



Does financial literacy influence financial decisions?

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This letter presents the findings of research carried out at the Banque de France. The views expressed in this post are those of the authors and do not necessarily reflect the position of the Banque de France. Any errors or omissions are the responsibility of the authors.

Financial literacy is a specific component of human capital which allows individuals to deal with fundamental financial issues so as to take adequate financial decisions. This Rue de la Banque presents recent studies about the link between financial literacy and the financial decisions of the population in France. Using an original survey, individuals' level of financial literacy is assessed. The results suggest that financial literacy varies across the population. It is correlated with education but also with gender, age and political affiliation. This latter point could reflect differences in opinion regarding the role of the welfare state and individual responsibility. Finally, the link between financial literacy and some financial behaviors (the propensity to formulate a specific financial plan in the long run on the one hand and the propensity to own stocks on the other hand) is evaluated: in both cases positive correlations with financial literacy variables are found.

Individuals are increasingly involved in complex and long-term financial decisions. For instance, the structural ageing of the population and ongoing reforms concerning pensions or health insurance schemes raise the importance of individual responsibility for the financing of old age needs. The complexity of financial products and the changing economic environment are other reasons why people need to have basic financial knowledge to take financial decisions.

There is a growing body of literature aiming at assessing the financial literacy of the population and its impact on financial behaviors such as saving, portfolio choices or retirement planning in various countries (see Lusardi and Mitchell, 2014 for a detailed survey). This letter summarises the main results that are obtained on French data.¹ We use an original survey first to assess the heterogeneity of financial literacy within the population and then to study the links between financial literacy and two financial decisions: i) financial planning ii) stockholding. Identifying the key drivers of these two types of decisions,

and in particular whether financial knowledge does play a role, is crucial to designing efficient policies that encourage households' finances to be long-term oriented.

How to measure financial literacy?

Financial literacy is a specific component of human capital which allows individuals to deal with fundamental financial issues so as to take adequate financial decisions. This concept covers various dimensions such as cognitive capacities, financial culture and information.

Our empirical analysis is based on data from PATER (*PA*trimoines et *pr*éférences face au *TE*mps et au *R*isque), an original household survey that mainly deals with households saving preferences (see Arrondel and Masson, 2014). The 2011 wave surveys a representative

¹ See Arrondel et al. (2013) and Arrondel et al. (2014).

sample of French adults and includes questions to assess respondents' understanding of basic financial concepts (interest, inflation, and risk). The methodology follows the benchmark proposed by Lusardi and Mitchell (2014). The wording of the questions is as follows (correct answers appear in blue):

Q1) Suppose you had 1,000 € in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you let the money to grow?

- Less than 1,100 €
- Exactly 1,100 €
- **More than 1,100 €**
- Do not know
- No answer

Q2) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be able to buy with the money in this account?

- More than today
- Same as today
- **Less than today**
- Do not know
- No answer

Q3) Rank these financial products from the less risky to the riskiest:

- Saving account
- Stock
- Bond
- **Share of a mutual fund**
- Do not know
- No answer

For the risk diversification question, we consider the answer to be correct when "stock" is ranked as being riskier than "share of a mutual fund" and incorrect otherwise. "Do not know" refers to respondents having checked a box stating they do not know the answer while "no answer" refers to respondents who have completely skipped the question (detailed results in Table 1).

Nearly 48% of respondents correctly answer the question on interest compounding. Regarding the concept of inflation, 61% of the full sample displays an understanding of the impact of inflation on purchasing power. Following the popular adage "don't put all your eggs in one basket," respondents appear to have less difficulty correctly

T1 Summary statistics on financial literacy questions

(weighted %)

	Full sample	Age 25-65
Interest question		
Greater than 1,100 €	47.98	50.33
Equal to 1,100 €	27.64	27.87
Less than 1,100 €	7.16	7.12
Do not know/no answer	17.22	14.68
Inflation question		
More	2.68	2.66
Exactly the same	8.77	9.38
Less	61.18	61.69
Do not know/no answer	27.38	26.27
Risk question		
Correct	66.85	72.13
Incorrect	18.53	18.14
Do not know/no answer	14.61	9.73
Overall results		
All correct	30.92	33.76
None correct	15.15	12.36
At least 1 "Do not know/no answer"	33.39	29.45
All "Do not know"	2.70	1.90
Number of observations	3,616	2,459

Source: PATER survey, 2011.

answering the third question on risk diversification (67% of correct answers).

Most interestingly, only about 30% of the population is able to answer correctly all three questions. This result is consistent with those obtained in many other countries, especially for the United States (see Lusardi and Mitchell, 2014).

How does financial literacy vary across the population?

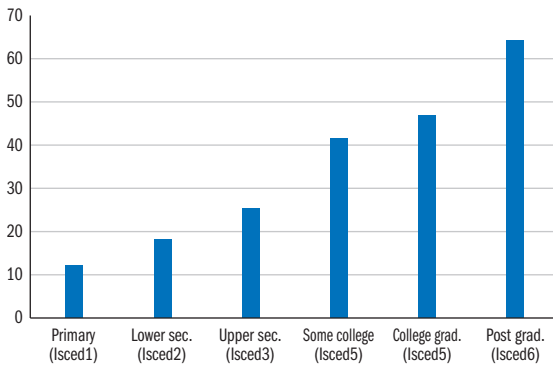
These aggregate figures hide large differences among population sub-groups. When performing cross-tabulations by characteristics such as age, education, gender, and employment status, we find that some sociodemographic groups are particularly financially illiterate (see Chart 1). Most of these differences continue to hold even after accounting for individual characteristics.

As expected, educational attainment is positively correlated with financial literacy. However, education does not fully explain the heterogeneity in the probability to answer correctly the questions. Younger respondents and older respondents tend to answer less correctly than those in the middle of the age range. This reflects the

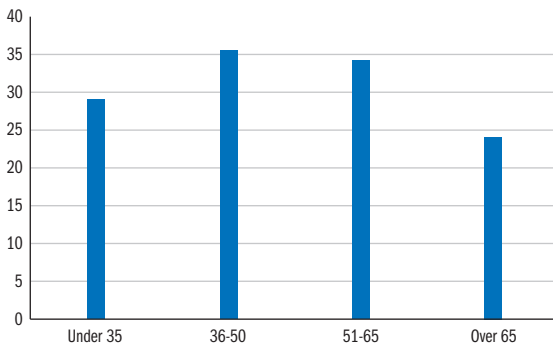
C1 Financial literacy across population groups

(percent providing correct answers to all three financial literacy questions in France)

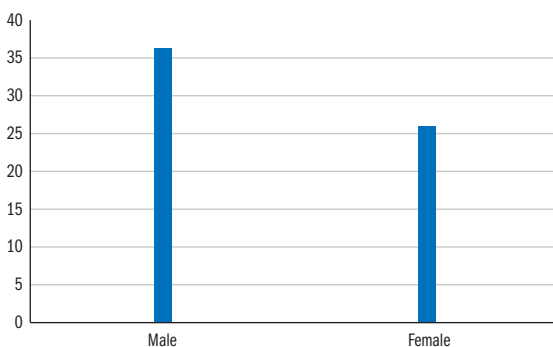
By education group



By age group



By gender



Source: PATER survey, 2011.

common hump-shaped pattern of financial literacy and cognitive abilities along the age spectrum.

Significant differences of correct answers are also observed across gender. First, men tend to be more likely to correctly answer each question. Second, women tend to state they do not know the answer more often than men. This pattern is common and may reflect the fact

that men exhibit overconfident behaviours while women are less prone to answer when they are unsure of the answer (Barber and Odean, 2001).

All in all, middle-aged working men with higher levels of education tend to exhibit the highest level of financial literacy.

In addition to these sociodemographic factors, ideological and cultural factors such as political opinions could explain differences across respondents in the propensity to correctly answer. We obtain significant differences in the financial literacy answers depending on political opinions, even when controlling for the sociodemographic variables discussed above. In other words, the differences in financial literacy depending on political opinions are not driven by the demographic compositions (age, income, education, etc.) of voters.

People claiming that they do not have any political opinion are less likely to answer correctly, while centrist voters perform better than others. As the centrist party in France has a rather “liberal” view of the economy, this result could reflect individuals’ opinions about the respective roles of the welfare state and personal responsibility to manage one’s financial well-being. We do not observe significant differences in financial literacy between left-wing and right-wing voters. Part of these results could be due to the composition of the right-wing electorate gathering both “liberal” and “conservative voters” (Rémond, 1969).

Is financial literacy related to financial planning?

Americks *et al.* (2003) show that the propensity to plan plays a significant role in explaining differences in wealth accumulation behaviours. This is why identifying the key determinants of the propensity to plan, and especially whether it is linked to financial literacy, is a key issue from a policy perspective. More precisely, we investigate whether there is a positive relationship between financial literacy and retirement planning among the French, as is the case in the United States (Lusardi and Mitchell, 2011). The PATER survey contains a question designed to measure the propensity to plan, as suggested in Americks *et al.* (2003). Households were asked a yes/no question concerning their preparation of a specific long-term financial plan:

Q4) Have you personally gathered together your household’s financial information, reviewed it in detail, and formulated a specific financial plan for your household’s long-term future?

For our empirical analysis, we restrict the sample to non-retired respondents aged 25 to 65. Among these respondents, about 25% are defined as “planners”; that is, they have answered “yes” to the above question. We use this information to estimate what are the determinants of the propensity to plan. Financial literacy appears to be positively and highly correlated with the propensity to plan:² people with higher financial literacy are more likely to be engaged in the preparation of a clearly defined financial plan for the long-term future. As there is a possibility of a reverse causality issue, i.e. respondents who are already planners may increase their financial knowledge through experience, we conduct appropriate statistical analysis and tests and we conclude that such a reverse causality issue does not affect our results. This could be explained by the fact that our measures of financial literacy refer to basic financial knowledge and are more related to cognitive abilities than to financial culture.

In other words, encouraging policies that promote financial literacy might then be effective to encourage people to think ahead and plan for their financial future. However, promoting financial literacy may not be sufficient to affect the propensity to plan depending on consumers’ preferences, in particular time preference.

And to stockholding?

A well-known puzzle in the literature is the very low proportion of households holding stocks. It is known as the

stockholding puzzle; (see Haliassos and Bertaut, 1995). It is commonly observed that many people, especially in France, do not hold stocks, even in a very limited proportion of their financial assets, while standard portfolio theory states that portfolios have to be diversified. Limited financial literacy is one of the possible explanations for such behaviours (see Van Rooij *et al.*, 2011 on Dutch data). We address this issue in the case of France³ by studying both stock market participation and the conditional demand for stocks (portfolio share invested in stocks).

Our results indicate first that financial literacy does play a role in explaining the decision to hold (or not) stocks: people who are more financially literate are also more likely to have stocks in their portfolio (even when accounting for individual risk aversion and expectations about future returns). However, we also find that financial literacy does not affect the portfolio share invested in stocks: as expected asset returns and risk aversion are the main determinants explaining the share of portfolios invested in stocks. Together, these results contribute to showing that financial literacy can mitigate entry costs to the stock market, but that it is unlikely to affect the household portfolio composition, once entry costs have been overcome.

² Other main significant determinants are education and income.

³ See Arrondel *et al.* (2014).

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