Review Article

Robbing Students of Future Earnings and America's Economic Growth: The Lack of Financial Literacy Courses in Public Schools

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ABSTRACT

This study evaluates the benefits and opportunities of a high school financial literacy course mandate. Growing American credit card debt and personal bankruptcies have demonstrated a need for financial literacy. This knowledge would empower individuals to have better credit management and budgeting practices, more favorable loans/interest rates, and the ability to grow their wealth. An analysis of interest rate distribution, financial literacy surveys, and the success of other financial education methods have shown the potential return and benefits in the long run for high school graduates of just a single semester course. Data from the Brooking Institute and Harvard Business School has proven that financial education taught at a younger age results in greater economic stability. Therefore, students who take a personal finance course will be less reliant on welfare programs and contribute more to society. With the apparent financial disparities in education and wealth across many groups, high school presents a unique opportunity to address most students before their paths diverge effectively.

Keywords: Behavioral and Social Sciences; Other; Economics; Financial Literacy; Education

INTRODUCTION

Financial literacy is the "knowledge and skills necessary to handle financial challenges and decisions in everyday life" (1). Knowing how to use credit cards, pay taxes, stay on a budget, and save for retirement are skills that you were probably never taught in school but learned from doing -and often failing- or from family members. Here lies a disparity; poor or high financial literacy can be inherited, leading to prosperity or crippling financial crises. Especially during adulthood when the stakes are much higher due to family dependence, financial mismanagement could lead to horrific events such as bankruptcy, mortgage default, and eviction.

Only a few states require high schools to have a financial literacy course. Overall, financial stability is lagging behind other industrialized countries. Most Americans know this is a clear and pressing issue; a 2022 poll showed that 88% want a required financial literacy course in their state (16). The major obstacles lie in strict, outdated public school curricula, focusing on standardized test scores rather than students' preparedness for adulthood, a skill that most students who do not attend higher education arguably need more. A nationwide teacher and funding shortage has distorted the true power of education to

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fight inequality and prepare for adulthood. Differences in financial education and other circumstances have led to major wealth inequalities and financial exclusion of women, minorities, and immigrants leading to a lack of access and knowledge to build wealth. High school is one of the last opportunities to institute equal education and teach students skills before they enter the real world, where there is no practice round, only long-term repercussions.

VALUE OF FINANCIAL LITERACY

The reality is that most Americans struggle with financial literacy. On average, we tend to be less effective at budgeting, managing credit, and saving money. Recent data shows that "The total credit card debt reached nearly $1 trillion in early 2023, an all-time high (Figure 1)" (2). As of 2024, the average American consumer credit card debt is $5,645, with most Americans holding three cards, each with a balance of $2,850 (2). Additionally, The U.S. has the lowest savings rate out of all industrialized countries.

This is detrimental not just for the individual and household but also for the overall broader economy. There is a strong correlation between the economic growth of a country and how much consumers save as opposed to spending and falling into debt. One of the factors that can shift aggregate demand, which in turn increases GDP, is investment. When consumers or producers have more money invested or saved, they are more likely to spend discretionary dollars because of their financial comfortability. Due to their increased spending, this results in a higher gross domestic product. When production increases, a country experiences long-term economic growth. Furthermore, an International survey of adult financial literacy competencies revealed a correlation between a 15% increase in adults' financial literacy and a 1% increase in GDP (3). Therefore, a lack of financial literacy in the U.S. could inhibit our economic growth, combined with financial hardship and wealth disparities on the individual American level.

Poor financial literacy often leads to poor financial decisions, making it difficult for consumers to cover expenses, which can "yield low levels of well-being by making it difficult for consumers to meet their financial needs essential for living" (4). Americans who lack financial literacy skills struggle to organize or manage their savings to meet their everyday expenses. These individuals do not have sufficient funds to meet basic needs such as food, housing, and utilities. As a result, their quality of life decreases substantially, because their financial stress and instability increase. This leads to other social issues such as poverty, homelessness, addiction, and wealth inequalities. These effects cause greater wealth gaps in the U.S., punishing generations of families as proper financial literacy was not passed down. Teaching high school students financial literacy now can break generational cycles of poor financial decision-making, saving thousands of dollars. Many states are now realizing this, with 25 states requiring financial literacy as a course.

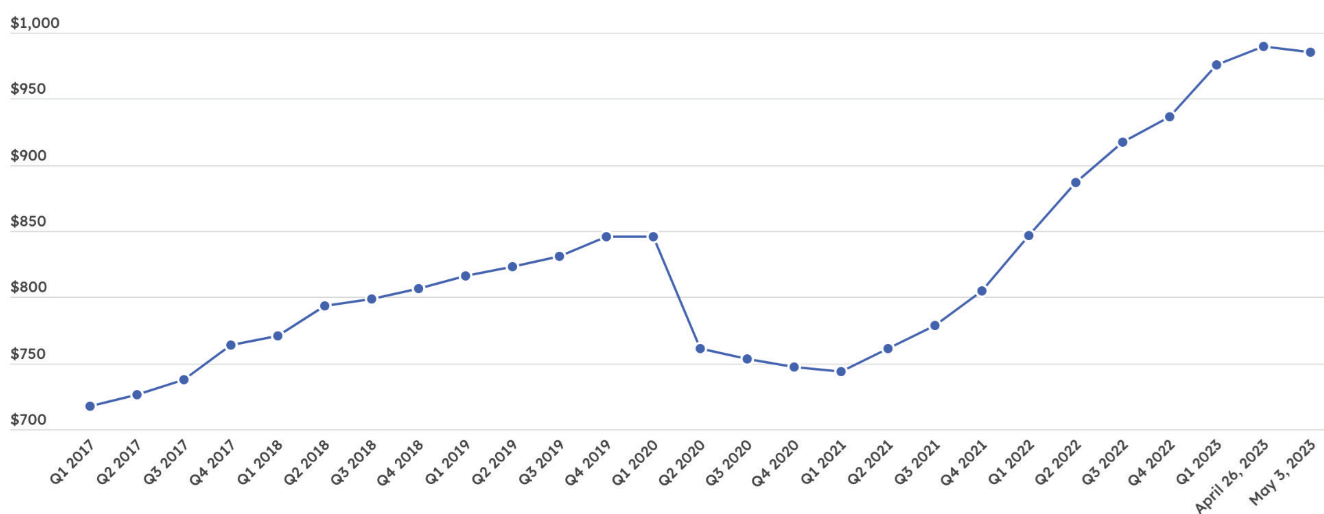

Figure 1. Credit Card Debt in the US (2000-2023) in Billions of US Dollars.

THE OPPORTUNITY FOR EARLY EDUCATION

All U.S. citizens are legally required to attend high school. High school is one of the rare opportunities where every class, race, gender and cross-section of the population has relatively equal opportunity. A public school financial education would extend access across all groups and possibly fight this generational wealth disparity early on. Due to historical factors, wealth is not distributed equally among all groups in America. Many wealthy families pass down personal financial knowledge and strategies, whereas many lower-class families may not, contributing to the ever-growing wealth gap in America.

It has been proven that "among all four levels of education, financial education in the home had the largest impact on financial behavior" (5). This is not to say that financial literacy is the sole determining factor of a person's social standing or socioeconomic class; this is the most easily solved issue. Changing the school curriculum is much easier than issuing subsidies, checks, medicare, and other policies to combat poverty.

Indeed, teaching financial literacy at a young age targets the stem of the issue; a lack of proper financial education before entering the workforce and having to manage savings without any guidance properly is what often leads to mismanagement and an overall lack of financial literacy. Therefore, intervening at this stage may "likely reduce heavy reliance on our welfare system" (5). as Americans who do not receive college degrees will instead learn crucial skills in high school. According to the U.S. census, 56% of Americans do not attend college (6). Therefore, while many students go on to learn financial skills in college, most miss out on this opportunity. High school is the last opportunity before the divergence occurs, when students are the most impressionable. A study using data from three states requiring personal finance courses compared recent students to other students in states without the requirement. They found that students in the states with the requirement had better credit scores and were less likely to have overdue debt, better-perceived creditworthiness, reduced reliance on certain categories of debt, and decreased both bankruptcy and delinquency (7).

Additionally, 75% of households do not participate in financial markets, including investing in stocks and bonds that can yield additional income. They found that participation increases with education and income but can yield substantial earnings (8). Teaching lower-income households how to participate in the financial market via a high school course could increase income, savings, and wealth, an opportunity many financially illiterate households miss. Hence, high school financial literacy education can potentially improve teens' behavior and is already working to improve Americans' financial standing.

Some may argue that adults learn financial literacy by making mistakes, which can be true: "Individuals are 40 percent less likely to get charged a fee in a given month if they had one the month prior, and monthly fees fall 75 percent during the first three years of account opening" (1). Naturally, after a large financial setback, consumers will likely be more careful in the future, but not without lasting consequences that may taint their lives forever. These difficulties can "get them into deep financial trouble over their lifetimes. These difficulties can spill over to their families and the rest of the economy" (9). Intervening before this experimentation can save lives and foster economic growth.

FINANCIAL EDUCATION DISPARITIES

Another issue financial education in high school combats is financial exclusion among different groups. Public high schools in the U.S. are rare when all groups of teenagers of different genders, citizenship, and income levels are represented. Generally, people with the lowest financial literacy are "women; the poor and lower educated respondents are more likely to suffer from gaps in financial knowledge" (10). Again, consolidating programs and providing financial inclusion can be hard as students mature and their paths diverge. However, providing a free, mandatory financial education course in high school would help lower-income students or students who plan to enter the workforce after high school receive a parallel education to those who learn more in college.

Additionally, financial literacy can be especially hard for immigrants who do not know the language or customs of the U.S., making the banking system and communication hard to navigate. This creates a harmful barrier that excludes immigrants from the business cycle and money flow, missing out on investment and helpful programs. However, financial literacy could be taught in any language and be especially accustomed to foreigners' needs at school.

Another group of interest is women. As found in a global survey of financial knowledge, "women are less likely to provide correct answers to the financial literacy questions (Figure 2)," and "more likely to indicate that they 'don't know' the answer (Figure 3)" (10). This is due to a wide range of factors, one of them being the lesser numbers of women in the workforce. Many women

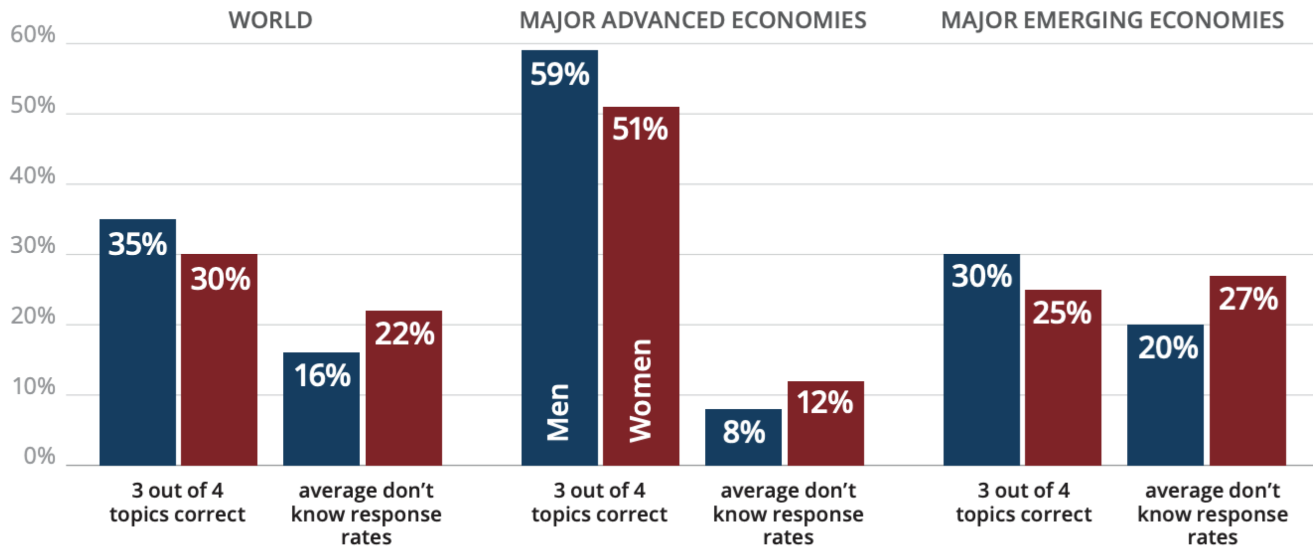

Figure 2. Financial skills by gender: Percentage of adults with "correct" or "don't know" answers (10).

The "Big Three" Financial Literacy Questions

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

Do not know

Refuse to answer

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**

Do not know

Refuse to answer

3) 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."

True

False**

Do not know

Refuse to answer

Figure 3. The "Big Three" Financial Literacy Questions (10).

are stay-at-home moms, so they miss out on employer-provided financial education. Interestingly, this is true across all kinds of countries and economies–it is not correlated to a country's economic advancement, as shown by the graph below; women are more likely to lack financial knowledge, answering "don't know" to more questions from this study.

Furthermore, women were significantly less likely to get three basic financial literacy questions correct, as demonstrated by the table and questions shown above. Hence, the National Institute of Health found that education and income have the biggest impact on the gender gap (11). If women choose or have to stay home, they may face career repercussions, resulting in a lower income and financial education. However, "women tend to live longer than men, have shorter work tenures, lower earnings and levels of pension or survivors' benefits. These factors put women at higher risk than men of having financial problems" (11). Therefore, women should be targeted equally, if not more, than men for financial education. Some may argue that women are not the main earners in their households and that men are the ones who need financial knowledge and handle all the decision-making, so it would be a waste to target women for financial education. However, this outdated stereotype no longer holds true: 41% of births are born to single mothers, who must navigate financial decisions and single-handedly provide for their families. Out of married couples, only 55% of husbands are the sole providers for their families, while the rest of the wives earn the same or more than their husbands (12). It no longer makes sense for men to be the only ones financially educated, with many single mothers and wives having equal or more financial responsibility. Therefore, women may need more financial education than men, which their families and colleagues may not facilitate. Teaching financial education in high school places equal value on financial education for both genders, contrary to many outdated perceptions that men handle financial matters.

INSTITUTIONAL FINANCIAL EXCLUSION

One cause of financial exclusion and financial education disparities is the greed of some banking institutions. Dating back to the Great Depression, the revitalized New Deal banking system prioritized expansion and competition between banks, as they needed more deposits and clients to grow. Expansions such as the "US bank merger wave: the creation of standardized borrowing and savings instruments; the aggressive use of loan securitization to convert long-term debt commitments to fee-based income; the bundling of returns from many individual funds into aggregated funds for which secondary markets often exist" have all been recent developments (13).

In the short-term, it is not always best for banks to be equal, equitable, and fair." It is not always in their short-run best interest to be equal, equitable, and fair. Banks do not market to clients equally; knowing certain neighborhoods and demographics will not be able to pay back high interest rates or generate large returns, they work to profit off their transactions rather than make it easy to save. Unfortunately, poor neighborhoods are often made up of minorities or immigrants because of discriminatory housing policies, so in turn, these groups are disadvantaged by or excluded from the banking system as well. These households are often unbanked or "accomplish virtually all of their payments transactions either on a cash basis or by utilizing money-order and check-cashing services" (13). Therefore, minority and low-income neighborhoods miss out on investment opportunities and lose financial stability quickly in not participating in economic exchanges. Most banking is done virtually on the Internet, which excludes those without access to adequate internet or transportation services. Banks are less likely to open locations in poor, run-down areas, limiting access. In banks' defense, these areas are often more prone to crime and lack opportunities for profit. However, suppose the inhabitants of these areas become educated in financial literacy during high school. In that case, banks will be more in demand and respected, and crime rates will drop when financial literacy increases, as shown by respondents of financial education observed over an entire lifetime (7). The study found that participants who received financial education had lower rates of credit delinquency.

Instead, the unbanked often turn to a more lucrative, secondary financial sector of money orders, pawn shop loans, payday loans, check cashing services, etc. Data from the Brookings Institute showed that "the average interest rate on the average payday loan is 391%, compared to 17.8% for the average credit card, and 10.3% for the average personal loan from a commercial bank" (14). Hence, this secondary sector of exchanges often charges higher banking fees and makes it difficult to accumulate savings, further widening wealth disparities among Americans.

RACE-BASED EXCLUSION

There are large financial disparities across many racial minorities as an effect of deeply rooted historical

oppression, either by direct discrimination or the established financial system designed with racial bias. Financial exclusion continues to facilitate inequality, creating additional barriers against economic and social equality. These disparities and exclusion are apparent today: "An estimated 7.1 million American households are unbanked. Black and Hispanic households are disproportionately likely to be unbanked: 13.8 percent of Black and 12.2 percent of Hispanic households are unbanked, relative to 2.5 percent of White households" (15). Minorities may distrust banking institutions or lack the money and resources to establish an account or access financial services.

Another cause of wealth disparity is home ownership. Historically, many minorities were not allowed to buy homes, due to coerced labor or racist laws and ownership clauses. Redlining was a policy-relevant in recent decades, which excluded minorities from obtaining homeowner's loans or buying homes based on the district they were from- segregated by race. While many Americans were investing in valuable homes that would grow in value over time, minorities were often stuck paying rent, taking away their investment opportunities; property rises in value as a powerful asset and investment. This disadvantage is part of the divergence in wealth accumulation and economic inequality between white people and minorities, which contributes to financial exclusion and inequality. According to the Institute of Assets and Social Policy, "the number of years of homeownership accounts for 27 percent of the difference in relative wealth growth between white and African-American families, the largest portion of the growing wealth gap" (16). Even apart from institutional banking oppression, economic inequality can be combated with early financial literacy education because "older, more educated and wealthier individuals have higher levels of financial literacy, and whites have higher literacy than racial/ethnic minorities" (11). This is due to our current school system and how financial literacy is currently passed down through families. If not disrupted, the poverty cycle will continue to privilege wealthier and often white families, excluding many minority groups from financial prosperity.

Predatory lending is another way banks discriminate and take advantage of inexperienced or disadvantaged clients. Some banks may charge higher fees and interest rates on housing loans for new, vulnerable homeowners or borrowers who are less likely to notice or look at other options. Lenders will often hide clauses or terms in fine print; these types of loans can "encompass second mortgages and home refinancing for existing homeowners, as well as home purchase loans for new homeowners; interest rates, fees and penalties, and trigger clauses" (13). Historically, and currently, predatory lending is often targeting minority groups and low-income borrowers who are desperate for loans and have low financial literacy. Knowing how to recognize predatory lending, understanding financial terms and conditions and maintaining a good credit score to avoid desperate terms in the first place are all skills many households lack and could be developed with a high school financial literacy course.

A required financial literacy course in high school would enable previously unbanked minorities to gain information and guidance to appropriately get involved in financial services and investment and identify predatory loans.

EVIDENCE OF FINANCIAL INEQUALITIES

Banks have to lower interest rates when more banking options are available to compete and gain customers. However, they often charge higher rates when there is no competition, acting analogous to a monopoly where clients must comply. The Herfindahl-Hirschman Index (HHI) measures banking competition in different areas. A higher HHI signifies low banking competition in a given area. Using data from the Federal Deposit Insurance Corporation, the Brookings Institute showed how areas with a higher Black and Hispanic population have less banking competition, making it easy for banks to take advantage of their monopoly status and charge high fees (Figure 4). Additionally, damaged credit scores are also likely to cause minorities to be unbanked and unable to improve their financial status. As mentioned, financial literacy is often passed down by generations within wealthy households while poor financial literacy is prevalent in low-income households. This creates a vigorous cycle of exclusion that grows exponentially worse when low-income households face repercussions of poor financial literacy -low credit scores and lack of banking access–which causes them to turn to higher-interest forms of exchanges, preventing savings and keeping poverty constant.

A randomized car dealer sample study showed that "women and minorities pay a statistically significant 0.6% and 2.6% greater interest rate markup than men and nonminorities, respectively (Figure 5)" (15). These differences are displayed in the graph below, with women and race minorities displaying a statistically significant divergence from other customers out of their

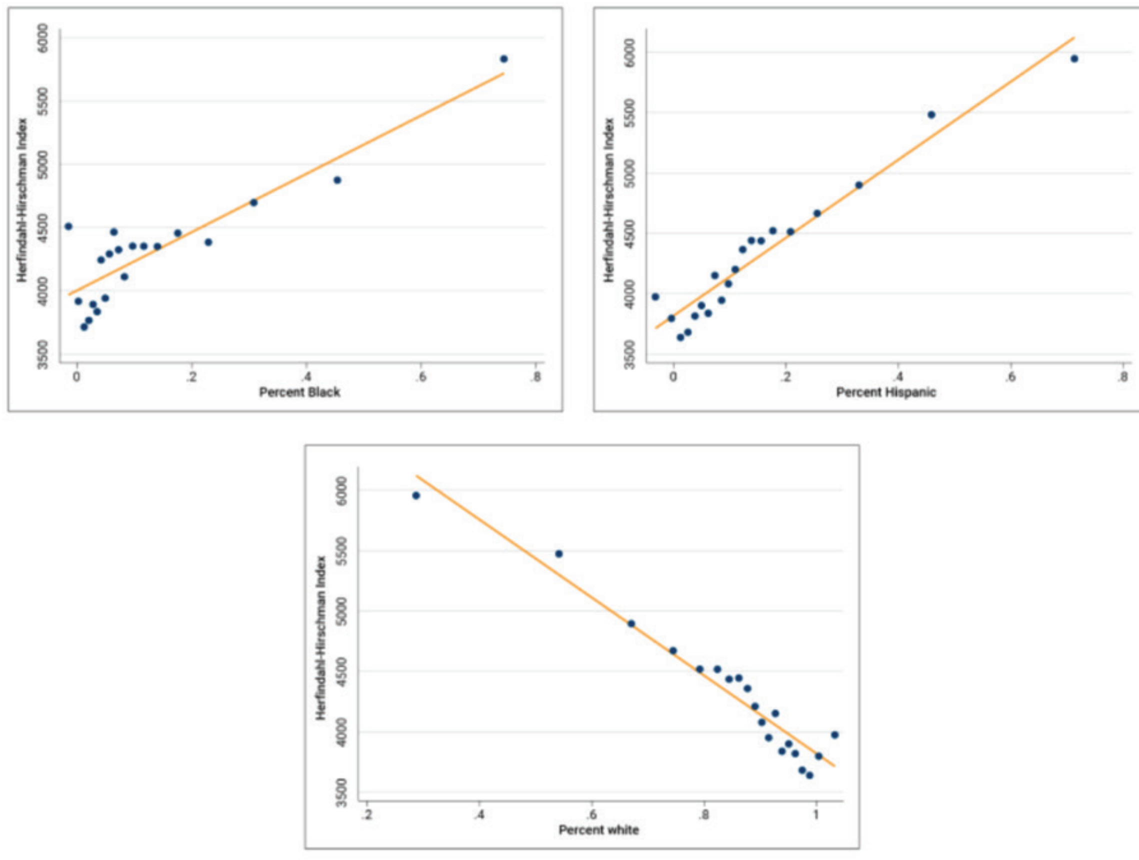

Figure 4. Banking competition as measured by HHI and race/ethnicity by zip code (14).

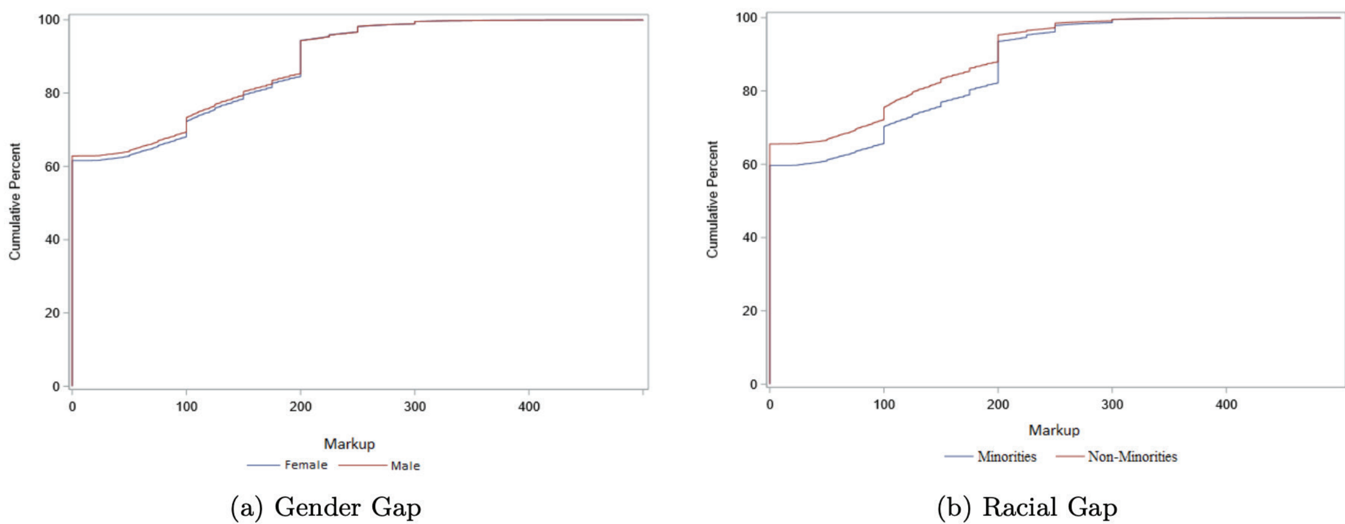

Figure 5. Cumulative distribution functions of dealer Markups Underlying the Gender and racial gaps (15).

random sample. This shows whether it be intentional or a product of other systemic disadvantages, that women and minorities often face predatory lending and unequal interest rates. On the one hand, lenders may knowingly charge higher rates based on stereotypes that women and racial minorities are less likely to question higher rates and pricing. Instead, women and racial minorities are inherently more prone to find themselves struggling with maintaining a high credit score or facing other circumstances that may create obstacles to obtaining equal loans, purchases, and informed financial behavior. Either way, this evidence shows an apparent inequality that should be corrected. By instituting a financial literacy mandate in high school, women and minorities are directly targeted for educational reform.

CHALLENGES TO A FINANCIAL LITERACY COURSE

As mentioned, 88% of Americans want a high school financial literacy course mandated in their state (16). However, only 3 × 5 states require one. In 2020, only eight states had a financial literacy course mandate: Americans are only recently beginning to see the value and success of financial education. States such as California have denied many bills from creating a requirement (18). For example, "The Senate's Education Committee failed to move Senate Bill 342 forward, which would have required California's Instructional Quality Commission to incorporate financial literacy into the K-12 curriculum" (18). What's stopping this implementation? In the U.S. public school system, high schools follow a very strict curriculum focused on standardized testing, such as the SAT or tests administered by the state, focusing on math, science, English, and history. There is no denying the value of these subjects, but for the 38% of high schoolers who do not go on to college, personal finance might be the most useful class they will take. Additionally, the other 62% of students will likewise go on to face financial challenges and learn hard lessons by experimentation rather than from a teacher (6). Schools could update their decades-old curriculum and add an equally essential focus by mandating a financial literacy course.

Another obstacle to implementing finance courses is a teacher shortage. Many teachers are not trained or educated in finance and may struggle financially. A report from CNBC suggests that "for many teachers [reluctance to teach finance is down to] a lack of confidence about how to teach something which they think they're not good at themselves" (19). If anything, this is further evidence of the urgent necessity of financial education when teachers themselves lack this critical information that everyone should have. However, with time and adequate funding provided by a state bill, new jobs would entice more aspiring teachers who will create a lasting impact for future generations.

With expanding populations and a nationwide teacher shortage, public high schools face new pressure and an increasing lack of funding. In particular, the California public high school district has faced extreme issues with "larger class sizes, fewer counselors, stripped-down course offerings, and fewer support services than most of the country" (20). This is partly due to the lack of efforts to raise funds for educational services- California spends 3.2% of taxable resources on education, compared to other states like New Jersey and New York which spend around 5% (20). Without adequate funding for education, states like California are less likely to approve more bills for financial literacy courses or other transformative programs that help advance students' futures. While some states may lack efforts to strengthen education, teacher shortages are a universal problem inhibiting public high school education quality and specialization. Just recently, between "2009 and 2014, the most recent years of data available, teacher education enrollments dropped from 691,000 to 451,000, a 35% reduction" (21). Teachers' salaries are infamously low, and, with high education costs, many are choosing not to pursue teaching. Schools will be forced to cut out many extra courses without enough teachers or struggle to provide enough learning per student (21). Demand for teachers is only expected to increase, and it is predicted to diverge even more from supply in 2024-2025 (Figure 6) (23). To make up for this lack of teacher enrollment,

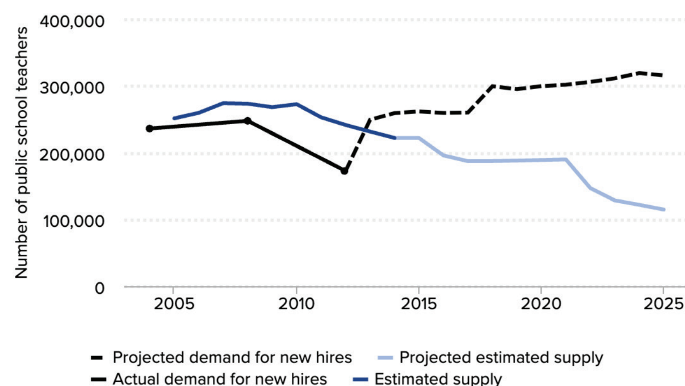

Figure 6. The projected supply and demand for new teachers from 2003–2004 through 2024–2025 (23).

many teachers do not receive traditional credentials or experience. This makes it even more difficult to find teachers eligible to teach financial literacy, when there is not enough for regular subjects. As shown in 2015-2016, 31.5% of teachers have no educational background in their subject of main assignment, and 22.4% have only been teaching for five years or less (Figure 7) (23). These numbers are only climbing as fewer teachers enroll, much less with knowledge to teach personal finance.

With a high school financial literacy mandate increasing future financial stability, students may become more inclined to pursue their passion, and have less financial stress as adults. This may increase teaching enrollment, with more students pursuing their passion despite infamously low salaries because of their financial stability. Additionally, they may succeed more with their education, as students with "higher levels of financial stress are more likely to discontinue their schooling than more financially secure peers" (22). As mentioned, financial literacy is inversely correlated with credit card debt and financial confidence (4). Therefore, as students become more confident and knowledgeable, they will experience fewer financial setbacks and experience less financial-related stress. With the proper financial education, students will go on to complete higher education and have more confidence and stability to choose a career path they are most interested in- whether that is education or engineering.

CONCLUSION

The question is not whether to implement a personal finances course but how and what should be included. Knowing how to manage credit cards is essential; potential employers and banks will look at credit scores to determine whether a credit card user is responsible enough to handle income or repay loans properly. Furthermore, it reflects how institutions view your character and trustworthiness, impacting your career and success. A credit score determines if you repay loans on time and how much

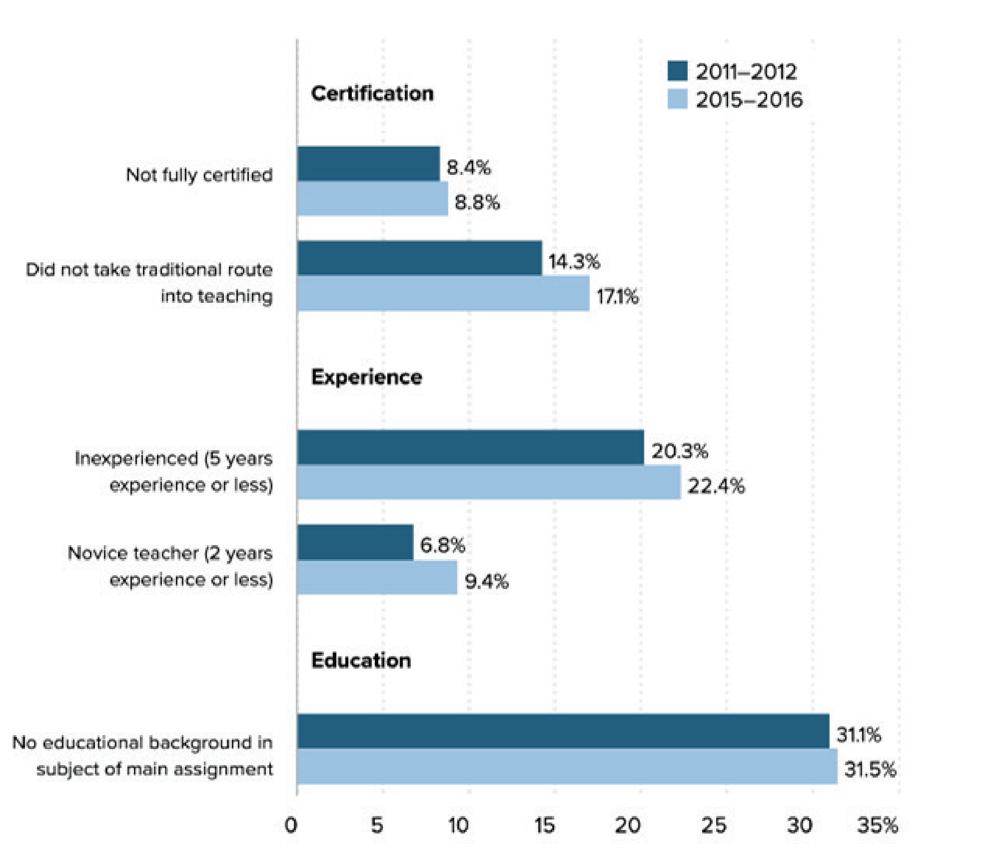

Figure 7. Change over time in teacher credentials.

available credit you use. It is dangerous to push credit cards to the limit, with debt that may not be able to be paid back in the foreseeable future. Credit scores calculate this information into a digestible number that employers and banks can compare; knowing how to manage credit scores strategically is a skill many Americans lack. According to consumer debt data from the Federal Reserve Bank of New York, American credit card debt has reached an all-time high of $1.129 trillion dollars in 2023 and is still climbing. Credit card debt is the highest in California, Colorado, and Florida–all states without financial literacy course requirements. This demonstrates the prevalent need for adequate financial education and the potential effect of financial education. Credit card debt can be easily avoided when users are educated on creating budgets, managing expenses, and understanding credit. Teaching all high school students how to manage credit cards would potentially reduce American credit card debt and help them secure better personal finance practices.

Another topic that should be included is managing 401k. 401ks are retirement savings plans that offer tax benefits and are facilitated by employers. Retirement savings are extremely important to future well-being and stability and a major strategy for tax write-offs. Taxes can take out a huge chunk of income, and knowing how to manage and reduce them is part of financial management that can lead to greater success.

Overall, these skills would benefit students everywhere. Some argue that students can find online resources or courses outside of school on their own time. However, many students lack the incentive or resources to learn these skills without a required course load- students face little encouragement from schools or their families to seek financial services or education resources. Without a personal finance course targeted for them and taught directly in schools, the same inequalities would remain, with many students lacking support, free time at home to invest in their finances, or knowledge and awareness to seek personal finance education– and who can blame them? Finance education is pushed to the bottom of the agenda compared to standardized testing, sports, academics, and other mounting expectations of high school students. Instead, having a required course would ensure equal access and substantial interest in personal finance. A Baltimore elementary school case study showed how basic lessons led to 89% of students gaining new knowledge in basic economics, and 86% had an increased understanding of basic decision-making with money.24 Students need financial education, and the impact is effective and astounding.

Knowing this information early on can help students shape their post-high school pathways. Information and direction on financial aid or student loans could alter students' life trajectories or at least save them significant money or economic hardship later.4 Spending an hour in school every day for half a year is a small cost for a lifetime of financial stability.

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