

Does Financial Literacy Impact Financial Decision Making Among The Government Employee

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Abstract: Having an adequate financial literacy is a necessary tool for employees, especially in welcoming retirement, and an absent of it can lead to economic hardship for an individual and potentially for the other family members. Public servants in the government institutions are often considered as the vulnerable group that do not possess proper financial knowledge due to little access to personal financial training at their workplaces, as well as limited time to cultivate entrepreneurial skills. This paper aimed to better understand the level of financial literacy and its relation to financial decision making during the workers' prime earning years when they are making key financial decisions. 380 questionnaires were distributed to government employees in Bandung, with 85% return rate. The result reveals that better financial literacy leads to better financial decision at 1% significance level. This study also indicated that, although demographic profiles such as gender, age, marital status, education and career level have positive correlation with the level of financial literacy, they do not have mediating effect to the financial literacy and financial decision making of the bureaucrats.

1 INTRODUCTION

The dynamic of the environment and the rapid changing of technology have shaped financial system in Indonesia to become more sophisticated. The complexity of financial instruments has increased over the past years, and a simple knowledge of how to maintain a checking and savings account at local banks and financial institutions is not enough to secure individuals' financial freedom. Money - related struggles do not necessarily disappear as one person moves through adulthood; they often evolve or change. Therefore, it is important for individuals to be able to differentiate among wide array of financial products and services available in order to make choices that are most appropriate to their financial goals and needs.

The 2016 national literacy and financial inclusion poll conducted by Financial Services Authority shows that the majority of Indonesian do not have a complete grasp on financial services and products. The financial literacy and inclusion indices stood at 29.66 percent and 67.82 percent respectively. Only 8% of adults have retirement plan, and when it comes to invest, Indonesian market is very traditional with most people prefer to use time deposits, gold and property. Although

Indonesian stocks have been among the world's best performers over the past five years, the domestic investment industry is still low. Data issued by The Securities Depository and Settlement Institution in 2016 shows that the number of people invests in stocks and mutual funds is around 1 million. This number is considered small compared to the total population of 262 Million.

Public servants in the government institutions are often considered as the vulnerable groups that do not possess proper knowledge of financial know how (Bucher-Koenen and Lusardi 2011). This is due to lack of access to financial literacy sessions at their workplaces, as well as the nature of organizational culture among the bureaucrats that provides limited time to cultivate entrepreneurial skills. At the end, this can lead to struggles for government employees, not only in preparing for retirement, but for any situation that could put someone at financial risk. A lack of financial literacy can contribute to the making of poor financial choices that can be harmful to both individuals and communities. Without an appreciation of money concepts and an understanding of financial options, individuals would likely to pay more than they have to for financial services, fall into debt, and damage their credit records. This, in the end could lead to

economic hardship during retirement for an individual, and potentially, for the surviving spouse and other family members.

This paper is aimed to evaluate financial knowledge during prime earning years of government officials, when they are making key financial decisions. This setting offers information on the level of financial literacy possessed and the attitudes towards making key financial decisions. We find that financial literacy proves to be a key determinant of better financial decision making. This study also indicated that although demographic profiles such as gender, age, and career level have strong correlation with the level of financial literacy, they do not have mediating effect to the financial literacy and financial decision making.

Analysing the relationship between financial literacy and financial decision making in the institutional context will provide the opportunity to improve the understanding on the process of financial decision making, specifically in a macro view. This study is also important to the manager of financial institutions and advisors since they are able to put more emphasis when giving their quality advice to the workers. Scholars and academicians stands to benefit from the added knowledge in the area of personal finance management and also be able to identify other research gaps for future studies, especially in the context of developing countries.

2 LITERATURE REVIEW

The term financial literacy has been used loosely by scholars, policy officials, financial experts and consumer advocates to describe the knowledge and understanding of financial terms, concepts, and sound decisions that produce optimal results. By the most basic definition, financial literacy relates to a person's competency for managing money. Chen and Volpe (2005) and Huston (2010) broadly define financial literacy as a measure of how well an individual can understand personal finance-related information and then take the necessary and appropriate financial decision. Remund (2010) defines financial literacy as a degree to measure understanding of key financial concepts and possession of the ability and confidence in managing personal finances through appropriate, short-term decision-making and sound, long-range financial planning.

Financial decision is defined as a selection of possible choices made with the applied knowledge of financial literacy. Financial decisions are greatly influenced by a constant battle between the

generating of goods and services in the marketplace and a person's limited reserves to acquire such goods and services (Remund 2010).

A financially literate individual has the capability to plan, save, borrow, invest and spend wisely and able to take risks reduction measures. Bernheim and Garrett (2003) show that those who were exposed to financial education in high school or in the workplace save more. Similarly, using dataset called the Rand American Life Panel that offers a set of features for the analysis of literacy and retirement planning, Lusardi and Mitchell (2007) found that those who are financial illiterate are less likely to plan for retirement and to accumulate wealth, and more likely to take up higher interest mortgages (Moore 2003). Martin (2007) reviews past literature on the effectiveness of financial education, and find that financial education is necessary in the area of retirement planning, savings, homeownership, and credit use. Hathaway and Khatiwada (2008) also provide a comprehensive critical analysis of past studies that examine the impact of financial education programs on consumer financial behaviour. Of what they examined, they recommend that there is a need for this type of education especially in the area of financial activity (e.g. credit card counselling and retirement planning). Study by Bhushan (2014) on the relationship between investment behaviour and financial literacy also found that awareness and investment preference largely depends on the financial literacy of the individuals.

Individual differences can either strengthen or weaken the relationship between financial literacy and financial decision making. In recent studies, correlations are found in existence between demographic characteristics and financial literacy. Education has been positively associated with financial literacy and financial outcomes (Bernheim and Garrett 2003, Lusardi 2008). Study on gender and financial literacy shows men are typically identified as having higher levels of financial literacy. Survey conducted by (Chen and Volpe 2005, Lusardi, Mitchell et al. 2010, 2011) found that women generally possess less financial knowledge and interests compared to males. Females also tend to be risk adverse in financial choices. Whether a respondent is married or not also may impact their finances. Having a spouse or dependents will affect the financial planning, as an individual will include providing for them in his financial thinking. Furthermore, age and experience are also associated with higher level of financial literacy and better financial decision making. Generally, older

individuals are more conservative and risk averse. Ansong and Gyensare (2012) find that the age and work experience are positively correlated with financial literacy. The deeper life experiences encourage the acquisition of skills to secure the employees financial aspirations in their life.

2.1 HYPOTHESIS

The key hypothesis in this study is that financial literacy will lead to a better financial decision making. Demographic characteristics are also expected to moderate the relationship between financial literacy and financial decision making among the government employees in Bandung.

2.2 RESEARCH DESIGN

2.2.1 Sample and Methodology

A random sample of 380 out of approximately 18,000 government employees working in Bandung City was selected. Of the full sample size, 56 respondents or 15% of them don't have complete data thus are eliminated from this study. The resulting data set includes 324 respondents or 85% of the sample.

In conducting this research, we develop a customized survey with a set of questions to discover how knowledgeable people are about financial concepts and their behaviour towards financial decision making. The questionnaire consists of 50 questions; 5 questions that are used to design a profile of the participants, 25 questions regarding financial literacy and 20 questions related to financial behaviour.

Some modification of the Chen and Volpe (1998) questionnaire was used in order to measure financial literacy of individuals that involves several factors such as: general knowledge of finance on interest rates, time value of money, bank and non-bank financial institutions, savings and loan, investment, and insurance. Each question takes on a value of 1 if the respondent was correct regarding the financial literacy question, and 0 otherwise. A person will get maximum 25 points for question related to financial literacy. The total score of financial literacy for a respondent is then divided into:

Table 1 : Financial Literacy Score

Financial Literacy	Score
Very Low	0 – 5

Low	6 -10
Fair	11 – 15
Good	16 – 20
Excellent	21 – 25

A five-option Likert scale is used in the questionnaire for financial decision making. Every choice has a score from 1 to 5, where the score 1 represents the worst and 5 indicates the best situation for an individual upon that question. Hence a respondent will obtain maximum 100 points for questions related to financial decision making. Competency in financial decision making is then divided into:

Table 2 : Financial Decision Making Score

Financial Decision Making	Score
Very Low	1 – 20
Low	21 -40
Fair	41 – 60
Good	61 – 80
Excellent	81 – 100

To test our hypothesis, we use multiple regression analysis with key variables are financial literacy and financial decision making. In addition to these variables, we also use demographic factors as control variables in the models, namely: gender, education, marital status, and career ranking as government officials (golongan kerja). Content analysis was also done to establish the effect of overall score of employee financial literacy on employee decision making.

Before conducting regression analysis, we also carry out reliability and validity tests on the questionnaires. The inquiries of the questionnaire are considered valid if $r_{calculated} > r_{designated}$ or $sig < 0.05$, and the reliability of the questionnaires is shown using *alpha cronbach* score, where the value of alpha equal 0.7 to 0.9 shows a high rate of reliability; value of alpha 0.5 – 0.7, shows a fair rate of reliability; and value of alpha < 0.5 , shows possibility of one or several inquiries are unreliable (Ghozali and Fuad 2008).

4 FINDINGS AND DISCUSSION

4.1 Financial Literacy

The demographic profiles of the respondent are presented in Table 3. While the score of financial literacy based on demographic profiles is portrayed on Table 4. Our data shows that the majority of employees display basic financial knowledge and have some grasp of concepts such as inflation and time value of money. However still many of the respondents do not know the difference between bonds and stocks, the relationship between bond prices and interest rates, and the basic risk of diversification. On average, the respondents have a good financial literacy score with the description as follows: 7% has an excellent score of financial literacy, 45% has a good score, 35% has a fair score, and 13% has a low score of financial literacy level.

Based on the score of financial literacy survey of the respondents, those who have career level III or IV (73% of the total respondents) on average have a good score of financial literacy. On the other hand, those with career level I or II (27% of the total sample) still have a very low and fair score of financial literacy.

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On the Age category of demographic profile, respondents who are between the ages of 20-35 (60% of the total sample), have a good score of financial literacy. Meanwhile another 40% of the total respondents that are aged between of 36-58 years have a fair score of financial literacy, despite the fact that they are entering retirement age at that point.

Correlation table shows that the financial literacy strongly correlated with gender, level of education and the work rank. This result can also be interpreted as financial knowledge of an individual increases with higher level of education and more working experience. Males also appear to have higher financial literacy, which accordance with research findings by Lusardi and Mitchell (2010, 2011).

Table 3: Respondents Characteristics

Variables	#Respondents	Percentage
<i>Age</i>		
> 35	195	60.19%
≤ 35	129	39.81%
<i>Gender</i>		
Female	154	47.53%
Male	170	52.47%
<i>Education Level</i>		
Non-Higher Degree	133	41.05%
Higher Degree	191	58.95%
<i>Carrer Level</i>		
Work rank ≤ II	86	26.54%
Work rank > II	238	73.46%
<i>Marital Status</i>		
Not Married	22	6.79%
Married	302	93.21%

Table 4 Financial Literacy Scores Based on Demographic Profiles

Demographic Profiles		Very Low	Low	Fair	Good	Excellent
Age	Age<35	0.5%	11.8%	35.9%	43.1%	8.7%
	Age≥35	0.0%	15.5%	33.3%	47.3%	3.9%
Gender	Female	0.5%	11.8%	35.9%	43.1%	8.7%
	Male	0.0%	15.5%	33.3%	47.3%	3.9%
Marital	Single	0.0%	4.5%	27.3%	68.2%	0.0%

Status	Married	0.3%	13.9%	35.4%	43.0%	7.3%
Education	Non-Higher Degree	0.8%	15.8%	46.6%	30.1%	6.8%
	Higher Degree	0.0%	11.5%	26.7%	55.0%	6.8%
Carrer Rank	Rank < 3	1.2%	19.8%	32.6%	40.7%	5.8%
	Rank ≥ 3	0.0%	10.9%	35.7%	46.2%	7.1%

Table 5 also shows that age have negative correlation with financial literacy of the public servants, although not significant, this result raised a concern. It can be interpreted that government employees who are entering their retirement age do not fully understand about various financial products offered by financial institutions. Since financial literacy is crucial in helping investors to make a more realistic assessment of given opportunity for saving or investment, having less literacy means the probability for the investors to make incorrect choices when it comes to taking financial decisions,

be it investing/leveraging/ protecting is bigger. Which can put the life after retirement at risk.

This research also finds that public servants only have some understanding regarding financial products offered by banking institutions (specially saving and borrowings), and lack of knowledge on the products that are offered by non-banking financial institutions. Hence, there is possibilities that they have not yet enjoyed the benefits of some products, such as insurance, pension fund, and investment instruments such as stock and bonds.

Table 5: Correlation Table of Demographic Profiles and Financial Literacy

	<i>Financial</i>		<i>Marital</i>			
	<i>Literacy</i>	<i>Gender</i>	<i>Age</i>	<i>Status</i>	<i>Education</i>	<i>WorkRank</i>
<i>Financial Literacy</i>	1					
<i>Gender</i>	-0.132*	1.000				
			1.00			
<i>Age</i>	-0.005	-0.047	0			
		0.161*	0.04			
<i>Marital Status</i>	-0.073	*	4	1.000		
		-	0.23			
<i>Education</i>	0.252**	0.267**	0**	-0.026	1.000	
		-	0.18		0.422*	
<i>WorkRank</i>	0.128*	0.236**	9**	0.004	*	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

4.2 Financial Decision Making

The descriptive data of the respondents' scores and demographic profiles are presented on Table 6 and 7. Overall the score of financial literacy of the respondents reached minimum 3 and maximum score of 24. While the result on the financial

decision-making survey, the highest score was 86 and the lowest score was 43. The survey on financial decision making also reveals that out of 340 respondents surveyed, 238 have good score, 28% of them have fair score and 2% is considered as excellent in answering questions on making financial decision.

Table 6: Descriptive Statistics

	N	Min.	Max.	Mean	Std. Dev
Financial Literacy Score	324	3	24	15.18	4.066
Financial Decision Making Score	324	43	86	65.11	7.367
Valid N (listwise)	324				

Despite the sound financial literacy levels of the government employees in Bandung, not all the respondent are good managers of their personal finances. As per findings, although majority of the respondents scored good in financial literacy, substantial cases of poor scores in management of personal finances have been realized.

On average the respondent has a good sense in allocating their financial decision, however, public servants who have a fair score in financial decision-making spread across all ages, gender, education and career level. An interesting finding is that some of the respondents who are within the group of 36-58-year-old, 30 of them are classified as having a fair score of financial decision making, and this number is similar to the scoring of financial literacy rate. This indicates some of this demographic groups might not optimally allocate their income despite of the fact that they are facing retirement in the near future.

Only 9% of the total respondent think that investing is very important, and 37% of them think of it as least important. This means that the majority of the population still prefer to put their money in savings, compared having long term investment such as stocks or mutual fund. From interview with some

respondent, it is revealed that they feel reluctant to invest in shares since they regard the activities of buying and selling shares are speculative and gambling, hence think of it as haram (religious expression of what is not allowed), despite the increase of marketing campaign from the stock exchange and the growing popularity of shariah products in the financial service sector as well as in the stock market. Furthermore, although traditional products such as gold and property are either carry more risks or deliver less optimal return, when it comes to preserving wealth, culturally Indonesian tend to put their trust more on something that they can touch and feel.

Another finding shows that the majority of the respondent doesn't have alternative income as an entrepreneur aside than their main job, which indicates that government employees are highly dependent on their income as public servants, that comes in the form of salary and fringe benefit. Income allocation is also mainly allocated to cover living expenses, education, loan repayments, and charity consecutively. This shows that majority of the respondents save less proportion of their salaries, which can be attributed to the high cost of living and individual's financial discipline.

Table 7: Financial Decision Making Scores Based on Demographic Profiles

Demographic Profiles		Fair	Good	Excellent
		(Number of Respondent)		
Age	Age<35	61	129	5

	Age ≥ 35	30	97	2
Gender	Female	38	113	3
	Male	53	113	4
Marital Status	Single	5	17	-
	Married	86	209	7
Education	Non-Higher Degree	44	88	1
	Higher Degree	47	138	6
Carrer Rank (Gol. Kerja)	Rank < 3	30	56	-
	Rank ≥ 3	61	170	7

Tabel 8: Perception on Income Allocation

Income Allocation	5 Most Important	4	3	2	1 Least Important
Charity	7,10%	3,70%	33,33%	54,32%	1,54%
Education	30,56%	19,44%	23,15%	23,15%	3,70%
Insurance	32,56%	12,73%	18,98%	16,74%	18,98%
Investment	9,57%	8,74%	16,77%	28,29%	36,63%
Living Cost	33,41%	28,59%	17,09%	12,81%	8,10%

The surveys also find that the majority of respondents are not familiar in keeping record of their expenses. They are also not customized to make financial planning on income allocation. As a result, there are some respondents who have financial trouble at the end of the month. Respondents who have some savings will use it in time of financial trouble or for helping relatives or family member who need the money.

Furthermore, since all of the public servants are a part of Social Security Administrator for Health in Indonesia (BPJS), most of respondents feel it is unnecessary for them to join another insurance or any retirement program in other financial institutions. These indicates that although on average the government employees have a good financial literacy, they are very dependent to the retirement funds provided by the government, and not yet effectively plan for longer term. The findings also

suggest that although the score in financial literacy does increase with age, education and length of employment; the higher level of financial literacy seems not to be followed by a sound financial plan for the future.

4.3 The Influence of Financial Literacy towards Financial Behavior

Before conducting verification analysis, the data collected has to be tested for validity and reliability. For the inquiries relating to the validity of financial literacy questions (Table 7), there is one inquiry which is invalid, number 24 (.0854 rate calculated), while other inquiries in the questionnaire are valid since $r_{calculated} > r_{designated}$. Regarding to validity test on financial decision-making questions (Table 10), there is one invalid question, that is

question number 4 (.042 rate calculated). Other inquiries in the questionnaire are valid since $r_{calculated} > r_{designated}$ or $sig < 0.05$.

In terms of Reliability tests of the questionnaires, we found that the value of alpha cronbach for financial literacy is 0.721 and for financial behavior is 0.533. Therefore, it may be concluded that the inquiries both relating to financial literacy and financial decision making are reliable since the result of the reliability coefficient is between 0.50 and 0.90.

After eliminating the questions that is not valid (question number 24 on financial literacy and

number 4 on financial behavior), we conduct statistical analysis to find out the relationship between financial literacy and financial behavior. Table 12 shows there is positive relationship between financial behavior and financial literacy at 1 % significance level. This means that the respondents who have a good financial literacy are more likely to give correct answers to all of the questions regarding to a sound financial decision making.

Table 9: Validity Test for Financial Literacy

Item	Correlation Coefficient	Item	Correlation Coefficient	Item	Correlation Coefficient	Item	Correlation Coefficient	Item	Correlation Coefficient
1	.179**	6	.360**	11	.534**	16	.480**	21	.402**
2	.347**	7	.387**	12	.407**	17	.243**	22	.350**
3	.518**	8	.331**	13	.205**	18	.330**	23	.396**
4	.448**	9	.287**	14	.445**	19	.332**	24	.0854
5	.365**	10	.472**	15	.358**	20	.375**	25	.354**

Table 10: Validity Test for Financial Decision Making

Item	Correlation Coefficient	Item	Correlation Coefficient	Item	Correlation Coefficient	Item	Correlation Coefficient
1	.322**	6	.263**	11	.448**	16	.318**
2	.435**	7	.267**	12	.370**	17	.131*
3	.452**	8	.431**	13	.323**	18	.352**
4	.042	9	.502**	14	.405**	19	.269**
5	.210**	10	.296**	15	.183**	20	.198**

Table 11: Reliability Test

Reliability Coefficient	Score
Financial Literacy	.721
Financial Behavior	.533

Table 12: Financial Behavior and Financial Literacy

Variables	Financial Decision Making				
Financial Literacy	0.443***	0.437***	0.450***	0.415***	0.419***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Gender		-0.176			
		(0.827)			
FinancialLiteracy*Gender		-0.213			
		(0.282)			
Age			0.028		
			(0.973)		
FinancialLiteracy*Age			0.175		
			(0.392)		
Education				0.948	
				(0.260)	
FinancialLiteracy*Education				.036	
				(0.859)	
Work Rank					1.951**
					(0.033)
FinancialLiteracy*WorkRank					0.053
					0.802
#. of Obs	324	324	324	324	
R ²	0.245	0.252	0.249	0.252	0.270

***Significant at the 1% level

** Significant at the 5% level

* Significant at the 10% level

In this study we also want to test whether the nature and strength of relationship between financial

literacy and financial decision-making changes with a function of demographic variables by using moderation analysis. However, from the data

collected shows that although demographic profiles such as gender, age, marital status, education and career level have positive correlation with the level of financial literacy, they do not have mediating effect to the financial literacy and financial decision making.

5 CONCLUSIONS

This paper tries to find the link between the financial literacy of the government workers to their capabilities in managing the financial decisions. Overall we find that although the score in financial literacy does increase with age, education and length of employment, the higher level of financial literacy seems not to be followed by a sound financial plan for the future.

Secondly, majority of the respondents have better knowledge on products offered by banking institution (especially savings and borrowings) than non-bank financial institution, hence the knowledge on insurance, investment and other non-bank financial products is considered low. Furthermore, most of the respondent are not familiar with financial planning for income allocation in the near and long future, hence financial planning is not optimum, and the score on financial decision-making survey of the public servants between the age of 46-58 is still classified as fair. These facts are indicators that show an urgency for financial literacy and financial advice sessions in the workplace to encourage building retirement wealth.

Third, we show that some demographic factors such as gender, age and career level affect the level of financial literacy, and the score of financial literacy is strongly correlated with financial decision making. We also explore the possibility that demographic profiles have mediating effect to financial literacy and financial decision making, but our statistical test indicates that this is not the case.

We believe that our findings are particularly relevant among the administration in Bandung regarding ways to enhance the worker knowledge on financial management. After serving the government during their productive years, it is important for the public servants to be empowered on the subject of personal finance by providing them with knowledge for wise saving and investment decisions. The financial industries, along with policy makers also need to socialize and offer the wide range of financial products available so that public servants will be drawn to be a part of investment society

which enable them to prepare their retirement more adequately.

REFERENCES

- Ansong, A. and M. A. Gyensare (2012). "Determinants of university working-students' financial literacy at the University of Cape Coast, Ghana." *International Journal of Business and Management* 7(9): 126.
- Astuti, E. D. (2013). "Perilaku Konsumtif dalam Membeli Barang pada Ibu Rumah Tangga di Kota Samarinda." *E-Journal Psikologi* 1(2): 148-156.
- Astuti, PH; Trinugroho, I. Financial Literacy and Engagement In Banking. *Journal of Economics & Economic Education Research*. 17, 1, 1-6, Jan. 2016. ISSN: 15333604.
- Bernheim, B. D. and D. M. Garrett (2003). "The effects of financial education in the workplace: evidence from a survey of households." *Journal of public Economics* 87(7): 1487-1519.
- Bhushan, P. (2014). "Relationship between Financial Literacy and Investment Behavior of Salaried Individuals." *Journal of Business Management & Social Sciences Research*, ISSN(2319-5614): 82-87.
- Bucher-Koenen, T. and A. Lusardi (2011). "Financial literacy and retirement planning in Germany." *Journal of Pension Economics and Finance* 10(04): 565-584.
- Chen, H. and R. P. Volpe (1998). "An analysis of personal financial literacy among college students." *Financial services review* 7(2): 107-128.
- Chen, H. and R. P. Volpe (2005). "Financial literacy, education, and services in the workplace." *A Journal of Applied Topics in Business and Economics*,(online),(Accessed: 2 Feb 2006)
- Ghozali, I. and Fuad (2008). *Structural equation modeling: teori, konsep, dan aplikasi dengan Program Lisrel 8.80*, Badan Penerbit Universitas Diponegoro.
- Hathaway, I. and S. Khatiwada (2008). "Do financial education programs work?".
- Huston, S. J. (2010). "Measuring financial literacy." *Journal of Consumer Affairs* 44(2): 296-316.
- I Wayan Nuka Lantara, & Ni Ketut Rai Kartini. (2015). Financial Literacy Among University Students: Empirical Evidence From Indonesia. *Journal of Indonesian Economy and Business*, 30(3). doi:10.22146/jieb.10314

- Lusardi, A. (2008). Household saving behavior: The role of financial literacy, information, and financial education programs, National Bureau of Economic Research.
- Lusardi, A. and O. S. Mitchell (2007). "Financial literacy and retirement planning: New evidence from the Rand American Life Panel." Michigan Retirement Research Center Research Paper No. WP 157.
- Lusardi, A. and O. S. Mitchell (2011). Financial literacy and planning: Implications for retirement wellbeing, National Bureau of Economic Research.
- Lusardi, A., et al. (2010). "Financial literacy among the young." *Journal of Consumer Affairs* 44(2): 358-380.
- Martin, M. (2007). "A literature review on the effectiveness of financial education."
- Moore, D. L. (2003). Survey of financial literacy in Washington State: Knowledge, behavior, attitudes, and experiences, Washington State Department of Financial Institutions.
- Remund, D. L. (2010). "Financial literacy explicated: The case for a clearer definition in an increasingly complex economy." *Journal of Consumer Affairs* 44(2): 276-295.

