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Financial Literacy in Local At-Risk Appalachia

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Abstract

Unfortunately, rural Appalachia is perennially one of the poorest areas of the United States. Many scholars have offered opinions as to why this trend of poverty continues in this region, but one potential cause has not been the subject of much research: do residents in Appalachia have a functional knowledge of the financial system, or even a simple understanding of basic savings, which is necessary for achieving certain levels of financial security?

We conduct a survey modeled after a national study which measures basic financial literacy in local Appalachia, expecting to find that at-risk Appalachians would have less financial literacy than the national average. While our initial response rate was too low to justify a concrete claim, our preliminary findings suggest that local at-risk Appalachians were more likely to incorrectly answer basic financial literacy questions, and we believe that a larger study into this issue is warranted. Should a concrete outcome arise in the affirmative, we offer suggestions for policy responses, including implementation of free personal finance classes to combat the issue.

Introduction

Appalachia[1] is consistently one of the most impoverished areas of the United State. Since the Johnson administration of the 1960s, specific efforts have been aimed at the improvement of the economic standing of Appalachians, though these efforts have largely fallen short of accomplishing their goals (Appalachian Regional Commission, 2011). One particular avenue that has been under-analyzed is the role that financial literacy may have in the ability to improve the economic situation of these citizens. For example, Hans Gaudecker found that higher levels of financial literacy led to more successful investment outcomes (Gaudecker, 2015).

We believe that a lack of financial knowledge may be part of the reason that Appalachia has not reached economic equality with the rest of the nation. Understanding financial markets provides a significant tool towards achieving financial success to those in the know, while a lack of knowledge in this most crucial subject undoubtedly hinders one's financial pursuits.

To explore the current state of financial literacy, we conduct a survey, modeled after a previous national survey given by the Financial Industry Regulatory Authority (FINRA), to determine if the financial literacy of local at-risk[2] Appalachians was lower than the national average. Should we find an affirmative outcome, we will offer a policy proposal to improve the financial literacy of at-risk Appalachians.

[1] a 205,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi (Appalachian Regional Commission, 2017).
[2] "At-risk" counties are those counties defined as the bottom quartile of national county rankings in three-year average unemployment rate, per capita market income, and poverty rate (Appalachian Regional Commission, 2017).

Literature Review

Though the Appalachian region has made significant economic gains since the Johnson Administration first created the Appalachian Regional Commission, it still lags behind the nation in critical areas. For fiscal year 2017, as defined by the ARC, the region had a higher three-year average unemployment rate, lower per capita market income, and higher poverty rate than the rest of the nation on average (Appalachian Regional Commission, 2017).

The 2012 FINRA study, on which this survey is based, had several major findings that are relevant to this work. Specifically, in the Financial Knowledge and Decision-Making portion of the study, FINRA describes the findings as follows:

> "Looking ahead, it is concerning that basic financial literacy levels remain so low, because individuals and families must make many decisions—some more complex than others—that will affect their financial well-being in both the short-term and long run. The "balance sheet" challenge of managing the burdens of household debt while also preparing for the financial needs of one's retirement years can be stressful even for those who are highly financially capable. This challenge may be especially difficult for the younger generation of American adults, whom this study shows to be at a pronounced disadvantage on nearly all measures of financial capability…A more financially capable population can result in a larger and more efficient market for financial products, greater participation in asset building and greater financial stability. It is therefore in everyone's interest that action be taken to improve the financial capability of all Americans" (FINRA, 2012).

It is a well-supported premise that increased financial literacy can positively affect the economic situations of citizens. As stated previously, the Gaudecker study found that increased financial literacy leads to better investment outcomes. FINRA goes as far as to state that the nation would see greater financial stability if financial literacy were higher. Perhaps most analogous for our purposes, a 2012 study by Behrman, et.al found that increased financial literacy had a positive effect on the financial behaviors of Chilean citizens (Behrman, Mitchell, Soo, & Bravo, 2012). If we find that our target population has a low level of financial literacy, attempting to raise financial literacy in the area would undoubtedly be a step in the right direction towards improving the economic situation of the region.

Methodology

The population of our survey was the landline-owning citizens of Johnson and Carter counties in Tennessee, Ashe and Avery counties in North Carolina, and Smyth and Grayson counties in Virginia. These counties were chosen due to being relatively close to the researchers' home institution of East Tennessee State University, as well as their statuses as either At-Risk or Distressed counties as determined by the Appalachian Regional Commission in Fiscal Year 2016 (Appalachian Regional Commission, 2015). The survey was designed by the researchers and administered by an independent polling company to every landline[3] in the aforementioned counties.

The questions that were asked were taken directly from the FINRA National Financial Capability Study in 2012. The FINRA study encompassed a much broader range of questions, but we chose five questions that we felt best represented the aims of our study. The questions went as follows:

1. 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? More than $102, Exactly $102, Less than $102, or Don't Know?

2. 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? More than today, Exactly the same, Less than today, or Don't Know?

[3] We recognize the inherent limitations of a landline telephone-based survey, however, this method was initially appropriate for this particular study as the target population of at-risk Appalachians is less likely to have access to internet or cell-phone based surveys. Future research on the question will likely require more sophisticated polling techniques.

3. If interest rates rise, what will typically happen to bond prices? They will rise, They will fall, They will stay the same, or Don’t Know?

4. A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less. True, False, or Don’t Know?

5. Buying a single company’s stock usually provides a safer return than a stock mutual fund. True, False, or Don’t Know?

We will compare the percentage of correct answers in our study with the percentage of correct answers in the national study and make a conclusion based on that comparison. To avoid any multicollinearity issues in our comparisons, we removed the responses from Tennessee, North Carolina, and Virginia in the FINRA data. The data was collected by the services of Pollmakers, a firm in Texas, with funds provided by the ETSU Honors College. The firm called every landline number in the target counties and played a pre-recorded script. The population was incentivized to participate by gaining entry into a drawing for a $100 gift card to a major retailer.

Results

We did not receive enough responses to make a statistically significant conclusion, but the preliminary findings from this study suggest that further research into this area may be warranted. On average, local at-risk Appalachians consistently answered the financial literacy questions incorrectly at a higher rate than the national average. Figure 1 shows the correct response percentage to each question of both the test population and the nation as a whole.

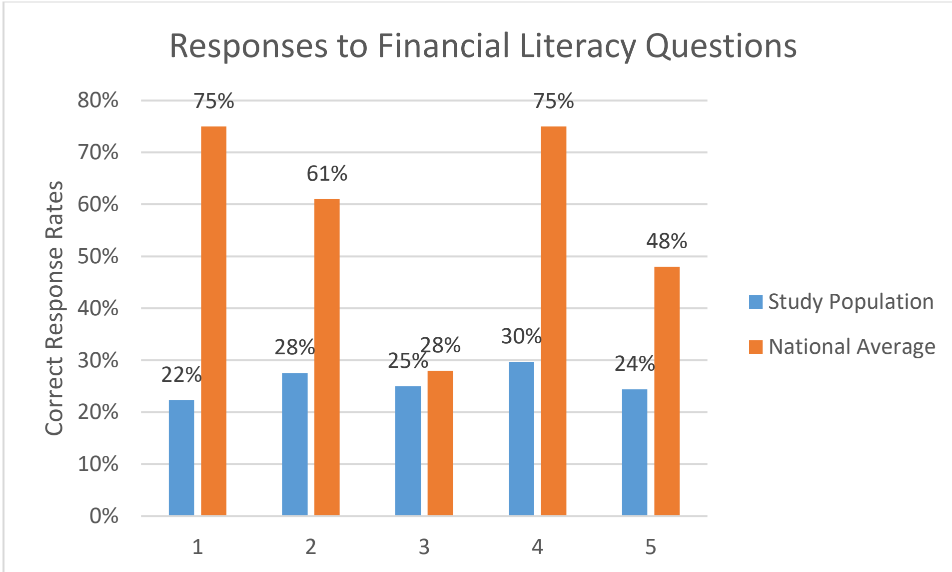

Figure 1: Comparison of Correct Response Rates

As can be clearly seen, the target population responded correctly much more infrequently than the nation as a whole, excepting Question 3. However, on every other question, the target population answered correctly at a similar rate; normally around ¼ of responses were correct, while the national average exceeded the target rate by at least double in every case. These drastically low correct response rates appear all the worse when one considers that FINRA defined financial literacy in the nation as low. This suggests a broader trend, though we cannot make any definitive claim, and further research is needed.

The FINRA study offers no explanation as to why Question 3 had a lower correct response rate, though we surmise that the niche subject knowledge (bond prices) lends itself to being less well-known by the public. This does not explain why the target population answered Question 3 correctly at a similar rate to the other questions, while the national survey had a much lower correct response rate on this particular question. Do Appalachians comparatively have a better understanding of bond prices than other areas of financial literacy? This is extremely unlikely when the rest of the data are considered, but could also warrant additional exploration.

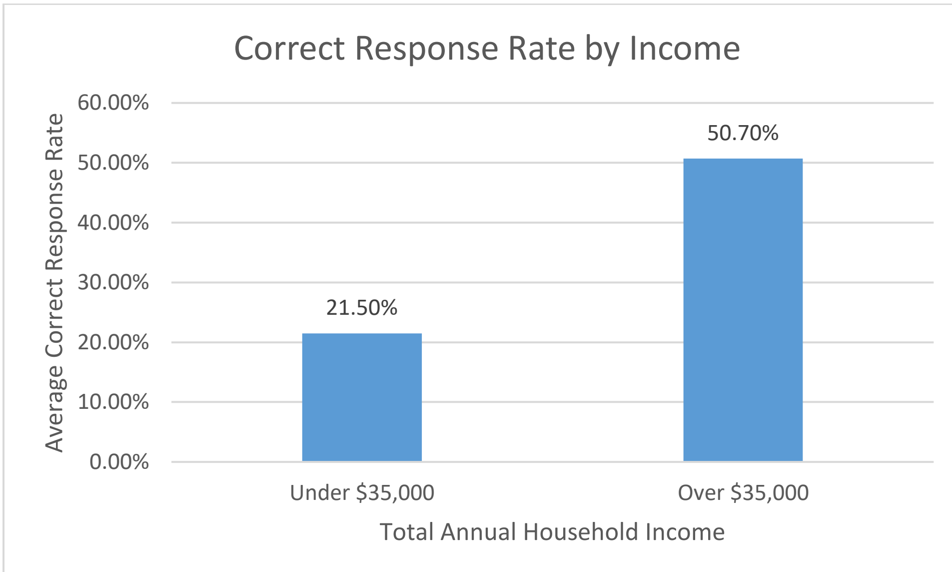

Figure 2: Correct Response Rate by Income Brackets

Our research also uncovered several interesting trends within the demographic data. We find that increased income is associated with an increased likelihood of correctly answering the questions within the target data. As Figure 2 shows, the bracket of individuals with an annual household income over $35,000 or more was more than twice as likely to answer a question correctly than an individual in a household with less than $35,000 in annual income.

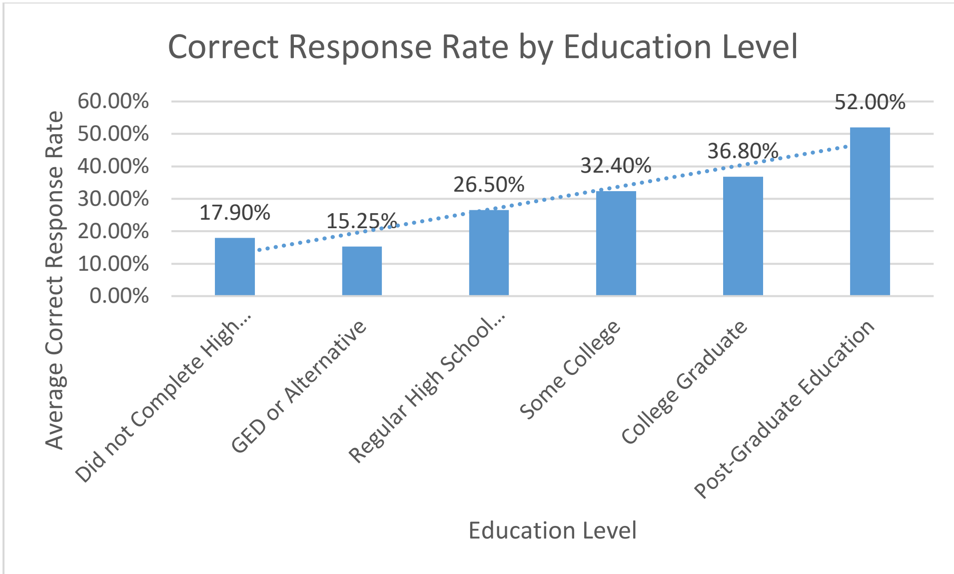

Figure 3: Average Correct Response Rates by Education Level

Furthermore, we find that increased education levels are associated with increased likelihood of correctly answering questions. Figure 3 shows a nearly perfectly linear relationship between education levels and correct response rate, with post-graduates being almost 3.5 times more likely to correctly answer a question than GED or alternative degree holders, who had the lowest correct response rate of any group. The latter result is interesting in that GED earners, on average, correctly answered questions at a lower clip than individuals that did not possess a high school diploma at all.

We find no correlation between gender, race, age, or state of residence and correct response rate. Our data conflicts with the FINRA data in this regard, as FINRA found that increased age has a positive correlation with correct response rate. Of course, none of this data can be declared substantive due to our overall low response rate, but further research should look to confirm these findings. If the results hold upon completion of further research, this speaks to the impact of the region in determining financial literacy.

Policy Proposal

If a larger study is to confirm these results, a troubling outcome will be present, one that requires the action of decision-makers of the region. State governments, local school boards, and city governments of the respective counties should take steps to improve their citizens’ financial literacy. However, prior attempts to increase financial knowledge have been met with mixed results. Two separate studies found that financial literacy courses both increased financial knowledge and fostered positive financial behaviors; one of these studies was done on college students, and the other was done on individuals with low income (Jobst, 2014) (Reich & Berman, 2015). On the other hand, personal finance classes that are instituted into a high-school curriculum have thus far been found to be relatively ineffective, as students that took the personal finance classes made similar scores on standardized financial knowledge tests as their peers who did not take the personal finance classes (Cole, Paulson, & Shastry, 2016).

Our policy recommendation draws on the research from Reich and Berman, which found that financial literacy classes had a significant effect on both the knowledge and positive financial behaviors of low-income adults. We believe that the respective states should create free personal finance programs to be offered to low-income individuals within the states, and create informational campaigns about these programs to encourage the target individuals to enroll in the classes. If the states so desired, a possibility exists of tying welfare benefits to class attendance, but we believe that this requirement would be too restrictive and an overall detriment to many individuals. We leave the details of incentivizing attendance to local officials, who know the populations best. We believe that this is the optimal policy solution to this problem, as prior research has shown overall ineffectiveness of high-school personal finance classes, and college-based programs do not fit the target demographic. These programs should be relatively inexpensive, requiring only the cost of an instructor and any instructive materials to implement. We recommend that the states or localities apply for federal funding through the Department of Education's Adult Education grants. Around $600,000,000 in funds were appropriated in Fiscal Year 2016 expressly to "provide educational opportunities below the postsecondary level for adults over the age of 16" (U.S. Department of Education, 2017). We estimate the costs of our program to be $91,000 per year for the six counties combined: $15,000 for each part-time instructor and $1,000 for educational materials. Of course, specifics of instructor pay and educational materials should be left up to the educational departments of the respective counties.

Conclusion

The plight of rural Appalachians is a well-known issue. Dating back to the Johnson administration and the creation of the ARC, federal and state governments have been dealing with the issue of poverty in rural Appalachia. We believe that a lack of financial literacy is a contributing cause to this plight. We conducted a survey of rural at-risk Appalachians, and though we did not receive enough responses to justify a significant result, our results suggest that further research could find a significant difference between the financial literacy of rural Appalachians compared to the rest of the nation. Further research should also look for substantive correct response correlations based on demographic data. We recommend that the involved state governments implement free personal finance classes to low-income individuals to attempt to improve this lack of knowledge. Future research on this subject should mainly attempt to increase the response rate of the participants so as to gain a more concrete idea of the financial literacy of the region. We recommend live polling, rather than automated/pre-recorded, as the next step towards gaining a better understanding of this crucial issue.

References

Appalachian Regional Commission. (2011). *Economic Overview of Appalachia-2011.*

Appalachian Regional Commission. (2015). *County Economic Status in Appalachia, Fiscal Year 2016.* Retrieved from Appalachian Regional Commision web site: http://www.arc.gov/assets/maps/related/County-Economic-Status_FY2016_Map.pdf

Appalachian Regional Commission. (2017, February 8). *County Economic Status, Fiscal Year 2017*. Retrieved from arc.gov: https://www.arc.gov/reports/custom_report.asp?REPORT_ID=62

Appalachian Regional Commission. (2017, March 1). *Distressed Designation and County Economic Status Classification System, FY 2007 – FY 2017*. Retrieved from arc.gov: https://www.arc.gov/research/SourceandMethodologyCountyEconomicStatusFY2007FY2017.asp

Appalachian Regional Commission. (2017, March 1). *The Appalachian Region*. Retrieved from arc.gov: https://www.arc.gov/appalachian_region/TheAppalachianRegion.asp

Behrman, J., Mitchell, O., Soo, C., & Bravo, D. (2012). How Financial Literacy Affects Household Wealth Accumulation. *The American Economic Review*, 300-304.

Cole, S., Paulson, A., & Shastry, G. (2016). The Impact of Mandated Personal Finance and Mathematics Courses. *Journal of Human Resources*.

Duncan, C. (2006, January 9). *Why Poverty Persists in Appalachia*. Retrieved from pbs.org: http://www.pbs.org/wgbh/pages/frontline/countryboys/readings/duncan.html

FINRA. (2012). *Financial Capability in the United States: Report of Findings from the 2012 National Financial Capability Study.* Retrieved from usfinancialcapability.org: http://www.usfinancialcapability.org/downloads/NFCS_2012_Report_Natl_Findings.pdf

Gaudecker, H.-M. V. (2015). How Does Household Portfolio Diversification Vary with Financial Literacy and Financial Advice? *Journal of Finance*, 489-507.

Jobst, V. (2014). Does a University Financial Literacy Course Change Financial Behavior? *Journal of Higher Education Theory & Practice*, 63-77.

Reich, C. M., & Berman, J. S. (2015). Do Financial Literacy Classes Help? An Experimental Assessment in a Low-Income Population. *Journal of Social Service Research*, 193-203.

U.S. Department of Education. (2017, March 8). *ADULT EDUCATION BASIC GRANT PROGRAM.* Retrieved from U.S. Depatment of Education Web Site: 2017