Could Financial Literacy Become a Key Variable to Examine Social and Economic Inequalities? A Study on Italian Regions

Gian Paolo Stella, Umberto Filotto, and Enrico Maria Cervellati

***Abstract*—Italy is characterized by deep regional inequalities. Macroeconomic variables like Gross Domestic Product (GDP), GDP per capita and social exclusion rate, allow to compare Italian regions, but nowadays it is even more important to dig in the consequence of these inequalities, and to get insights that may help explaining financial fragility. The inability to take proper financial decisions has negative effect for young adults in particular, since they are more vulnerable than adults. We try to verify if the observed inequalities in Italy are linked to different levels of financial literacy among young adults in distinct regions. We test the level of financial literacy on young adults depending on their regions of birth and compare the results with inequalities in GDP, poverty and social exclusion. We find evidence suggesting that young adults' financial literacy is a key variable to examine these inequalities.**

***Index Terms*—Financial Literacy, gros domestic product, regional inequality, young adults.**

I. Introduction

The disparities in regional economic development levels are largely outlined in the Italian economy (see [1]-[6]). In Italy, the levels of education and industrialization have always been more intense in northern regions than in the south [7]. Regional disparity grew over time causing an unequal development [8].

In other countries as well [9] (e.g., India [10], Indonesia [11] and South Africa [12]) regional inequality seems to be the roots of inter-country geographical dualism. These inequalities impact economic growth and may slow down overall country development and eventually affect the financial system [13].

In Italy, the imbalances between northern and southern regions make inequality higher than in other countries [14]. At the end of 2016, the level of income inequality was the 13th highest among the OECD countries [15].

We highlight regional disparities in terms of GDP (Gros Domestic Product) in Italy in Fig. 1. Darker colours represent higher regional GDP. It is straightforward to observe that northern regions present higher GDPs with respect to other regions. The difference is higher with southern regions and the two major Italian islands (Sardinia and Sicily).

Manuscript received May 14, 2019; revised December 12, 2019.

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Fig. 1. GDP at current market prices by region.

While the impact of the Italian southern regions on the national economic growth has been essential in its history, it has not been so intense as the one of northern regions [16]. The regional disparity is high not only on the economic level, but also in social terms [17]. A high level of GDP is essential to establish a good social performance like a higher level of education [18]. With regard to education, Italian students of southern regions and in the islands record lower scores in mathematics if compared to students of northern regions [19]. The results obtained in the north of Italy are similar with those of Germany, while the ones in the south and the islands are similar to Turkey [19], highlighting a strong inter-country geographical dualism in terms of literacy [20]. These regional disparities do not allow to create a level playing field for young people in different regions in Italy to acquire the same knowledge and competences, eventually impacting their job opportunities in adult age [21].

In Fig. 2, we present the regional differences in terms of poverty and social exclusion levels. Darker colours signal higher poverty levels and higher social exclusion.

The risk of poverty or social exclusion is higher in southern regions, suggesting a link between education and economic conditions [22]. Investing in human capital is fundamental to support economic growth and to reduce inequalities. Thus, it is essential to understand what does not allow people, in particular young adults, to reach economic wellbeing [21].

To take good financial decisions, a proper level of financial literacy is required, where financial literacy can be defined as "*combination of awareness, knowledge, skills,*

doi: 10.18178/ijtef.2020.11.1.657

attitude and behaviours necessary to make sound financial decisions and ultimately achieve individuals' financial wellbeing".

Previous studies analysed financial literacy among young people (see [23]-[28]). With respect to Italy, households' knowledge about financial issues is very low [29] and differences in terms of financial literacy among Italian regions are persistent as well as between boys and girls [30]. In terms of financial literacy rate, Italy is one of the worst countries in Europe ([31], [32]). These evidences are worrisome because lower financial literacy reduces financial well-being ([33], [34]) and wealth levels ([35], [36]). Interest in financial matters and high level of income seem to be correlated [37], probably because people with high income seek to gather more financial information so they can better manage their wealth and try to increase it.

Fig. 2. Poverty and social exclusion levels by region.

The main goal of this paper is to try to discern if financial literacy is a key variable in influencing regionals differences. Our hypothesis is that differences in terms of GDP levels reflect differences in the degree of financial literacy of young adults.

The rest of the paper is organized as follows: in Section II we describe the data and the methodology used; in Section III we illustrate the results of our empirical analysis on financial literacy in Italian regions; in Section IV we conclude.

II. Data and Methodology

In April 2018, we distributed a questionnaire to discern the degree of financial literacy of young adults in Italy. The first part of the questionnaire asked respondents to provide their socio-demographic information. The second part, instead, asked the so-called "Big Three" questions commonly used in the financial literacy studies [31]. See Appendix for a detail description of these questions.

The questionnaire was submitted to university students of different faculties both in economics (business, finance, etc.) related and non-economics related studies, as well as to young adults not following any university course. In total, we collected 813 questionnaires. The respondents' age ranges from 20 to 24 years and the sample is balanced in terms of gender (54% are male).

We classify Italy in five macro-regions following the Eurostat NUTS 2 nomenclature [38]. NUTS is the acronym of Nomenclature of Territorial Units for Statistics. Based on NUTS 2 classification, the five Italian macro-regions are: North East, North West, Centre, South, Islands. In percentage of the total, respondents from the macro-regions represent: North East 16.2%, North West 19.6%, Centre 24.6%, South 24.6% and Islands 15%.

Young adults that have chosen an economic degree are 17,6% of the total, 46,1% chose another university course and 36,3% did not attend any university course. See Table I.

Young adults from southern regions and from the islands attend less the university compared to peers in the center and north of Italy.

In the second part of the questionnaire, we asked young adults to declare their household's economic condition. We present the answers of our respondents in Table II. Respondents from northern regions show better economic conditions compared to their peers from the center, south and islands regions. This evidence is in line with the regional differences in terms of GDP mentioned above.

Turning to financial literacy, we used the so-called "Big Three" questions previously used in the literature [39]. These questions represent a robust benchmark used by scholars and authorities to assess financial literacy. These questions seek to examine basic financial knowledge and were developed to assess the three key financial concepts: compound interest rates, inflation, and risk diversification.

The first of the "Big Three" questions on financial literacy regards the knowledge of compound interest rate as follows: "Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?" The possible answers were: "More than $102", "Exactly $102", "Less than $102", "Do not know", and "Refuse to answer". The correct answer is "More than $102".

In Table III, we show the answers to the first questions.

We gather together all wrong answers and compare it with the correct one.

Following the methodology suggested by OECD, in all cases, the answers "Do not know" and "Refuse to answer" are considered wrong.

First of all, we underline the fact that overall just 52.6% of answers are correct.

Respondents from northern regions score similarly to the ones from the centre of Italy, but much better than the ones from the south and the islands, suggesting that they may be better equipped in taking good financial decisions.

The second question is related to the understanding of the effects of inflation, as follows: "Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?". The possible answers were: "More than today", "Exactly the same", "Less than today", "Do not know", and "Refuse to answer". The correct answer is "Less than today". Understanding the effect of inflation is important, in particular in intertemporal financial decisions because it tells how purchasing power varies over time. People suffer from money illusion, just looking at nominal values, instead of focusing their attention to real values, i.e., values obtained from nominal values adjusting for inflation.

TABLE I: EDUCATION BY MACRO-REGION OF BIRTH

Education		Macro-Region					
		Center	Islands	North East	North West	South	Total
Economics	Count	39	19	22	27	36	143
	% within Regions	19.5%	15.6%	16.7%	17.0%	18.0%	17.6%
Non economics	Count	124	33	84	96	38	375
	% within Regions	62.0%	27.0%	63.6%	60.4%	19.0%	46.1%
No University	Count	37	70	26	36	126	295
	% within Regions	18.5%	57.4%	19.7%	22.6%	63.0%	36.3%
Total	Count	200	122	132	159	200	813
	% within Regions	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE II: HOUSEHOLDS' FINANCIAL CONDITIONS

Household economic condition		Macro-Region					Total
		Center	Islands	North East	North West	South	
Precarious	Count	12	21	7	13	61	114
	% within Birth Region?	6.0%	17.2%	5.3%	8.2%	30.5%	14.0%
Satisfactory	Count	73	43	30	38	68	252
	% within macro-region	36.5%	35.2%	22.7%	23.9%	34.0%	31.0%
Very satisfactory	Count	67	33	52	61	40	253
	% within macro-region	33.5%	27.0%	39.4%	38.4%	20.0%	31.1%
Excellent	Count	48	25	43	47	31	194
	% within macro-region	24.0%	20.5%	32.6%	29.6%	15.5%	23.9%
Total	Count	200	122	132	159	200	813
	% within macro-region	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE III: KNOWLEDGE OF COMPOUND INTEREST RATES

Macro-region of birth		Numeracy		
		Wrong	Correct	Total
North East	Count	57	75	132
	% within macro-region	43.2%	56.8%	100.0%
North West	Count	68	91	159
	% within macro-region	42.8%	57.2%	100.0%
Centre	Count	91	109	200
	% within macro-region	45.5%	54.5%	100.0%
Islands	Count	66	56	122
	% within macro-region	54.1%	45.9%	100.0%
South	Count	103	97	200
	% within macro-region	51.5%	48.5%	100.0%
Total	Count	385	428	813
	% within macro-region	47.4%	52.6%	100.0%

In Table IV, we show that just 57.4% of respondents answered correctly. We notice an improvement of correct responses by the south and islands regions, but the gap with the north and centre are still persistent.

Finally, the third question regards the knowledge of the concept of risk diversification, as follows: "Please tell me whether this statement is true or false. 'Buying a single company's stock usually provides a safer return than a stock mutual fund.' The possible answers where: "True", "False", "Do not know", and "Refuse to answer". The correct answer is "False".

Understanding the concept of diversification is important because it allows to optimally invest, minimizing risk. In Italy in recent years we witnessed to several banking scandals where clients bought a single asset, subordinated bank bonds, and lose most of the invested capital. If someone claims that these clients have been frauded by the interested banks, others suggest that the knowledge of the concept of diversification may have helped them to avoid investing the majority of their household's wealth in a single risky asset.

In Table V we show that the results are in line with the previous ones: just 55.1% of answers were correct, and respondents from the northern and centre regions performed better compared to the ones from the southern and islands regions, further confirming the differences between macro-regions.

TABLE IV: KNOWLEDGE OF INFLATION

Macro-region of birth		Inflation		
		Wrong	Correct	Total
North East	Count	47	85	132
	% within macro-region	35.6%	64.4%	100.0%
North West	Count	59	100	159
	% within macro-region	37.1%	62.9%	100.0%
Centre	Count	85	115	200
	% within macro-region	42.5%	57.5%	100.0%
Islands	Count	62	60	122
	% within macro-region	50.8%	49.2%	100.0%
South	Count	93	107	200
	% within macro-region	46.5%	53.5%	100.0%
Total	Count	346	467	813
	% within macro-region	42.6%	57.4%	100.0%

TABLE V: KNOWLEDGE OF RISK DIVERSIFICATION

Region of birth		Risk Diversification		
		Wrong	Correct	Total
North East	Count	48	84	132
	% within macro-region	36.4%	63.6%	100.0%
North West	Count	59	100	159
	% within macro-region	37.1%	62.9%	100.0%
Centre	Count	84	116	200
	% within macro-region	42.0%	58.0%	100.0%
Islands	Count	66	56	122
	% within macro-region	54.1%	45.9%	100.0%
South	Count	108	92	200
	% within macro-region	54.0%	46.0%	100.0%
Total	Count	365	448	813
	% within macro-region	44.9%	55.1%	100.0%

In terms of methodology, we use a one-way ANOVA (Analysis of Variance). We present the results in the next section.

III. Results

The sample observed prove that first assumption of one-way ANOVA is verified (Table VI).

The descriptive analysis, based on the average values of corrects answers in the "Big three" questions on financial knowledge, shows that respondents from northern regions perform differently compared to the ones from the southern and centre regions and from the islands.

Respondents from Italian northern regions perform better (respectively 1.84 correct answers on average for respondents from the north east and 1.83 for the ones from north west) compared to the ones from the south (1.48) and from the islands (1.41).

Respondents from the regions in the center of Italy perform better than the ones from the south, but worse than the ones from the north.

Thus, financial literacy inequalities seem to be in line with the inequalities in regional GDP in Italy presented above. In Fig. 3 we graphically display these inequalities.

TABLE VI: One-Way ANOVA

	N.	Mean	Std. Dev.	Std. Err.	95% confidence interval Lower Bound	Upper Bound
North East	132	1.84	.969	.084	1.682	2.015
North West	159	1.83	.982	.078	1.676	1.984
Center	200	1.70	.956	.068	1.567	1.833
Islands	122	1.41	.959	.087	1.238	1.582
South	200	1.48	1.070	.076	1.331	1.629
Total	813	1.65	1.005	.035	1.583	1.721

Fig. 3. Financial Literacy regional inequalities.

The second assumption of ANOVA, the "homoscedasticity condition" posits that the variance between groups is the same. In Table VII, we show that in our sample this condition is not observed (p=0.032). In Table VIII we performed robust tests of equality of means. The results provided by Welch and Brown-Forsythe confirm that there are significant differences among means (p=0.000).

These evidences confirm that respondents from the various macro-regions are indeed different, as former results suggested.

Furthermore, to test if couple of means differ significantly, in Table IX we performed Games- Howell post hoc test. The results demonstrate that, in terms of financial literacy, the mean of north east and north west are significantly different from the south and islands means (respectively: p=0.011 and p=0.012; p=0012 and p=0.03).

TABLE VII: Test of Homogeneity of Variances

	Levene's Statistic	df_1	df_2	Sig.
Based on mean	2.647	4	808	.032
Based on median	2.979	4	808	.019
Based on median and with adjusted degrees of freedom	2.979	4	796	.019
Based on trimmed mean	2.868	4	808	.022

TABLE VIII: Robust Tests of Equality of Means

	Statistic[a]	df_1	df_2	Sig.
Welch	5.984	4	380.189	.000
Brown-Forsythe	6.073	4	770.082	.000

[a] Asymptotically F distributed

TABLE IX: Post Hoc Tests Analysis (Games-Howell)

Region of birth (I)	Region of birth (J)	Mean Diff. (I-J)	Std. Err.	Sig.	95% Confidence Interval Lower Bound	Upper Bound
North East	North West	.01830	.11480	1.000	-.2969	.3335
	Center	.14848	.10809	.645	-.1483	.4453
	Islands	.43865*	.12110	.003	.1059	.7714
	South	.36848*	.11330	.011	.0575	.6794
North West	North East	-.01830	.11480	1.000	-.3335	.2969
	Center	.13019	.10315	.715	-.1527	.4131
	Islands	.42035*	.11671	.003	.0998	.7409
	South	.35019*	.10860	.012	.0524	.6480
Center	North East	-.14848	.10809	.645	-.4453	.1483
	North West	-.13019	.10315	.715	-.4131	.1527
	Islands	.29016	.11012	.067	-.0124	.5927
	South	.22000	.10149	.194	-.0581	.4981
Islands	North East	-.43865*	.12110	.003	-.7714	-.1059
	North West	-.42035*	.11671	.003	-.7409	-.0998
	Center	-.29016	.11012	.067	-.5927	.0124
	South	-.07016	.11524	.974	-.3866	.2463
South	North East	-.36848[a]	.11330	.011	-.6794	-.0575
	North West	-.35019[a]	.10860	.012	-.6480	-.0524
	Center	-.22000	.10149	.194	-.4981	.0581
	Islands	.07016	.11524	.974	-.2463	.3866

[a] The mean difference is significant at the 0.05 level.
Dependent Variable: Financial knowledge

There seems to be a link between the strong differences between regions in terms of young adults' financial literacy, GDP, poverty and social exclusion levels. Financial literacy is a key variable to examine social and economic inequalities.

IV. Conclusion

Italian young adults show different levels of financial literacy depending on their region of birth. This evidence is coherent with the assumption regarding the relation between GDP and level of financial literacy. The evidence on Italian young adults mirrors the one found by previous studies in the literature with regard to Italian adults and may be explained considering the fundamental role parents play in the financial

literacy of their children. Young people also learn financial concepts through observation of parents' financial behavior. Furthermore, we find that poor levels of financial literacy are linked to low level of income, education and well-being. The economic and social development spread among Italian regions seems to be related with the different levels of young adults' financial literacy. Since the chances for Italy to achieve a strong economic development will also depend from young adults' capability to take right financial decisions, it seems then important to improve the overall level of financial literacy, but also to reduce regional inequalities, and especially the gap between north and south of Italy.

CONFLICT OF INTEREST

The authors declare no conflict of interest

AUTHOR CONTRIBUTIONS

Gian Paolo Stella, Umberto Filotto and Enrico Maria Cervellati contributed to the design and implementation of the research, to the analysis of the results and to the writing of the paper.

REFERENCES

[1] Dall'Aglio, "La dinamica del reddito regionale italiano: un'analisi non parametrica," *Rivista Italiana Degli Economisti*, vol. 8, no. 3, pp. 385-410, 2003.

[2] P. Ciocca, "L'economia Italiana: Un problema di crescita," presented at the 44 Riunione scientifica annuale della Societ àdegli Economisti, Salerno, 2003.

[3] T. Padoa-Schioppa, "Mezzogiorno e crescita economica," *L'industria*, vol. 27, no. 1, pp. 41-44, 2006.

[4] P. Malanima and V. Daniele, "Il prodotto delle regioni e il divario Nord-Sud in Italia (1861-2004)," *Rivista di Politica Economica*, pp. 267-315, 2007.

[5] J. E. Stiglitz, *Il prezzo della disuguaglianza*, Torino: Einaudi, 2013.

[6] E. Felice, *Ascesa e Declino: Storia Economica d'Italia*, Bologna: Il Mulino, 2015.

[7] G.Vecchi, "Sviluppo economico, benessere e disuguaglianza: Italia, 1861-2011," *Rivista di Storia Economica*, vol. 28, pp. 19-43, 2012.

[8] E. Felice, "The socio-institutional divide: Explaining Italy's long-term regional differences," *Journal of Interdisciplinary History*, vol. 49, no. 1, pp. 43-70, 2018.

[9] G. Myrdal and P. Sitohang, *Economic Theory and under-Developed Regions*, 1957.

[10] D. Mookherjee and M. Geyer, "Urban growth in the national capital region of India: Testing the differential urbanisation model," *Tijdschrift Voor Economische En Sociale Geografie*, vol. 102, no. 1, pp. 88-89, 2011.

[11] J. H. Boeke, *Economics and Economic Policy of Dual Societies, as Exemplified by Indonesia*, International Secretariat, Institute of Pacific Relations, 1953.

[12] C. E. Madavo," Government policy and economic dualism in South Africa," *Canadian Journal of African Studies/La Revue Canadienne des éTudes Africaines*, vol. 5, no. 1, pp. 19-32, 1971.

[13] R. Levine, "Finance and growth: Theory and evidence," *Handbook of Economic Growth*, vol. 1, pp. 865-934, 2005.

[14] OECD, *Divided We Stand: Why Inequality Keeps Rising*, 2011.

[15] OECD, *In It Together: Why Less Inequality Benefits All*, Paris: OECD Publishing, 2015

[16] G. Vecchi, "Sviluppo economico, benessere e disuguaglianza: Italia, 1861-2011," *Rivista di storia Economica*, vol. 28, no. 1, pp. 177-196, 2012.

[17] E. Felice, "The socio-institutional divide: Explaining Italy's long-term regional differences," *Journal of Interdisciplinary History*, vol. 49, no. 1, pp. 43-70, 2018.

[18] M. F. Cracolici, M. Cuffaro, and P. Nijkamp, "The measurement of economic, social and environmental performance of countries: A novel approach," *Social Indicators Research*, vol. 95, no. 2, pp. 339-352, 2010.

[19] OECD, *PISA 2012 Results: What Students Know and Can Do*, Paris: OECD Publishing, 2013.

[20] Istat, *Bes 2017: Il Benessere Equo e Sostenibile in Italia*, Istituto Nazionale di Statistica, 2017.

[21] G. S.Becker and B. R. Chiswick, "Education and the distribution of earnings," *The American Economic Review*, vol. 56, no. 1/2, pp. 358-369, 1966.

[22] A. Kucharčíková, "Investment in the human capital as the source of economic growth," *Periodica Polytechnica Social and Management Sciences*, vol. 22, no. 1, pp. 29-35, 2014.

[23] H. Chen and R. P. Volpe, "Gender differences in personal financial literacy among college students," *Financial Services Review*, vol. 11, no. 3, pp. 289-307, 2002.

[24] H. Chen and R. P. Volpe, "An analysis of personal financial literacy among college students," *Financial Services Review*, vol. 7, no. 2, pp. 107-128, 1998.

[25] T. M. Smeeding and K. R. Phillips, "Cross-national differences in employment and economic sufficiency," *The Annals of the American Academy of Political and Social Science*, vol. 580, no. 1, pp. 103-133, 2002.

[26] M. C. Clarke, M. B. Heaton, C. L. Israelsen, and D. L. Eggett, "The acquisition of family financial roles and responsibilities," *Family and Consumer Sciences Research Journal*, vol. 33, no. 4, pp. 321-340, 2005.

[27] A. Lusardi, O. S. Mitchell, and V. Curto, "Financial literacy among the young," *Journal of consumer affairs*, vol. 44, no. 2, pp. 358-380, 2010.

[28] J. J. Xiao, S. Y. Ahn, J. Serido, and S. Shim, "Earlier financial literacy and later financial behaviour of college students," *International Journal of Consumer Studies*, vol. 38, no. 6, pp. 593-601, 2014.

[29] E. Fornero and C. Monticone, "Financial literacy and pension plan participation in Italy," *Journal of Pension Economics & Finance*, vol. 10, no. 4, pp. 547-564, 2011.

[30] L. Bottazzi and A. Lusardi, "Gender differences in financial literacy: Evidence from PISA data in Italy," *Global Thinking Foundation*, 2016.

[31] L. Klapper, A. Lusardi, and P. Van Oudheusden, *Financial Literacy around the World*, World Bank. Washington DC: World Bank, 2015.

[32] I. Visco, "Indagine conoscitiva sulle condizioni del sistema bancario e finanziario italiano e la tutela del risparmio, anche con riferimento alla vigilanza, la risoluzione delle crisi e la garanzia dei depositi europee," *Audition of the Governor of the Bank of Italy to the Italian Senate*, 2016.

[33] A. Lusardi and O. S. Mitchell, "Financial literacy and planning: Implications for retirement wellbeing," NBER Working Paper Series, National Bureau of Economic Research, 2011.

[34] J. S. Hastings, B. C. Madrian, and W. L. Skimmyhorn, "Financial literacy, financial education, and economic outcomes," *Annu. Rev. Econ.*, vol. 5, no. 1, 347-373.

[35] T. Bucher-Koenen, "Financial literacy and private old-age provision in Germany–Evidence from SAVE 2008," *Mannheim Research Institute for the Economics of Aging Discussion*, paper no. 192, 2009.

[36] A. Lusardi, and O. S. Mitchell, "The economic importance of financial literacy: Theory and evidence," *Journal of Economic Literature*, vol. 52, no. 1, pp. 5-44, 2014.

[37] R. Euwals and A. Van Soest, "Desired and actual labour supply of unmarried men and women in the Netherlands," *Labour Economics*, vol. 6, no. 1, pp. 95-118, 1999.

[38] Eurostat, "Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS)", 2003.

[39] M. A. Hilgert, J. M. Hogarth, and S. G. Beverly, "Household financial management: The connection between knowledge and behavior," *Fed. Res. Bull.*, vol. 89, pp. 309-324, 2003.

[40] N. S. Chiteji, and F. P. Stafford, "Portfolio choices of parents and their children as young adults: Asset accumulation by African-American families," *American Economic Review*, vol. 89, no. 2, pp. 377-380, 1999.

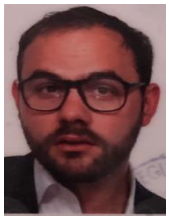
[41] B. L. Jorgensen, "Financial literacy of college students: Parental and peer influences," Doctoral dissertation, Virginia Tech, 2007.

[42] B. L. Jorgensen and J. Savla, "Financial literacy of young adults: The importance of parental socialization," *Family Relations*, vol. 59, no. 4, pp. 465-478, 2010.

[43] S., Shim, B. L. Barber, N. A. Card, J. J. Xiao, and J. Serido, "Financial socialization of first-year college students: The roles of parents, work, and education," *Journal of Youth and Adolescence*, vol. 39, no. 12, pp. 1457-1470, 2010.

[44] J. Kim, J. LaTaillade, and H. Kim, "Family processes and adolescents' financial behaviors," *Journal of Family and Economic Issues*, vol. 32, no. 4, pp. 668-679, 2011.

[45] T. Jappelli and M. Padula, "Investment in financial literacy and saving decisions," *Journal of Banking & Finance*, vol. 37, no. 8, pp. 2779-2792, 2013.
[46] L. Guiso and T. Jappelli, "Information acquisition and portfolio performance," *Journal of Banking & Finance*, vol. 37, no. 8, pp. 2779-2792, 2006.



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