2 Secondary School Students' Understanding of the Financial System

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2.1 Introduction

Financial literacy has been generally portrayed as a matter of personal responsibility (e.g., Kempson 2009; Lusardi et al. 2010; Atkinson and Messy 2012). This standpoint excludes understanding of public money management and the behaviour of the financial sector. One problem with this neglect is that it gives the impression that financial probity is the exclusive responsibility of the individual. A second problem is that it implies that public money management and the conduct of the financial sector are matters for the exclusive attention of specially trained experts in government and finance. Given the ways in which money management by governments and banks frames the opportunities for individuals (e.g., Farrow 2002; Levin 2012; Nicoll 2012), this stance impoverishes the role of democracy in social self-determination. In this context, we may ask whether schools could play a role in developing informed citizens who are capable of providing a sufficiently knowledgeable and critical electorate to encourage democratic governments to pursue policies towards the financial system which benefit their citizens.

This is an ambitious objective for schooling. In the first instance, it requires good understanding of the ways in which students understand the financial system. Although there is some limited evidence of younger childrens' understanding of money and banking (e.g., Gunter & Furnham 1998), there is comparatively little or no evidence of students' understanding of bank and government behaviour in the broader context of financial systems. This qualitative study addresses this gap by exploring young people's conceptions of the financial system. It aims to provide a basis for the development of definitions of financial literacy which are not restricted to individual responsibility.

Financial literacy is regarded as an important element of education policy in many countries and its profile has risen in the wake of the financial crisis of 2008 (Pahl 1999; Appleyard & Rowlingson 2012; Schleicher 2013). Policy measures (such as the increase in undergraduate tuition fees in the UK) which transfer financial risk from governments to individuals have reinforced calls (e.g. Joo & Garble 2004; Lusardi 2008; Wolfe-Hayes 2010) for education to equip young people for the final tasks and responsibilities which lie ahead. However, definitions of financial literacy have, by and large, neglected students' understanding of the financial system. They are expected to plan effectively for future saving and borrowing based on a thorough understanding of interest rates and inflation. But how is this possible without some capacity to predict the future of the financial system which shapes their opportunities? The metaphor of 'good housekeeping' has long been used (e.g. Blanchard et al. 1990; Hutton 1991) to depict the conditions for the management of government debt. A commitment to 'good housekeeping' (Cameron 2008) has been prominent in the public justification of the approach to economic management adopted by the current UK government. But how can citizens understand the financial context in which their governments operate unless they are aware of implications of the differences between household debt and government debt? These considerations have been absent from programmes for financial literacy across the globe. Whilst there has been a growing critique of the restriction of financial literacy to private responsibility (Williams 2007; Willis 2008; Pinto 2013; Davies 2015), the evidence base for developing an 'active citizenship' approach (Davies 2006) to financial literacy is very sparse. The objective of this paper is to address that gap through an exploratory study of the conceptions of secondary school students in England.

The remainder of the paper is divided into four sections. First, we consider different definitions and measurements of financial literacy. We use this section to place our research within the context of the large body of previous work in the field of financial literacy. This is followed by an account of our method, evidence from in-depth interviews and a discussion of implications for research, policy and practice.

2.2 Financial Literacy: Definitions and Evidence

We have identified three different approaches to the definition of financial literacy: (i) Knowledge and attitudes which underpin financially literate behaviour in the context of personal money management; (ii) Critical financial consumption (which extends (i) to also include an ability to discriminate effectively between better or worse financial deals and better or worse financial providers; (iiii) Active citizens in a financial context (which extend (ii) to include an informed stance towards the role of democratic governments and the financial sector. We summarise these three approaches in Table 1. This summary identifies the distinctive emphasis in each approach rather than attempting to convey the full range in each approach. In the remainder of this section, we outline each approach and review the evidence each approach has generated.

Table 1: Summary of Approaches to Financial Literacy

	Distinctive emphasis in each approach		
	Aim of financial education	Knowledge, skills, attitudes to be promoted	Example sources
Personal Money Management	Responsible financial behaviours by consumers	Knowledge of budgeting and financial risk management and a willingness to defer gratification (Future-mindedness).	Furnham (1999); Huston (2010); Walstad et al. (2010); Lusardi (2008)
Critical Financial Consumption	Critical consumer behaviour to encourage efficient financial markets	Knowledge of the range of available financial products and capacity to identify which financial products will be good for them.	Atkinson et al. (2007); Rutledge (2010); Mundy (2011)
Active Citizenship	Citizens' capacity to help shape the financial context for society	Understanding of implications for society of public money management.	Mishkin (2008); Davies (2015)

Financial literacy is most frequently (e.g. OfSTED 2008; Redmund 2010; Xu & Zia 2012) defined in terms of 'personal money and asset management'. This literature regards financial behaviour as a product of the combination of knowledge and attitudes. One strand in the literature emphasises financial knowledge. For example, Lusardi (2008) divides financial literacy into two types, basic and advanced. The former involves knowledge of fundamental financial concepts such as interest rates, inflation and concept of risk diversification whereas the latter involves decision making skills and understanding of the relationship between risk and return, differentiation between bonds, stocks and mutual funds and basic asset pricing. A similar approach is taken by a council established to advise the US president (PACFL 2008: Recommendation 11) which defined financial literacy as "the ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being." Similarly, in her review of 52 studies data sets, Huston (2010: 303) identifies four content areas: (i) Money basics (including time value of money, purchasing power, personal financial accounting concepts); (ii) borrowing (i.e., bringing future resources into the present through the use of credit cards, consumer loans or mortgages); (iii) investing (i.e., saving present resources for future use through the use of saving accounts, stocks, bonds or mutual funds); and (iv) protecting resources (either through insurance products or other risk management techniques). The importance of the distinction in this classification between short and long-term financial planning is suggested by a report from the New Zealand Commission for Financial Literacy and Retirement Income (2012). This report found that formal financial education programmes being delivered focused mainly on goal setting, budgeting and managing income, debt and expenditure. A major gap was seen in the delivery of financial programmes that focused specifically on savings, investments and protecting assets and the influence of local, national and global finances on personal and family finances.

In principle, it would be possible to check whether the data support the division of financial knowledge into the sub-groups suggested by Huston (2010) and others (e.g., Altintas 2011). However, usual practice has been to rely on a priori categories of financial knowledge. There have been numerous attempts to develop instruments to measure this construct. Lusardi and Mitchell (2011: 498), acknowledging the difficulty in measuring people's way of processing economic information to make informed financial decisions, argue that financial literacy measures require simplicity, brevity, relevancy to concepts pertinent to people's day to day life, and be able to differentiate between various financial knowledge levels. On the basis of these four principles they designed three multiple choice questions to measure individuals' understanding of fundamental financial concepts of compound interest, inflation rate and risk diversification. While the first two questions required numeracy skills, the last question required an understanding of the stock market. On the other hand, Knoll and Houts (2012) used Item Response Theory (IRT) to develop a reliable and systematic psychometric test of financial knowledge. Their test items (Houts 2012: 399–400) capture knowledge of: annuities, debt management, diversification of risk, housing, inflation, interest rates, investing, life insurance, retirement savings, and time value of money. Test items take the form of multiple choice or 'true/false' questions.. These and other studies (e.g., Danes & Haberman 2007; Walstad et al. 2010; Altintas 2011) also take for granted an 'information processing' approach to the outcomes of learning. Debate within this literature focuses on the characteristics of a good test item. The task of these measurement instruments is to capture (i) elements of knowledge; (ii) elements of the application of knowledge; (iii) distinct attitudes and (iv) particular behaviours.

Researchers using surveys in the US, UK and Australia have generally concluded that young people have low levels of financial literacy. Lusardi et al. (2010: 376), in their the National Longitudinal Survey of Youth in 2007–2008 in USA, found that financial literacy amongst young people in United States was overall low, particularly around interest rates, inflation and risk diversification. Similarly, Australian university students showed low level of skills and knowledge in financial matters (Beal & Delpachitra 2003). Out of five identified areas such as basic financial knowledge, markets and instruments, planning, analysis and decisions, and insurance; decision making skills and insurance knowledge appears to be least developed. In a similar vein, a large-scale study commissioned by the Royal Bank of Scotland (2011) found that, on average, young people were seriously over-optimistic about their financial futures.

A number of studies have investigated relationships between financial knowledge, background characteristics and behaviours. Beal and Delpachitra (2003) reported that financial literacy amongst university students in Australia was positively associated with work experience and personal income. Knoll and Houtts (2012) found a strong association between scores on their test and respondents' level of education. After controlling for income they found that financial knowledge was a significant predictor of having a savings account. The overall score on their test items predicts retirement planning better than the items used by Lusardi and Mitchell (2007). Evidence from a small scale study (Appleyard & Rowlingson 2012) interviewing 7–11 year-old students has suggested that financial knowledge is positively related to socio-economic background.

A second strand within the 'personal money and asset management' literature emphasises financial attitudes and self-actualisation. Financial attitudes (e.g., Furnham 1984; Xiao et al. 1995; Hayhoe et al. 1999) are generally measured through Likert scales. Furnham (1999) conducted a survey of 250 British 11–16 year olds to examine their spending and saving behaviour. A 20 item attitudinal scale was used to measure childrens' attitude towards spending and saving. A VARIMAX rotated factor analysis on the 20 item scale (Furnham 1999: 689) suggested five factors: spending money, saving money, mechanics of banking, indifference to money, and work ethics values. Regressions on these factors suggested that saving attitudes of children were not related to their income but were related to the ways in which children used money i.e. how much they spent, lent or borrowed or saved. Shim et al.'s (2009) student financial well-being model places financial attitudes in the context of upbringing and emergent identity. Their model draws on four theories: lifespan development (Baltes 1987); the hierarchical model of personal, values, attitudes and behaviour (Homer & Kahle 1988); consumer socialisation (Moschis 1987); and planned behaviour (Ajzen 1991). Their empirical evidence supports a positive association between self-actualization values and financial attitudes which are in turn were related to financial behavioural intentions. Perry and Morris (2005) use the construct 'locus of control' rather than self-actualisation. Locus of control refers to the extent to which an individual attributes their experience to their own actions as opposed to the environment in which they are located. Their study of roughly 11,500 adults in the US suggested that locus of control mediates the relationship between financial knowledge and behaviour: individuals are more likely to act upon what they know if their locus of control encourages them to believe that their actions shape their future. Bachan (2013) used an attitudinal survey to assess university students' attitude towards risk, debt aversion and uncertainty. This was a self-assessed survey where students were asked to select the value that best represented them on a 11 point risk scale ranging from 0 (not prepared to take risks) to 10 (fully prepared to take risks). Bachan also used a 5 point Likert scale to measure students' level of debt aversion and dislike of uncertainty. Level of expected debt was associated with gender, ethnicity and anticipated earnings after university education. Non-white students (British Asians, blacks and Chinese) expected to have less debt than whites. Male students had a greater expected level of debt than females. Females were found to be relatively less willing to take risks and more debt averse than males. Students with part-time work had a lowered level of expected debt.

Both these strands take for granted the restriction of financial literacy to personal money and asset management. The measures used focus predominantly on the increase of financial knowledge and its implications on short-term financial decision making/planning.

Some definitions (e.g., Rutledge 2010; Mundy 2011; Australian Securities and Investment Commission 2011; PfEG 2012) expand the role of 'personal money management' to the notion of a 'critical financial consumers' who can provide an effective context for the development of efficient financial services, notwithstanding a need for financial regulation. These definitions go beyond statements (e.g., DCSF 2008: 4) about 'critical consumers' which do no more than restate the *caveat emptor* dictum. The most rigorous attempt to measure this construction of financial literacy has been by Atkinson et al. (2007) who, on the basis of factor analysis of interviews with over 5,000 adults, define financial capability in terms of four behaviours: managing money, planning ahead, choosing products and staying informed. They infer that the greatest cause concern from their evidence lies in adults' weak capacity to distinguish between good and bad financial products, concluding (Atkinson et al. 2007: 34) that 'with levels of financial capability as low as those identified by the survey, it is easy to see how the past mis-selling in the UK occurred'. They used cluster analysis to relate self-declared financial behaviours to respondents' background characteristics. They found that younger adults and respondents with lower incomes were more likely to have low levels of financial capability. This contrasts with Furnham's (1999) evidence suggesting that income made no significant difference to the money management of younger schoolchildren. This difference may reflect the difference in the age groups sampled in these two studies (suggesting an interaction between age and income). Alternatively it could be that school students' patterns of behaviour with low levels of income and financial responsibility are very different from relations between adults' financial literacy and behaviour.

A third approach to financial literacy begins with the critique (Williams 2007, Willis 2008, Pinto 2013) of the ambitions for financial education which is limited to a consumerist model. In Pinto's words (2013: 113):

> "An examination of any form of literacy—including financial literacy—requires consideration of how it operates within the social contexts and how the social contexts influence (and are influenced by) individuals' understandings. Without attention to such issues, financial literacy education is reduced to replicating inequities and contributes to the continued marginalization of already vulnerable populations, contrary to the outcomes identified in the dominant narratives."

This approach emphasises the importance of financial regulation and the role of individuals as citizens in shaping the context for regulation in democratic societies (Mishkin 2008; Davies 2015). Moreover, it is suggested that the role of citizens is critical for creating the context for government's financial behaviour. If political parties believe that the median voter is ignorant about public money management they face a big incentive to offer policies which are rich in short-term political gain even if they know that these policy stances are problematic for the future of the country. This makes democracy becomes dysfunctional. The standpoint we are adopting is that voters should have sufficient understanding of the economic and financial system to enable them to make reasonable connections between government spending, taxation, debt, inflation and incomes (Davies 2006). However, researchers have yet to provide much in the way of empirical evidence on this approach to financial literacy. This study aims to address this knowledge gap by providing some evidence of the ways in which young people understand money management by governments and banks. We regard this kind of evidence as a necessary precursor to the development of teaching strategies designed to improve students' understanding. Using a framework for financial literacy proposed by Davies (2015), our research questions examine students' conceptions as expressed through their basis for making judgements about financial decisions by individuals, governments and banks. Conceptual development in social science, in contrast to physical science is more often located in the sophistication of reasoning about what *should* happen or about what is 'best' (Davies & Lundholm 2012; Lundholm & Davies 2013).

R1: What conceptions do young people hold about debt, risk, interest payments and time preference?

R2: To what extent are these conceptions consistent across the contexts of the individual, governments and banks?

2.3 Method

In contrast to the evidence base on students' knowledge in the field of personal money management, the evidence base on school students' understanding of the financial system is small (Lundholm & Davies 2013). Our research is, therefore, necessarily exploratory and we concluded that semi-structured interviews offered a better chance of providing insights into students (mis-)conceptions than open or closed written questions. Using the content analysis and framework developed by Davies (2015) we devised a broad guide for in-depth interviews with secondary school students. We devised a set of problems which positioned debt, interest payments, debt and time preference in different contexts (individual, government and banks) (see Appendix 1).

The interviews (lasting an average of twenty minutes) were conducted using standard protocols of following up students' utterances with prompts (e.g. 'Could you explain that a bit more?' 'Could you tell me why you think that is the case?') for clarification. In addition, where interviewees used a bipolar category for description (e.g. 'that's a negative thing' or 'long-term effects') interviewers asked about the converse (what would be 'a positive thing' or a 'short-term effect') and asked students about relationships between statements they had just made and statements they had made earlier.

Since our objective was to identify categorically different conceptions, our sample was designed to make it likely that we would include students with different value judgements and different conceptions. To that end we recruited students from four different secondary schools serving localities which varied by social class and ethnicity. In each school, we asked each school to suggest five interviewees with a mix by gender and ethnicity, as well as a wide range of academic achievement. The conceptual differences we found did recur in successive interviews conducted in different schools and after completing interviews in the fourth school we concluded (on the basis of the 'saturation' principle (Glaser & Strauss 1967)), that there was not a strong case for extending the sample. It is, of course, possible that if we had recruited a larger sample or if we had used a greater range of financial problems posed in different formats, we might have found other categories of conception. The research received approval from the University of Birmingham ethics committee. Schools, parents and students were given a briefing about the research. Consent was obtained from school headteachers, parents and students. Data were stored securely and anonymously.

However, the interviews were digitally recorded and transcribed. In our analysis, we aimed to identify the way in which students understood each problem and the basis for their reasoning about each problem. We coded the transcripts with descriptive labels for distinct conceptions of each problem, and then analysed whether students were using similar ways of thinking about the problems when they were set in different contexts. The coding was undertaken separately by two researchers and the results compared by the team. Discussion between the researchers yielded an agreed coding which we have used to present our results.

2.4 Results

(i) Beliefs about the conditionality of value judgements concerning time preference and debt

We begin this section with students' responses to a question: "If you had to choose between £100 now and £130 in three years' time, which would you prefer?". Each interviewee opted for the £100 now. When asked why, some said simply that they would prefer the money now. The two most frequently offered justifications were (i) that inflation would reduce the (real value) of money received in the future and (ii) that the £30 difference was not a sufficient absolute sum to make it worth waiting for the money. However, not one of the students who offered the argument about inflation was able to give a numerical justification of their choice. When students were asked if they would prefer £10,000 now or £13,000 in three year's time, they tended to prefer £13,000 in three year's time. That is, they did not display consistent time preference. Their preference depended on the absolute level of difference rather than the percentage difference in line with other studies reported by Frederick et al. (2002).

We turn now to students' reasoning about the circumstances in which debt should be considered a good or a bad thing. Students were initially asked "Imagine someone aged 22 with a debt of £20,000. Is this a good or a bad thing?" Most students offered no qualification to their judgement that it would be a bad thing. Roughly a quarter said "it depends". This was followed by a question "Can you imagine any circumstances in which it would be a good thing?" Roughly half of the students who had initially said that the debt was bad now suggested some conditions under which it might be good. Students referred to three conditions: starting a business, buying a house or going to university. The others stuck with their position that the debt was bad. However, towards the end of the interview students were specifically asked whether it made sense for an 18-year-old student to take on debt to go to university. Even those students who had previously said they could not imagine circumstances where a debt for a 22-year-old was good, now suggested that taking on a debt to go to university would make sense as long as it helped them to get a good job. These answers suggest that a minority of these students had a quite strongly embedded general notion of debt which they used to judge whether taking on debt made sense in different circumstances. Other students had a notion of debt as something to avoid, with specific exemptions such buying a house or starting a business. The use of specific language such as 'mortgage') may encourage individuals to view these cases in a completely different way from the way in which they regard debt in general. If this is the case then an acceptance of university loans as normal (and desirable like mortgages) may mean that evidence of students' attitudes towards debt in general has little bearing on the way they approach decisions about whether to take on a loan for studying at university.

We were interested in whether students reasoned in the same way about household and government debt. In the opening question on this theme, students were asked to consider a government with a debt equivalent to half the amount of money it receives in tax each year. Only a couple of students thought this was unambiguously a bad thing. This contrasts with their initial responses on individual debt. Their caution in responding to this question was based on the ability of governments to raise taxes, belief in the benefits of government spending and uncertainty about their own knowledge. For example, in Figure 1 a student expresses uncertainty at the beginning and the end of the extract. They argue that the problem for government finances lies in the need to repay debts rather than the burden of interest payments.

Figure 1: Interview extract on government debt

I	Now can we think about a Government, a Government that has got a debt that amounts to half of the amount of money it gets in tax a year, would you see that as being a good thing or a bad thing?
S	Um, that's quite a hard question, um, probably a bad thing…
I	Right.
S	Because I suppose that could, in effect, determine what it spends money on in the country, so it'd reduce what it could spend.
I	Why, why would it have to reduce what it's spending?
S	If it's in debt, it's got to pay more off to pay the debts of the country, I don't know.
I	Okay.
S	That's just what I think really.
I	Yeah, so why would it have to pay it off?
S	I've no idea why they'd have to pay it off…

This tendency to locate a government debt problem in terms of repayments rather than interest payments was underpinned by students being unaware of the existence of a market for government debt (illustrated by the extract in Figure 2).

Figure 2: Interview Extract on the market for government debt

I	Would that (the government maintaining a constant level of debt) be a problem?
S	It would eventually be a problem.
I	Why would it eventually be a problem?
S	'Cause if you still have the debt and you used all your taxation money and then suddenly the people who own the debt want it Want their money And you can't pay it…
I	Okay, why would they want the money?
S	Well, say if they get into debt themselves- and they need the money to pay off their debt- and you didn't have the money to pay them, then they can't pay their debt and it'll mess up…

Moreover, when asked about the source for government borrowing, students suggested that governments borrowed exclusively from other countries. None of the students referred an interest rate effect on the implications of debt either for a government or for an individual. Some students argued that the wisdom of the debt depended on whether the government was spending the money on 'useful' things. A number of students distinguished between what they saw as 'useful spending' (e.g. on getting people into work and spending on education) and spending that was 'not useful' (e.g. welfare benefits). This point was followed up by asking students whether a government should cut spending by not building new schools (the incoming conservative government in the UK announced in 2010 that, as part of its drive to reduce government debt, it was abandoning the previous government's 'Building the Schools for the Future' programme). One student (Figure 3) referred to possible multiplier effects of government spending, but regarded these as very small. Consequently, this student did not regard multiplier effects as a justification for adding to government debt in the short-term.

Figure 3: Interview extract on government spending

I What about if a Government is deciding whether or not to cut spending by stopping building 500 schools, how would they work out whether to cut that spending or not?

S I think they'd have to look at all these sort of statistics they, they, they seem to have about, err… [pauses]... it's like the, it's like how much GDP they'd get maybe in the long term off these pupils which go through these schools and whether it's worth spending the initial money in, on building the schools themselves.

I Okay, so they'd just look at the long term effects through what would happen to the students who went to the schools?

S I think so, yeah.

I What about short term effects?

S It's the money they'd, it's just the general, um, just the cost of actually building the schools themselves, I think, so...

I And so the cost of building the schools, is that a, a good thing or a bad thing?

S That's, that's, I think that's a negative really.

I Why is it a negative thing?

S 'Cause it's more increasing on the debt, isn't it, if they're having to borrow maybe just to build these schools, then it's just one of these things which adds to the debt.

I Okay and anything positive about that…[pauses]... about the building of the schools in the short term?

S Well, yeah, I, I'm sure it would sort of bring builders in or, maybe to the area and then it would increase the, so if there's any shop, shops around, they'd get a small increase in the customers and, and the Government would receive tax and all that sort of stuff.

I So would it be a good thing or a bad thing?

S That, that, that's a good thing. But on the whole, I'd say it's a bad thing, the cost of having to…

I Right, why on the whole would it be a bad thing?

S Because the, because I think the, the tax they'd get through maybe more customers in the local shops would be tiny, compared to the actual general cost of building the schools and funding all these wages.

I Why, why is that?

S Because, I'm not sure really.

(ii) Beliefs about the cost of borrowing for individuals and governments

Students were asked what might affect the interest that a person would have to pay if they borrowed £500. All but two of the students suggested one or more of a number of possibilities why someone might pay more interest: being a riskier borrower, borrowing over a longer term, the local or national economy being in a weaker state. Most students suggested just one reason although they were prompted to offer more reasons. There was no obvious pattern of difference between students who offered only one reason and those who offered several reasons. Students were then asked what might affect the interest that a government would pay on its debt. Fewer than half of the students were able to offer any possible explanation. The most frequent suggestion was that governments with bigger debts would pay higher interest rates. A couple of students also suggested that governments considered to be a greater risk would be required to pay more interest. One implication of a belief that if you want to borrow more you will have to pay a higher rate of interest would be that governments pay higher rates than individuals (Figure 4).

Figure 4: Interview extract on the cost of government borrowing

I	Imagine a Government that wants to borrow £50 billion, what would affect the rate of interest that it would have to pay?
S	Um, they'd have to pay a lot because it's a lot of money.
I	Okay, so you'd have to pay more interest, the more you borrow?
S	Yeah.
I	So does that mean that Governments will tend to pay higher rates of interest than individual people?
S	Yeah, probably.

However, it is far from certain that the student reported in Figure 5 was distinguishing clearly between interest rates and the total amount of interest payable, so this inference must be very tentative. What we can see is that the range of explanations for paying higher rates of interest was similar in the cases of individuals and governments. Nonetheless, our evidence did not encourage a view that students were consistent in the way in which they explained the cost of borrowing for individuals and governments.

(iii) Value judgements about the market freedom which banks should enjoy and the consequences of a bank going bankrupt

Students were asked whether banks should be allowed to charge whatever rate of interest they choose. Only two students argued that banks should have freedom to set interest rates on the grounds that “it was their money”. Two other students argued that there was no need to control interest rates because market pressures would ensure that banks would charge very similar rates of interest. However, a majority of students believed that banks should not be allowed this freedom. The interview extract in Figure 5 was fairly typical. This student mainatined a belief that variation in interest rates for different individuals was unfair even when challenged with what they had said earlier.

Figure 5: Interview extract on banks’ freedom to set interest rates

I So is there any need to step in to say that a bank shouldn’t be allowed to charge a certain rate of interest, from what you said?

S Well, it would be a lot better and a lot fairer if the bank charged the same interest each time for everybody, then…

I Why would that be fairer?

S Well, it, um, will make everybody equal, there wouldn’t be any complaints from anyone, err… [pauses]... I’m not too sure, I just know. That’s what I think.

I Even, so, so, ’cause earlier, you said that a bank would charge a higher rate of interest if it thought somebody was less reliable…

S Mm-hmm.

I So you’re saying now that that’s not fair?

S I’m not really sure. I guess the interest, it depends on the person, but also it shouldn’t really vary too much, ’cause otherwise it’s just being unfair.

I And, and why is it unfair to charge a higher rate of interest to someone you think is less likely to pay it back?

S Well, then they’d have a lot, ha, a lot more trouble paying it back than the person who probably can pay it back…

We asked students whether they had ever heard of a bank going bankrupt. Three students said they had, but could remember no details. Other students were either unsure or said they had not heard of a bank going bankrupt. Most students thought a bank could go bankrupt if people “stopped using the bank” or if “borrowers did not repay loans”. Most students believed that banks going bankrupt would cause problems for either or both employees and customers. None of the students referred to the government protection offered for savers in the UK whose bank became insolvent. A couple of students believed that bankruptcy would create a problem for other banks because it might reduce savers' confidence in their solvency. None of the students referred to inter-bank loans, encouraging the inference that students were unaware that banks borrowed from each other. None of the students suggested that bank insolvency might create problems for economic activity in the country.

2.5 Conclusions

We have presented results from small-scale exploratory research. Necessarily, our interpretations should be viewed as tentative, offering signposts to further research. Other researchers interviewing other students might uncover ways of thinking that we have not observed. Different problems might elicit a different range of responses. In our conclusions, we consider some questions for further research, practice and policy.

Researchers (e.g., Bachan 2013) are interested in students' financial literacy in the context of particular policies such as student finance as well as in the broader context of financial education. It has been customary in previous research to use constructs such as 'attitudes to debt' and 'understanding of inflation' as if these were generalised conceptions which are independent of context. This assumption of generalizability is critical to the measurement scales which have typically been used in the literature on financial education and student finance. The interview evidence reported in this study is not consistent with this assumption. The more common situation in our data was that students expressed different conceptions about the desirability of debt in different contexts: in terms of variation in individual circumstances and a difference between individual debt and government debt (notwithstanding the political rhetoric about government debt being similar to household debt). For most of the students in our sample, time preference was contingent on the absolute size of the sums of money involved. So whilst a question about a particular context may be a useful way of identifying variation between students, it may not be a sufficient basis on which to comment on general attitudes to debt or time preference.

Nonetheless, we did find some evidence of consistency in conceptions between contexts: students expressed similar views about the cost of borrowing for individuals and the cost of borrowing for governments. The problem here is that students seemed unaware of the greater security that governments offered to lenders and the implications of this security for interest rates. This contrasted with the frequency with which students suggested that banks would only lend to individuals who posed a higher risk if they were compensated by a higher rate of interest. Students' conceptions about the financial system may be more appropriately viewed in terms of 'knowledge-in-pieces' (DiSessa et al. 2004) than in terms of a coherent framework. Given that students only have direct experience of personal money management rather than the financial world, which creates the context for personal behavior, this may be not altogether surprising. We encourage further research to explore these questions.

If students' thinking about the financial system is fragmented, this carries important implications for financial literacy. We return to the interview extract in Figure 4 to exemplify this point. The economic policies of European governments in recent years have been heavily influenced by efforts to reduce the proportion of government spending devoted to paying interest on national debt. Retention of a 'Triple A' rating in international money markets was a key public commitment of the UK government and played a central part in the government's justification to the electorate of why it needed to pursue an 'austerity' policy (Osborne 2010). Citizens who believe that the cost of borrowing is positively associated with how much you borrow are more likely than citizens who believe that the cost of borrowing depends on the real rate of interest to have supported UK government policy over the past few years. It may be that the extract in Figure 4 reflects the student's uncertainty about whether they were being asked about interest rates or total levels of interest payable and this is a point for future research. More generally, the categorical differences between conceptions we have identified merit further investigation to see the extent to which students' understanding of the financial world is fragmented – and how this fragmentation is related to student achievement and characteristics.

The evidence we present is relevant to practice in assessment design, curriculum planning and interventions in financial education. A 'conceptual change' approach to each of these tasks demands some knowledge of students' preconceptions. They also demand some notion of a desirable and achievable level of conception of an individual phenomenon, coherence in conceptions across contexts, and framework coherence across conceptions of related phenomena. In particular we provide evidence of students' conceptions of time preference, individual and government debt, the cost of borrowing, reasons for and consequences of bank bankruptcies. Each of these pieces of evidence is relevant to the development of practice in financial education.

Finally, one possible riposte to critics of existing financial education programmes is that it is all very well to criticise any educational effort, but what would you do instead? It might be argued that it is unrealistic to even consider trying to education what the average 15–16 year-old thinks about the financial system. Why not leave the financial system to the experts? We see two problems with this stance. First, the average 15–16 year-old will soon be expected to take their place as the median voter, who will be directly addressed by politicians seeking a mandate for their financial policies. Do citizens not have a right to expect their education to provide them with some help when they carry out this role? Second, citizens do create a context for the financial decisions of governments as well as banks: when they misunderstand, when they riot on the streets and when they occupy prominent locations. Our study begins the task of establishing an evidence base for a broad definition of financial literacy for active citizenship. Given international expectations for financial education in schools and the persistent tensions for democratic processes in turbulent, global, financial markets, this is an important task.

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Appendix 1: Framework for Interview Questions

	Underlying Questions	Questions for Students		
		Individual	Govt	Bank behaviour
Judging affordability (relationship between income, spending and wealth)	When is debt good and when is it bad?	A 22 year-old has a debt of £20,000. Is this a good thing or a bad thing?	A government has a debt amounting to half of the total income of the country. Is this a good thing or a bad thing?	Can a bank go bust? If so why?
Judging affordability (Interest payments)	How can you affect the interest you pay when you borrow?	An individual wants to borrow £500 – what will affect the rate of interest they will be charged?	A government wants to borrow £5billion. What will affect the rate of interest they will be charged?	Should banks be allowed to charge whatever interest they want to whoever they want?
Risk prediction and management	How should we work out what risk exposure is best?	An 18 year-old is trying to decide whether to go to university, How should they work out whether it is best for them to go?	A government is deciding whether to scrap plans to build 500 new schools. How should it work out what to do?	Should banks be allowed to lend as much or as little as they want, to whoever they want?
Simple and compound interest, Myopia (time preference)	How much is the future worth compared to the present?	A sixteen year-old has a choice between £100 today and £130 in five years time. Which should they choose and why?	Is it best for a government to reduce its debt by cutting jobs in the public sector?	