How did State Mandated Financial Education Standards in Oklahoma Affect the Credit Behaviors of Young Adults?

February 2016

Authors:
Carly Urban, Ph.D.
Montana State University
Maximilian Schmeiser, Ph.D.
Amazon, University of Wisconsin
Alexandra Brown, P.M.P.
Federal Reserve Board of Governors

Executive Summary

This study analyzes the effectiveness of Oklahoma’s unfunded educational mandate for personal financial literacy at improving credit scores and reducing credit delinquencies for young adults. Specifically, we replicate the analysis of Urban et. al. (2014) to compare young adults in Oklahoma before and after the mandate and across another state that did not incorporate any financial literacy components into its high school graduation standards (Nebraska). This method allows us to control for any broad changes in financial behaviors over time, allowing us to causally identify the effect of the Oklahoma standards on financial behaviors among young adults. We find that the education improved credit scores for the second graduating class (2015) and had no effect for the first (2014). While the education did not change 30-day delinquency rates, it decreased 90+ day delinquency rates for the second graduating class. The credit score increases found in Oklahoma are slightly smaller than those found in Georgia, Idaho, and Texas in previous research. However, those states had more stringent mandates that were more rigorously implemented. Moreover, the mandates in those three states all reduced severe (90+ day) delinquency by a greater magnitude than Oklahoma’s mandate. This smaller effect size on severe delinquencies in Oklahoma is important, as the severe delinquency rate among young adults in Oklahoma is greater than in the other states studied.

Introduction

The complexities of the financial system and financial products are becoming increasingly challenging for individuals to navigate. One group particularly at risk in this environment is young adults, as research shows that they have low levels of financial literacy (Lusardi et. al. 2010). This financial illiteracy makes young adults susceptible to expensive credit behaviors, such as taking out payday loans, paying interest on their credit cards, and being assessed fees for late payments (FINRA Foundation 2013). One way policymakers have sought to improve youth financial literacy is

---

1The Oklahoma mandate requires high school students to demonstrate proficiency in 14 personal finance standards prior to graduation.
to encourage states to include personal finance and economic education in high schools across the country. The purpose of this study is to evaluate one aspect of the unfunded personal finance education mandate for schools in Oklahoma: its effect on credit outcomes for young adults. Specifically, we examine whether students exposed to the mandate had improved financial behavior at age 18 as measured by credit scores and default patterns. This project uses the methodology developed in Urban et al. (2014) that compares outcomes for young adults in states with and without financial education mandates before and after the implementation date of the education. The Urban et al. (2014) study documents that rigorously implemented mandates in Georgia, Idaho, and Texas improved financial outcomes.

The Mandate

The Oklahoma mandate has standards that require students to be proficient in 14 areas of personal finance instruction (listed below) by the time of graduation. The mandate grants local districts the discretion to decide at what point between grades 7 and 12 to incorporate the new material. Students and school officials record satisfactory completion of the mandate by issuing a “Personal Financial Literacy Passport” required to graduate from a public high school with a standard diploma. However, these standards are not required to be implemented into one specific course and do not require that students take and complete a course prior to graduation. The mandate also does not require that students have standardized testing on this material. This varies from other states’ mandates in that the implementation is much lighter than we have seen in states such as Idaho, Georgia, and Texas. At the same time, Oklahoma does not require students to take an economics course prior to graduation. In contrast, many other states use a common model to incorporate personal finance material into a pre-existing economics course requirement. Without an economics requirement, the content of the personal finance material could be incorporated into a variety of different classes.

Personal Finance Literacy: 14 Topics

1. Earning an income and budgeting;
2. Taxation at local, state, and federal levels;
3. Banking and other financial service providers;
4. Balancing a checkbook and managing financial accounts;
5. Saving and investing;
6. Planning for retirement;
7. Borrowing money;
8. Using credit cards and making online purchases;
9. Consumer fraud and identity theft;
10. Renting and buying a home;
11. Managing risk through insurance;
12. Financial consequences of gambling;
13. Financial consequences of bankruptcy; and

---

2 When 2016 data became available, the results will be replicated to include 19 year olds as well.
3 They define a rigorous mandate as one that requires personal finance to be taught within economics courses, provides sample curricula, and in some cases, requires testing.
Methods

We use administrative data from the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP) paired with information on the timing of Oklahoma’s unfunded personal finance education mandate. The CCP data contain credit and debt information for a 5% random sample of the United States, along with every member of the household residing with each individual selected. The data contain all information that would appear on one’s credit file, such as total debt balances, default on accounts, and credit scores, as well as age and ZIP code of residence.

This research replicates the analysis of the Urban et. al. (2014) study by comparing graduating students from Oklahoma before and after the mandate was passed to those in a demographically similar state (Nebraska) over the same time period. For the purpose of this study, we observe 42,875 18 year-olds residing in Oklahoma, and 20,184 in Nebraska. Of these, 2,496 young adults in Oklahoma were exposed to the education, and 1,183 young adults in Nebraska would have been exposed to the education had they lived in Oklahoma (i.e. these are the number of individuals who graduated in 2014 or 2015 in our sample). We follow these young adults for all quarters for which they have a credit file.

Our estimates are derived from comparing the changes in credit outcomes for Oklahoma’s 18 year-olds before and after the mandate to the change in credit outcomes for Nebraska’s 18 year-olds over the same time period. The changes in credit outcomes for Nebraska’s 18 year-olds serves as a control group that accounts for any broad changes in credit outcomes over time for 18 year-olds. Therefore, any change in credit outcomes for Oklahoma’s 18 year-olds before and after the mandate beyond the change in credit outcomes for the Nebraska 18 year-olds will be the effect of the mandate. Our estimates of the effect of the Oklahoma program are thus derived from the difference in the credit scores, 30-day delinquency rates, and 90+ day delinquency rates for young adults in Oklahoma relative to Nebraska. These represent causal estimates of the personal finance standards on credit behavior.

We find that, like in Idaho, Georgia, and Texas, students exposed to Oklahoma’s education delay engaging in credit behaviors that would result in the creation of a credit record for them. Students have to open a credit account, or have some debt sent for collections, in order to create a credit record. While we find no significant change for the graduating class of 2014, Oklahoma students exposed to the mandate in the graduating class of 2015 delay opening credit accounts an average of 0.17 quarters. This delay is smaller than the delays in Georgia, Idaho, and Texas, which ranged between 0.27 and 0.84 quarters for the first and second graduating classes, respectively. On average, young adults in Oklahoma and Nebraska have credit files in these data for 1.8 quarters, out of a maximum of four quarters.

How Did The Mandate Affect Credit Scores?

Figure 1 shows the average credit score for the treatment and control state in the period prior to the implementation of the personal finance mandate (2013). We look at the effect size for 18 year-olds who graduated from high school in 2014 and 2015. While average credit scores are higher in Nebraska than Oklahoma, 646 and 627, respectively, the trends in credit scores are parallel, making Nebraska a good control group for Oklahoma. This suggests that the changes in financial behaviors of young adults in

---

4 The credit score used in our analysis is the Equifax Risk Score, which is similar to the FICO Score, but is based on a different algorithm; however, it predicts the same likelihood of severe delinquency over the next 24 months as a FICO Score. The Equifax Risk Score ranges from 280 to 850, with a higher score indicating the person is of lower credit risk.
Nebraska and Oklahoma would look similar if Oklahoma had never implemented the policy. Instead, due to the mandate, the financial behaviors of 18 year-old young adults from Oklahoma improved at a slightly higher rate.

In Figure 2, we report the improvements in credit scores resulting from Oklahoma’s financial education standards. We find that the graduating class of 2014 saw a small decline in credit scores, though this magnitude is not statistically different from zero. This is similar to the effects found by Urban et. al. (2014) in Georgia and Idaho in the previous analysis. In Texas, however, credit scores improved by 5 points in the first year of the program. For the graduating class of 2015, credit scores improved by 6.41 points, which is approximately 1% of mean credit scores. This effect size is comparable to that found in Georgia and Idaho, though smaller than the magnitude in Texas (16 points, or 2.6% of mean credit scores).

![Average Credit Scores](image1)

**Figure 1: Credit Scores Across States**

Notes: This figure depicts the average credit scores before the mandate took effect (2004-2013). The data came from the Federal Reserve Bank of New York/Equifax Consumer Credit Panel.

![Credit Score Effect Sizes](image2)

**Figure 2: Effect of the Personal Finance Standards on Credit Scores**

Notes: This figure depicts the effect of the state financial education mandate on credit scores for 18 year-olds. We calculate the difference in average credit scores between students exposed to the course in the treatment state and students who graduated in the years just before the mandate was passed in Oklahoma. We compare this difference to the difference in credit scores just before and just after the mandate was passed in Nebraska, which did not have a personal finance mandate.

How did the Mandate Affect Delinquency?

Next, we investigate the effect of the financial education standards on 30-day delinquency rates, where mean delinquency rates for young adults in Oklahoma are near 3% in the sample period (Figure 3). Although there appears to be a downward trend in the increase of 30-day delinquency rates, neither graduating classes experienced statistically significant changes. This is unlike the findings in Georgia, Idaho, and Texas, where 30-day default rates declined by roughly 0.5 percentage points for each state.
How did the Mandate Affect Severe Delinquency?

Oklahoma has one of the highest severe delinquency rates for young adults; roughly half of 18 year-olds who have a credit account are 90 or more days behind on a payment. For the first graduating class affected by the mandate, we find no significant change in the 90+ day delinquency rates. However, there is a measurable improvement in 90+ day delinquency rates for Oklahomans in the graduating class of 2015 (Figure 6); the program reduced severe delinquency by 1.3 percentage points, which is 2.7% of the mean rate. This finding is reminiscent of results in Georgia and Idaho, where the change in delinquency rates did not occur until the second year. The program reduced severe delinquency by 1.2 and 1.9 percentage points, respectively, in these states, corresponding to 6.6% and 15.8% of mean 90+ day delinquency rates. In contrast, Texas’ financial education program resulted in a reduction of 8.4% and 19.6% of mean delinquency rates for the first and second year of the program, respectively.

What is Driving the Results?

We replicate our results to determine if the reductions in credit scores and 30-day delinquency rates come from cities (Oklahoma City and Tulsa) or more rural areas (the rest of Oklahoma). We then compare only cities in Oklahoma to cities in Nebraska (Omaha and Lincoln) and rural areas in Oklahoma to rural areas in Nebraska. These results suggest that the improvements in credit scores are largely

---

Figure 3: Average 30 Day Delinquency Rates

Notes: This figure depicts the average 30-day delinquency rates before the mandate took effect (2004-2013). The data came from the Federal Reserve Bank of New York/Equifax Consumer Credit Panel.

Figure 4: Effect of Personal Finance Standards on 30 Day Delinquency Rates

Notes: This figure depicts the effect of the state financial education mandate on credit scores for 18 year-olds. We calculate the difference in average 30 day delinquency rates between students exposed to the course in the treatment state and students who graduated in the years just before the mandate was passed in Oklahoma. We compare this difference to the difference in 30 day delinquencies just before and just after the mandate was passed in Nebraska, which did not have a personal finance mandate.

---

5 This could be due to the fact that once collections begin, a credit file is started. Hence, some of these credit files may start sooner for 18 year-olds in financial distress than those who make on-time payments.
driven by cities. Seniors graduating from cities in Oklahoma in 2015 even experienced reductions of 90+ day delinquency rates of 1.6%, whereas seniors from other areas saw a smaller reduction (1.3%). Graduating seniors in cities in 2015 also saw a larger increase in credit scores (11 points) than graduating seniors from other areas (3 points).

**How do these Effects Compare to other States?**

We now compare the magnitude of the effects found in this study to those found in previous analysis of rigorous financial education mandates in Georgia, Idaho, and Texas. While we make comparisons to all three states, we assert that, of the states previously analyzed, Texas is most observationally similar to Oklahoma in geographic location, demographic characteristics, and financial variables. Some differences across the four states and analyses should be noted. First, credit scores in general were lower when Georgia, Idaho, and Texas implemented their financial education mandates (in 2007) than they were in 2014, when Oklahoma graduating seniors were exposed to the mandate. This is consistent with a trend across all states where credit scores for young adults have increased over time—partially due to restrictions on taking on too much credit for this population (e.g., the CARD Act). Second, average severe delinquency rates for young adults are higher in Oklahoma (50%) than in all three other states: Georgia (18%), Idaho (12%), and Texas (18%). Third, in the previous study, the authors studied the effect of financial education for 18-22 year olds. Since only one year has passed since the second graduating class was affected, the Oklahoma analysis looks at 18 year-olds only.
It should be emphasized that the financial education programs in Georgia, Idaho, and Texas were very rigorously implemented. This means that the states required a semester-long course for graduation, explained what concepts would be contained in these courses, provided standardized sample curricula for all school districts within the state, and in two states, incorporated the material into the standardized tests required for graduation. Thus, it is not surprising that in Oklahoma the results for credit scores and 90+ day delinquency rates are smaller in magnitude than the other states.

While it is encouraging that the minimum standards requirement in Oklahoma improved credit scores and 90-day delinquency rates, the effect sizes do not measure up to the magnitude of effects in other states. With some of the highest 90+ day delinquency rates in the country, Oklahoma’s young adults still need additional interventions, perhaps in the form of more rigorous implementation standards, to reduce severe delinquency.

Policy Recommendations

In order to improve the financial literacy of young adults, policymakers should consider revising the mandate in four key ways.

First, to improve the effectiveness of the mandate, we suggest that the state require schools to include a standalone active and classroom-based financial education course in all high schools. If this is not a feasible option, a potential requirement to include the material required to meet the standards in a specific curricula (such as social studies) should be chosen so the mandate is easier to enforce. Similarly, it might simplify the process if the course were taught in fewer grades: such as 11th or 12th versus 7th-12th. This will help ensure that the material within these requirements is consistently taught across years. It will also enable schools in rural areas that have not experienced much of the benefits of financial education to have courses more comparable to the urban areas. We emphasize that an online replacement to in-class learning should not be permitted, as online education leads to a lower level of student learning (Anstine and Skidmore 2005; Brown and Liedholm 2002). Allowing this option would decrease the overall effectiveness of the mandate.

Second, providing more training for teachers may be another way to improve the effectiveness of the mandate. In other states, financial education was not as effective in year one as in subsequent years. When digging deeper, we found that the teachers with free time to teach the course were often physical education, art, or foreign language teachers. If this is also the case in Oklahoma, we recommend that requiring teachers to be certified is not enough. Instead, teachers must be proficient in the material prior to teaching the course. While it may be difficult to require teachers to all become formally certified in teaching personal finance education, incentivizing teachers to attend training sessions may allow them to improve the quality of the course. One way to do this is to offer several training sessions across the state over a week in the summer, where each attendee is entered in a raffle for an item such as a laptop or iPad. Alternatively, one could provide low-value Amazon or Starbucks gift cards to incentivize participation. By providing teacher training, this will improve student knowledge and subsequent behaviors. We also suggest that teachers be offered a short refresher course, either live or via webinar, each time the sample curriculum is updated.

Third, implementing a standardized testing requirement will help to enforce the mandate for students. If students are required to show their proficiency on an exam, instead of just passing the standards, research finds that they take the material more seriously (Tennyson and Nguyen 2001).
Fourth, and perhaps most importantly, providing state-based funding for the mandate could improve outcomes. For example, Texas funds their financial education mandate via annual fees from financial service firms in the payday lending business. The funding provided in Texas likely increased both the early and sustained effectiveness of improving financial behaviors. We assert that if Oklahoma added a funding component, this would provide more resources for teacher training and to assist schools with getting the right teacher into the position.

We argue that these modifications will put the Oklahoma mandate on par with the more rigorous states, such as Georgia, Idaho, and Texas. By improving the credit scores and default rates of young adults, Oklahoma will sustain a stronger economy with greater financial inclusion.

References


About this Publication
This research was supported by funding from the Oklahoma Jump$tart Coalition and the Oklahoma Council for Economic Education (OCEE). The results, interpretations, and conclusions do not necessarily represent the views of the OK Jump$tart Coalition, the OCEE, or any of their affiliates.

Federal Reserve Board Disclaimer
The views expressed in this paper are those of the authors and do not necessarily represent the views of the Federal Reserve Board, the Federal Reserve System, or their staffs.

About the Authors
Dr. Carly Urban is the corresponding author. She is an assistant professor of economics in the Department of Agricultural Economics and Economics at Montana State University and an affiliate of the Center of Financial Education at the University of Wisconsin-Madison.

Dr. Maximilian Schmeiser is a senior economist at Amazon, and was previously a principle economist in the Microeconomic Surveys section at the Federal Reserve Board. He is also a Honorary Faculty Fellow at the University of Wisconsin-Madison, as well as an affiliate of the Center for Financial Security at the University of Wisconsin-Madison.

Alexandra Brown is a project manager in the Division of Consumer and Community Affairs at the Federal Reserve Board of Governors.

Dr. Urban, Dr. Schmeiser, and Alexandra Brown along with Dr. J. Michael Collins from the University of Wisconsin-Madison, combined data from their new database of state-mandated financial education requirements
with data from the Federal Reserve Bank of New York/Equifax Consumer Credit Panel to examine the effects of state mandates on financial education for high school students. The team documented notable improvements in credit outcomes for young adults who were exposed to rigorous programs. An issue brief entitled State Financial Education Mandates: It's All in the Implementation summarizes the study findings.

The Center for Financial Security
The Center for Financial Security is an applied, multidisciplinary research center that seeks to inform practitioners, policymakers, and the general public on strategies for building financial capability and security over the life course. For more information, visit www.cfs.wisc.edu.

The Oklahoma Council on Economic Education
The Oklahoma Council on Economic Education (OCEE) is a 501(c)3, not-for-profit educational organization whose mission is promoting economic and financial literacy for all of Oklahoma. Established in 1954, OCEE is affiliated with the Council for Economic Education – a national network of state councils and university-based centers.

The Oklahoma Jump$tart Coalition
The Oklahoma Jump$tart Coalition began in 2004. The Coalition is an affiliate of the National Jump$tart Coalition for Personal Financial Literacy. The Oklahoma Jump$tart Coalition is a nonprofit organization made up of individuals, businesses, financial institutions and government and nonprofit agencies who believe personal financial literacy is an essential skill. Its mission is to educate and empower Oklahomans with the information and resources necessary to make informed financial decisions.