

An Empirical Study on Financial Literacy among Undergraduate Higher Education Students: The Case of Malawi Institute of Management

Duncan Batizani, Dr. Abubaker Quetishat
University of Zambia, Lusaka - Zambia

Abstract: In underdeveloped nations like Malawi, there has been little that has been done to understand financial literacy among the youthful population. Thus the nation has been suffering from financial illiteracy among its youth. Such a problem has led youth and especially college students to fall into debts and other financial problems. This challenge has negative effect in future and present financial performance of the youth. This study was conducted on the undergraduate first year and second year students at Malawi Institute of Management. The study involved 199 students who were respondents. The study shared views of the students through both qualitative and quantitative research techniques like focus group discussions and questionnaires. The study found that the many of the respondents were found lacking in terms of financial knowledge and competencies.

Keywords: Students, Financial Literacy, Higher Education Institution

Introduction

There is a fast-growing young population in developing countries in Africa. This means that these countries are rich with a society with high youth numbers, as it shows having a huge labor force available. However, it is important to make sure that such a population has sound financial knowledge since the global world in which we live today needs people with financial knowledge to make decisions that will affect their lives. According to Lusardi and Mitchell (2017), inability to use finances at such a young age may have a negative impact on individuals' future performance. It is important to make sure that financial knowledge is well shared with the younger population so that they are able to make sound decisions in their daily lives. There are different countries where people are not so educated in relation to financial literacy, and one such country is Malawi. Apparently, it is one of the reasons why Malawi has been experiencing very slow economic growth emanating from debts. Financial education is underdeveloped in countries such as Malawi and others, and this leads to poor management of decisions on how to spend and achieve economic performance. According to Lusardi et al. (2010), the term "youth" is defined as a progression from childhood to being a young adult. While the United Nations categorizes youth as from the age of 15 to 24, Malawi classifies youth up to the age of 45. Many youths are at universities and colleges during this age, and that is when they start learning issues related to managing finances either fully or partially. As explained by Lusardi & Mitchell (2013), having financial knowledge at this stage is of great concern and importance. Financial literacy is the ability of individuals to use competence and expertise to effectively allocate financial assets. Again, Lusardi et al. (2010) explained financial literacy as having

financial-related knowledge that can be used for decision making. Individuals are regarded as financially literate when they are able to adequately apply the financial knowledge they have acquired. This can be done based on either experience or practice.

Relationship between University Students and financial literacy

The financial performance of youth in today's world does not give a good picture with their levels of debt going exponentially high (Lusardi & Mitchell, 2017). For example, in Malawi, an account of student loan debt between 2014 and 2016 shows a rise from \$1000 to \$3,400, showing an increase of about 57% with adjusted inflation. Again, this also followed an increase in the demand for loans for undergraduate students to be supported by the Malawi government through the Higher Education Students Loans and Grants Board. This case was also manifested in the way students live at universities. This increase in debts by students, which apparently does not seem to be getting better with time, is regarded as the major cause of stress and anxiety financially among Malawian university students and the general population of youths. This burden of debt also acts as a major hindrance for youths as they are not able to maintain a savings culture and take advantage of pension benefits in the future as they retire. The information above clearly shows that there is a lack of financial knowledge amongst the ever growing Malawian youthful population. According to Rooij, Lusardi & Alessie (2012), people that are not financially aware face more challenges related to debt management. So, it is very crucial to realize that financial management at the college level is very important since it will determine where one will end up in the future. Knowledge of finance is an important part of taking a good financial decision, and many young adults regret having less financial proficiency in their daily endeavors and decision making. An analysis suggests that undergraduate students who accessed higher education government loans in Malawi, who were about 67% of total applicants in 2017, needed more awareness in regards to financial management and individual decision making at university level (Lusardi & Mitchell, 2013). Again, a conference which was held in 2018 regarding university education and financial literacy suggested that financial education should be part of the secondary school education curriculum in Malawi as a way of promoting financial literacy among secondary school students. In this regard, it would mean that familiarity with financial management should be imparted right from the first year of college education so that students are able to maintain their finances in a better way. As explained by Lusardi & Mitchell (2017), it becomes much more important to understand how literate youth are in the area of financial management as this could be ideal for policy making in different development projects. The latest financial literacy and decision-making developments and studies related to young people show that the heavy debt burden is a major cause of stress and also a major contributing factor in the choice of labor. A 2019 study on financial education on young people aged 23 to 40 years conducted by the Center for Social Research at Chancellor College University of Malawi found that 30% of those with serious debt had poor financial literacy. It also showed that about 30% of the respondents had decided to further their financial education because of having more debt as a result of poor financial decisions. Constant research is being done in order to understand the financial literacy among youth in order to improve their financial literacy and decision-making while dealing with insurance, loans, as well as other financial products. With financial literacy and proficiency, it is more crucial to socialize with youth for analyzed and well-crafted decision making. It is the process of developing financial values and awareness among youth that would help them to gain financial independence.

Research Problem

In a context of different challenges that are faced by developing countries, there is a major challenge faced by Malawi, which is the lack of financial articulation amongst its youthful population (Rooij, Lusardi & Alessie 2012). This challenge of incompetency on financial articulation is due to the fact that young

| | |
|-----|---|
| 119 | <p>ISSN 2576-5973 (online), Published by "Global Research Network LLC" under Volume: 5 Issue: 8 in Aug-2022 https://www.grnjournals.us/index.php/AJEBM</p> |
| | <p>Copyright (c) 2022 Author (s). This is an open-access article distributed under the terms of Creative Commons Attribution License (CC BY). To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/</p> |

Malawian adults get into constant financial problems and get stuck in them. In Malawi, there is no high rate of financial literacy among its youthful population and only those individuals who study finance-related programmes at university or obtain professional qualifications like ACCA are the ones that are at least aware of financial implications in their daily lives. As explained by Lusardi & Mitchell (2017), in today's dynamic financial and global economy, an understanding of financial and economic performance globally is key to individual economic performance. Thus, in this study, the purpose of the research is to assess the awareness of university students with regard to financial literacy, its importance and the impact on decisions they make financially in their cross-disciplinary decision making endeavors.

Research Questions:

How can youth financial and economic knowledge be measured? How to create knowledge for those youth who don't have enough financial understanding so that they are helped with analytical decision making and planning a better and financially sound future at the time of their retirement? How can individual youths with some basic concepts of financial products be educated about terminologies like risk diversification and interest inflation, as such knowledge can be of great importance to those individuals who are not financially literate? Objectives of the research study The main objective of this study is to analyse and evaluate the financial literacy among university students and to identify youth who are financially illiterate so that there can be ways and suggestions on how such youths can be assisted to make sound financial decisions in their lives from the youthful stage of life up to retirement. According to Alessie, Van Rooij & Lusardi (2011), university students are supposed to know how to manage their finances since at this point in life they live away from their parents. As a result, they must create a monthly budget, pay bills, and make financial decisions that will affect them both positively and negatively. University students have difficulty spending and saving money and making financial decisions that will help them deal with any financial challenges that may arise. As a result of this research, conclusions can be drawn about how young people should manage their money during their formative years. This could be done through having an understanding of financial performance and analysis of financial literacy instruments. In Malawi, there has been an increase in the number of students applying for student loans from the Higher Education Students' Loans and Grants Board exponentially every year. This is a sign that it is necessary for the students to have knowledge regarding financial management since they will repay the government loans. The stakeholders of the study are young people that are financially illiterate and are studying in their first and second year of studies at college. The research is fruitful and helpful to youth and students who have little knowledge of financial management, as it opens a window for knowledge as far as financial management is concerned.

Limitations of the study

Due to time limitations and, of course, financial constraints, the study just targeted students from one college, thus Malawi Institute of Management. Due to such challenges and limitations, the researcher could not involve all universities and colleges that are in the central region of Malawi and in particular, Lilongwe district. However, this research will be applicable to youth and students in the future for decision-making as far as financial management in cross-environmental matters is concerned. The research, however, is based on the non-probability stratified sampling technique. As such, it cannot be generalized.

Literature review

In the contemporary world, financial literacy has increasingly become an important element as far as financial decision-making is concerned (Alessie, Van Rooij & Lusardi, 2011). This has been the case due to globalization and international trade among the youth in the economy. Again, Rooij, Lusardi, & Alessie

| | |
|-----|--|
| 120 | ISSN 2576-5973 (online), Published by "Global Research Network LLC" under Volume: 5 Issue: 8 in Aug-2022 https://www.grnjournals.us/index.php/AJEBM |
| | Copyright (c) 2022 Author (s). This is an open-access article distributed under the terms of Creative Commons Attribution License (CC BY). To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/ |

(2012) explained in their study that financial debt has exponentially increased in undergraduate students as well as those people who are not well educated since they fail to make effective financial decisions. Thus, the understanding of financial education is key for people to ensure that they can make financial management decisions for present and future needs. Presently, it has been established that youngsters wish to be financially well educated so that they are able to make adequate and adequate financial decisions. In a study on financial usage among undergraduate students conducted by Sallie Mae (2009), it was found that 80% of the students needed more financial management education in order to manage their finances adequately. Again, 64 percent of students in the same study wished they had received financial education at secondary school level so that they could efficiently manage their finances. Furthermore, 40% desired to be financially well educated from the start of their university education in order to build a sound financial decision cycle in their future life. Understanding financial education among young students is critical because it allows policymakers to devise special schemes to assist the youth with the process of financial management and also to keep them from becoming trapped in the never-ending cycle of debt. A study that was done by Lusardi (2012) explains that the inability to plan efficiently for the future has serious portfolio and fallout saving choices. This means that those people who do not plan well end up being poorer than those who plan and understand the financial choices that they make. The understanding of financial literacy also depends on one's cultural background and family. This is in agreement with what Alessie, Van Rooij, & Lusardi (2011) indicated that school-going children from well-to-do families who invest in stocks are more likely to be part of the financial activities even if they come from minority groups. Such constant studies are taken so that people can better understand the financial literacy levels of youth and improve their decision-making while dealing with insurance, loans, and other financial products. According to Lusardi (2012), financial proficiency is critical, and it is therefore critical to financially socialize it to youths. the process of developing financial awareness and education as well as values that would assist their financial decision-making independence is key to such achievement. Accordingly, youths would be able to make financial decisions in their present and future lives. In 2012, Ensign did a study that highlighted the increasing number of youths who are trapped in financial debt and bankruptcy. The study revealed that many of the youths without formal education and understanding of financial management are trapped in financial challenges, for example, unpaid loans. This is in agreement with the study done by Lusardi et al. (2010) who indicated that the inability of students to manage finances is due to their lack of financial understanding and knowledge. This cements what Lusardi & Mitchell (2013) explain that due to the absence of proficient financial management skills, the youngsters end up facing monitoring challenges. There is also an increasing need for financial competence and knowledge among youth to benefit them throughout their lives (Lusardi et al. 2010). Although there is such a great increase in financial competence and knowledge among youths, Mandell (2018) explains that there has been no substantial number of youths who have acquired the much needed financial knowledge and know-how so that they can make financial decisions. A study conducted by Moore (2003) explains that financial literacy is one of the competencies and abilities of youth that can be used to increase their financial knowledge and understanding as it increases over time and through experience as well. Again, Lusardi and Mitchell (2007) defined financial literacy as the understanding of the most common concepts that are related to investment and savings decisions. The study, which was done by Rooij, Lusardi, & Alessie (2012), explained that people who lack the articulateness of financial decisions suffer from poor financial decision making. Again, people are also less likely to gain financial benefits from financial markets, for example, stock exchanges (Lusardi, 2012). It is, therefore, an ideal to ensure that there is financial socialization among youths so that they are able to make decisions that affect their lives accordingly. The financial socialization aspect for youths talks about the development of financial values, attitudes, and behaviors over a period of time so that young adults can cultivate their financial autonomy and successfully transition into adulthood. According to the Higher Education Students Loans and Grants

Board (2022), one can develop a financially independent individual when he or she has acquired resources and knowledge combined with employment, a certain level of education, as well as a saving and investment culture in various assets. Such skills facilitate competence and financial literacy as youth obtain earned income and meet the economic obligations that are traditionally associated with adulthood, for example, paying bills like rent and utilities. This helps young adults to become financially independent and make financial decisions successfully. Among other important studies, Hastings, Madrian, & Skimmyhorn (2012) explained that there has not been much that has been made to imply that there are resources that would ensure young adults become financially stable. This is in agreement with what Lusardi (2008) explained that such abilities like mathematical problem solving and number crunching give a linkage to the capability of the child in terms of planning, saving, and maintaining future finances. Moreover, Christelis et al. (2010) explain that these abilities are also correlated to some future investments, for example, the buying of stocks as well as land and bonds. Anderson and Newitte (2015) discovered that parents who owned stock could provide better knowledge and technical expertise about financial markets. The key takeaway from this literature review is that financial literacy has no significant meaning among youths, let alone university undergraduate students. The literature has also shown that there are more factors that enable youth to be literate financially than education, family background, cognitive ability, gender, traits of peers, among others. Such factors have a stronger influence on the young regarding their ability to acquire financial knowledge. The literature review also shows that the financial literacy of youth is much affected by the above factors, and that they also have negative effects on relations with students. Additionally, financial literacy is regarded as an important tool in improving the abilities of youth to avoid bankruptcy as it helps individuals to improve their long-term objectives. Financial knowledge also enables developing individuals to grow rapidly as they are more likely to have good knowledge regarding financial resources and their utilization in an effective manner. Individuals need financial literacy in order to make sound financial decisions now and in the future.

Research methodology

This research is a mixed approach, therefore qualitative and quantitative in nature. This is so because of focus group as a method of collecting data, the method that is used to collect, organize, and interpret the data, and the sources of this research were collected through a close-ended questionnaire. The study helped the research collect data from students on how best to know financial management practices. The questionnaire was based on the Likert scale with 10 questions on practices of financial management, and three focus groups were arranged. The questionnaire was borrowed from the research article by Cude et al. (2006). The study population was based on generic students from Malawi Institute of Management in their first and second year of their studies, studying Bachelor of Science in information and communication technology, Bachelor of Science in marketing, Bachelor of human resources management, and Bachelor of business administration. The reason behind selecting these students is that they are not usually familiar with financial knowledge at this stage of their studies, based on their curriculum. The study is quantitative and qualitative in nature, and the survey was conducted on the chosen students using a non-probability convenient sampling technique. In order to access the respondents easily for a survey and three focus groups, a group of 3–5 students was arranged. The sample size of the study was 199 students out of 230 students who could properly fill out the survey form. The selection of sample size was based on the technique borrowed from the book titled "Determining Sample Size for Research Activities" (Krejcie and Morgan, 1970), while the scale based on statistical summary of variables and distributions which was used was adopted from Cude et al. (2006).

Data analysis and findings

The data was analyzed by use of Statistical Package for the Social Sciences (SPSS). The total number of respondents was 199, and using the Cronbach's alpha of 0.734 with 10 items, the standard ratio of the reliability gave an assurance that the questionnaire was reliable. This is so because the reliability ratio should be greater than 0.60 by the use of Cronbach's Alpha. In this research, the reliability ratio was 0.743, which is above the standard ratio.

Demographic statistics

The table below shows a summary of data statistics that shows a sample size of 199. There is no missing data since all questionnaires were filled in by respondents. The table also shows that 155 respondents were female students, representing 59%, while 84 respondents were male students, representing 41%. The sum of these respondents equals 199 respondents.

| | | Gender | | |
|-------|--------|-----------|---------|--------------------|
| | | Frequency | Percent | Cumulative Percent |
| Valid | Female | 84 | 41 | 100 |
| | Male | 115 | 59 | 59 |
| | Total | 199 | 100 | |

The statistics also show that out of 199 respondents, 155 were full-time students, representing 78%, while 44 respondents were mature entry students, representing 22%. In terms of passing classification, the table below shows how respondents were classified according to their performance.

| | | Classification | Of performance |
|-------|----------------------|----------------|----------------|
| | | Frequency | Percent |
| Valid | 70-100 (Distinction) | 18 | 9 |
| | 60-69 (Credit) | 150 | 75 |
| | 50-59 (Pass) | 31 | 16 |
| | Total | 199 | 100 |

The table shows that out of 199 respondents, 31 students had a classification of performance as pass, 150 respondents had credit, and 18 respondents had distinctions. The statistics also show the influence of parents on the educational performance of respondents. Out of 199 respondents, 141 had both parents representing 71% , while 29 respondents had fathers only and mothers only representing 14.5% of each category.

| | | Influence of parents | | | |
|-------|--------------|----------------------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Both Parents | 141 | 70.9 | 70.9 | 70.9 |
| | Mother Only | 29 | 14.6 | 14.6 | 85.4 |
| | Father Only | 29 | 14.6 | 14.6 | 100.0 |
| | Total | 199 | 100.0 | 100.0 | |

Mean and Standard Deviation of practices for Financial Management

| Financial Management Practices | Mean | Std. Deviation |
|---|-------------|-----------------------|
| I avoid taking loans with insufficient funds for repay | 2.73 | 1.253 |
| I pay other living expenses like utilities and airtime on time each month | 3.07 | 1.361 |
| I follow a weekly or monthly budget | 3.68 | 1.290 |
| I pay my debts on time every month and I do not pay late | 3.25 | 1.381 |
| I avoid maxing out or going over the limit on my financial position | 3.09 | 1.288 |
| I have little or no difficulty managing my money | 3.16 | 1.299 |
| I pay my credit card bills in full each month to avoid interest charges | 3.05 | 1.292 |
| I avoid spending more money than I have | 2.81 | 1.235 |
| I balance my budget/checkbook monthly | 3.46 | 1.328 |
| I always set aside some money for monthly savings | 3.74 | 1.255 |

The above table shows how respondents answered regarding their financial management practices. An analysis of the general responses of respondents shows that students in their first to second year of study do not have much information regarding the management of financial activities in their daily lives. For example, the respondents showed that they feel difficulty managing their money with a mean of 3.16 and a standard deviation of about 1.299. Again, the responses of the respondents show that they fail to balance their monthly expenditure with their budget with a standard deviation of 1.328 against a mean of 3.46. This means that the responses were clearly on the negative side. Moreover, the respondents also showed that they do not follow or set a budget for financial performance per month or even per week. To much effect, the respondents also revealed that they do not set aside money every month for savings, with a mean of 3.74 and a standard deviation of 1.225. However, the respondents showed that they do not usually spend more money than they have, showing a positive understanding of financial performance principles and practices with a mean of 2.81 and a standard deviation of 1.235. This response was mostly from students in their second year of study, indicating their increasing knowledge of financial management as their education progressed.

Focus Group Results

Through focus group discussion, we found that different groups had different views on financial knowledge and literacy. One group had a bit of knowledge regarding financial management and performance. They explained that they were good enough to manage all their financial expenses as per requirements. They also explained that they learned this from their friends, relatives, and family who are employed in different financial institutions like banks or any business. Other respondents also explained that they learned about financial management from their parents and siblings since they were advised by them not to spend too much money. This shows that most information is passed from their families and other elderly to remain responsible financially and try to manage money within their limits. This also shows that even if they do not learn financial management in a traditional classroom setting, the respondents could enhance their financial accountability in their personal lives through the environment in which they live. However, different students had contrary views regarding managing their expenses as they had been given full financial support from their parents. These types of respondents came from well-to-do families. Other respondents from middle-class families may still face financial constraints because their parents tell them to stick to their monthly budgets and spend within their limits. It is also quite interesting to note that there are also some respondents who are working while studying at the same time.

| | |
|------------|--|
| 124 | ISSN 2576-5973 (online), Published by "Global Research Network LLC" under Volume: 5 Issue: 8 in Aug-2022 https://www.grnjournals.us/index.php/AJEBM |
| | Copyright (c) 2022 Author (s). This is an open-access article distributed under the terms of Creative Commons Attribution License (CC BY). To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/ |

This group of respondents showed good knowledge regarding financial performance since they have to survive on their earnings and support themselves to pay tuition fees and other school obligations. As explained by Hastings, Madrian & Skimmyhorn (2012), the financial performance of individuals improves as one grows with experience and employment. This means that employed people understand how to use their earnings wisely in order to avoid going bankrupt before the month is up for another salary. To this effect, students who were working class indicated that they save money per month as a way of having a financial standby in case they are faced with eventualities in the future. In general, knowledge about financial performance and management is not only beneficial to individuals while they are at school but also helps to prepare them to manage their daily expenses so that they can save money in future financial crises or if they become bankrupt.

Conclusion and recommendations for future research

In conclusion, financial literacy is essential in everyone's life. It is very important as it helps everyone from going bankrupt through excellent management of their finances. Many students were unable to manage their personal or household expenses due to a lack of financial management knowledge. Some respondents have also confessed that they are not taught some basic financial management tools, for example, cheque-books and other online financial related software that could make them familiar with some principles of financial management as practiced by banks and other financial institutions. According to the Higher Education Students Loans and Grants Board (2022), financial literacy is important as it plays a vital role in planning, developing self-assessment, monitoring financial transactions and checking daily life expenditure, among others. This is very important as it helps people prepare well when making decisions in their daily lives. This study has also been seen as important indeed as it helps to give guidance to people on how they can manage their finances. As mentioned in the literature review, people who have little knowledge of financial literacy tend to be in financial captivity as they fail down or become bankrupt because they fail to make sound financial decision-making in their lives. According to Hastings, Madrian & Skimmyhorn (2012), financial literacy could lead people to even save their future financially and help them reduce their chances of becoming bankrupt or losing business transactions. Those people with financial knowledge are able to enroll and grow in money markets in order to increase wealth and, hence, help them to remain safe from any uncertain activities related to financial management. As a recommendation for future research, the researcher can increase the sample size so that it can be enlarged and made much more accurate, including the reliability of the research. Again, future researchers are also recommended to use a more inclusive range of questionnaires through more open-ended questions so that respondents can express their perceptions of financial knowledge and decision making. Future research could ensure that there is more probing so that respondents can give more information regarding the subject matter in question. According to Lusardi (2012), research becomes much more valid when key variables are included in the study. To this effect, future research can also increase the number of variables; for example, saving habits, investments of the respondents, money management, and respondent age, among others. From this study, it has also been revealed that courses on financial management should be introduced to students, even those that are studying non-business-related programmes at university, since through which they will not face financial problems in the future in relation to their income. This is so because such knowledge of financial management can help them after retirement and be able to easily live their life in old age.

References

1. Alessie, R., Van Rooij, M., & Lusardi, A. (2011). Financial literacy and retirement preparation in the Netherlands. *Journal of Pension Economics and Finance*, 10(04), 527-545.

| | |
|-----|--|
| 125 | ISSN 2576-5973 (online), Published by "Global Research Network LLC" under Volume: 5 Issue: 8 in Aug-2022 https://www.grnjournals.us/index.php/AJEBM |
| | Copyright (c) 2022 Author (s). This is an open-access article distributed under the terms of Creative Commons Attribution License (CC BY). To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/ |

2. Brougham, R. R., Jacobs-Lawson, J. M., Hershey, D. A., & Trujillo, K. M. (2011). Who pays your debt? An important question for understanding compulsive buying among American college students. *International Journal of Consumer Studies*, 35(1), 79-85.
3. Center for Social Research (2019). Chancellor College University of Malawi
4. Lusardi, A., & Mitchell, O. S. (2013). The economic importance of financial literacy: Theory and evidence (No. w18952). National Bureau of Economic Research.
5. Lusardi, A. (2012). Numeracy, Financial Literacy, and Financial Decision-Making. *Numeracy*, 5(1), 457.
6. Lusardi, A., & Mitchell, O. (2017). Financial literacy and retirement preparedness: Evidence and implications for financial education. *Business Economics*, 42(1), 35-44.
7. Malawi Institute of Management (2022). Institutional profile and academic programmes. Retrieved from <http://www.mim.ac.mw/>
8. Hastings, J. S., Madrian, B. C., & Skimmyhorn, W. L. (2012). Financial literacy, financial education and economic outcomes (No. w18412). National Bureau of Economic Research
9. Higher Education Students Loans and Grants Board (2022). Loan application and statistics of students from Higher education students in Malawi. Retrieved from <http://www.heslgb.mw/>
10. National Council for Higher Education (2021). Higher Education applicants and accredited institutions in Malawi. Retrieved from http://www.nche.ac.mw/downloads/Accredited%20Institutions%20and%20Programmes_as_at%2028%20August%202020.pdf
11. Rooij, M. V., Lusardi, A., & Alessie, R. (2012). Financial Literacy, Retirement Planning, and Household Wealth. *The Economic Journal*, 205–224.
12. Van Rooij, M., Lusardi, A., & Alessie, R. (2007). Financial literacy and stock market participation (No. w13565). National Bureau of Economic Research.