – a behavioural science perspective

---

In the previous section, we introduced a benchmark level of financial capability consisting of maintaining a budget, managing debt well, protecting dependants, financial resilience through protecting assets, saving regularly, and saving for retirement. We also cited extensive evidence that many people in the UK are struggling financially and seem to fall well short of this benchmark. How can we explain this?

It is undoubtedly true that the economic conditions of the past decade have put UK household budgets under pressure. The financial crisis of 2008, followed by a prolonged recession, reduced government spending and a fall in real wages, have affected many people, with only recently any promising signs of recovery.<sup>25</sup> But this is not the whole story. Research from leading debt charities paints a more nuanced picture. People with severe debt problems cite redundancy, but also personal problems and lack of budgeting skills as reasons for seeking help.<sup>26</sup>

Another oft-heard reason is the increasing complexity of managing one's finances. Easy availability of credit in the UK increases people's options but creates new responsibilities. Furthermore, financial products have become more varied and complex.<sup>27</sup> For example, both long-term shifts and recent changes to the pension system have introduced new choices and complex trade-offs over time.

It is tempting to respond to these challenges with calls for more financial *knowledge*. As long as people are better informed, so the reasoning goes, they will become more financially capable. Many types of financial education fall into this category. But, as we argued earlier, financial capability does not automatically follow from financial knowledge. As

25 Office for National Statistics (2014); Broughton et al. (2015).

26 StepChange (2013).

27 Office of Fair Trading (2007); Financial Conduct Authority (2012).

evaluation studies from the behavioural sciences repeatedly show us, information and advice campaigns often fail to change behaviour.<sup>28</sup>

Behavioural science research also tells us more than that. It specifically identifies a number of ways in which humans think and make decisions that make it difficult to behave in our own financial best interest. What's more, our behaviour is often systematic and predictable.<sup>29</sup> People are, in the words of influential behavioural economist Dan Ariely, *predictably irrational*. And because we can predict our behaviour, the design of consumer financial policy and practice can, and should, take it into account.

### **3.1 A closer look at behavioural hurdles to financial capability**

In this paper, we summarise key implications of behavioural science research on consumer psychology in terms of *six behavioural hurdles to financial capability*:<sup>30</sup>

1. Cognitive overload
2. Optimism and overconfidence
3. Empathy gaps
4. Instant gratification
5. Harmful habits
6. Social influence

When reviewing financial education programmes – either as a prospective participant, educator, curriculum designer or purchaser – there are many things to take into account: suitability, duration, value for money, credibility, provider motives, etc.<sup>31</sup> We suggest it is also important to question the extent to which the programme addresses these behavioural hurdles to financial capability.

Financial education programmes that do not take into account these key behavioural hurdles will effectively offer only a partial solution, without making a demonstrable difference to people's financial wellbeing. By failing to recognise this we may suffer a false sense of security that 'something is being done'.







<sup>28</sup> See Webb and Sheeran (2006). In the context of complex financial decisions, consider the low take-up rates of free financial advice (Vlaev et al., 2015).

<sup>29</sup> Note that we are not talking about character flaws. Although a particular behaviour may be more prominent in one person than in another, research to date suggests that these tendencies are fairly universal and affect most of us to some extent.

<sup>30</sup> Method of selection: the authors each reviewed a compiled list of various concepts from the behavioural science literature that have direct relevance to financial behaviour. Separately, we selected those which we viewed to be of the most importance (either for its likely impact on personal finances or for its ease of mitigation through education). The shortlists were then compared and the authors discussed the selection and came to a consensus on the topics included in this section.

<sup>31</sup> While all course providers presumably aim for improving the financial capability of their participants, the motivations for doing so are probably mixed (for example, responding to a clear or perceived need in the community, generating profit or religious/other motives).

**Table 1: Behavioural hurdles to financial capability**

Behavioural hurdle	Set-back to financial capability	
 <p data-bbox="164 488 408 521">COGNITIVE OVERLOAD</p>	<p data-bbox="440 271 919 434">Having a lot on your mind impairs decision-making and can tend to result in the simplest, but not necessarily most lucrative, option being selected or course of action taken.</p>	<p data-bbox="935 271 1444 367">Cognitive overload can affect the ability to effectively maintain a budget, manage debt, and save for retirement.</p>
 <p data-bbox="164 779 408 813">EMPATHY GAP</p>	<p data-bbox="440 568 919 696">Overlooking how you might feel in a different situation can result in unnecessary purchases, such as when shopping for food on an empty stomach.</p>	<p data-bbox="935 568 1444 799">Empathy gaps can undermine the ability to stick to a budget. As most financial education likely happens in a 'cold' state, the learnings from it can be difficult to apply in the heat of the moment when the financial decision, such as whether to buy something or not, is made.</p>
 <p data-bbox="164 1070 408 1104">OVERCONFIDENCE</p>	<p data-bbox="440 866 919 960">Wearing rose-tinted glasses can affect money management through unrealistic expectations about the future.</p>	<p data-bbox="935 866 1444 994">Optimism and overconfidence affect the ability to protect dependents and assets, manage debt effectively, and to save for retirement.</p>
 <p data-bbox="164 1373 408 1406">INSTANT GRATIFICATION</p>	<p data-bbox="440 1164 919 1292">Seeking instant gratification over a larger potential reward in the future can undermine long-term planning and savings.</p>	<p data-bbox="935 1164 1444 1261">The drive for instant gratification affects the ability to maintain a budget, save regularly, and save for retirement.</p>
 <p data-bbox="164 1671 408 1704">HARMFUL HABITS</p>	<p data-bbox="440 1462 919 1556">Mindless behaviour can amplify a poor financial decision as it becomes a recurring event.</p>	<p data-bbox="935 1462 1444 1559">Harmful habits can undermine the ability to maintain a budget, manage debt effectively, and save regularly.</p>
 <p data-bbox="164 1968 408 2002">SOCIAL NORMS</p>	<p data-bbox="440 1760 919 1951">The actions of others influence us in non-trivial ways; while this can be helpful in certain circumstances, it also contributes to the pressure to keep up with the Joneses through conspicuous consumption.</p>	<p data-bbox="935 1760 1444 1812">Social influence can make it difficult to maintain a budget and to save regularly.</p>



*“When financial choices are complex and make people feel cognitively ‘overloaded’, people tend to choose the simple option”*

## Cognitive overload

Our cognitive resources can be thought of as a kind of *mental energy*; we use up this energy when we make decisions. Research shows that certain situations – making many decisions in a row, choosing between many different or complex options, making decisions that require trade-offs and deciding under time pressure – are particularly mentally exhausting.<sup>32</sup> And when we are mentally exhausted, our decisions change, often for the worse.

For example, giving someone more options to choose from is often thought of as a good thing. But research suggests that more options do not necessarily improve outcomes.<sup>33</sup> Similarly, providing people with more information about a product or service can actually lead people to make worse evaluations than when less information is available.<sup>34</sup>

When financial choices are complex and make people feel cognitively ‘overloaded’, people tend to choose the simple option. An option may be simple because the product or service itself is not complex, or because the decision-making process is easier.

The effects of cognitive overload can make it difficult to *save for retirement* effectively. One study finds that people who report higher overload when making retirement decisions are more likely to select a simple annuity instead of a more complex retirement investment which would be likely to have a better return.<sup>35</sup>

This tendency is important because the simple option is not necessarily the best. In a study of the retirement savings of more than half a million US workers, researchers found that people who were offered more investment options were less likely to allocate money to higher-yield investments, giving them *less* money for their retirement.<sup>36</sup>

Sometimes the default is the simple option, because it is cognitively easier to ‘go with the flow’ than to actively choose. Whether or not this default leaves a person better off of course depends on what the default is. An example is the recent introduction of default enrolment in the UK pensions system. A recent study finds that people with lower financial literacy tend to be more likely to stick to default options; in this case, the simple option of automatic enrolment in a pension plan is beneficial, because research also finds that this group is less likely to save for their pension than others.<sup>37</sup>

But in other cases, following defaults can be costly. This can impede our ability to *manage debt* effectively. For example, the default monthly repayment on a credit card is so small that it pays for interest rate charges and only a minimal portion of the amount borrowed. Following this

32 See Spencer (2013b).

33 Schwarz (2004); Iyengar (2010).

34 Montier (2010).

35 Agnew and Szykman (2011).

36 Iyengar and Kamenica (2011).

37 Agnew and Szykman (2005).

default scenario will lead to many years of interest fees. In fact, one study shows that the minimum suggested repayment on a credit card statement even acts as an ‘anchor’ for payments chosen by the card holder, thus slowing down repayments compared to a scenario where no minimum amount is suggested.<sup>38</sup>

Most of us will be able to remember a time when we experienced cognitive overload. But for those under constant financial pressure, the effects of cognitive overload can turn into a vicious cycle. Not having enough money turns everyday financial decisions into cognitively effortful trade-offs (“if I pay this bill I don’t have enough left to pay that one”). Making these difficult trade-offs depletes our mental energy, leading to worse financial outcomes, and so on and so forth (see Box 1: The effects of scarcity). For example, one research study shows that people who make difficult consumption trade-offs have lower willpower afterwards.<sup>39</sup> This loss of willpower may affect their ability to *maintain a budget* by resisting impulse purchases and borrowing opportunities.

### **Box 1: The effects of scarcity**

When there is not enough money to pay all your bills and expenses, it is natural to focus on trying to solve the most immediate problem (“My electricity will be cut off if I don’t pay this bill”) and ignore other consequences. The solutions that people come up with when they are so narrowly focused, so-called *tunnelling*, are often quick fixes that lead to greater financial problems in the long term. For example, we can see all the ingredients of this kind of quick-fix problem solving in advertising for short-term credit solutions, which tend to emphasise how *easy* and *quick* their service is.

In their landmark 2013 book, *Scarcity*, Eldar Shafir and Sendhil Mullainathan explain how “having little” can turn into a self-perpetuating state of poverty due to tunnelling. As Shafir puts it himself: “If your bedroom is on fire and there is a bucket of water available, you’re not going to ask what the fees on it in two weeks’ time are going to be.”<sup>40</sup>

Cognitive overload may leave people feeling out of control. A recent survey found that the most important component of a UK household’s financial well-being is the feeling of being ‘in control’ of their finances.<sup>41</sup> This provides support for the idea that avoiding or mitigating situations of cognitive overload when making financial decisions should be an important part of improving people’s financial capability.

One way in which the effects of feeling overloaded can be mitigated is by using strategies that keep positive financial behaviour at the top of someone’s mind. For example, using text messages to remind someone to make deposits into a savings account has been shown to increase people’s short-term savings balances.<sup>42</sup>

38 Stewart (2009).

39 Spears (2010).

40 Shafir, E. (2015).

41 Vlaev and Elliott (2013).

42 Karlan et al. (2010).



*“Empathy gaps lead to problems when the behaviour of one particular self undermines the goals of another self”*

## Empathy gaps

Although it may feel that we are always our one and only self, we often act as if we have many different selves. For example, behaviour in a ‘hot’ state (hungry, tired, emotional, aroused or excited) can be very different from behaviour in a ‘cold’ state. When in one of these states, we have a hard time predicting what would be best for our ‘other state’ self – this is called an intrapersonal *empathy gap*.<sup>43</sup> Empathy gaps lead to problems when the behaviour of one particular self undermines the goals of another self – for example by spending too much or saving too little – and can therefore be a challenge to effectively maintaining a budget.

*Maintaining a budget* can be made difficult through our failure to predict how tempted we might be to spend, and therefore a lack of planning about how to contain the spending. For example, in the ‘heat of the moment’ on a night out with friends a person might spend more money than he or she would like to – not just when thinking about it afterwards, but even beforehand when in a ‘cold’ state.

It is unlikely that empathy gaps with one’s ‘other’ self can be bridged completely and persistently. But only a short time of heightened empathy with one’s other self can be sufficient to improve financial behaviour, if this time is used effectively. It is at this point that a commitment to action can be put in place, for example by committing to regular pension contributions. Similarly, an appropriate mechanism can be created while in a cold state to prevent overspending in a hot state. Such commitment devices may be a useful strategy for managing the consequences of empathy gaps.

Crucially, much financial education takes place in a cold state, whereas the financial decision making context is not always so cold. This means that people may leave a financial education programme with the best of intentions, but not follow through on them in the heat of the moment. For example, one study on retirement savings seminars finds “a substantial disconnect between the stated intent to change saving behaviour immediately following the seminar and the actual actions taken in the next three months.”<sup>44</sup>

<sup>43</sup> Spencer (2014a).

<sup>44</sup> Clark and D’Ambrosio (2003), p.10.



*“Optimism can lead people to underestimate the chance that they will be affected by a negative change in circumstance, and fail to plan accordingly”*

## Optimism and overconfidence

People tend to be optimistic about the future and overconfident about their abilities.<sup>45</sup> Many believe themselves to be above-average employees, drivers, students, spouses, etc. These biases can be easily demonstrated by asking students whether they expect to be in the top 50 percent of the class – the vast majority (sometimes 80–100 percent) of them believe they will be.<sup>46</sup> This optimism also affects people’s financial forecasts: a survey of 8,500 teenagers found that they expected their salary at age 25 to be £31,000 despite the average salary for that age range being less than £18,000 at the time.<sup>47</sup>

Optimism can lead to bad financial outcomes, by undermining a person’s tendency to *protect their dependants* and *protect assets*. Optimism can lead people to underestimate the chance that they will be affected by a negative change in circumstance, such as a medical emergency or redundancy. As a result, they may be under-insured and fail to put enough money aside as ‘rainy day savings’, reducing their financial resilience. This is particularly problematic, as research shows that negative changes in circumstances is the most commonly cited reason for falling into unmanageable debt.<sup>48</sup>

*Managing debt well* can be difficult, as optimism may lead someone to choose a loan despite its large penalty fees, believing that they will come into money soon enough to make repayments on the loan without incurring a late fee. These findings are related to people’s beliefs that they will earn more in the future<sup>49</sup> or that their business will boom.<sup>50</sup> An optimistic outlook may result in behaviours that appear impulsive, for example consuming now instead of rationing over time, because the perceived consequences of the instant gratification are diminished.<sup>51</sup> In other words, if someone is optimistic and confident that they will be able to earn a sufficient salary in the future, the consequence of spending on credit today seems less severe.

Unrealistic expectations about the future influence our ability to *save for retirement*. As the survey mentioned earlier shows, teenagers may have unrealistic expectations about their future salary. And adults don’t do much better: people often underestimate the age at which they can retire, even when they are relatively close to retirement.<sup>52</sup> When it comes to retirement planning, optimism seems to be a potentially harmful trait. One survey study found that people who are very optimistic have a shorter planning time horizon, are less likely to think that saving is a good thing

45 Sharot (2012); Montier (2010); Kenrick & Griskevicius (2013); Kahneman (2011); see also Puri and Robinson (2007).

46 Montier (2010) for 80%; Kenrick & Griskevicius (2013) for 100% (sample was Wharton MBA students).

47 NatWest as cited in Financial Services Authority (2008).

48 Financial Conduct Authority (2014).

49 NatWest as cited in Financial Services Authority (2008).

50 Arabsheibani et al. (2000).

51 Sharot (2012).

52 Clark and D’Ambrosio (2003).

and, on average, save less than people who are less optimistic.<sup>53</sup> This may be related to laboratory findings on anxiety, which show that people who care more about the future are also more anxious.<sup>54</sup>

But optimism is not all bad. In fact, mild optimism is correlated with a range of good financial behaviours, such as timely repayment of one's credit card balance, saving more, and agreeing with the statement that saving is a good thing to do.<sup>55</sup> Another benefit of optimism is that it pushes people to seek out new opportunities and supports emotional resilience, which may be an important part of recovering from negative financial surprises such as losing one's job.<sup>56</sup>

It is very hard to reduce or remove the effects of personality traits like optimism and overconfidence.<sup>57</sup> And, given the benefits of moderate optimism, it would be unwise for financial education to attempt to remove optimism altogether. For these reasons, financial education programmes should teach people how to build in suitable safety nets in case their optimistic view of the future does not pan out.

It could also be worthwhile to think about strategies to improve how realistic our evaluations are. For example, this might mean entering into long-term commitments with both a business-as-usual and a worst-case scenario in mind, or anticipating ranges (as opposed to a single value) for seemingly unpredictable expenses such as phone bills or utility bills. The key here is to anticipate, however uncomfortable it may be, what life would be like under a reduced income or with a steep increase in costs. Another strategy to mitigate optimism is to consult data from other similar situations.<sup>58</sup> This is perhaps an unrealistic request for people for their everyday decisions as it induces a high cognitive load, however it could be helpful for financial education to collate this information and provide it to people as a reality check.

<sup>53</sup> See Puri and Robinson (2007). They also find that "extreme optimists" hold a higher proportion of their wealth in illiquid assets as compared to the average; the authors suggest that this may reflect lower self-control in extreme optimists than in mild optimists, in that they may choose illiquidity as a self-imposed commitment device to prevent over-spending.

<sup>54</sup> Barlow (1998).

<sup>55</sup> Puri and Robinson (2007).

<sup>56</sup> Puri and Robinson (2007); Kenrick & Griskevicius (2013); Kahneman (2011).

<sup>57</sup> Sharot (2011)

<sup>58</sup> Kahneman (2011).





## Instant gratification

Instant gratification is our tendency to want something right now. This can be an expensive tendency. Behavioural economists have shown that, when choosing between *smaller rewards sooner* and *larger rewards later*, there is something particularly appealing about having something *instantly*. This preference is known as present bias.

One example of instant gratification is impulse spending, defined in recent studies as *spending money spontaneously, without reflection*.<sup>59</sup> Using survey data on over 100,000 UK households, the authors find that impulsive spending is more common for people who are under 21, female, belong to a lower social class, have lower accumulated wealth but relatively higher incomes (suggesting that to some extent a person needs to have enough money coming in to then spend it). Additionally, the use of impulsive ‘retail therapy’ is associated with being more sensitive to negative experiences and less able to handle emotions effectively.

Although the relationship between impulsive spending and various adverse financial outcomes cannot be said for sure to be causal, the correlation is striking. The researchers found that “People who bought goods impulsively were three times more likely to go bankrupt, and four times more likely to run out of money by the end of the week. And impulse buying has a greater impact on our ability to make ends meet than financial knowledge, income, education and social class combined.”<sup>60</sup> This finding illustrates, again, that financial knowledge alone is not sufficient to ensure good financial choices: behaviour, and therefore people’s psychology, matters.

The results from the nationwide survey confirm that a desire for instant gratification makes it harder for people to *maintain a budget*: impulsive spenders are more likely to run out of money and more likely to go bankrupt. It may also be the case that this tendency also affects the ability to manage debt effectively because of the challenges it brings to saving up for repayments, although there is no clear data to confirm this.

*“Although many of us would recognise the instant gratification from spending impulsively, few would say the same about saving”*

Although many of us would recognise the instant gratification from spending impulsively, few would say the same about saving. This may affect our capacity to *save regularly* and *save for retirement*. One of the reasons for this is that we face many more triggers to spend than to save in our daily life. It could be that providing triggers to save could actually lead to ‘impulsive saving’. There are now several initiatives that actually try to make people save on impulse. Many of these are smartphone applications (ImpulseSave, OrSaveIt, Small Sacrifices) that tell their users to refrain from a certain impulse purchase, and transfer the purchase amount of money to a savings account instead.

59 Fenton-O’Creevy et al. (2012); Von Stumm et al. (2013).

60 BBC (2013).

Various promising strategies to make saving more attractive than spending are ways of focusing someone's attention on future spending made possible by current savings. For this reason, having savings goals is an important part of *saving regularly*. *Saving for retirement* is also more successful when thinking about future consumption. One study found that people who were shown a digitally aged photo of their future older self were more likely to contribute a higher amount to their pensions.<sup>61</sup> This example shows the close relationship between people's desire for instant gratification and empathy gaps: unless we actively focus our attention, it is very hard to empathise with our future self. As a result, it is difficult to be motivated to put money aside.

Another implication of instant gratification is that people are more sensitive to sacrificing current spending than future spending. The *Save More Tomorrow* pension programme, a notable success story of applying behavioural science in practice, makes use of this tendency by asking people to commit to higher retirement contributions in the future.<sup>62</sup>

Impulsivity or instant gratification is often equated with poor self-control, but it may have evolved as an adaptive strategy in response to an uncertain and unreliable environment. In such a context, it could be smart to be impulsive and not delay gratification, because that eventual gratification may never materialise.<sup>63</sup> Nevertheless, given our relatively stable environment – relative to our distant relatives in our evolutionary past – it is important to address this tendency.

A promising approach for reducing impulsive behaviour may be to evoke a feeling of gratitude, which has been shown in one study to encourage longer delay of gratification.<sup>64</sup> And it may be important to start developing this skill early on in life, because self-control in children has been found to be correlated with a host of positive outcome measures later in life, such as lower unemployment and criminal activity, better health, and more “financial building blocks for the future” such as home ownership, investments, or retirement plans.<sup>65</sup> Practising gratitude may therefore be a very effective means of promoting wellbeing both in the present and sustained in the long-term.

61 Hershfield et al. (2011).

62 Thaler and Benartzi (2004).

63 Researchers from Rochester University (Kidd et al., 2013) modified the famous marshmallow experiment. They found that children who were previously exposed to unreliability in the setting waited for a far shorter time to eat the single treat, on average, than those children who had been exposed to a reliable setting.

64 DeSteno et al. (2014).

65 Moffit et al. (2011).



*“Harmful habits are more of a challenge to financial capability than one-off harmful behaviours because they recur and are therefore more costly”*

## Harmful habits

A useful way to think about habitual behaviour is as a trigger-routine-reward sequence. The behaviour or routine is triggered by a certain cue, and leads to a particular reward. Because a response (the routine) to a trigger yields a certain reward, someone who craves the reward will display the routine behaviour upon exposure to the trigger.<sup>66</sup> When a habit has formed, the routine behaviour has effectively become less deliberate and more automatic.

When a behaviour becomes a habit, it can feel as though it is being carried out mindlessly. This lack of reflection can be beneficial in conserving cognitive resource (mental energy), when the habits work in favour of good financial capability. However, bad habits can be detrimental to financial capability.

Harmful habits are more of a challenge to financial capability than one-off harmful behaviours because they recur and are therefore more costly. An expensive spending habit or a long-standing, automatically renewing subscription or contract, can thus limit people’s ability to *maintain a budget* by limiting their flexibility.

Easy availability of credit cards in the UK, combined with the wide acceptance of card payments as compared to other countries, may encourage a particularly costly habit of financing consumption on credit. This habit may hinder the ability to *manage debt effectively*. Research suggests that payment by card does not feature the ‘pain of paying’ that is triggered by cash payments. There is evidence that people spend more money when they pay by card, perhaps due to this lower pain of payment, coupled with the convenience.<sup>67</sup> Furthermore, research suggests that people’s perception of needs is also affected by the limit on their credit card. One study shows that when people’s credit card limit is raised, many increase their borrowing on their credit card, even when they could have funded this spending with cheaper forms of credit.<sup>68</sup> This seems convincing evidence that a habit of paying for consumption on credit impacts people’s ability to manage debt well.

Harmful habits, or rather a lack of good habits, can also undermine people’s ability to *save regularly*. Research finds that those who report a stronger ‘savings habit’ build up more savings than those who do not.<sup>69</sup> This makes sense, as sustained saving requires regular deposits – an easier task when that behaviour is habitual.

Habits are very difficult to stop altogether, but they can be *changed*. To avoid the habitual behaviour, a person can try to avoid the triggers. Alternatively, when the trigger happens, he or she can try to replace the

66 Duhigg (2012).

67 Thomas et al. (2011); Rick et al. (2008); Ariely (2013); Spencer (2013a).

68 Gross & Souleles (2002).

69 Loibl et al. (2011).

routine with a new behaviour which achieves a similar reward.<sup>70</sup> An effective strategy to change certain financial habits would therefore need to look closely at a participant's existing behaviour and the types of rewards being sought. Recent research for the Money Advice Service found that substituting rewards, rather than trying to cut them out altogether, was effective at changing spending behaviour among their study sample.<sup>71</sup>



*“Our financial behaviour is strongly affected by what others around us do”*

## Social influence

Our financial behaviour is strongly affected by what others around us do. People are more likely to invest in the stock market if their neighbours do, buy insurance if others around them do, or make a particular investment if other investors do.<sup>72</sup> Sometimes, social influence can work in surprising ways – a study of lottery winners found that after they win the lottery there is a greater likelihood that *their neighbours* will buy a new car.<sup>73</sup>

Social norms are a powerful tool for effective behaviour change, as shown by the results of tax-collection trials by HMRC, which found that by including information about how many other people within the postcode had paid their taxes, collection rates improved.<sup>74</sup> People are sensitive to what other people ‘like them’ do. A South African soap opera that wove messages about financial capability into the plot resulted in viewers improving their own financial behaviour in the subsequent months as compared to people not watching the show.<sup>75</sup>

Social influence is not strictly harmful to financial capability – it can be harmful or helpful, depending on the behaviour and the type of influence. If social influence encourages people to spend, it may limit people's ability to *maintain a budget*. On the other hand, social influence can encourage people to display positive financial behaviours such as taking out insurance or saving for their retirement.

*Saving regularly* may also be affected. One clear difference between spending and saving in terms of social influence is that spending is visible, whereas savings are typically private. This makes social influences on spending behaviour potentially much more potent than influences on saving behaviour. But there are some initiatives that try to challenge the norm on savings privacy. In the US, an on-line bank called SmartyPig makes it possible to set up savings plans for certain goals, share these goals with others through social media and even encourage others to contribute. Closer to home, a good example of ‘pro-savings norms’ can be found on the forums of the popular site MoneySavingExpert.com – forum members share not only their strategies for saving money, but also the amount of money they have saved.<sup>76</sup>

<sup>70</sup> Duhigg (2012).

<sup>71</sup> Elliott and Vlaev (2013).

<sup>72</sup> Stock market: Hong et al. (2004); insurance: Giné et al. (2011); investment: Bursztyn et al. (2014).

<sup>73</sup> Kuhn et al. (2011).

<sup>74</sup> Behavioural Insights Team (2012).

<sup>75</sup> Berg, G. and Zia (2013).

<sup>76</sup> These types of online tools may be harder to do for those who aren't comfortable with using technology or who distrust online banking. MAS (2014).

Studies on *saving for retirement* show that social interaction is an important means of sharing information and providing motivation: for example, people are more likely to sign up for a pensions scheme if their colleagues have attended a pensions seminar.<sup>77</sup> But social influence does not always lead to better financial outcomes: in one large-scale experiment on retirement savings, people who were told that a large percentage of their peers contributed to a pension plan actually contributed *less* to the plan.<sup>78</sup> Although the reasons for this are unclear, the conflicting findings illustrate that context matters and that trialling strategies before rolling them out is necessary.

### **What do these behavioural hurdles mean for us?**

Despite the setbacks that these natural human characteristics present us, this does not mean that we must be resigned to being bad with money. Rather, we should work with what we know about these hurdles, building them into education, policy, and product development in such a way as to work with, rather than against, our nature.

Indeed, some steps have already been taken in this direction. For example, the Financial Conduct Authority has recently expanded its regulatory toolkit with behavioural science models, holding financial institutions to account if they use human nature to their advantage (and the consumer's disadvantage). They have thus shifted the retail finance regulation landscape from one of buyer beware to seller beware.<sup>79</sup> Additionally, within the draft Financial Capability Strategy, some of the MAS' priorities for action include working with financial service providers to simplify products, and helping people to feel more comfortable to talk about money troubles and where to get advice. These steps speak to issues of cognitive overload and social norms, respectively.<sup>80</sup> We propose that consumers themselves also benefit from insights from behavioural science; embedding these insights into financial education programmes has the potential to significantly improve people's financial behaviour.

### **3.2 Addressing behavioural hurdles through financial education**

Having discussed the behavioural hurdles to financial capability, we now consider some ways in which financial education programmes address these hurdles. To arrive at this selection, we have collected and reviewed a sample of financial education programme materials offered throughout the UK. This involved attending sessions in person and a systematic review of participant manuals, video material, facilitator manuals and other materials.

We particularly looked for techniques and approaches that interacted directly with one or more of the behavioural hurdles. In general, we did not find much evidence to show that courses take these hurdles

<sup>77</sup> Duflo and Saez (2003).

<sup>78</sup> Beshears et al. (2011).

<sup>79</sup> Financial Conduct Authority (2013).

<sup>80</sup> MAS (2015).

into consideration throughout their curriculum. Some hurdles, such as harmful habits, were generally better represented than others; this suggests an opportunity to improve awareness of these human biases and address them more head-on in financial education programmes. Note that we do not make any claims about the effectiveness (in terms of leading to sustained behaviour change) of these techniques – only a careful impact assessment can provide such evidence.

### **Addressing cognitive overload**

Reducing the negative effects of cognitive overload often boils down to helping people simplify their finances. Some ways in financial education programmes aim to achieve this:

- Many courses suggest that people organise their finances around a certain number of bank accounts. One course suggested a system of three accounts: a main current account, a spending current account and a savings account.
- Some of the courses recommended a ‘cash-only diet’. Using cash for managing a day-to-day expenses budget makes things a lot simpler – people easily see how much they have left in their budget. They also do not need to think about different bank accounts, or transfer amounts between different bank accounts to manage their budget.
- Automating certain transfers, such as rent payment, bill payment and transfers to savings accounts, reduces the number of things that people need to keep track of. Many courses advise setting up standing orders and direct debits.

Another aspect of reducing cognitive overload is to simplify particular financial decisions by using rules of thumb (or *heuristics*). We found many heuristics in the course material we examined:

- Classifying purchases into ‘wants’ and ‘needs’ categories.
- When prioritising debt, ask the question “Do I stand to lose something (a car, house etc) if I don’t pay this debt on time?” If the answer is yes, it is a priority debt.
- When paying off multiple debts of equal priority, pay off small debts first.<sup>81</sup>
- Make savings at pre-determined intervals – for example weekly or monthly.
- A rainy day fund should be enough to cover three months of essential expenses.
- Only hold one credit card (or none).
- Pay off debts before you start saving.

<sup>81</sup> This advice goes against basic accounting principles, which dictates to focus on the most costly debts. However, paying small debts first has been shown to be more effective. A study of credit card repayment (Gal and McShane, 2006) actually shows that people who pay off small debts first pay off their total debt quicker. The authors report that paying off each debt gives people a “small victory” feeling that keeps them motivated. Moreover, it reduces the number of creditors faster, reducing correspondence from creditors and thus potentially lightening the cognitive load.

Heuristics may not lead to an optimal solution, as everyone's financial situation is different and people have different priorities, but in many situations they are better than the alternatives (procrastination or inertia). Because of their simple design, heuristics are easy to teach and easier to remember – this makes them especially suitable content for financial education programmes.

### **Addressing empathy gaps**

There are various ways in which people have tried to bridge empathy gaps, by either reducing the effects of hot states or increasing empathy for one's future self. Here are some ways that financial education programmes use these techniques:

- To prevent people from turning their 'wants' into 'needs' when they are tempted by a purchase, one of the courses we reviewed suggested taking a 24-hour break before making substantial purchases. Introducing this break can take someone out of the heat of the moment.
- A variant of the above technique suggested by many courses is to ask oneself a series of questions before making a big or sudden purchase: "Do I really need it? How long will I use it for?" Note that this technique may not be immune to the influence of *optimism*.
- Various courses we reviewed suggest imagining one's future self, either in terms of income or lifestyle expectations. These imagination exercises can lead to increased empathy with one's future self.

Some courses also suggest using commitment devices to reduce spending or increase saving, although we felt that commitment devices were under-represented in the courses we reviewed. One course that was focused on parenting, suggested that parents should agree spending boundaries with their children, including consequences in case the barrier was broken. Adults can, of course, design their own barriers and commitment devices by enlisting the help of partners, family and friends. Some commitment devices may be more effective than others. Generally speaking, the harder it is to escape the commitment, the more effective the device will be.

### **Addressing optimism and overconfidence**

Many courses try to 'calibrate' people's expectations to bring them in line with reality:

- Making a budget is one obvious way to better calibrate people's ideas on income and spending. Various courses insist that budgets are also necessary to determine how much money is 'left over' for savings – they suggest that this is the first step of setting up a target for regular savings.
- Various courses start with a quiz that tests people's knowledge on the cost of typical expenses: running a car, organising a wedding, etc. If people's estimates are widely off the mark, their scores on the quiz are used as a reality check.

- One of the courses we reviewed asked its participants to consider events that could happen to them over the course of a lifetime. The exercise specifically focuses on predicting the financial consequences of the events, and what people can do beforehand to prepare themselves for the events.

Little is known about the effectiveness of calibrating people’s judgements on their long-term financial capability.<sup>82</sup> For some financial behaviours, such as using a budget, the calibration exercise may have to be repeated regularly or reinforced by other techniques. For other behaviours, such as communicating the benefits of life insurance, a one-off ‘wake-up call’ may be enough to get people to take action.

### **Addressing instant gratification**

Interestingly, many of the respondents to the survey reported that the course they provide includes some content about impulsive spending, although this topic was not particularly well-represented in the sample of course material that we reviewed. Some of the examples that we did see are:

- Many of the courses we reviewed employ a ‘needs versus wants’ exercise, in which participants identify unnecessary and low-priority expenses. This approach may be backed up by asking oneself a series of questions before making an unplanned purchase, or forcing oneself to ‘cool off’ for 24 hours before deciding to make the purchase.
- Some courses suggest using cash instead of cards to manage day-to-day expenses. This ‘cash-only diet’ limits impulse spending by imposing a physical limit to the amount that someone can spend on impulse. Pre-paid debit cards are an alternative approach.
- To prevent impulsive spending on bigger purchases, several courses urge people to exercise self-control. Rather than buying household appliances on credit, they suggest saving up beforehand. One of the courses suggests that small savings are a good way to start building this habit.

### **Addressing harmful habits**

Cutting out harmful financial habits (and establishing helpful ones) is an important part of many financial education programmes. An educator of one of the courses we attended even started the session by proclaiming that “we are the habits we have”. Some examples of habit-based techniques we found in the course materials:

- Many courses encourage participants to make savings by changing certain habits, such as buying a coffee, cigarettes, or some other regular indulgence. Course participants typically have to calculate the annual, or lifetime, total cost of the habit to see how much they would save by cutting out the habit.
- Some courses suggest cancelling subscriptions or memberships that offer poor value for money, such as gym memberships and expensive TV packages.

<sup>82</sup> People who suffer depression are likely to have more accurate estimations (Sharot, 2012).



- One of the courses we reviewed encourages people to get in the habit of saving up for purchases by starting with small savings, for example to buy a small household appliance or a holiday. The idea behind this is that a feeling of accomplishment will be a reward and thus encourages more saving. The same principle could be applied to reducing debt.
- One particularly harmful habit is to use a credit card for consumption. The courses we examined almost unanimously advised against this; paying off the full credit card balance at the end of the month is common advice. One course we examined advised to treat any credit card balance as a debt, and plan to pay it off as soon as possible.

### Addressing social influence

Various financial education programmes we reviewed were aware of social influence on financial behaviour:

- One of the courses we reviewed encourages a discussion between participants about the influence of the media on spending norms, specifically the use of credit cards.
- Some of the courses, particularly those aimed at young people, encourage participants to discuss the influence of peers on their spending decisions.
- Some courses employ a knowledge quiz at the start of the course to communicate to people how common certain bad financial behaviours are (for example, what percentage of people are not saving for retirement?).

Although it is important to acknowledge unhelpful social influence, it is not immediately obvious whether discussing these influences makes them less powerful. In fact, bringing to light a negative social norm can be detrimental as it can actually *encourage* people to follow that harmful norm.<sup>83</sup>

Social influence can also be harnessed as a force for good. Two of the education programmes we reviewed actively encourage education by peers, whereby individuals in the target group (for example, young people) are trained as financial educators or ambassadors for financial capability in their community or peer group. Research shows that participants are more likely to learn from an educator that is similar to them.<sup>84</sup>

<sup>83</sup> Schultz et al. (2007).

<sup>84</sup> Dolan et al. (2012).

### 3.3 Overview of Chapter 3

There are several psychological mechanisms that limit people's ability to make good financial decisions. Simply learning about these behavioural hurdles is often not sufficient to overcome them. In fact, even some of the leading lights in behavioural science admit that they are susceptible to the same decision-making foibles as the rest of us.<sup>85</sup> There is good evidence to believe that these behaviours actually have evolutionary underpinnings – which partly explains their strong influence on our everyday decisions.<sup>86</sup>

In reviewing the ways in which financial education programmes are currently addressing (or not) the behavioural hurdles to financial capability, it is clear that there is room for improvement. In the next chapter, we take a closer look at how to design and teach financial education programmes. We consider the evidence from the behavioural science literature in a broader context and combine it with insights from evaluation studies of financial education programmes.

<sup>85</sup> Both Daniel Kahneman and Dan Ariely have stated that they are susceptible. See, for example, Kahneman (2011b); Ariely (2014).

<sup>86</sup> For example, impulsivity, optimism and over-confidence may have been evolutionary adaptive strategies to secure food and a mate, focusing more on avoiding threats to survival day to day than on thriving in the long term. For more on the evolutionary basis for cognitive biases see, for example: Kenrick & Griskivicius (2013); Von Hippel & Trivers (2011); Johnson & Fowler (2011).

---

# 4. Teaching financial capability

---

Can financial capability be taught? The existing evidence into whether financial education leads to better financial capability is reviewed below, and illustrates that the relationship between financial education and eventual financial outcomes is not always straightforward. This chapter also explores some of the challenges to providing financial education.

## 4.1 The role of financial education in improving financial capability

Financial education comes in many different forms. In the UK, financial education is offered through schools and colleges, employers, charities, commercial enterprises or not-for-profit specialist providers. Financial education in schools has been mandatory in Wales, Scotland and Northern Ireland for several years now; England followed suit in 2014.

Financial education programmes can vary in content, audience, and mode of delivery.<sup>87</sup> For example, financial education could be a one-off seminar, or a structured course over a number of months. Some courses are mandatory for participants (for example, as part of debt counselling or a social welfare programme), whereas others are voluntary. The intended outcomes of these programmes also differ. A programme in a primary school will have objectives such as teaching children the basic principles of money, whereas a course in a debt counselling programme will aim to improve adults' use of credit and repayment of outstanding debt. Boosting participants' confidence as a main course objective was a theme that emerged from the responses to our survey.

The ultimate desired outcome of financial education programmes is better financial decision making. To test whether those who receive financial education are, keeping all other factors constant, better at making financial decisions than those who do not receive financial education turns out to be a complicated task; in the Appendix, we discuss some of the issues around measurement of outcomes and establishing causal relationships.

<sup>87</sup> For example, the courses represented in our survey ranged from one to 12 hours in duration, were one-time events or met up to six times, and some were elective whereas others were compulsory.

Course providers' perceptions about what works best to improve financial capability are varied, and the replies to our survey included mentions of both specific content and ways of delivering it. Many believe that helping participants to understand how much money is actually coming in and going out, via budgeting or creating a spending diary, works well. Interactive exercises as a method of teaching was mentioned as helpful. One survey respondent admitted "I only wish I really knew". This candid statement reflects a key theme in the current discussion of financial education: there is still uncertainty about what works best, and if financial education even works at all.

Academic experts disagree on the effectiveness of financial education – see the Appendix for a more in-depth discussion. Many point out that there is no evidence that having received some kind of financial education in school leads to better financial outcomes in later life. Others point out the success of certain programmes, and argue these should be used as models for effective teaching. There seems to be a clear lack of evidence on comparing courses: we know of only one study that directly compares different ways of teaching the same principles.<sup>88</sup> Another problem is the lack of evidence from financial education for low-income groups: arguably, this part of the population stands to benefit most from improving its financial capability.

Despite the disagreement, there is evidence that certain types of financial education work well. Retirement seminars are often effective at increasing planning and saving for retirement. A recent review of the evaluation literature also suggests that some programmes improve people's ability to keep track of their finances.<sup>89</sup> Furthermore, the authors of another recent review suggest that courses are most effective when delivered at the right time, and targeted at the required behaviour (for example, a course on debt repayment just before signing a mortgage contract).<sup>90</sup>

Overall, the picture painted in the academic literature about the effectiveness of financial education is unclear, and this uncertainty is further evidenced by the results of the latest Programme for International Student Assessment (PISA) results (see Box 2) and is echoed by the perceptions of at least some of the course providers.

88 Drexler et al. (2014).

89 Miller et al. (2013).

90 Fernandes et al. (2014).

*“Countries providing more financial education do not necessarily show higher financial capability”*

### **Box 2: Financial capability among 15-year-olds<sup>92</sup>**

In 2012, PISA included its first assessment of financial capability in its assessment of 15-year-olds, the results of which were published in the summer of 2014.<sup>93</sup> Eighteen countries took part; although we don't have any direct evidence of how the UK fared as it was not included in the sample, the patterns evident from the study are illustrative of several points that we had identified through a review of the literature (see Appendix).

Importantly, the PISA results indicate that countries providing more financial education do not necessarily show higher financial capability.<sup>94</sup> That the volume of exposure to education has little correlation with scores in the domain of financial capability is notable as this differs from other domains such as maths or science.

Among the sample of 29,000 students, financial capability scores were correlated with general mathematical skills, although a high score in maths does not necessarily guarantee high financial capability.<sup>95</sup> Therefore it should be considered whether instilling a strong conceptual understanding of maths may be a complementary, if not alternative, approach to improving financial capability.

There also seems to be a link between the extent of vocational education and better financial capability, sometimes despite lower or average maths capability.<sup>96</sup> This finding is in line with our recommendation to look to what works in vocational education when designing financial education, and to consider simulations or other experiential approaches.

## **4.2 Providing effective financial education**

Three themes emerged in the literature and through our discussions with course providers and education experts, which illustrate why course provision may be difficult in practice. These challenges are: getting people to attend a course when participation is non-compulsory, the recoupling of education and practice, and the appropriate provision of teacher training. Effective financial education would address these.

### **Encouraging attendance at non-compulsory courses**

For financial education courses which are elective, one of the key challenges to provision is having enough participants choose to attend the course. There are likely to be many reasons why someone who could benefit from financial education would choose not to attend a course, including inertia (optimism that it will be done another day) or simply feeling too busy (cognitive overload).

91 While PISA uses the term ‘financial literacy’, its definition of the term is more closely aligned with what we call ‘financial capability’ in this paper in that it refers to both knowledge and application. Specifically, they define it as: “knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life” (OECD 2014a p.2). They also state explicitly that “literacy involves more than the reproduction of accumulated knowledge...[it] also involves a mobilisation of cognitive and practical skills, and other resources, such as attitudes, motivation and values” OECD (2014b).

92 OECD (2014a, 2014b).

93 “...results from Pisa show no relationship between the extent of financial education and financial literacy. In fact, some of those education systems where students performed best in the Pisa assessment of financial literacy teach no financial literacy but invest their efforts squarely on developing deep mathematics skills.” (Schleicher, 2015).

94 OECD (2014b).

95 (OECD 2014 a); (OECD 2014c).

In the case of financial education in particular, the desire to attend may be affected by the associated (whether real or perceived) stigma. Providers of adult or other non-compulsory financial education explained that, for many service-users, attending a course is perceived to be admitting that they are in financial trouble. Some people are reluctant to attend courses locally for fear that they will be seen by others in their community who might know them.

Many providers try to determine the right incentives for a particular target group. One course provider suggests that for 16-18-year-olds this might be free pizza for lunch and reimbursing their bus fare, and it uses these perks in an attempt to recruit participants. However, the extent to which these incentives actually change the likelihood to attend is unknown.

Research suggests that even offering financial incentives can be insufficient to drive attendance or to subsequently have a meaningful effect on the participants' financial behaviour. For example, a study conducted in Mexico finds that motivating people to attend financial education is difficult, even with financial incentives.<sup>96</sup>

It could be argued that someone who elects to attend a course may be a more receptive learner than someone who is made to attend. However, perhaps surprisingly, it appears that this is not the case. Mandatory education can be as effective as elective education: for example, professional development for teachers is found to be effective whether the participants choose to attend or are required to.<sup>97</sup> Further, making *financial* education mandatory prevents inertia, may remove stigma, and in at least some cases has been found to be effective in promoting positive (self-reported) financial outcomes. For example, a study from the US on mandatory financial education programmes for social housing tenants finds that education leads to an improvement in financial knowledge and behaviours, notably self-reported savings and budgeting behaviours,<sup>98</sup> although the persistence of the effects are yet to be determined.

For these reasons we welcome and support the inclusion of financial education in national curricula, mitigating the risk of non-attendance, to build a foundation for financial capability. Additionally, it is worth testing the efficacy of introducing financial education interventions at key points in time to recall previous education, as the immediacy of an upcoming event may provide an incentive to attend.

<sup>96</sup> Bruhn et al. (2013). Note that quasi-experimental designs (for example, Grinstein-Weiss et al 2011) also find only temporary effects on savings behaviour.

<sup>97</sup> Timperley (2007).

<sup>98</sup> Collins and O'Rourke (2010).

### Recoupling education and practice

*“Learning by doing is different from doing theory and then applying it.”<sup>99</sup>*

Financial capability is rooted in behaviours and application, not just in knowledge. One of the challenges to providing financial education effectively is that the skills being taught in the classroom are not always immediately available to put into practice in the real world. This decoupling of education from practice means that opportunities for feedback are lost and learning is not reinforced through application. For example, a lesson about pensions delivered at a life stage in which income is earned primarily through odd jobs or casual work loses much of its relevance and value. As the quote at the start of this section suggests, it may not be enough to teach theory now with the intention that it will be applied at a later stage.

The practical nature of financial capability suggests that in some sense financial education may be similar to vocational education. That is, knowing about interest rates is not the same as applying that knowledge to calculate repayments and inform a decision about whether to take out a loan, just as knowing about joinery is not the same as creating an elegant box joint. To this extent, research about practical or vocational pedagogy may help provide insight into how to teach financial capability effectively.

Research from the University of Winchester suggests that experiential learning or learning-by-doing, simulations, attempting to solve real-world problems, and imitation are among some of the most effective means of teaching a vocational capability.<sup>100</sup> According to the authors:

*“Use of simulation is a well-established way of learning and assessing skill development in vocational disciplines... [S]imulations of real-life scenarios provide opportunities for learners to practise problem-solving and...decision-making in a ‘safe’ environment...where outcomes can be controlled as part of the learning experience.”<sup>101</sup>*

We believe that such hands-on, experiential learning might be appropriate for the types of practical skills required for optimal financial capability. Research by the Money Advice Service and academics from the University of Cambridge confirm that children under the age of eight years learn by copying others and noticing patterns in experience, suggesting that financial education could be offered experientially to even the very young.<sup>102</sup>

Especially where younger children are concerned, given their developmental stage, learning-through-doing to instil habits and influence attitudes may help to improve financial capability more so than learning abstract concepts. “[Y]ounger [pupils] may lack the background and

99 Pring, cited in Lucas et al. (2012, p.79).

100 Lucas et al. (2012).

101 Lucas et al. (2012, p.89).

102 Spencer (2014b).

cognitive development to understand some of the key concepts of personal finance. This suggests that non-traditional types of education, with strong emotional appeal and shared experience, may be more effective in communicating important concepts to younger [children] and helping them form behaviours that will benefit them throughout their lives.”<sup>103</sup>

Finally, as we learned from our discussions with course providers, simulations can help participants to understand their role as productive and responsible players in their own financial life. For example, in a multi-stage simulation of a scenario of moving into a shared flat with friends, participants learned not only about budgeting to ensure a rent payment could be made, but also, when stung with the surprise of an extra month’s rent being deducted, the students quickly learned that they must read the contract carefully to avoid such potentially ruinous surprises.

### **Improving teacher capability and confidence**

In addition to these reasons why it may be difficult for someone – such as a financial professional or a specialised course provider – to teach financial capability courses effectively, it may be especially hard for non-specialist teachers to do so. This is an important consideration given the inclusion of financial education in the National Curriculum last year. For school teachers (as opposed to a specialist course facilitator), teaching others about financial concepts may be hard if their own financial capability is not very good. Recent figures from the US show that only about 20 percent of high school (equivalent to secondary school) teachers “feel qualified to incorporate personal finance lessons into their math, English or other class”,<sup>104</sup> which may be fuelled by their own lack of financial capability, inadequate training, or both.<sup>105</sup>

Imitation of good practice can be an effective method for learning:

*“While social learning theory recognises the importance of experience that leads to reinforcement, [a]key contribution is the idea that individuals learn through observing and then imitating others. A key point for vocational teaching is that a balance needs to be sought between allowing learning through experimentation and trial and error (with its resulting rewards – success, and punishments – failure), and allowing learning through imitation.”<sup>106</sup>*

But the opportunity to imitate may be undermined if teachers themselves are not confident in their own financial capability, a problem compounded by the fact that much personal financial behaviour is still largely kept private, as discussed earlier in Chapter 3, and is therefore harder to imitate.

103 Mandell (2009).

104 Kadlec (2012).

105 Kadlec (2012); Coleman (2014).

106 Lucas et al. (2012, p.62).



Money is a sensitive topic. Is it possible that when teaching financial education, teachers may feel that they are competing with messages around money and financial best practice from media, banks, parents, friends, or religion, in a way which is likely to differ from when they are teaching other subjects?

It should be asked how much training and professional development is being offered to teachers to carry out financial education. The All Party Parliamentary Group on Financial Education found in their 2011 survey that for those “teachers whose schools provided personal finance education, only 43 percent had received training or advice to teach the subject, or were aware that their colleagues had done so.”<sup>107</sup> The PISA findings discussed earlier found that within many of the 18 countries assessed, “most students are taught by teachers who have not received this kind of professional development training.”<sup>108</sup> It is clear that adequate teacher training and improving teachers’ own financial capability would be a step in the right direction towards more effective financial education.

107 All-Party Parliamentary Group on Financial Education for Young People (2011, p.24).

108 OECD (2014b, p.40).

---

## 5. What next?

---

Given that there is not enough evidence to establish the causal links between financial education, financial literacy, and financial capability, more and better evaluation is needed to help tease out what works and what doesn't. Positive steps are being taken to improve the evidence base for financial education. For example, a new 'evidence hub' is currently being developed so that researchers and course providers can access relevant findings, and an evaluation toolkit is in development.<sup>109</sup> Building on the discussions earlier in this paper about both our natural human dispositions which can undermine financial capability and the challenges in delivering an effective financial education programme, we recommend that the evaluation should test a financial education programme which teaches heuristics, by means of learning-by-doing, and which is administered just-in-time for a change of circumstance.

### **Recommendation to test #1:**

**Teach heuristics or strategies rather than, or in addition to, focusing on knowledge of concepts.**

Heuristics (rules-of-thumb) should be simple, specific, and action-based. The benefits of a good heuristic are described well by the research organisation ideas42: "Well-designed heuristics give people decision aides that allow them to arrive at better outcomes without their needing to be experts on such diverse areas as finance..."<sup>110</sup> As discussed in Chapter 3, a major tenet of behavioural science is that we are cognitively frugal and try to conserve mental energy; when we are faced with decision fatigue we tend to take the easy route. Many of the natural dispositions we express are difficult to change, so rather than attempt to do so, it may be wiser to provide people with strategies to help avoid the hurdles that these dispositions present. An action-based rule helps to "turn an intention into a realised action",<sup>111</sup> and providing these rules in an education programme shifts the emphasis from knowledge to behaviour, which is key to financial capability. For all of these reasons, teaching heuristics is a promising area for further evaluation.

<sup>109</sup> MAS (2015). At the time of publication, the hub and toolkit are in development by MAS and Bristol University's Personal Finance Research Centre.

<sup>110</sup> Schoar and Datta (2014, p.3).

<sup>111</sup> Schoar and Datta (2014, p.2).

## **Recommendation to test #2:**

### **Experiential learning**

In Chapter 4 we explained that financial education might be most effective if taught through experiential means, learning-by-doing, or using simulations or case studies to solve real-world problems. This type of practical teaching shifts the emphasis from knowledge to behaviour (as do heuristics), and helps people to practise skills.

Course providers are already doing this well. Many courses we reviewed had case studies with real-world problems, some had simulations, and one even offered an experiential lesson over the course of the semester – a school can run its own bank.

## **Recommendation to test #3:**

### **Teach early, but reinforce at key moments**

We suggest testing the efficacy of financial education interventions provided at key points in time to recall previous (compulsory) financial education. Timely interventions address the challenges of both getting people to turn up for a course and the decoupling of education from practical application. The immediacy of an upcoming event (such as moving into independent living, facing redundancy, or planning a wedding) may provide an incentive to attend. Just-in-time (JIT) education is also highly relevant given it is targeted at a specific circumstance, and people can put their knowledge into practice in the immediate future.

Additionally, when teaching young people about various financial products there is always the risk that those products will be obsolete by the time the person needs to put their knowledge into practice; JIT education mitigates this risk. JIT financial education should *not* be a replacement for compulsory education earlier in life, as early education may be a prime time to start instilling beneficial attitudes that may carry forward into later life stages.<sup>112</sup> Rather JIT education should complement previous education and provide an opportunity to recall and reinforce learning.

Some course providers are already providing JIT financial education, targeted around various potential life stages such as marriage, retirement, having a baby, becoming self-employed, leaving prison, or being homeless.

### **Piloting**

Overall, we recommend a long-term evaluation to capture the persistence of effects of a financial education programme, and specifically, we propose that the intervention tested is based on strategies, is experiential, and taught early with reminders at key decisive moments.

112 Mandell (2009).

---

## 6. Conclusion and closing thoughts

---

It would be unsurprising to finish reading this paper and be filled with gloom. After all, the picture painted brings many complexities to light. A complex financial environment and our own human nature make financial capability difficult to achieve. Additionally, the practical nature of financial capability can make it difficult to teach in a traditional classroom environment, and different types of financial education face their own challenges to effective provision. Finally, even if it were easier to teach, the evidence is mixed as to whether financial education programmes improve financial outcomes in a meaningful way.

However, there is reason to be hopeful about the prospects for financial education, and it is in our collective best interest to learn more about how to use it to improve the financial lives of many.

Research from behavioural science provides an opportunity for policy makers, financial service institutions, and course providers to gain a better understanding of some of the human dispositions that often serve as roadblocks to optimal financial capability, and to design strategies to help people work around them – beyond merely providing information or warnings. For example, policy makers can ask how to best deliver changes to benefits or provide access to pension funds, given our proneness to instant gratification and optimism? Or, financial service providers can ask how products should be designed with these dispositions in mind in a way that helps people, not exploits them? For educators, how can these human tendencies be addressed so that we go with the grain of human nature rather than against it?

It is critical to note that human psychology is not the only factor in this problem of financial capability, and our support of financial education does not intend to imply that those who are struggling financially are wholly culpable for their own circumstances. It is not the case that financial education, with a resultant improvement in people's financial capability, is sufficient to fix the circumstances of many who are struggling financially. Rather, financial education is one piece of a larger puzzle which requires thought about complex financial products, changes to benefits and the labour market, the rising cost of education, and social inequality more generally and the role these play in the lives of those who are feeling financially unstable.

But as financial education may be one way of improving financial capability, we have the responsibility to learn much more about what works, and what works best. This is interesting for everyone: not only course providers, but also course participants, school leaders, researchers, and anyone concerned with the wellbeing of their community. Evaluation of financial education interventions should be informed by the methodological techniques discussed in this paper. As explained in this paper, we have reason to believe that interventions that teach heuristics, with a learning-by-doing approach, reinforced just-in-time before a change in circumstance are likely to have a beneficial impact on participants' financial outcomes. To find out for sure, we call for targeted further research to be carried out to test our claims and add to the small but growing stock of evidence about effectively improving financial capability.

# Bibliography

- Abreu, Margarida, and Victor Mendes. "Financial literacy and portfolio diversification." *Quantitative Finance* 10.5 (2010): 515–528.
- Agarwal, Raj, and John W. Goodell. "Markets and institutions in financial intermediation: National characteristics as determinants." *Journal of Banking & Finance* 33.10 (2009): 1770–1780.
- Agnew, Julie R., and Lisa R. Szykman. "Asset allocation and information overload: The influence of information display, asset choice, and investor experience." *The Journal of Behavioral Finance* 6.2 (2005): 57–70.
- Agnew, Julie R., Stephen P. Utkus, and Jean A. Young. *Do Financial Literacy and Mistrust Affect 401 (k) Participation?* Available at SSRN 1118472 (2007).
- Agnew, Julie, and Lisa Szykman. "Annuities, financial literacy and information overload." In *Financial Literacy: Implications for Retirement Security and the Financial Marketplace*, edited by Olivia S. Mitchell and Annamaria Lusardi, 157–178. Oxford: Oxford University Press, 2011.
- Aldohni, Abdul Karim. "Loan Sharks v. Short-term Lenders: How Do the Law and Regulators Draw the Line?" *Journal of Law and Society* 40.3 (2013): 420–449.
- Allcott, Hunt (2011). "Social norms and energy conservation." *Journal of Public Economics* 95: 1082–1095.
- All Party Parliamentary Group on Financial Education for Young People (2011). *Financial Education and the Curriculum*. UK parliament inquiry report.
- Arabsheibani, Gholamreza, David De Meza, John Maloney and Bernard Pearson. "And a vision appeared unto them of a great profit: evidence of self-deception among the self-employed." *Economics Letters* 67.1 (2000): 35–41.
- Ariely, Dan. *Predictably Irrational*. New York (US): HarperCollins, 2008.
- Ariely, Dan. (2013). *The Pain of Paying: The Psychology of Money*. Video at Duke University. USA: Dan Ariely.com.
- Ariely, Dan. *how to: An Evening with Dan Ariely*. How to: Academy Event, 2014. Available at: <http://www.howtoacademy.com/business/an-evening-with-dan-ariely-2377?fromcat=30>
- Barlow, David H. *Anxiety and its disorders: The nature and treatment of anxiety and panic*. Guilford Press.
- Bayer, Patrick J., B. Douglas Bernheim, and John Karl Scholz. "The effects of financial education in the workplace: Evidence from a survey of employers." *Economic Inquiry* 47.4 (2009): 605–624.
- BBC. *The Big Money Test – results*. BBC Online [Online] 14 March 2013. Available at: <http://www.bbc.co.uk/science/0/21360144>
- Becchetti, Leonardo, Stefano Caiazza, and Decio Coviello. "Financial education and investment attitudes in high schools: Evidence from a randomized experiment." *Applied Financial Economics* 23.10 (2013): 817–836.
- Behavioural Insights Team. *Applying behavioural insights to reduce fraud, error and debt*. Cabinet Office, 2012. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/60539/BIT\\_FraudErrorDebt\\_accessible.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60539/BIT_FraudErrorDebt_accessible.pdf).

- Bell, Catherine, Daniel Gorin, and Jeanne M. Hogarth. "Does Financial Education Affect Soldiers' Financial Behaviors?" Paper presented at the Federal Reserve System Community Affairs Research Conference, 2009.
- Berg, Gunhild, and Bilal Zia. "Financial Literacy through Mainstream Media: Evaluating the Impact of Financial Messages in a South African Soap Opera." World Bank Working Paper, Washington, DC, 2013.
- Bernheim, B. Douglas, and Daniel M. Garrett. "The effects of financial education in the workplace: evidence from a survey of households." *Journal of Public Economics* 87.7 (2003): 1487–1519.
- Bernheim, B. Douglas, Daniel M. Garrett, and Dean M. Maki. "Education and saving: The long-term effects of high school financial curriculum mandates." *Journal of Public Economics* 80.3 (2001): 435–465.
- Beshears, John, James J. Choi, David Laibson, and Brigitte C. Madrian. "Behavioral economics perspectives on public sector pension plans." *Journal of Pension Economics and Finance* 10.02 (2011): 315–336.
- Beshears, John, James J. Choi, David Laibson, Brigitte C. Madrian, and Katherine L. Milkman. *The effect of providing peer information on retirement savings decisions*. National Bureau of Economic Research Working Paper 17345 (2011).
- Braunstein, Sandra, and Carolyn Welch. "Financial literacy: An overview of practice, research, and policy." *Federal Reserve Bulletin* 88 (2002): 445.
- Broughton, Nida, Ricky Kanabar, and Nicole Martin. *Wealth in the Downturn: Winners and Losers*. London: Social Market Foundation, 2015.
- Brown, Jeffrey R., Jeffrey R. Kling, Sendhil Mullainathan, and Marian V. Wrobel. *Why don't people insure late life consumption: A framing explanation of the under-annuitization puzzle*. National Bureau of Economic Research Working Paper 13748 (2008).
- Brown, Meta, John Grigsby, Wilbert van der Klaauw, Jaya Wen and Basit Zafar. *Financial education and the debt behaviour of the young*. Federal Reserve Bank of New York Staff Report No. 634, September 2013, Revised July 2014.
- Bruhn, Miriam, Gabriel Lara Ibarra, and David McKenzie. *Why is voluntary financial education so unpopular? Experimental evidence from Mexico*. World Bank Policy Research Working Paper 6439 (2013).
- Bursztyn, Leonardo, Florian Ederer, Bruno Ferman, and Noam Yuchtman. "Understanding mechanisms underlying peer effects: Evidence from a field experiment on financial decisions." *Econometrica* 82.4 (2014): 1273–1301.
- Chan, Sewin, and Ann Huff Stevens. "What you don't know can't help you: Pension knowledge and retirement decision-making." *The Review of Economics and Statistics* 90.2 (2008): 253–266.
- Choi, James J., David Laibson, and Brigitte C. Madrian. "\$100 bills on the sidewalk: Suboptimal investment in 401 (k) plans." *Review of Economics and Statistics* 93.3 (2011): 748–763.
- Clark, Robert L., and Madeleine D'Ambrosio. *Financial education and retirement savings*. Available at SSRN 390642 (2003).
- Clark, Robert L., Melinda Sandler Morrill, and Steven G. Allen. "The role of financial literacy in determining retirement plans." *Economic Inquiry* 50.4 (2012): 851–866.

- Cole, Shawn A., and Gauri Kartini Shastry. *If You are So Smart, Why Aren't You Rich?: The Effects of Education, Financial Literacy and Cognitive Ability on Financial Market Participation*. Harvard Business School, 2008.
- Coleman, Hank (2014). "Is It a Mistake to Try to Teach Financial Literacy in High School?" *Daily Finance*, 1 April 2014. Accessed 15 August 2014. <http://www.dailyfinance.com/2014/04/01/financial-literacy-high-school-courses-problem-unqualified-teachers/>
- Collins, J. Michael, and Collin M. O'Rourke. "Financial education and counseling—Still holding promise." *Journal of Consumer Affairs*, 44.3 (2010): 483–498.
- De Meza, David, Bernd Irlenbusch, and Diane Reyniers. *Financial capability: A behavioural economics perspective*. London: Financial Services Authority, 2008.
- DeSteno, David, Ye Li, Leah Dickens, and Jennifer S. Lerner. "Gratitude A Tool for Reducing Economic Impatience." *Psychological Science* (2014): 0956797614529979.
- Disney, Richard, and John Gathergood. "Financial literacy and consumer credit portfolios." *Journal of Banking & Finance* 37.7 (2013): 2246–2254.
- Ding, Lei, Roberto G. Quercia, and Janneke Ratcliffe. "Post-purchase counseling and default resolutions among low- and moderate-income borrowers." *Journal of Real Estate Research* 30.3 (2008): 315–344.
- Doi, Yoko, David McKenzie, and Bilal Zia. *Who you train matters: identifying complementary effects of financial education on migrant households*. World Bank Policy Research Working Paper 6157 (2012).
- Dolan, Paul, Michael Hallsworth, David Halpern, Dominic King, Robert Metcalfe, and Ivo Vlaev, "Influencing behaviour: The mindspace way." *Journal of Economic Psychology*, 33.1 (2012), 264–77.
- Drexler, Alejandro, Greg Fischer, and Antoinette Schoar. "Keeping it simple: Financial literacy and rules of thumb." *American Economic Journal: Applied Economics*, 6.2 (2014), 1–31.
- Doust, Richard, Edward Houghton, and Leroy White (2013). "Evaluating the impact of a brief financial capability intervention in UK further education colleges: Barclays Money Skills 'weeks'." In ESRC Capacity Building Clusters Conference proceedings, Aston Business School (UK).
- Duflo, Esther, and Emmanuel Saez. *Implications of information and social interactions for retirement saving decisions*. Pension Research Council Working Paper 2003, Philadelphia, 2003.
- Duhigg, Charles. *The power of habit: why we do what we do in life and business*. Random House (2012).
- Dunn, Elizabeth, and Michael Norton. *Happy money: The science of smarter spending*. Simon and Schuster, 2013.
- Elliott, Antony, and Ivo Vlaev. *Money Lives: The financial behaviour of the UK*. London: Money Advice Service, 2013.
- Elliehausen, Gregory, E., Christopher Lundquist, and Michael E. Staten. "The impact of credit counseling on subsequent borrower behavior." *Journal of Consumer Affairs* 41.1 (2007): 1–28.



- Erta, Kristine, Stefan Hunt, Zanna Iscenko, and Will Brambley. "Applying behavioural economics at the Financial Conduct Authority." Financial Conduct Authority Occasional Paper No.1 (2013).
- Fenton-O'Creevy, Mark, Adrian Furnham, Sally Dibb, and Gareth Davies. "Antecedents and consequences of impulsive buying: can impulsive buying be understood as dysfunctional emotion regulation?" In: Eighth International Conference on Emotions and Worklife: Emonet VIII, 2–3 July 2012, Helsinki (Finland).
- Fernandes, Daniel, John G. Lynch Jr, and Richard G. Netemeyer. "Financial literacy, financial education, and downstream financial behaviors." *Management Science* 60.8 (2014): 1861–1883.
- Financial Conduct Authority. *Consumer credit and consumers in vulnerable circumstances*. FCA Research Paper series, 2014.
- Financial Services Authority. *Financial capability in the UK: Establishing a baseline*. London: Financial Services Authority, 2006.
- Fornero, Elsa, and Chiara Monticone. "Financial literacy and pension plan participation in Italy." *Journal of Pension Economics and Finance* 10.04 (2011): 547–564.
- Gal, David, and Blakeley B. McShane. "Can Small Victories Help Win the War? Evidence from Consumer Debt Management." *Journal of Marketing Research* (August 2012): 487–501.
- Gale, William G., and Ruth Levine. "Financial literacy: What works? How could it be more effective?" First Annual Conference of the Financial Literacy Research Consortium, Washington, DC. 2010.
- Gathergood, John, and Jörg Weber. "Self-control, financial literacy & the co-holding puzzle." *Journal of Economic Behavior & Organization* (2014).
- Gathergood, John. "An instrumental variable approach to unemployment, psychological health and social norm effects." *Health Economics* 22.6 (2013): 643–654.
- Gathergood, John. "Self-control, financial literacy and consumer over-indebtedness." *Journal of Economic Psychology* 33.3 (2012): 590–602.
- Gine, Xavier, Dean Karlan, and Muthoni Ngatia. *Social networks, financial literacy and index insurance*. Mimeo, 2011.
- Glaser, Markus, and Alexander Klos. *Financial Literacy: An Omitted Variable in Household Finance?* Available at SSRN 2021158 (2012).
- Graham, John R., Campbell R. Harvey, and Hai Huang. "Investor competence, trading frequency, and home bias." *Management Science* 55.7 (2009): 1094–1106.
- Grinstein-Weiss, Michal, Jonathan Spader, Yeong Hun Yeo, Andréa Taylor, and Elizabeth Books Freeze. "Parental transfer of financial knowledge and later credit outcomes among low-and moderate-income homeowners." *Children and Youth Services Review* 33.1 (2011): 78–85.
- Grinstein-Weiss, Michal, Michael W. Sherraden, William G. Gale, William Rohe, Mark Schreiner, and Clinton Key. *Ten-year impacts of Individual Development Accounts on homeownership: Evidence from a randomized experiment*. Available at SSRN 1782018 (2011).

- Griskevicius, Vladas, and Douglas T. Kenrick. "Fundamental motives for why we buy: How evolutionary needs influence consumer behavior." *Journal of Consumer Psychology* 23.3 (2013): 372–386.
- Gross, David B., and Nicholas S. Souleles. "An empirical analysis of personal bankruptcy and delinquency." *Review of Financial Studies* 15.1 (2002): 319–347.
- Guiso, Luigi, Tullio Jappelli, and Mario Padula. *Pension risk, retirement saving and insurance*. EIEF Working Paper 02/09 April 2009.
- Hannema, Charles. "Access to Credit." In *The New Faces of American Poverty [2 Volumes]: A Reference Guide to the Great Recession*, edited by Lindsey K. Hanson and Timothy J. Essenburg, ABC-CLIO, 2014: 397.
- Hastings, Justine S., Brigitte C. Madrian, and William L. Skimmyhorn. *Financial literacy, financial education and economic outcomes*. National Bureau of Economic Research Working Paper 18412 (2012): 17.
- Hathaway, Ian, and Sameer Khatiwada. *Do Financial Education Programs Work?* Federal Reserve Bank of Cleveland Working Paper 08–03. (2008): 2.
- Hershey, Douglas A., John C. Mowen, and Joy M. Jacobs-Lawson. "An experimental comparison of retirement planning intervention seminars." *Educational Gerontology* 29.4 (2003): 339–359.
- Hershfield, Hal E., Daniel G. Goldstein, William F. Sharpe, Jesse Fox, Leo Yeykelis, Laura L. Carstensen, and Jeremy N. Bailenson. "Increasing Saving Behavior Through Age-Progressed Renderings of the Future Self." *Journal of Marketing Research*, 48.SPL (2011), S23–S37.
- Hilgert, Marianne A., Jeanne M. Hogarth, and Sondra G. Beverly. *Household financial management: The connection between knowledge and behavior*. Federal Reserve Bulletin 89 (2003): 309.
- HM Treasury *Budget 2014: support for savers announced*. [Online] (19 March 2014). Available at: <https://www.gov.uk/government/news/budget-2014-support-for-savers-announced> [Accessed 15 August 2014]
- Hogarth, Jeanne M. *The federal reserve system's role in economic and financial literacy—Rationale, activities, and impact*. Proceedings from the Human Capital and Economic Growth 35th Economics Conference 2007, Austria: 144.
- Hong, Harrison, Jeffrey D. Kubik, and Jeremy C. Stein. "Social interaction and stock-market participation." *The Journal of Finance* 59.1 (2004): 137–163.
- Huang, Jin, Yunju Nam, and Margaret S. Sherraden. "Financial knowledge and Child Development Account Policy: A test of financial capability." *Journal of Consumer Affairs* 47.1 (2013): 1–26.
- Iyengar, Sheena S., and Emir Kamenica. "Choice proliferation, simplicity seeking, and asset allocation." *Journal of Public Economics* 94.7 (2010): 530–539.
- Iyengar, Sheena, S. *The art of choosing*. Hachette Digital, 2010.
- Jones, Harvey. *Millions are missing out by not fully using their ISA allowances*. [Online] (6 February 2013) Available at: <http://www.express.co.uk/finance/personalfinance/375821/Millions-are-missing-out-by-not-fully-using-their-Isa-allowances> [Accessed 15 August 2014]
- Kadlec, Dan. *How Personal Finance Will Shape the Coming Education Revolution*. [Online] (28 September 2012). Available at: <http://business.time.com/2012/09/28/how-personal-finance-will-shape-the-coming-education-revolution/> [Accessed 15 August 2014]

- Kahneman, Daniel. *Thinking, fast and slow*. New York: Macmillan, 2011.
- Kahneman, Daniel. *Thinking Fast and Slow – Daniel Kahneman in conversation with Richard Layard*. LSE Event. Nov 2011. Available at: <http://www.lse.ac.uk/publicEvents/events/2011/20111115t1830vOT.aspx>
- Karlan, Dean, Margaret McConnell, Sendhil Mullainathan, and Jonathan Zinman. *Getting to the top of mind: How reminders increase saving*. National Bureau of Economic Research Working Paper 16205 (2010).
- Kenrick, Douglas T. *The rational animal: How evolution made us smarter than we think*. Basic Books, 2013.
- Kenrick, Douglas T., Vladas Griskevicius, Jill M. Sundie, Norman P. Li, Yexin Jessica Li, and Steven L. Neuberg. "Deep rationality: The evolutionary economics of decision making." *Social cognition*, 27(5): 764.
- Kidd, Celeste, Holly Palmeri, and Richard N. Aslin. "Rational snacking: Young children's decision-making on the marshmallow task is moderated by beliefs about environmental reliability." *Cognition*, 126.1 (2013): 109-114. Referenced in: *The Marshmallow Study Revisited*. The University of Rochester's website. [Online]. [Accessed 15 August 2014]. Available from: <http://rochester.edu/news/show.php?id=4622>
- Kimball, Miles S. and Tyler Shumway. *Investor sophistication and the home bias, diversification, and employer stock puzzles*. University of Michigan Working Paper, 2010.
- Loibl, Cäzilia, David S. Kraybill, and Sara Wackler DeMay. "Accounting for the role of habit in regular saving." *Journal of Economic Psychology* 32.4 (2011): 581–592.
- Lucas, Bill, Ellen Spencer, and Guy Claxton. *How to teach vocational education: A theory of vocational pedagogy*. London: City & Guilds Centre for Skills Development, 2012: 62 and 89.
- Lusardi, Annamaria, and Peter Tufano. *Debt literacy, financial experiences, and overindebtedness*. National Bureau of Economic Research Working Paper 14808 (2009).
- Lusardi, Annamaria. *Financial literacy: an essential tool for informed consumer choice?* National Bureau of Economic Research Working Paper 14084 (2008).
- Lusardi, Annamaria (2003). *Planning and saving for retirement*. Dartmouth College Working Paper.
- Lyons, Angela C., Yunhee Chang, and Erik M. Scherpf. "Translating financial education into behavior change for low-income populations." *Financial Counseling and Planning*, 17(2) (2006): 27–45.
- Maela, Giofré. *Financial education, investor protection and international portfolio diversification*. Center for Research on Pensions and Welfare Policies Working Paper Series, no. 130, 2012.
- Mandell, Lewis, and Linda Schmid Klein. "The Impact of Financial Literacy Education on Subsequent Financial Behavior." *Journal of Financial Counseling and Planning* 20.1 (2009): 15–24.
- Mandell, Lewis. "The impact of financial education in high school and college on financial literacy and subsequent financial decision making." Presented at the American Economic Association Meetings, San Francisco, CA, 2009.

- Mandell, Lewis. *Financial literacy: Does it matter*. Presented at the ACCI Annual Meeting, Columbus Ohio, April, 2005.
- Mandell, Lewis. “Two cheers for school-based financial education.” Initiatives on Financial Security, The Aspen Institute, Washington, DC (2009). Available at: <http://www.aspeninstitute.org/sites/default/files/content/docs/pubs/Two%20Cheers.pdf>
- Meier, Stephan and Charles D. Sprenger. *Discounting financial literacy: Time preferences and participation in financial education programs*. IZA Discussion Papers, no. 3507, 2008.
- Miller, Margaret, Julia Reichelstein, Christian Salas, and Bilal Zia. *Can you help someone become financially capable? A meta-analysis of the literature*. World Bank Policy Research Working Paper 6745 (2014).
- Moffitt, Terrie E., Louise Arseneault, Daniel Belsky, Nigel Dickson, Robert J. Hancox, HonaLee Harrington, Renate Houts et al. “A gradient of childhood self-control predicts health, wealth, and public safety.” *Proceedings of the National Academy of Sciences* 108.7 (2011): 2693–2698.
- Money Advice Service. *The financial capability of the UK*. Report. London: Money Advice Service, 2013.
- Money Advice Service. *Business Plan 2014/2015*. London: Money Advice Service, 2014.
- Montier, James. *Darwin’s Mind: The Evolutionary Foundations of Heuristics and Biases*. Available at: <http://papers.ssm.com/sol3/papers.cfm> (2002).
- Montier, James. *The little book of behavioral investing: How not to be your own worst enemy*. Hoboken, NJ: John Wiley & Sons, 2008.
- Morewedge, Carey K., Leif Holtzman, and Nicholas Epley. “Unfixed resources: Perceived costs, consumption, and the accessible account effect.” *Journal of Consumer Research* 34.4 (2007): 459–467.
- Mullainathan, Sendhil, and Eldar Shafir. *Scarcity: Why having too little means so much*. Macmillan, 2013.
- Mullock, Katharine, and Julie Turcotte. *Financial Literacy and Retirement Saving*. Department of Finance, 2012.
- OECD (2014a). Do 15-year-olds know how to manage money? *PISA in Focus*, July.
- OECD (2014b). PISA 2012 results: Students and money – financial literacy skills for the 21st century. Volume VI.
- OECD (2014c). Education at a Glance: Country Note, Czech Republic. Available at: <http://www.oecd.org/edu/Czech%20Republic-EAG2014-Country-Note.pdf>
- Offer, A. *The Challenge of Affluence: Self-control and well-being in the United States and Britain since 1950*. Oxford University Press, 2006.
- Office for National Statistics. *An Examination of Falling Real Wages, 2010 – 2013*. [Online] (31 January 2014). Available at: <http://www.ons.gov.uk/ons/rel/elmr/an-examination-of-falling-real-wages/2010-to-2013/art-an-examination-of-falling-real-wages.html>
- Office of Fair Trading (2007). *Financial Capability: The Government’s long-term approach. Response to HM Treasury Consultation*. Available at: [http://oft.gov.uk/shared\\_oftr/reports/oft\\_response\\_to\\_consultations/oft915.pdf](http://oft.gov.uk/shared_oftr/reports/oft_response_to_consultations/oft915.pdf)

- Piantadosi, Steven. *Clinical trials: a methodologic perspective*. Vol. 593. John Wiley & Sons, 2005.
- Puri, Manju, and David T. Robinson. "Optimism and economic choice." *Journal of Financial Economics* 86.1 (2007): 71–99.
- Rick, Scott I., Cynthia E. Cryder, and George Lowenstein. "Tightwads and spendthrifts." *Journal of Consumer Research*, 34(6) (2008): 767–782.
- Schleicher, Andreas (2015). Seven big myths about top-performing school systems. BBC [Online] Available at: <http://www.bbc.co.uk/news/business-31087545>
- Schoar, Antoinette and Saugato Datta (2014). *The power of heuristics*. Ideas 42 White Paper.
- Schultz, P. Wesley, Jessica M. Nolan, Robert B. Cialdini, Noah J. Goldstein, and Vladas Griskevicius. "The constructive, destructive, and reconstructive power of social norms." *Psychological Science* 18.5 (2007): 429–434.
- Schwartz, Barry. *The paradox of choice*. New York: Ecco, 2004.
- Sekita, Shizuka. "Financial literacy and retirement planning in Japan." *Journal of Pension Economics and Finance* 10.04 (2011): 637–656.
- Shafir, Eldar "The Psychology of Scarcity." Presentation at IPPR, London. 29 January 2015.
- Shahrabani, Shosh. "Financial Literacy among Israeli College Students." *Journal of College Student Development* 54.4 (2013): 439–446.
- Sharot, Tali. *The Optimism Bias: Why we're wired to look on the bright side*. London: Constable & Robinson, 2012.
- Shumway, Sterling T., Thomas G. Kimball, Alan W. Korinek, and Rudy Arredondo. "A Family Systems-Based Model of Organizational Intervention." *Journal of Marital and Family Therapy* 33.2 (2007): 134–148.
- Spears, Dean. "Economic decision-making in poverty depletes behavioral control." *The BE Journal of Economic Analysis & Policy* 11.1 (2011).
- Spencer, Nathalie. (2013a). *Cash or Credit? The choice influences the "pain of paying."* [Online] (12 June 2014) Available at: [http://www.economics.com/stories/cash\\_or\\_credit\\_the\\_choice\\_influences\\_the\\_pain\\_of\\_paying](http://www.economics.com/stories/cash_or_credit_the_choice_influences_the_pain_of_paying) [Accessed 15 August 2015]
- Spencer, Nathalie. (2013b). *Making a lot of decisions is tiring – and may even harm your wallet.* [Online] (12 June 2013). Available at: [http://www.economics.com/stories/making\\_a\\_lot\\_of\\_decisions\\_is\\_tiring\\_and\\_may\\_even\\_harm\\_your\\_wallet](http://www.economics.com/stories/making_a_lot_of_decisions_is_tiring_and_may_even_harm_your_wallet) [Accessed 15 August 2015]
- Spencer, Nathalie. (2014a) *How can a future selfie save you a fortune?* [Online] (12 May 2014) Available at: [http://www.economics.com/stories/how\\_can\\_a\\_future\\_selfie\\_save\\_you\\_a\\_fortune](http://www.economics.com/stories/how_can_a_future_selfie_save_you_a_fortune) [Accessed 15 August 2015]
- Spencer, Nathalie. (2014b) *Shopping for clothes can be educational (for children at least).* [Online] (24 February 2014) Available at: [http://www.economics.com/stories/shopping\\_for\\_clothes\\_can\\_be\\_educational\\_for\\_children\\_at\\_least](http://www.economics.com/stories/shopping_for_clothes_can_be_educational_for_children_at_least) [Accessed 15 August 2015]
- Stewart, Neil. "The cost of anchoring on credit-card minimum repayments." *Psychological Science* 20.1 (2009): 39–41.
- Taylor, Mark, Stephen Jenkins, and Amanda Sacker. *Financial capability and wellbeing: Evidence from the BHPS*. UK: Financial Services Authority, 2009.

- Thaler, Richard H., and Shlomo Benartzi. "Save More Tomorrow™: Using behavioral economics to increase employee saving." *Journal of Political Economy* 112.S1 (2004): S164–S187.
- Thomas, Manoj, Kalpesh Kaushik Desai, and Satheeshkumar Seenivasan. "How credit card payments increase unhealthy food purchases: visceral regulation of vices." *Journal of Consumer Research*, 38(1), 126–139.
- Timperley, Helen, Aaron Wilson, Heather Barrar, and Irene Fung. *Teacher professional learning and development: Best Evidence Synthesis Iteration*. Ministry of Education, New Zealand, 2007.
- Utkus, Stephen, and Jean Young. "Financial Literacy and 401 (k) Loans." In *Financial Literacy: Implications for Retirement Security and the Financial Marketplace*, edited by Olivia S. Mitchell and Annamaria Lusardi. Pensions Research Council, 2011: 59–75.
- Van Rooij, Maarten, Annamaria Lusardi, and Rob Alessie. "Financial literacy and retirement planning in the Netherlands." *Journal of Economic Psychology* 32.4 (2011a): 593–608.
- Van Rooij, Maarten, Annamaria Lusardi, and Rob Alessie. "Financial literacy and retirement planning in the Netherlands." *Journal of Economic Psychology*, 32(4) (2011b): 593–608.
- Van Rooij, Maarten, Annamaria Lusardi, and Rob Alessie. "Financial literacy and stock market participation." *Journal of Financial Economics* 101.2 (2011): 449–472.
- Vlaev, Ivo, and Antony Elliott. *Financial Well-Being Components. Social Indicators Research*: 1–21.
- Von Hippel, William, and Robert Trivers. "The evolution and psychology of self-deception." *Behavioral and Brain Sciences*, 34.01 (2011): 1–16.
- Von Stumm, Sophie, Mark Fenton O’Creevy, and Adrian Furnham. "Financial capability, money attitudes and socioeconomic status: Risks for experiencing adverse financial events." *Personality and Individual Differences* 54.3 (2013): 344–349.
- Which? *The Real Consumer experience of the 7 day switch: summary research findings of the consumer PCA switching journey*. Mimeo, 2014.
- Whitebread, David, and Sue Bingham (2013) *Habit Formation and Learning in Young Children*. [Online] (May 2013). Available at: [https://www.google.co.uk/search?client=safari&rls=en&q=the-money-advice-service-habit-formation-and-learning-in-young-children-may2013.pdf&ie=UTF-8&oe=UTF-8&gfe\\_rd=cr&ei=hBnuU434PILY8geHtoCwDA](https://www.google.co.uk/search?client=safari&rls=en&q=the-money-advice-service-habit-formation-and-learning-in-young-children-may2013.pdf&ie=UTF-8&oe=UTF-8&gfe_rd=cr&ei=hBnuU434PILY8geHtoCwDA) [Accessed 15 August 2014]
- Whitebread, David, and Sue Bingham. "School readiness: A critical review of perspectives and evidence." TACTYC occasional paper 2 (2011). Available at [scmeyegroup.weebly.com/uploads/1/8/4/9/1849450/readiness\\_review\\_12312.pdf](http://scmeyegroup.weebly.com/uploads/1/8/4/9/1849450/readiness_review_12312.pdf)
- Wiener, Richard L., Susan Block-Lieb, Karen Gross, and Corinne Baron-Donovan. "Unwrapping assumptions: Applying social analytic jurisprudence to consumer bankruptcy education requirements and policy." *American Bankruptcy Law Journal*, 79 (2005): 453.
- Willis, Lauren E. "Evidence and ideology in assessing the effectiveness of financial literacy education." *San Diego Law Review* 46 (2009): 415.

# Appendix:

## Impact assessment for Financial Education

Can people’s financial capability be improved through financial education? Before trying to answer this question, it should first be noted that financial education comes in many different forms. There is financial education through schools and colleges, commonly thought to have originated in the first half of the 20th century.<sup>113</sup> A more recent phenomenon is employer-provided education, which largely developed in the 1980s–1990s and often focuses on retirement savings.<sup>114</sup> Various charities also offer financial education, often aimed at specific populations such as low-income families and other vulnerable individuals.

*“Although opinions on standards and methods have greatly converged during the debate, no clear consensus has emerged”*

Recent decades have seen a growing number of practitioners and academics contribute to measuring the impact of financial education. This has fuelled a heated debate, with sceptics and believers equally forceful in their arguments. And, although opinions on standards and methods have greatly converged during the debate, no clear consensus has emerged. But the evaluation literature does teach us some valuable lessons about what has been shown to work, which aspects of programme design appear most critical, and, last but not least, how to interpret the results of any evaluation study claiming to ‘prove’ or ‘disprove’ the effectiveness of financial education. In this Appendix, we discuss various research designs used in evaluations or impact assessments.

Strictly speaking, a financial education programme is effective only if it has a proven impact on participant behaviour. But such proof may be hard to come by. Measuring the effects of a financial education programme for 7-year olds requires that the participants are tracked throughout their youth and adult life, and preferably compared to a *control group* of similar individuals who did not receive the education. Of course, this is highly unpractical. It may be that the researcher will have to set more modest objectives for evaluation.

Other types of programmes offer better opportunities for evaluation. For example, the effectiveness of financial education provided alongside a government-sponsored savings account can be measured as the difference in accumulated savings between those who received the education versus those who did not. This measure is not perfect either but it comes a lot closer to demonstrating an actual positive change in financial behaviour.

<sup>113</sup> Gale and Levine (2010) note that, in the US, the 1950s saw an expansion of financial education in secondary schools. Another author writes that financial education in the US goes back to “at least the 1930s” (Willis, 2009, p.417). But other sources suggest that some form of financial education in schools existed before that time. For example, it was common for women in Belgium and The Netherlands in the early 20th century to be taught household accounting at so-called “house making schools”.

<sup>114</sup> See Braunstein and Welch (2002).

## Measuring impact through questionnaires

By far the most common way of evaluating financial education interventions is to ask participants a set of questions afterwards. These questions can be *evaluative* in nature (eg “Do you feel the course has made you more knowledgeable about bank accounts?”) or they can be designed to provide a financial capability *snapshot* (eg “On a scale from one to five, how knowledgeable are you about bank accounts?”).<sup>115</sup>

Post-programme questionnaires often measure direct satisfaction with the educational content or delivery. As such, they provide valuable feedback on participants’ learning experiences, including feelings of enjoyment and purpose. This feedback can then be used to update course content, evaluate teachers, and provide information to funders and organisers. But can this feedback be used as evidence for programme effectiveness? That depends.

When questions are purely evaluative and there is no pre-programme measure for comparison, they are unreliable indicators of programme impact. This is especially true when participants are inclined to give *socially desirable* answers – to show either the programme facilitators or prove to themselves that participation was worth their while.

### Pre-post evaluation

A more robust approach is to ask the same questions before and after the programme, a technique called **pre-post evaluation**. Pre-post studies compare participants’ behaviour, attitudes or knowledge before and after a financial education programme. Especially when these questions take a snapshot of knowledge of behaviour rather than ask the respondent to report progress, they mitigate against the bias of socially desirable answers. Other techniques for getting more reliable answers are: delaying the post-programme questionnaire by a few weeks, using a researcher unconnected to the programme provider to administer questionnaires, or comparing pre-post answers to a control group of people who do not participate in the programme.

Pre-post studies often report a positive impact of financial education. This is not only true for post-programme evaluations conducted straight after the programme: a recent review article of multiple studies reports this is also true when post-programme evaluations happen at least two weeks after the programme.<sup>116</sup> These results are encouraging, but a word of caution is in order: results of delayed post-programme surveys can be affected by *attrition bias* – the ‘pre’ respondents are a different group of people than the ‘post’ respondents. This is especially true if they require some action on behalf of the respondent, such as completing an on-line questionnaire. In this case, the ‘post’ respondents are more likely to be diligent individuals.

115 Droust et al. (2013).

116 Fernandes et al. (2014).



If the response rate for both the pre- and post-programme questionnaire is good (ideally close to 100 percent), then a pre-post study can be informative about programme impact at the time of the post-programme survey. Knowledge gains, although they provide no proof for actual behaviour change, can be demonstrated and measured across different versions of an education programme, or compared for different teachers. For self-reported behaviour changes, such as higher reported savings and better budgeting habits, it still holds that the researcher will have to take the participants' word for it.

### **Correlational studies**

Correlational studies compare people who have received financial education to those who have not. To establish whether people have received financial education, researchers typically use population survey questions such as "Did you receive financial education at school?" Rather than focus on a specific programme, this approach addresses the broader question of whether any kind of financial education has an effect. Correlational study techniques may thus not be helpful for a particular course provider designing an impact assessment, but the results discussed here feed into the wider debate about financial education.

The evidence from correlational studies is mixed. One study investigates the effect of financial education in US high schools, using a representative nationwide sample with six survey waves between 1997 and 2008. Each wave of the survey shows that there is no difference in financial knowledge between students that have completed a financial education class and those that have not.<sup>117</sup> Furthermore, the survey recorded a gradual decline in the financial knowledge of high school students during the 1997-2008 period. Interestingly, those who received financial education report better savings behaviour than those who did not.

Results from a US household survey show that those who report having received financial education through their employer also report higher retirement savings.<sup>118</sup> However, the results are slightly inconsistent – the survey respondents do not report a higher level of overall savings (which presumably includes retirement savings). Another US study presents more convincing results: it estimates that those who have taken part in employer-sponsored retirement savings seminars accumulate 15 to 20 percent more wealth than those who have not.<sup>119</sup>

When interpreting the evidence of a correlational study, it is important to see which confounding factors have been taken into account. Those who have received financial education may differ in important ways from those who have not – they may have grown up in wealthier areas, for example. Another important issue in correlational studies is *selection* into financial education.

117 Mandell (2005) and JumpStart (2008).

118 Bernheim & Garrett (2003).

119 Lusardi (2003).

First, selection might originate in the survey: more financially capable people may be more likely to remember that they received financial education (a form of *recall bias*). Second, people with more financial capability to begin with are more likely to seek out financial education. If retirement seminar participation is voluntary, then we would expect those who think a lot about their retirement to be more likely to participate. There is some evidence to suggest that this is the case: people who are more future-minded are more likely to obtain financial advice.<sup>120</sup>

### **Quasi-experiments**

Quasi-experiments are similar to correlational studies in that they compare people who have and have not received financial education, but they look at situations where people have no choice in the matter. If financial education is made mandatory in one school, but not in a neighbouring school, the outcomes can be compared – the underlying assumption being that students in different schools are broadly similar to begin with.

Two well-known quasi-experiments use data on the expansion of mandatory high school financial education across US states. The first study finds that those who have received financial education have higher savings.<sup>121</sup> The second study finds similar effects for income from savings and investments, but only if they use the statistical model used by the authors of the first study – as soon as they allow for differences between US states, the effect disappears.<sup>122</sup> This suggests that the higher savings reported in the first study were actually caused by differences between US states, instead of financial education. A more recent study that compares the debt outcomes of young adults as a function of financial education introduced by their state, shows that financial, as well as mathematical, education in schools lowers the amount of debt and the likelihood of bankruptcy.<sup>123</sup>

The quasi-experimental evidence on financial education provided by employers is promising. A US employer survey finds that pension plan participation and contributions are higher in companies that offer retirement seminars.<sup>124</sup> Another study finds that US army personnel who were put through a financial education programme in training report more responsible financial behaviours than those who did not.<sup>125</sup>

Debt counselling is another area in which quasi-experimental evidence is generally positive. Although most studies find that self-selection is common – those who seek out debt counselling are also more financially capable – they also show evidence that counselling works.<sup>126</sup> For example, two studies from the US report that phone counselling for delinquent mortgage owners decreases their probability of default and

120 Meier and Sprenger (2008).

121 Bernheim et al. (2001).

122 Cole and Shastry (2012).

123 Brown et al. (2014).

124 Bayer et al. (2009).

125 Bell et al. (2009).

126 Ellichehausen et al. (2007), or Lyons et al. (2006).

that financial education sessions for bankrupt individuals improves attitudes and self-reported credit behaviour.<sup>127</sup>

Quasi-experiments go a long way in addressing the selection issues that may inflate the results of correlational studies. Especially in schools and training settings, where attrition bias is likely to be less of a problem, quasi-experimental designs can be used very effectively in conjunction with a pre-post evaluation. If people who receive financial education can be compared with similar people who do not receive education, this yields a very robust impact assessment. By carefully choosing a comparison or *control group*, financial education providers can thus design a reliable measure of whether their programme is effective.

### **Randomised Controlled Trials**

The evidence from the quasi-experimental studies in US high schools shows that differences between participant groups and/or geographical areas can be important. The same could apply at a local level: schools or organisations that organise financial education for their students or employees may be wealthier or better organised. If so, this may bias the result of a quasi-experimental comparison. To truly measure the effect of financial education absent of such confounding factors, the researcher will have to conduct a Randomised Controlled Trial (RCT).

Well-executed RCTs avoid the problems of confounding factors and selection. In conducting an RCT, the researcher or provider first decides who receives financial education, and who does not. If this happens in a *randomised* and balanced way, meaning that those who receive financial education do not differ from the comparison group in ways that may matter for the effectiveness of financial education, the RCT will be the best possible evaluation of the financial education programme.<sup>128</sup>

Although RCTs are widely seen as the gold standard in evaluation research, conducting an RCT may not always be possible. The design of a programme, such as school education that has to be uniform across a curriculum, may prevent the researcher from randomly assigning students or classes to education or a control group. It may be more feasible to choose a school 'at random' from those asking for financial education. If this is not feasible, the researcher can experiment with randomly assigned 'add-ons': text message reminders, personal coaching sessions, helping students open bank accounts, etc.

There is very little RCT evidence on financial education in schools. A study in Italian secondary schools finds no difference in knowledge and behaviour between students who did and did not receive 16 hours of

127 Study 1: Ding et al. (2008); Study 2: Wiener et al. (2005)

128 There are different ways of 'randomly' assigning people to an intervention and control group, such as block randomisation and stratified randomisation. For more information on RCT design, see Piantadosi (2005).

financial education. One major drawback of this study is that the authors cannot rule out knowledge spillovers between classes in the same school.<sup>129</sup>

A much bigger study, conducted in Brazil with 868 schools, does find positive effects on financial knowledge and behaviour.<sup>130</sup> What is particularly encouraging about this study is that financial education leads to an improvement in (self-reported) savings for purchases, as well as generally reducing present focus in students. Two further points are worth noting: the programme lasted 17 months and is therefore more intensive than ‘typical’ financial education programmes. Second, the final survey was conducted immediately after the programme, so there is no telling whether the positive effects will persist.

RCT evidence on employer-provided financial education is mixed, although research in this area has focused on information provision. One study finds that paying employees to attend a retirement information fair increases their attendance, although actual participation in the employer-sponsored pension plan is just as high for the colleagues of those who were paid to attend.<sup>131</sup> Another study finds that motivating non-contributors to join a pension plan by sending them an information flyer can backfire: older workers were actually less likely to join the pension plan after receiving the flyer.<sup>132</sup> What does seem to work, though, is combining retirement information with goal setting. A retirement seminars comparison study reports that savings one year after the seminar were significantly higher when the seminar featured both information provision and goal setting.<sup>133</sup>

Some RCTs have looked at financial education programmes for populations who are thought to benefit most from it: low-income families. One problem with targeting this population group is low attendance: a study in Mexico finds that motivating people to attend financial education is difficult, even with financial incentives. The same study reports that the evaluated financial education programme results in positive financial behaviour – higher savings – but the effect is temporary.<sup>134</sup> A US study on mandatory financial education programmes for social housing tenants presents more positive results: education leads to an improvement in financial knowledge and behaviours, notably self-reported savings and budgeting behaviours. It remains to be seen, however, whether these effects are persistent.<sup>135</sup>

One RCT that deserves special mention is the evaluation of a financial education programme for migrant workers in Indonesia.<sup>136</sup> The study finds that it matters who receives the education: if only the migrant

129 Bechetti et al. (2013).

130 Bruhn et al. (2013).

131 Duflo and Saez (2003).

132 Clark et al. (2012).

133 Hershey et al. (2003).

134 Bruhn et al. (2013). Note that quasi-experimental designs (for example, Grinstein-Weiss et al., 2011) also find only temporary effects on savings behaviour.

135 Collins and O’Rourke (2010).

136 Doi et al. (2012).

worker receives education, financial behaviour changes little. But when financial education is extended to the worker's family members, budgeting behaviours improve and savings increase. This study suggests that financial education is more effective when all the 'stakeholders' of financial behaviours are included.

*“One particular theme emerging in these reviews is that experts feel that the effectiveness of financial education has not been convincingly proven”*

### **The ongoing debate on effectiveness**

We hope that the previous section has given the reader some insight into the variety of approaches, and the mixed nature of the results, of evaluating financial education. Many academic experts have written similar reviews in the past, some more rigorous than others. One particular theme emerging in these reviews is that experts feel that the effectiveness of financial education has not been convincingly proven. One review paper cautiously notes that “[evidence] on whether financial education actually improves financial outcomes is best described as contradictory.”<sup>137</sup> Another author puts it more bluntly: “...the necessary predicate belief in the efficacy of [financial education] is largely based on ideology rather than evidence”.<sup>138</sup>

Many of the review papers written in the past years rely on a handful of evaluation studies hand-picked by the reviewer. Handpicking studies does not lead to the most balanced judgement.<sup>139</sup> We believe that the conflicting results are partly due to the fact that very little is known about the conditions that make financial education effective. As with any kind of education, some techniques will be more effective than others, some participant groups will be more receptive to the techniques used than others, and some circumstances will be more conducive to learning than others. The first findings on which of these conditions are critical for the effectiveness of financial education are just emerging, and much more work remains to be done. In the final sub-sections of this Appendix, we discuss some of the early findings that financial education providers may want to take into account.

### **What to measure?**

Regardless of one's approach to evaluation, the researcher needs to decide what kind of evidence to collect: evidence on knowledge, attitudes, or financial outcomes? We believe that the most convincing evidence is observed financial behaviour: bank account balances, pension plan contributions, credit card payments, etc. When these outcomes cannot be observed directly, self-reported data on these behaviours is the next best alternative.

137 Hastings et al. (2012), p.17.

138 Willis (2009), p.419.

139 A fairer approach is to select all evaluation studies according to certain pre-set criteria, and measuring effectiveness by a common metric – an approach called meta-analysis. Two recent meta-analyses are Fernandes et al. (2014) and Miller et al. (2014).

Teaching financial education to children, especially those too young to handle money in any way significant to their wellbeing, means financial outcomes cannot be used for evaluation in the short to medium term. In these cases, financial attitudes and knowledge measures are the best evidence available. However, this does not mean that registering an increase in knowledge immediately after the programme is sufficient evidence of effectiveness. What is relevant for assessing these courses is their long-term impact: does the knowledge persist? Is there any evidence of cross-fertilisation with other courses (such as maths and economics) in terms of uptake or results? Has the programme increased the long-term likelihood that students discuss money with their peers or parents?

### **Generic versus specific education**

Should financial education content be broad, covering topics from the origins of money to maximising income from tax incentives and benefits, or focused on a specific financial behaviour, such as putting money in a savings account? Experts almost unanimously agree that, in terms of proven impact, specific programmes are more promising than generic programmes. Generic programmes, they argue, are too far removed from the action of everyday decision making: "...teaching financial literacy in the abstract appears ineffective";<sup>140</sup> "...highly targeted programmes, *unlike generic programs*, tend to be effective in changing people's financial behaviour" (emphasis added).<sup>141</sup>

Two recent efforts that make a systematic comparison between studies of financial education offer more insight: the effect of financial education increases with the number of hours of instruction, but the effect also disappears quickly over time and works better for some financial behaviours (notably savings and keeping track of finances) than others.<sup>142</sup> Again, these results are not encouraging for generic financial education. Research methodology also matters: correlational studies typically report bigger effects of financial education than more robust methods, such as RCTs.<sup>143</sup>

To sum up, there is little evidence that generic financial education affects the financial outcomes of its recipients. Narrowly targeted interventions seem more promising, especially in the areas of saving and keeping track of money. Nevertheless, there may be compelling reasons for providing generic financial education in some settings. Financial education in schools can serve as a forum for discussion for students, and raise the profile of related subjects, such as mathematics. Improving people's knowledge of financial matters is a worthy goal in itself, and raising the knowledge level of society through formal education may have indirect benefits, such as a better-informed public that demands more from financial institutions and regulators.

140 Braunstein and Welch (2002), p.452.

141 Hathaway and Khatiwada (2008), p.2.

142 Fernandes et al. (2014), Miller et al. (2014).

143 Fernandes et al. (2014).

### **Impact of education over time**

To determine the most effective way of delivering financial education, time is a key factor. We might want to know how many hours of instruction are ‘optimal’ for effecting behaviour change. Second, we need to know how quickly knowledge or behaviour improvements decay over time. A recent review article of financial education studies provides some answers.<sup>144</sup>

The effect of a financial education programme increases with the number of hours of instruction. However, this relationship is not linear: the effectiveness of additional hours of instruction diminishes as total hours of instruction go up. There is no evidence, however, on the optimal timing of financial education courses: are two blocks of two hours the same as one block of four hours of teaching? And what is the optimal interval between two financial education sessions – a day, one week, three months? Another relevant but unanswered question is whether the lessons learned in a financial education session are best reinforced by another session, or by cheaper methods such as reminder text messages and emails.

Another key finding in the review article is that the effect of financial education decays quite quickly over time. The authors estimate that after about one-and-a-half years, the effects on knowledge and behaviour of a 24-hour programme have disappeared; the effects of less intensive programmes decay even faster. These findings suggest that ‘preventive’ financial education is unlikely to work if participants cannot put it into practice quickly. As we discussed above, this time horizon may be an unfair judgement on the effectiveness of some programmes (such as those taught in schools), but they provide an important benchmark for financial education programmes designed to have a more immediate impact.

144 Fernandes et al. (2014).

The RSA: an enlightenment organisation committed to finding innovative practical solutions to today's social challenges. Through its ideas, research and 27,000-strong Fellowship it seeks to understand and enhance human capability so we can close the gap between today's reality and people's hopes for a better world.



---

8 John Adam Street  
London WC2N 6EZ  
+44 (0) 20 7930 5115

Registered as a charity  
in England and Wales  
no. 212424

Copyright © RSA 2015

**[www.thersa.org](http://www.thersa.org)**

---