

Is high school the right time to learn about retirement?

Abstract

Since individuals are increasingly required to manage their own retirement portfolios, policy levers that increase retirement planning and saving have become increasingly important. We use variation in timing and presence of state-required high school personal finance coursework to estimate the effect of the financial education coursework on the likelihood of holding an amount in retirement accounts in adulthood (ages 25–40). Our results show no definitive increases in account ownership, non-retirement investment accounts, or homeownership. Since prior work finds required high school financial education improves credit and debt outcomes, we recommend that states and educators prioritize content that is more immediately relevant for 18-year-olds, such as budgeting, long-term debt, and credit.

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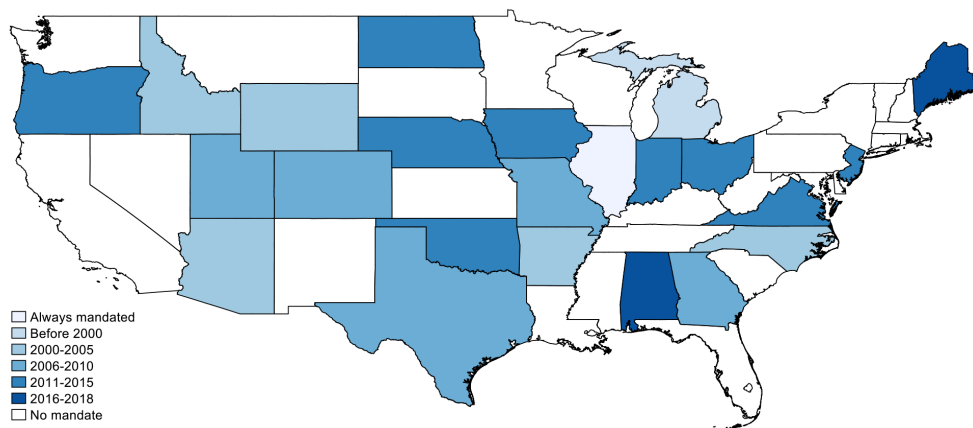
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A primer on state personal finance graduation requirements

Twenty-four states require that students complete some personal finance content prior to graduating from high school, with nearly all states implementing policies for those graduating high school after 2000. This means that students must have either (1) a standalone course

in personal finance, (2) a required class that embeds personal finance topics, such as economics or math, or (3) a required set of personal finance standards that must be incorporated into a greater content area (e.g., social studies). Twenty-six states and the District of Columbia do not require any personal finance content to be incorporated in the high school curriculum.

Figure 1. Map of states mandating high school financial education requirements



Data Source: Burke et al. (2020).

Notes: Alaska and Hawai'i have no personal finance course requirements.

Eleven out of the 24 states requiring personal finance instruction directly include retirement planning as a required topic in their standards. For example, Missouri's personal finance standards require students to identify employee retirement options (e.g., 401(k)s, IRAs, employee stock options) and learn about why it is important to start saving early for retirement. Colorado's personal finance standards encourage students to explore "How much money is enough for financial security? How much money is enough for retirement?" Illinois' personal finance standards require students to learn how homeownership is part of retirement planning.

Using hand-collected data from online course catalogs on the specific personal finance courses required and offered in U.S. high schools for the 2020-2021 academic year, 1,524 of the 18,480 total classes containing personal finance content recorded directly mentioned retirement or retirement savings in some way. There were 8,047 recorded schools across the country with some personal finance content offered or required. This means

about 19% of the recorded schools directly include some content regarding retirement planning.¹

Potential mechanisms

In this study, we consider people ages 25-40, as this has allowed for enough time to pass after the mandated financial education as well as securing employment and completing their education. We posit several potential ways by which financial education in high school could affect retirement savings:

First, retirement savings is directly included in the standards of some required personal finance courses. With courses directly discussing the importance of retirement planning, students may take the topic more seriously at a younger age, save earlier, and have larger accounts in adulthood since their accounts will begin accruing interest earlier. Even when retirement savings is

¹ We include some schools' standards on retirement planning in our working paper.

not directly taught in the curriculum, the financial literacy gained from learning about long-term loans, interest rates, and savings in general can easily translate to wise retirement decisions. Personal finance courses also often teach students skills, including those needed to do the research to make good financial decisions. This ability to research and seek out information may increase the likelihood that young adults prudently plan for their retirement.

Second, personal finance coursework could improve savings, as students who have completed this coursework have been shown to make fewer mistakes early in life. For example, Harvey (2019) shows that required personal finance education reduces reliance on high-cost borrowing through payday loans. With fewer costly mistakes, young adults have a better credit record and may be able to start putting money aside for retirement sooner, rather than digging themselves out of consumer debt.

While the first two mechanisms suggest that financial education may increase retirement savings, it could be that financial education actually decreases retirement savings for those age 25–40. This would be consistent with the life cycle theory of consumption, which purports that most young adults would initially borrow to smooth consumption over the life cycle (Modigliani 1966). For example, early life financial education could lead students to focus more on acquiring skills that allow them to be marketable in the workforce. Acquiring any form of postsecondary education or training costs more than what most young adults can immediately pay upfront. While Stoddard and Urban (2020) show that financial education graduation requirements do not affect college attendance, it does induce students to borrow more Stafford loans. This could result in students accumulating more debt from investing more in their human capital. If this is the case, young adults may optimally give up saving earlier for obtaining higher educational attainment, higher future incomes, and better jobs.

Data

We use data from the 2012, 2015, and 2018 waves of the National Financial Capability Study (NFCS). The NFCS is a nationally representative cross-sectional survey intended to study the financial capability of adults. These data sample at least 500 people per state each wave. Survey respondents answer a battery of objective and subjective questions pertaining to their household's financial situation, including information about retirement

account ownership and retirement planning behaviors. The survey additionally asks questions about household demographics. Employment status is particularly important to this study, where we separate our effects for those who work full time for someone else, are employed at all and work for someone else, and are self-employed.

We confirm our results on account ownership using data from the 2014 and 2018 Survey of Income and Program Participation (SIPP). The SIPP is a nationally representative longitudinal survey intended to study public assistance participation of households. We specifically pool first waves of the 2014 and 2018 SIPP. The SIPP captures detailed information on an array of matters, importantly including employment and financial assets. The SIPP does not capture retirement planning like in the NFCS, but it does uniquely capture account levels and values.

Within both datasets, we build a sample of individuals aged 25 through 40 to track them after they have entered adulthood and are likely to complete their schooling. This way, they have transitioned from borrowing for their human capital accumulation to saving for their future. Since most policies went into place for those graduating after 2000, we cannot credibly identify their effects for those over 40.

Measures

For this study, we focus on questions pertaining to retirement accounts and other assets. Our main variables of interest are whether the household has any retirement accounts, whether the household has a retirement account through their employer (e.g., a 401(k)), whether the household has a retirement account outside of their employer (e.g., an IRA), and whether the household has other investment accounts outside of retirement accounts (e.g., stocks, bonds, mutual funds, or other securities). Since other assets may crowd out retirement savings, we also examine whether the respondent or spouse owns their home.

Besides account ownership, we explore other outcomes in the NFCS on financial security in retirement:

1. **If individuals have figured out how much money they will need in retirement**, where roughly two out of five individuals say yes.
2. **If individuals are worried about running out of money in retirement**. Specifically, they respond from 1-7, where 1 is strongly disagree and 7 is strongly agree, to the following statement: "I worry about running

out of money in retirement.” The average is 4.99, suggesting that more people are concerned than not.

3. **If households have taken a hardship loan from retirement accounts in the last 12 months.** Since this type of loan could adversely affect taxes, it could be that those who better understand retirement accounts through financial education are less likely to borrow against their retirement account. However, only 11% of respondents reported taking a hardship loan, suggesting perhaps they are only used during real hardship.

While corroborating account ownership, we also explore other outcomes in the SIPP pertaining to actual amounts saved in retirement accounts, total net worth, and home equity values.

Model

We use variation across states in the year when personal finance coursework was first required for graduation. We assign exposure to high school financial education requirements based on the state of current residence and the year the individual was age 18.

We estimate the causal effect of requiring personal finance instruction in high school on individuals’ retirement savings outcomes using standard multivariate regressions with adjusted standard errors. We control for race/ethnicity, gender, state of residence, the year the individual was 18, and survey year. Our standard errors are clustered at the state level to account for policy variation occurring at the state level. We estimate linear probability models for our dichotomous dependent variables. We use OLS for the financial stress variable (“worrying about running out of money in retirement”), which is a scale between 1 and 7. In the SIPP data, we additionally look at account balances.

We examine effects overall as well as by employment status. Since we are interested in the differences in effects of financial education on retirement savings among the full-time employed, self-employed, and those who work full or part time for someone else, we document that state-required financial education does not affect employment.

Findings

Overall, we find that financial education graduation requirements do not change the likelihood of having a retirement account. More specifically, required financial education increases the likelihood of having an account

by 1%. This null result is similar when considering the likelihood of having a retirement account through an employer. Since having an account through an employer is the most common way of holding retirement savings and financial education does not affect whether someone is employed, it is perhaps unsurprising that financial education does not affect retirement accounts through employers.

Yet, we do see that financial education modestly increases the likelihood of having an account outside of an employer by 4.6%. While economically significant, it is not statistically different from zero.

Since retirement savings does not happen in a vacuum, we additionally look at non-retirement investments (e.g., stocks, bonds, mutual funds, and securities outside of retirement accounts) and whether the household owns their home. While having financial education in high school reduces the likelihood of non-retirement investing by 5%, this effect is not statistically different from zero. Further, the rate of homeownership increases by 0.6%.

State-required personal finance instruction has no statistically nor economically meaningful impact on how worried individuals are about running out of money in retirement or on whether households have taken hardship withdrawals in the last year. The sign for all subgroups is negative, suggesting a decrease, though it remains imprecisely estimated.

We further examine additional outcomes that point to retirement planning. Financial education in high school increases the likelihood of figuring out how much is needed for retirement by 2.6%, though this is not statistically different from zero. This effect is a precisely estimated zero for those working full time or at all working for an external employer. However, it is much larger in magnitude for the self-employed, though not statistically different from zero. This suggests that the self-employed may take high school financial education seriously in determining their present and future budgets.

Overall, the results for those working full time or at all for an employer closely mimic those for the overall sample. However, the results for the self-employed slightly differ. The effects of required financial education on having any retirement accounts and having non-retirement investments flip sign, while the effects on having a retirement account outside of an employer and owning a home are larger. While none of these results statistically differ from zero, they are relatively large economically and may point to more investment in one’s own business

ventures. This could be optimal if the value of their independent ventures becomes more lucrative due to additional investment.

Corroborating results from NFCS with results from SIPP

The results from the NFCS pertain to the overall U.S. population. We supplement these findings with results from the SIPP to determine how personal finance education in high school affects a different sample. We see that it still does not have an economically or statistically significant effect on whether someone has any retirement account or an account through an employer, but it plausibly increases the likelihood that they have a non-employer retirement account in adulthood. For the SIPP sample, required financial education increases the likelihood of having a non-employer retirement account like an IRA by 11%, although this is not statistically different from zero. This effect primarily represents those working full time or at all for someone other than themselves.

The curious case of the self-employed

The evidence from the SIPP taken in combination with the evidence from the NFCS paints an interesting picture for the self-employed. First, financial education reduces the likelihood of having any retirement account for both populations. The magnitude is roughly similar, though in the SIPP results, it becomes statistically different from zero. It is also economically meaningful: required financial education decreases the likelihood of having a retirement account by 32%. Further, the effect of financial education on having a non-employer retirement account goes from positive in the NFCS to negative in the SIPP, where it becomes statistically different from zero at the 10% level. While we caution that samples are substantially smaller for the self-employed population, these results suggest that financial education lessons early in life may have different effects for those who are their own boss. Given the smaller sample size, we encourage future work to continue investigating the effects on the self-employed.

Preview of effects on the intensive margin

Our last exercise moves from the extensive margin of account ownership and instead looks at the value of accounts. In all cases, the effects of required financial education on the value of retirement accounts, net worth, and home equity are imprecisely estimated. Future work should further consider the intensive margin.

Conclusion

In this paper, we show that required personal finance education in high school has limited impacts on retirement planning, retirement account ownership, and retirement savings amounts. Since the presence of employer-sponsored retirement savings are common, we carefully split our sample by employment types and retirement account types. Even so, we find no clear evidence that financial education in high school improves the likelihood of saving for retirement.

Prior research investigating the causal effects of financial education graduation requirements on credit and debt behaviors finds large improvements, particularly for lower-income populations (Brown et al. 2016; Harvey 2019; Stoddard and Urban 2020; Urban et al. 2020; Harvey 2020; Mangrum 2021). Taken together with the present study, we suggest that states adding required standards that include retirement planning to be sure they prioritize topics such as budgeting, credit, debt, and saving for emergencies before moving to retirement savings. Additionally, a focus on researching financial topics may be more broadly used than something specific to retirement savings, particularly if the policies and tax structures around retirement savings vehicles are ripe to change for the future.

Our results also complement a literature that investigates the causal effect of workplace financial education on retirement savings. Collins and Urban (2016) find that randomly assigned financial education increases retirement savings by roughly \$30 per month among those making approximately \$30,000 per year. Further, Duflo and Saez (2003) find that workplace financial education increases the likelihood of participating in a retirement program among a more affluent population. These findings, taken together with the present study, suggest that the workplace may have more success in affecting retirement planning than the classroom. While our study mainly focuses on the probability that one has a retirement account, future research should determine if early financial education increases account balances.

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