

Nondepository Credit Intermediation and its Effects on the Financial Well-Being of Consumers

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Abstract

This paper investigates whether the availability of consumer loans has a positive or negative effect on the indicators of financial well being for consumers in the same area. By observing the number of consumer lending establishments and regressing those numbers on financial indicators, such as percent in poverty and median household income, this paper observes any statistically significant correlations that arise out of the presence of these establishments as well as the sign (positive or negative) of the correlation. The data period is 2007 to 2013. This process is used for nationwide numbers as well as six selected Southern states. For those states, current laws and regulations are reviewed to determine if state law can have any effect on the availability of this type of credit. Results show a limited number of statistically significant relationships in the years after the 2008-2009 financial crisis. The financial well-being variables are percent in poverty, median household income, and Chapter 7 bankruptcy filings. The results indicate some positive and some negative correlations between establishments and the financial indicators. The lack of statistical significance in these regressions indicates that there must be some correlations in the U.S. that differ fundamentally from the southern states studied, a topic worthy of future study.

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I. Introduction

Consumer lending is viewed by some as detrimental to the financial well-being of the borrowers. These borrowers often have low or no credit and pay the highest possible interest rate, and if their financial situation worsens and they are unable to repay the loan, they could be burdened with a defaulted loan, debt collection, garnishment or seizure of property. On the other hand, a consumer loan given to a high-risk borrower could be a necessary credit option that keeps the borrower in a position to continue meeting their basic financial needs, e.g. fixing their vehicle so they can travel to work, paying large bills on time, etc. Due to the consumer's poor credit score, consumer loans could be the only option he or she has for credit. The question addressed in this study is which of these scenarios is more likely. Of course, different states in the U.S. have different proportions of high risk consumers as well as different lending laws, so different states might offer different answers.

This study focuses on the consumer lending that consists of all credit offered by consumer lending establishments. The North American Industry Classification System (NAICS) defines consumer lending establishments as those. Illustrative examples include finance companies, personal credit institutions, small loan

companies and student loan companies.¹ These establishments are considered nondepository credit intermediaries because they offer credit to consumers but do not accept deposits, unlike banks and credit unions. The NAICS definition of consumer lending does not include credit card issuing, sales financing or other secondary market financing.

The central question in mind for this project is: How does access to high risk credit affect consumer financial well-being? Access is measured by the number of consumer lending establishments present within a state or county. This study focuses on consumer loans, not business loans. The financial indicators used here are intended to measure the financial well-being in a county or state. The statistical analysis in this study attempts to quantify the effect that access to high risk credit has on consumer well-being. Assuming that access to these loans is necessary for consumers to fulfill immediate financial needs, consumers should be less likely to file bankruptcy if they have access to high risk credit. They would also be less likely lose their job or drop below the poverty line. On the other hand, the additional debt obligation may make them more likely to default on their loans, increasing their debt per capita, lowering credit scores and making it more difficult to acquire a loan in the future. This study attempts to provide insight into which of these contrary effects is more likely.

Two factors are hypothesized to affect access to high risk credit. The first is state lending laws. The presence of an establishment represents a tolerance on the part of a state government to allow an establishment to exist and operate.

¹ U.S. Census Bureau. (2013, May 13). North American Industry Classification System.

Establishments that rely on high risk, high interest loans are presumed to be less prevalent in states that do not permit loans with high interest rates. Consumer lending is regulated primarily by states. States determine their own interest rate maximum, permissible fees and recourses for recovery of bad debt. These state-imposed limits on consumer lending are important when determining what positive or negative effects such lending has on consumers.

The second factor affecting the number of establishments is the demand of the surrounding population. Low income communities have consumers with lower credit scores whose sole option for credit is high interest loans. A study by Wachter, Russo and Hershaff in 2006 indicated that subprime housing lenders tend to operate in low income, high percentage minority areas where people will be in need of small, high risk, high interest loans.² If the same principle is applied to the prevalence of consumer lending establishments, then the number of establishments may be affected by the demographics and availability of customers. For example, an increase in establishments may merely reflect an increase in the minority population per capita.

The presence and prevalence of consumer lending establishments will be affected by both the legality of high interest loans and a demand within that state for consumer loans. Small differences in state laws and regulations can be studied for their impact on the availability of small, high risk loans and the effects they ultimately have on the financial well-being of citizens. Because the states serve as a

² Wachter, S. M., Russo, K., & Hershaff, J. (2006, July 26). *Subprime Lending: Neighborhood Patterns Over Time in US Cities* (Research Paper No. 06-19). 3.

point of comparison for the effects of consumer lending establishments, it is important to choose states that have similar socio-economic indicators. For these reasons Mississippi, Louisiana, Alabama, Tennessee, Georgia, and Florida were chosen. These six states have a generally conservative, pro-lending legal approach toward consumer lending, but there are small variations, such as how each state defines maximum interest rates. These states also have similar demographics and consumer financial characteristics.

There are two limitations of the data that are noteworthy. The first is the size of individual establishments. Because this study treats each establishment the same, it does not take into account the fact that one consumer lending establishment may give out many more loans than another establishment and therefore have a greater proportional effect on the state or county. The Census Bureau's County Business Patterns separates the number of establishments in each county and state into categories based on the number of employees, and the vast majority of those establishments fall into the lowest category (less than twenty employees). This study does not distinguish between establishments of different size.

The second limitation of note is the NAICS definition of consumer lending establishments. This definition is quite broad, so the data do not identify how many of the loans given by consumer lending establishments are indeed small, high risk loans. However, consumer lending establishments are defined as engaged in making unsecured cash loans to consumers, and such loans are nearly always small and high risk, so this study assumes that the unsecured cash loans in the data are in fact high risk. This is plausible because, at the very least, a high percentage of the

consumer lending establishments do indeed give out small high risk loans to consumers with little or no credit score.

The importance of this study for consumers is clear. High interest consumer lending could have a negative or positive effect on consumers. While some might benefit from access to credit that they may not have otherwise, if more people are further in debt or more likely to be in poverty after taking out these loans, then there is a negative net effect on the regions' economy. On the other hand, if borrowers are able to meet financial obligations that they otherwise wouldn't, such as repairing their car or keeping up with their bills, and they can repay the loan on time, then there is a positive net effect on the region's economy. Although the results are far from conclusive, they indicate that some states might be doing their consumers a service by "squeezing out" consumer lending via tight interest rate regulation, but in other states they might be preventing a beneficial service from being offered. It is the responsibility of lawmakers and regulators to ensure that the system of credit always offers a positive net effect on the economy.

Section II summarizes a series of studies that motivated this study and offers context for the methodology of the study. Section III provides an overview of the six selected states' maximum interest rates and explains each state's relative openness toward high interest credit. Section IV explains the data and how they are analyzed. Section V presents the regression results, and Section VI provides some concluding remarks on what can be learned from this study.

II. Review of Other Studies

The debt purchasing industry has received considerable attention in recent years. Government agencies, such as the U.S. Government Accountability Office (GAO) and the Federal Trade Commission (FTC), have done in-depth studies into the process of debt buying and the potential harms it could bring to consumers. In 2009, the GAO reported on the growing credit card debt buying industry. Credit card debt has been growing for years and much of this debt is sold to debt buyers who engage in collecting the debt on behalf of the originating creditor. Consumer protection laws, such as the Fair Debt Collection Practices Act, apply to “...third-party debt collectors, a term that includes collection agencies that operate on a contingency basis, collection law firms, and debt buyers, but generally does not apply to original creditors collecting on their own debt.”³ The primary focus of the government agency reports, like the GAO report, has been the fair and equitable collection of delinquent debt, as opposed to the structure of originating credit. Consequently, an unanswered question is, why are delinquency rates rising to begin with? A part of the answer to this question could lie in the economic impact of high interest lending.

³ Cackley, A. P. (2009, September 21). *CREDIT CARDS: Fair Debt Collection Practice Act Could Better Reflect the Evolving Debt Collection Marketplace and Use of Technology* (United States Government Accountability Office). 8.

In 2013, the FTC released a debt buying report that highlighted several flaws in the debt buying industry. The FTC was particularly concerned with the lack of information and supporting documents that are transmitted to the debt purchaser. Without proper information as to the principal balance, interest rate, time spent in default, etc., the debt purchaser could attempt to collect an incorrect amount from the debtor. Without supporting documents, the debtor will not be able to dispute the validity of the debt purchaser's claims. The FTC examined over 5,000,000 accounts that were sold to debt purchasers. Only 11% of accounts stated the principal balance to the debtor, and only 37% listed finance charges and fees.⁴ This study and numerous others by the FTC focus on flaws in the debt collection industry. If more attention is placed on the underlying credit instruments that lead to these defaults, then these problems could have a far smaller impact on the overall economic well-being of consumers.

In 2013, Robert J. Hobbs testified before the Nevada Legislature in support of the Nevada Wage Protection Act. In it, he discusses protecting consumers in financial emergencies, such as when they cannot repay a loan or have to file for bankruptcy. He believes that items such as wages, household equity, tools, and pensions must be protected so that consumers can continue to meet their financial obligations while repaying delinquent debt. He summarizes the different levels of protection states provide for consumers' wages, homes, household goods, cars, tools, bank accounts and pensions, and he assigns a grade for each state in each category.

⁴ Leibowitz, J., Ramirez, E., Brill, J., Ohlhausen, M. K., & Wright, J. D. (2013, January). *The Structure and Practices of the Debt Buying Industry* (Federal Trade Commission). 35.

He then notes that good wage protection grades often coincide with low numbers of Chapter 7 bankruptcy filings, suggesting that good wage protection puts more money in debtors' pockets, which enables them to meet financial obligations, and avoid bankruptcy. He advocates a 10% garnishment cap for funds taken from debtor's paychecks when they are sued for delinquent debt.⁵ His study raises two key points. One is how state lending and consumer laws can affect the financial stability of consumers. For example, maximum interest rate laws can enable more consumer lending establishments to operate, thereby affecting consumer financial indicators. The second is how consumer well-being can be measured by indicators such as Chapter 7 bankruptcy filings. Both of these points are incorporated into this study.

Wachter et al. (2009) studies subprime lending patterns, particularly those of mortgages in low-income neighborhoods. Consumer loans and subprime mortgages are likely to have similar characteristics as both are forms of high-risk credit. The study notes, "... high subprime default rates are more likely to have adverse consequences for communities to the extent that subprime loans are concentrated in neighborhoods that are fundamentally more vulnerable to economic decline."⁶ This is an important factor to consider when determining the control variables for the study. As stated earlier, consumer lending establishments are likely to appear in communities where demand for high risk credit is high, communities similar to the

⁵ *Testimony of Robert J. Hobbs, National Consumer Law Center in Support of SB 373 Nevada Wage Protection Act.* (2013, March 26).

⁶ Wachter, S. M., Russo, K., & Hershaff, J. (2006, July 26). *Subprime Lending: Neighborhood Patterns Over Time in US Cities* (Research Paper No. 06-19). 3.

ones described in Wachter et al.'s report. They study areas with high minority populations and little college education, and they discover that these areas are often more likely to utilize subprime credit. They conjecture that some subprime lenders may be "targeting" these demographics through extensive marketing of subprime products. Thus, demographic factors are important to consider when isolating the affects of consumer lending establishments. As a result, this study includes the percentage of a population that is white and the percentage of a population that has received some college education or higher as control variables in the regression analysis. These variables will help explain the variation in the financial indicators, so that the effect of the establishments can be isolated.

Debt collection is clearly an area of concern for many regulatory agencies. The Fair Debt Collection Practices Act has sparked an interest to see all debt collected upon in a fair and equitable manner. However, the underlying forms that credit take and the impact high risk credit can have on a consumer's financial well-being is an area of concern that seems to go unnoticed. Some of the previous research has concluded that law plays an important role in the well-being of consumers, and that conclusion is reflected in this paper.

III. Legal Review of States' Consumer Lending Laws

In states where lenders can give out loans for higher interest rates, the lender is able to charge high interest for loans given to customers that are considered less credit worthy. This means that more consumers are expected to default on their loans, but the higher interest paid is expected to make up for those losses, so that these loans are as profitable as any other loan given by that lender. As discussed in Section I, consumer lending often specializes in these high interest loans. Therefore, in states where higher interest rates are permitted, one expects there to be more consumer lending establishments. Further, one expects that where higher interest rates are permitted for small loans, there will be more consumer lending establishments per capita and thus greater effects on consumer well-being. A review of state's usury laws, e.g. maximum allowable interest rates and fees, can provide an indication of that state's stance toward promoting or deterring various types of consumer lending.

Each state is responsible for classifying and regulating consumer lending as each sees fit, so across states there is a great deal of variance as to how loans are regulated as well as what types of fees are permitted. However, some common elements appearing in most state statutes are: the maximum interest rate (also referred to as finance charges), maximum maintenance fees, and limits on closing

fees and any other permissible non-interest fees. Most states permit relatively small non-interest fees, but the scope of the application of the maximum interest rate varies considerably. For example, two states may have the same interest rate, but one state may allow for that rate to be applied to a larger loan than the other, enabling lenders to collect more interest. While the NAICS definition of consumer lending does not specify as to the size of consumer loans, the six states studied here have usury laws for specific loan sizes that can range from as low as \$100 to as high as over \$7,000. Given such variation in usury laws across these states, a brief summary of the statutes for each state is provided in this section.

The Mississippi Small Loan Regulatory Law and Small Loan Privilege Tax Law went into effect March 30, 2006. It created MS Code 75-17-21 which states that for any small loan to be paid back in monthly installments, the following finance charges shall apply: for loans not exceeding \$1,000 interest shall not to exceed 36% per annum, for loans greater than \$1,000 and not exceeding \$2,500 interest shall not exceed 33% per annum, for loans greater than \$2,500 and not exceeding \$5,000 interest shall not exceed 24% per annum, and for loans exceeding \$5,000 interest shall not exceed 14% per annum. Closing fees for loans not exceeding \$10,000 shall be \$25.00 or 4% of the payments due (whichever is greater), and for loans greater than \$10,000, closing fees shall be no greater than \$500.⁷ Relative to the other five states studied, Mississippi allows for moderately high finance charges.

The Louisiana Consumer Credit Law went into effect on January 1, 1973. It created LA Rev Stat § 9:3510, which states that all consumer loans are subject to its

⁷ Small Loan Regulatory Law and Small Loan Privilege Tax Law, Miss. Code Ann. § 75-17-21

restrictions, excluding credit cards, credit service charges and loans made by credit unions. Maximum finance charges, as stated in 9:3519, are as follows: for loans no greater than \$1,400 interest shall not exceed 36% per annum, for loans greater than \$1,400 and less than \$4,000 interest shall not exceed 27% per annum, for loans exceeding \$4,000 and not exceeding \$7,000 interest shall not exceed 24% per annum, and for loans exceeding \$7,000 interest shall not exceed 21% per annum.⁸ One year after the maturity of a contract, interest cannot exceed 18% per annum.⁹ Relative to Mississippi, Tennessee, Alabama, Georgia and Florida, Louisiana has the highest interest rate limits, but it does provide for a maximum interest rate of 18% after one year of maturity. As this “after one year” feature is unique to Louisiana, it is not included when making relative comparisons across the six states.

The Alabama Consumer Credit Act (“Mini Code”) took effect in 1971. It created ALA CODE 5-19, which governs all consumer loans under \$2,000. The maximum finance charges are as follows: 15% interest may be charged on the unpaid portion of the loan under \$750 and 10% interest may be charged on the unpaid portion of the loan greater than \$750 and less than \$2,000.¹⁰ The Alabama Small Loan Act took effect in 1959. It governs loans under \$1,000. Maximum finance charges are as follows: 36% per annum on the unpaid balance up to \$200 and 24% per annum on the unpaid balance greater than \$200 and less than \$1,000. The Small Loan Act also provides for a \$3.00 per month maintenance fee and a

⁸ Louisiana Consumer Credit Law, LSA-R.S. § 9:3519.

⁹ Louisiana Consumer Credit Law, LSA-R.S. § 9:3522

¹⁰ The Alabama Consumer Credit Act “Mini Code,” Ala.Code 1975 § 5-19-3

default charge of \$18 or 5% of the amount due, whichever is greater.¹¹ There does not appear to be any state limit for loans greater than \$2,000. Alabama differs from Mississippi, Louisiana, Tennessee and Georgia in that the Mini Code and Small Loan Act permit different interest rates to be applied to different portions of the same loan. For example, on a \$1,000 loan, the maximum allowable interest rate is relatively low in Alabama (36% on the first \$200 and 24% on the remaining \$800), whereas Mississippi and Louisiana allow 36% interest on the entire \$1,000 loan. For a loan amount greater than \$1,000 and not exceeding \$2,000, the interest rate maximums are around 10% - 15% in Alabama, whereas interest rate maximums are between 24% and 36% in Mississippi, Louisiana, Tennessee, or Florida. Only Georgia has a lower rate (10%) for such a loan.

Tennessee restricts the finance charges for all loans not defined by other Tennessee law to 10%. Most consumer lending establishments fall under the definition of thrift companies and are regulated by the Industrial Loan and Thrift Companies chapter of the Tennessee statutes for Banks and Financial Institutions. These laws took effect on October 1, 2007. According to § 45-5-401, the maximum effective interest rate for loans less than \$100 shall not exceed 18% and the maximum effective interest rate for loans greater than or equal to \$100 shall not exceed 24%.¹² Lenders may also charge a service charge equal to 4% of the principal amount of the loan.¹³ Tennessee allows for a mid-level small loan interest rate (24%) to be charged on any loan over \$100. While Mississippi, Louisiana and

¹¹ Alabama Small Loan Act, Ala.Code 1975 § 5-18-15

¹² T. C. A. § 45-5-401

¹³ T. C. A. § 45-5-403

Florida permit higher rates for loans under \$100, they also specify lower rates for larger loans, so for the range of consumer loans considered in this study, Tennessee allows moderately high interest rates for a typical consumer loan.

The Georgia Small Industrial Loan Act provides an interest rate limit for all loans under \$3,000. The maximum interest rate to be contracted for and received is 10% per annum. Interest may be compounded only on loans with a maturity exceeding 18 months. A loan fee may be charged but must be no greater than 8% of the first \$600 plus 4% of the excess. A late charge is permitted but cannot exceed the greater of \$10 or 5% of the amount due. A maintenance charge is permitted in the amount of \$3.00 per month of the loan.¹⁴ There does not appear to be any state limit for loans greater than \$3,000. Although it allows for relatively high additional fees, Georgia allows for relatively low total interest compared to the other six states.

Florida code 516.031 provides for interest rate limits for consumer finance companies, which are defined as loans not exceeding \$25,000 and charging interest greater than 18%. For loans made between October 1, 2006 and June 30, 2013 the maximum finance charges are as follows: 30% interest on the amount up to \$2,000, 24% interest on the amount greater than \$2,000 and not exceeding \$3,000, 18% interest on the amount greater than \$3,000 and not exceeding \$25,000.¹⁵ For loans entered into after June 30, 2013, the following finance charges are allowed: 30% interest on the amount up to \$3,000, 24% interest on the amount greater than \$3,000 and not exceeding \$4,000, 18% interest on the amount greater than \$4,000

¹⁴ The Georgia Small Industrial Loan Act, Ga. Code Ann., § 7-3-14

¹⁵ F.S.A. § 516.031 (effective October 1, 2006 to June 30, 2013)

and not exceeding \$25,000.¹⁶ Florida is similar to Alabama in that it allows different interest rates to be applied to different parts of a single loan. For loans entered into after June 30, 2013, the amount of the loan that each maximum interest rate applies to has risen, which is beneficial to consumer lending establishments. Although Florida does not allow for the 36% interest that Mississippi, Louisiana and (in some situations) Alabama allow, it does allow for fairly high finance charges, ones comparable to Mississippi and Louisiana. Florida seems to allow for the third highest interest rates, just below Louisiana and Mississippi.

Figure 1 shows the maximum allowable interest rate for each state by the size of the loan. Alabama and Florida allow each interest rate maximum to be applied to that respective portion of the loan, so one loan can have multiple maximum rates. The figure shows that Mississippi, Louisiana and Florida permit relatively high rates, so they are expected to attract a relatively high number of establishments per capita, and their maximum rates decrease steadily as the loan increases in size. Tennessee allows for moderately high interest for most loans, but it also allows for the highest interest for loans greater than \$7,000. Thus, like Mississippi, Louisiana and Florida, Tennessee's lending environment can promote a fairly high number of consumer lending establishments. Alabama has relatively low rates from loans between \$1,000 and \$2,000 but relatively high rates for loans less than \$1,000. Georgia has relatively low maximum interest rates for loans less than \$3,000. Neither Alabama nor Georgia have a known interest rate limit for loans above \$2,000 and \$3,000, respectively, so they could still have pro-lending

¹⁶ F.S.A. § 516.031 (effective July 1, 2013)

environments for consumer lending if there is a demand for loans greater than those amounts. The tighter regulations in Alabama and Georgia could make it difficult for consumer lending establishments to be successful if their smaller loans cannot charge the high interest rates that are permitted in other states.

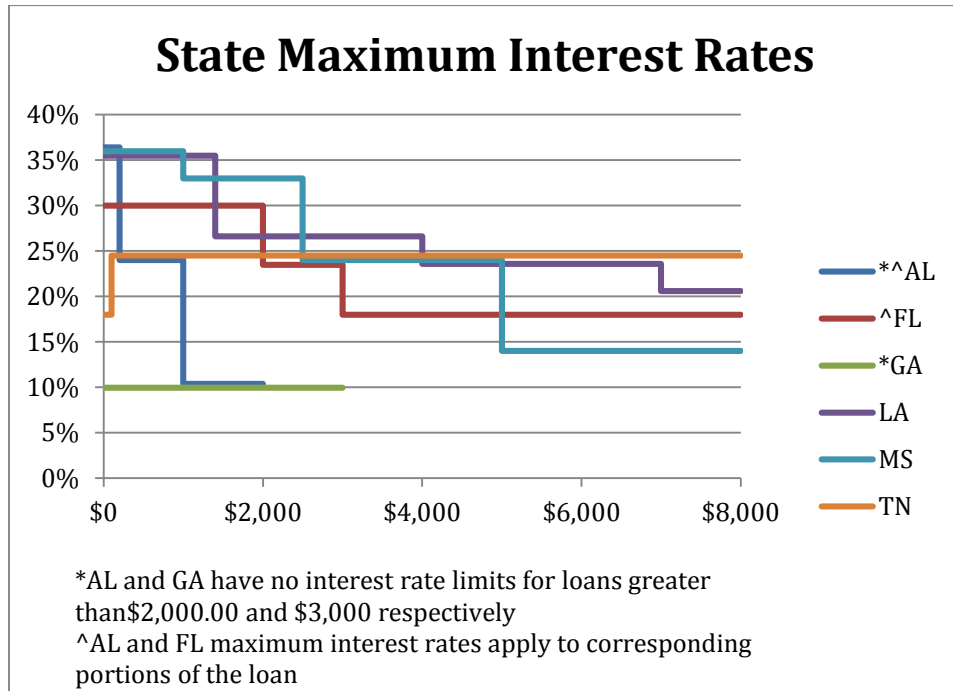


Figure 1. Maximum Allowable Interest Rates per State by Loan Size

Table 1 shows a category for each state’s maximum interest rate as well as the expected frequency of consumer lending establishments per capita. Due to the complex structure of maximum interest rates, the high, medium, and low categorizations are relative comparisons based on the average interest rate presented in Figure 1. Mississippi, Louisiana and Florida have high maximum interest rates. Thus, they are expected to have a high frequency of consumer lending establishments per capita. Tennessee permits relatively low interest rates for the smallest of consumer loans but relatively high interest rates for larger

consumer loans. Therefore, Tennessee permits medium maximum interest rates and is expected to have a medium frequency of consumer lending establishments per capita. Alabama and Georgia have low maximum interest rates for the small consumers but no interest rate maximum for larger consumer loans. Consumer lending establishments in these states are expected to engage in lending outside these limits (loans greater than \$2,000 in Alabama and loans greater than \$3,000 in Georgia), resulting in a medium frequency of establishments. Section IV will compare these expected frequencies to observed frequencies.

Table 1. Categories for Each State’s Maximum Interest Rate and Expected Frequency of Consumer Lending Establishments per Capita.

State	Maximum Interest Rate(s)	Expected Frequency of Consumer Lending Establishments per Capita	Comment
Mississippi	High	High	
Louisiana	High	High	
Alabama	Low	Medium	No maximum interest rate on loans greater than \$2,000. Different interest rate maximums are applied to different portions of the loan.
Tennessee	Medium	Medium	
Georgia	Low	Medium	No maximum interest rate on loans greater than \$3,000.
Florida	High	High	

IV. Data

IV.1. Sources

Consumer lending establishments per capita is the primary independent variable because it represents the availability of consumer lending while taking into account population differences across states and counties. Control variables include Gross Domestic Product (GDP) per capita (for state level data only), the percent of population that identifies as white, the percent of population that has some college education or higher, and the unemployment rate. Changes in GDP and changes in the unemployment rate indicate economic growth or decline. In the state-level analysis GDP is used, and in the county-level analysis unemployment is used (GDP data are not available at the county level). Changes in percent white or percent college education or higher reflect changing proportions of a population that may affect the use of consumer lending.

The numbers of consumer lending establishments are acquired from the U.S. Census Bureau's County Business Patterns. The County Business Patterns provides data for the number of establishments for every six-digit NAICS code. Data are available at the county, state and national level. Data are also available on the number of establishments by employee size.¹⁷ Population estimates are taken from

¹⁷ United States Census Bureau. *County Business Patterns*.

the U.S. Census Bureau's Annual Estimates of the Resident Population, a tool within the American Fact Finder. Population estimates are available for every state and county for the year 2013.¹⁸ These estimates are used to calculate all per capita values, such as consumer lending establishments per capita and Chapter 7 bankruptcy filings per capita.

GDP per capita is taken from the Bureau of Economic Analysis - Regional Data – GDP & Personal Income.¹⁹ The U.S. Census Bureau's American Community Survey provides estimates for the percentage of a population that is white and the percentage of a population that has some college education or higher.²⁰ These are both one year estimates provided for both counties and states. The Bureau of Labor Statistics' Local Area Unemployment Statistics provides state and county level unemployment numbers.²¹

Mean wages (for state level data), median household income (for county level data), poverty rates, and bankruptcy filings per capita (for state level data only) are used as measures of financial well-being. Changes in wages and income reflect a population's ability or inability to maintain a steady income, something that might not be possible if critical financial obligations are not met via the use of consumer lending. Changes in the poverty rate indicates a population's increasing or decreasing total wealth. For example, a decrease in poverty could reflect a decrease

¹⁸U.S. Census Bureau, Population Division. *Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2013*. (2014, March).

¹⁹ U.S. Department of Commerce, Bureau of Economic Analysis. *GDP & Personal Income, Annual Gross Domestic Product (GDP) by State, Per capita real GDP*.

²⁰U.S. Census Bureau. *2010-2014 American Community Survey 5-Year Estimates, B02001 Race, Universe: Total Population*.

²¹ United States Department of Labor, Bureau of Labor Statistics. *Local Area Unemployment Statistics*.

in income or an increase in household size that is not accompanied by an increase in income. If consumer lending helps individuals meet basic financial needs, then poverty rates should improve where consumer lending availability increases.

Mean wages for each state are taken from the Bureau of Labor Statistics' Occupational Employment Statistics.²² Median household income is taken for every county of the six states. County income data, county poverty data, and state poverty data come from the U.S. Census Bureau's Small Area Income and Poverty Estimates.²³ The poverty rate measures the percentage of people in that county or state whose income in the past twelve months was below the poverty line. The U.S. Census Bureau's survey data, population estimates and administrative records produce these estimates.

The best measure of bankruptcy is the portion of the population that has filed for Chapter 7 protection. Chapter 7 is a liquidation option that involves the consumer liquidating his or her assets that are not determined to be exempt by the state²⁴ and then using those proceeds to pay off remaining debts. After that, any remaining balance is forgiven, and the consumer gets a fresh start with no outstanding debts. Chapter 7 is utilized when one is in deep financial distress. The number of filings in each state is reported by the United States Courts – Caseload Statistics Data Tables.²⁵

²² United States Department of Labor, Bureau of Labor Statistics. *Occupational Employment Statistics*.

²³ U.S. Census Bureau. *Small Area Income and Poverty Estimates*.

²⁴ see Hobbs testimony, pages 7-8

²⁵ United States Courts. *Caseload Statistics Data Tables*.

Table 2 gives the mean, median, minimum, maximum, and standard deviation for every independent and dependent variable using county level data for the six selected states over the years 2009-2013. Table 2 does not include bankruptcy rates because they are not available at the county level. For most of the variables and most of the states, there is little difference between the variable's mean and median values in the given state. (In symmetrical distributions, the mean and median are equal.) The most skewed data set appears to be percent white in Alabama, where the mean is 68.31% and the median is 73.02%. Alabama also has the largest standard deviation among states for percent white, with 21.52%. Interestingly, Tennessee has the largest mean and median for percent white and the lowest mean for percent of population with some college education or higher.

Table 2. Descriptive Statistics, 2009-2013.

Independent Variables		Alabama	Florida	Georgia	Louisiana	Mississippi	Tennessee
Establishments	Mean	1.19	0.18	1.40	2.08	1.74	1.19
	Median	1.06	0.13	1.23	2.17	1.72	1.16
	Minimum	0.00	0.00	0.00	0.00	0.00	0.00
	Maximum	4.44	1.43	8.45	5.91	4.74	4.45
	Standard Deviation	0.88	0.22	1.11	1.25	1.12	0.90
Unemployment Rate	Mean	10.92%	9.47%	10.67%	8.38%	11.09%	10.48%
	Median	10.20%	9.50%	10.40%	7.95%	10.70%	10.30%
	Minimum	4.70%	4.80%	5.60%	4.60%	5.30%	4.90%
	Maximum	26.30%	14.70%	22.90%	20.30%	20.20%	23.10%
	Standard Deviation	3.46%	1.96%	2.20%	2.36%	2.76%	2.37%
Some College Education or Higher	Mean	42.26%	48.26%	41.36%	39.06%	43.53%	38.46%
	Median	39.30%	48.50%	38.50%	36.10%	41.75%	36.60%
	Minimum	26.80%	25.10%	19.60%	24.80%	20.20%	18.10%
	Maximum	70.00%	72.20%	73.00%	62.50%	72.80%	77.40%
	Standard Deviation	8.66%	11.27%	11.20%	8.67%	8.71%	10.03%
Percent White	Mean	68.31%	79.59%	66.88%	64.77%	56.71%	89.48%
	Median	73.02%	82.38%	66.89%	66.80%	59.61%	93.53%
	Minimum	15.07%	36.75%	14.32%	26.04%	13.24%	40.95%
	Maximum	97.29%	93.43%	98.07%	98.00%	94.87%	99.29%
	Standard Deviation	21.52%	10.03%	17.26%	13.87%	20.02%	11.01%
Dependent Variables							
Median Income	Mean	\$36,739.20	\$41,927.44	\$39,421.55	\$39,592.41	\$33,744.51	\$38,558.32
	Median	\$35,646.00	\$41,072.00	\$36,318.00	\$38,377.50	\$32,806.00	\$36,858.00
	Minimum	\$20,990.00	\$29,482.00	\$23,887.00	\$23,186.00	\$21,617.00	\$23,901.00
	Maximum	\$68,718.00	\$66,312.00	\$87,565.00	\$70,303.00	\$64,657.00	\$93,241.00
	Standard Deviation	\$7,886.29	\$7,187.36	\$10,745.44	\$8,266.55	\$6,998.19	\$8,432.68
Percent in Poverty	Mean	21.92%	19.04%	22.47%	21.61%	26.02%	19.80%
	Median	20.70%	18.50%	22.50%	21.00%	24.45%	19.50%
	Minimum	6.90%	8.70%	5.50%	9.20%	9.00%	5.40%
	Maximum	39.90%	33.90%	48.10%	45.80%	48.40%	44.80%
	Standard Deviation	6.25%	5.36%	6.94%	6.26%	7.52%	4.96%
Observations		67	67	159	64	82	95

IV.2. Trends in Consumer Lending Establishments

As of 2013, the average state in the U.S. has .43 consumer lending establishments per 10,000 people. Consumer lending establishments more heavily populate Southern states per capita than any other geographic area in the United States. The six states in this study have among the highest consumer lending establishment per capita figures in the country with the exception of Florida, which has a below average number of establishments per capita (.161).

IV.2.a. National Level Summary

A look into which states have higher concentrations of consumer lending establishments alongside state GDP offers economic context for the analysis of this study. Figure 2 groups each of the fifty states into one of six geographic regions and plots each state according to consumer lending establishments per capita and state GDP per capita in 2013 (states within the same geographic region are plotted with the same symbol). In addition, nine states are explicitly identified on the figure: the six studied states (MS, LA, AL, GA, TN, and FL) as well as Massachusetts (MA), Connecticut (CN), and Arkansas (AR). Figure 2 shows that states in the Southeast have among the highest concentrations of consumer lending establishments and that their GDP per capita is around the middle to lower level of the United States. Arkansas is unique amongst Southern states, as it explicitly prohibits nearly all consumer lending establishments. Northeast and New England states have much lower concentrations of consumer lending establishments, and their GDPs sit among the middle to upper levels in the country. In particular, Massachusetts and

Connecticut are in stark contrast to the six Southern states studied here. Figure 2 provides an illustration of the correlation between high concentrations of consumer lending establishments and lower financial indicators. Some Southwest states, particularly Oklahoma and New Mexico, are scattered among the Southeastern states with high levels of consumer lending establishments, and they might be worthy of future study.

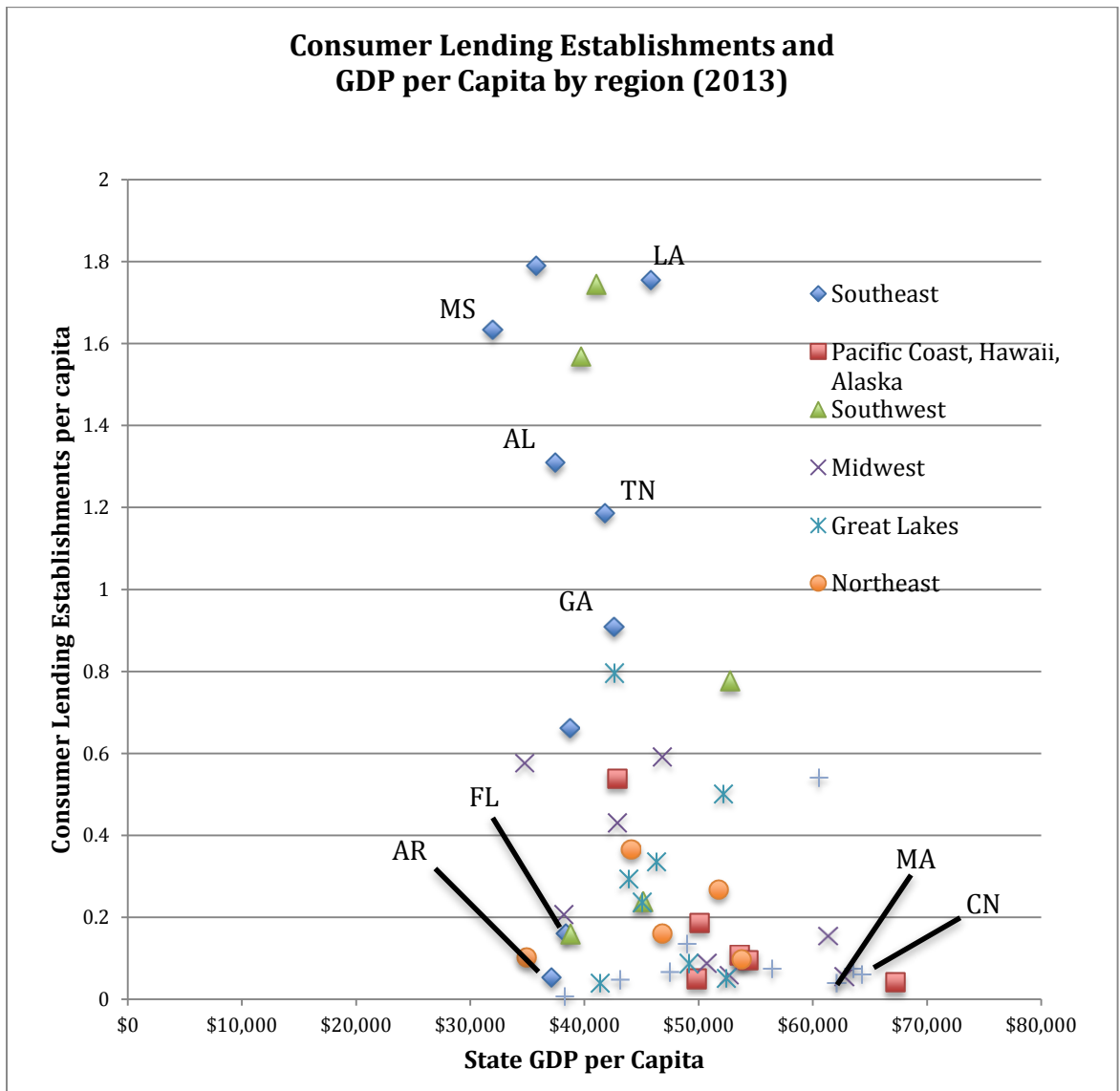


Figure 2. Consumer Lending Establishments per capita and GDP per Capita by Region.

IV.2.b. State Level Summary

Mississippi, Louisiana, Alabama, Tennessee, Georgia and Florida were identified as research candidates due to their trends in consumer lending establishments. Figure 3 shows the six selected states' consumer lending establishments per capita alongside the data for Arkansas, Connecticut and Massachusetts. These nine states were highlighted in Figure 2 above.

Figure 3 indicates that Mississippi and Louisiana have the highest levels of consumer lending establishments per capita, but their numbers have decreased somewhat since 2007. Table 3 shows the maximum interest rate categories, expected frequency of establishments, and observed frequency of establishments. Table 3 shows that the relatively high levels in these two states is consistent with the High expected frequency based on state laws. Florida also has a High expected frequency based on its state laws, but it the lowest observed frequency of the six Southern states. It has around one-fifth as many establishments per capita as Mississippi and Louisiana, and its numbers have been decreasing at a more rapid rate since 2007. In fact, Florida's numbers have declined almost to the levels of Connecticut and Maine.²⁶ Tennessee, Alabama and Georgia have around one half the establishments that Mississippi and Louisiana have, but considerably more than Florida and Arkansas. The "middle of the pack" numbers for these three states is consistent with the Medium expected frequency based on their state laws. The Tennessee and Alabama numbers have remained relatively stable or increased

²⁶ In addition to the relatively high per capita GPD (Figure 2 above), Connecticut and Massachusetts have relatively low maximum interest rates compared to Southern states. They would receive a Low expected frequency if included in Table 2 above.

slightly since 2007, while Georgia has decreased slightly. The diversity in establishments per capita across the six selected Southern states provides the basis for the regression analysis below.

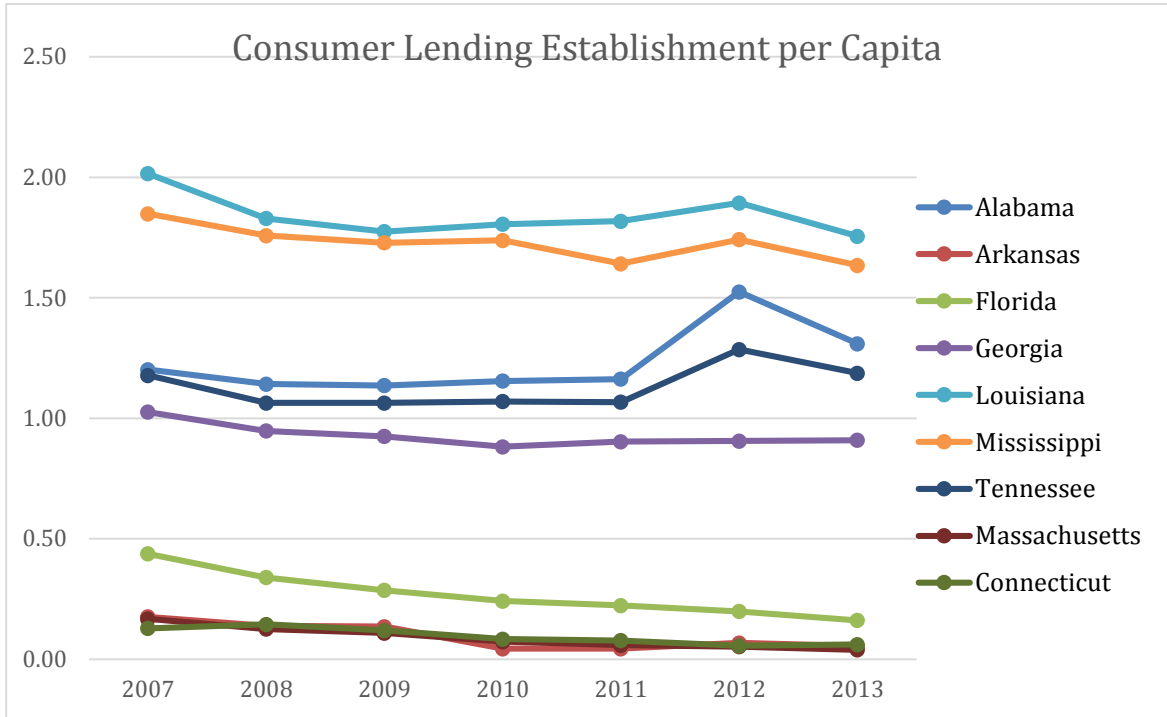


Figure 3. Consumer Lending Establishments per capita

Table 3. Categories for Each State’s Maximum Interest Rate, Expected Frequency of Consumer Lending Establishments per Capita, and Observed Frequency

State	Maximum Interest Rate(s)	Expected Frequency of Consumer Lending Establishments per Capita	Observed Frequency of Consumer Lending Establishments per Capita
Mississippi	High	High	High
Louisiana	High	High	High
Alabama	Low	Medium	Medium
Tennessee	Medium	Medium	Medium
Georgia	Low	Medium	Medium
Florida	High	High	Low

V. Regression Results

This section presents regression results relating changes in measures of consumers' financial well-being to changes in the number of consumer lending establishments. The regressions also include control variables for ethnicity, education and general economic conditions. The data period is 2007-2013 for state level regressions and 2009-2013 for county level regressions. To highlight differences across years, separate regressions are run for the one-year periods beginning with 2007-2008 (or 2009-2010 for county level regressions) and ending with 2012-2013. The year-to-year regressions are motivated in part by the occurrence of the Great Recession, arguably an exceptional event that could affect year-to-year trends.

V.1. State Level Results

At the state level, the year-to-year change in consumer financial well-being (ΔCFWB) is measured by three variables: the change in mean wages ($\Delta\text{Mean Wages}$), the change in the poverty rate ($\Delta\text{Poverty Rate}$), and the change in Chapter 7 bankruptcy filings per capita ($\Delta\text{Chapter 7}$). For each of these, the following regression is estimated using state-level data from all fifty U.S. states and the District of Columbia:

$$\Delta\text{CFWB} = \beta_0 + \beta_1\Delta\text{NumEstbl} + \beta_2\Delta\text{Unempl} + \beta_3\Delta\text{PctColl} + \beta_4\Delta\text{PctWht} + \varepsilon$$

The primary independent variable of interest is the change in number of establishments per capita ($\Delta\text{NumEstbl}$). The three control variables are the change in the unemployment rate (ΔUnempl), the change in percent of the population that has a college education or higher ($\Delta\text{PctColl}$), and the change in the percent of population that is white (ΔPctWht).

Table 4 shows the eighteen estimated regressions. The three dependent variables (measures of changes in consumer financial well-being) are shown across the top and the independent variables are shown down the left-hand side. For each dependent variable, there are six time periods. The estimated coefficients are shown along with their p-values; summary R^2 and F statistics are shown at the bottom of the table. In the $\Delta\text{Poverty Rate}$ regression, the variable $\Delta\text{NumEstbl}$ is statistically significant for periods '09-'10 and '10-'11, which occur shortly after the Great Recession of 2008. These are highlighted in green in the table. The positive coefficient for $\Delta\text{NumEstbl}$ indicates that on average in these two periods, in states where establishments per capita dropped, the percentage of people in poverty dropped, and, likewise, in states where establishments per capita rose, the percentage of people in poverty rose. Additional discussion of this relationship is provided below.

Table 4 also shows a statistically significant correlation between $\Delta\text{NumEstbl}$ and $\Delta\text{Chapter 7}$ in '10-'11 and '11-'12. (Also highlighted in green.) The coefficients, of the two time periods have opposing signs, giving mixed results as to how consumer lending correlates with consumers' likelihood of filing for bankruptcy. Further analysis of the data reveals that there was an average decrease of .02

Table 4. State Level Multiple Regression.

	Mean Wages					
	'07-'08	'08-'09	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita (p-value)	703.742 (0.372)	-843.394 (0.747)	1,804.537 (.272)	.401.487 (0.797)	-310.188 (0.590)	-192.201 (0.781)
Unemployment rate	78.349 (0.348)	-46.993 (0.459)	10.992 (.885)	156.472 (.070)	105.355 (.260)	39.911 (.552)
Some college education or higher	9958.245 (0.014)	-4,319.446 (.168)	2,939.997 (.321)	-5,135.07 (.019)	-2500.03 (0.439)	1990.439 (0.430)
Percent White	8150.238 (0.160)	10221.551 (0.483)	-7.840 (.072)	-127.224 (.238)	187.652 (.177)	-113.561 (.061)
<i>n</i>	51					
R ²	.182	.071	.160	.168	.109	.086
F	2.560	.882	.084	2.320	1.408	1.087
Significance F	(.051)	(.482)	(.084)	(.071)	(.246)	(.374)
	Percent in Poverty					
	'07-'08	'08-'09	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita (p-value)	1.169 (.164)	3.000 (.330)	4.283 (0.038)	5.421 (.026)	-.590 (0.350)	1.590 (0.106)
Unemployment rate	0.271 (.003)	0.226 (.004)	0.202 (.036)	-0.164 (0.204)	-0.026 (.797)	-0.038 (.685)
Some college education or higher	-0.737 (.860)	6.429 (.081)	1.570 (.666)	-.679 (0.832)	-2.150 (.541)	-7.865 (.030)
Percent White	-3.172 (.602)	16.910 (.322)	-0.004 (.427)	.049 (0.762)	-0.095 (.530)	.109 (0.194)
<i>n</i>	51					
R ²	.190	.242	.199	.122	.050	.163
F	2.70	3.668	2.863	1.610	.610	2.239
Significance F	(.042)	(.011)	(.034)	(.188)	(.658)	(.079)
	Chapter 7 bankruptcy filings per capita					
	'07-'08	'08-'09	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita (p-value)	-.532 (0.390)	-2.065 (.353)	.747 (0.523)	-1.966 (0.082)	0.635 (0.046)	-.354 (0.473)
Unemployment rate	.209 (0.002)	0.280 (.000)	0.138 (.015)	0.231 (.000)	0.085 (.095)	0.047 (.324)
Some college education or higher	-3.437 (.269)	2.115 (.421)	2.360 (.266)	-0.552 (.715)	-2.791 (.114)	-0.313 (.861)
Percent White	9.230 (.045)	-22.702 (0.070)	0.000 (.932)	-0.021 (.779)	0.373 (.000)	.080 (0.065)
<i>n</i>	51					
R ²	.302	.408	.136	.282	.458	.114
F	4.987	7.919	1.818	4.515	9.720	1.487
Significance F	(.002)	(.000)	(.142)	(.004)	(.000)	(.222)

establishments per capita in '10-'11 and an average increase of .06 in '11-'12, while bankruptcy rates decreased across all states during both time periods, with the sole exception of Delaware in '10-'11. Consequently, the $\Delta\text{NumEstbl}$ coefficient estimate is negative in '10-'11 and positive in '11-'12.

This relationship between the change in the poverty rate and the change in the number of consumer lending establishments is further illustrated in Figure 4. Figure 4 is a scatter plot of these two variables for all fifty-one data points during the '09-'10 period. A polynomial trend line is included on the figure and it demonstrates that poverty rates increase when consumer lending establishments increase. This supports the theory that consumer lending could have a net negative effect on the financial well-being of consumers. North Dakota, South Dakota, and Vermont are three major outliers. All experienced a poverty percent decrease of 5%, highly unusual given the recession. In North Dakota and South Dakota this can be attributed to the shale oil boom which brought billions of dollars into these states and drastically reduced unemployment. In Vermont the percentage of the population with some college education or higher rose by 8.9%, by far the largest increase or decrease in the nation. If these three outliers are removed, the strength of the relationship between change in establishments and change in poverty percent is greatly increased. The R^2 rises to .366.

The findings of Wachter et al. suggest that consumer lending establishments may have decided to close in areas where a low income clientele was disappearing, perhaps because they were borrowing less after the Great Recession. If so, areas that were hit hardest by the recession (resulting in less high interest borrowing),

there were more establishments leaving the area, and this correlates with a decline (or a slower increase) in the poverty rate. This suggests that in areas where consumer lending was declining, the effects of the recession on consumers were partially mitigated.

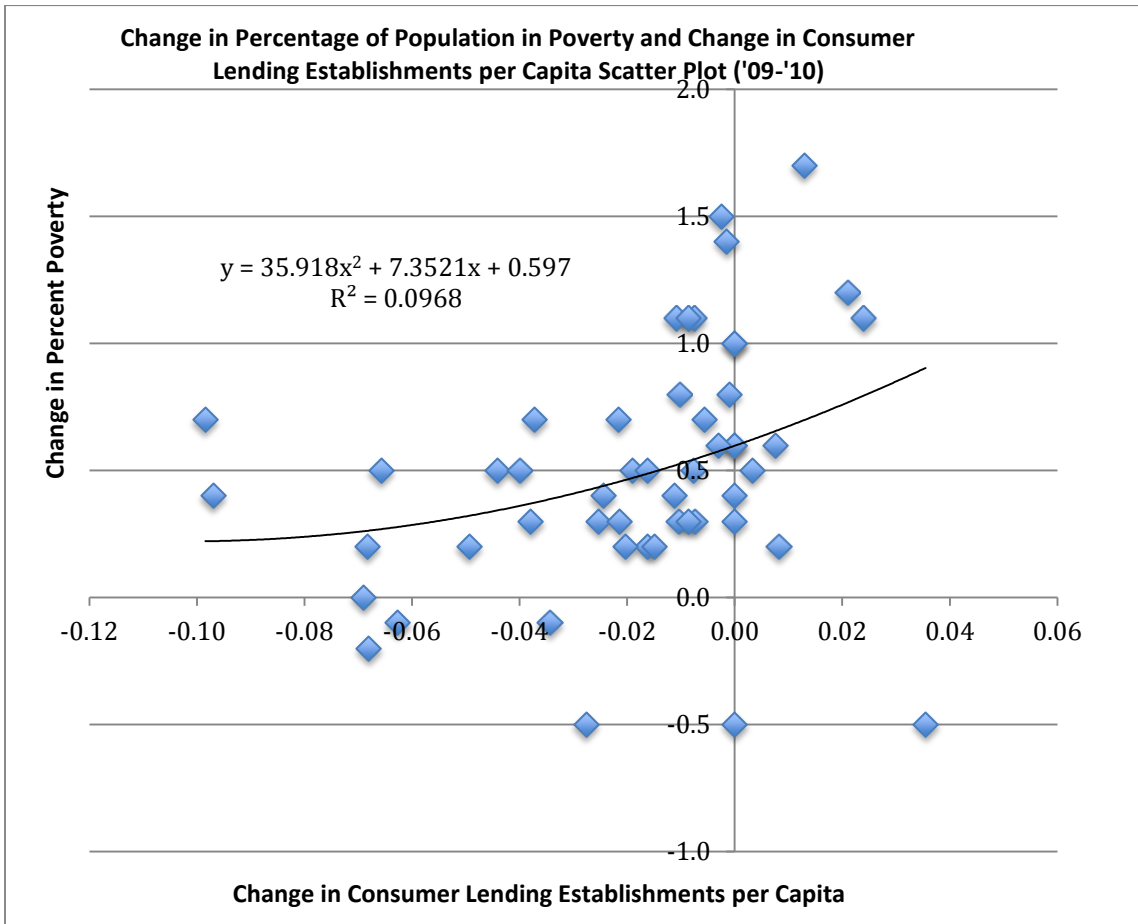


Figure 4. Change in Percentage of Population in Poverty and Change in Consumer Lending Establishments per Capita Scatter Plot.

The state-level analysis implies that there could be some correlation between $\Delta\text{NumEstbl}$ and $\Delta\text{Poverty Rate}$ from '09-'10 and '10-'11. The positive coefficients imply that there is a net negative effect on financial well-being. Although there were statistically significant p-values for $\Delta\text{Chapter7}$ regressed on $\Delta\text{NumEstbl}$ from '10-'11

and '11-'12, the coefficients cast doubt into the certainty of any correlation because one was positive and one was negative.

V.2. County-Level Results.

Multiple regressions similar to those in section V.1. were estimated for Alabama, Florida, Georgia, Louisiana, Mississippi and Tennessee using county-level data. Two data related issues arose during the estimation. The first was data availability. Data are not available for percent of the population that has a college education or higher or the percent of population that is white before the year 2009. Also, bankruptcy data are not available at the county level. Consequently, regressions are estimated for the four one-year periods '09-'10 through '12-'13, and only two measures of the change in consumer well-being are used. Lastly, mean wages are not available at the county level, so median household income is used instead.

The second issue was a high occurrence of zeros in the change in the number of consumer lending establishments at the county level. That is, many counties had no change in the number of establishments in some year-to-year periods. For example, some counties only have one or two establishments, and the number of establishments changes infrequently, so they often have zero values for changes in consumer lending establishments per capita. A high prevalence of zeros creates some statistical inference problems, the solutions to which are beyond the scope of this study (e.g., zero-inflated Poisson regression). As a partial solution, the regressions were estimated using only those counties that had a non-zero change in

the number of establishments. The count and percentage of zero-change counties is provided at the bottom of each regression table.

The regressions utilize two measures of the change in consumer well-being as the dependent variable: the change in median household income (Δ Median Income) and the change in the poverty rate (Δ Poverty Rate). Again, the change in establishments per capita (Δ NumEstbl) is the primary independent variable of interest. There are three control variables: the change in the unemployment rate (Δ Unempl), the change in percent of the population that has a college education or higher (Δ PctColl), and the change in the percent of population that is white (Δ PctWht).

The forty-eight regressions are reported in Table 5 (six states, two dependent variables, and four time periods). The table is formatted similar to Table 4, with dependent variables across the top, independent variables down the left side, summary statistics at the bottom, and statistically significant occurrences of Δ NumEstbl highlighted in green. One additional feature at the bottom of the table is the counts and percentages of times when Δ NumEstbl has value of zero. As mentioned above, the high frequency of these can cause statistical problems, and the regressions were estimated using only those observations with nonzero values. A regression results table of all regressions with zeros is included in the Appendix (Table A.1). Table 5 shows that all six states have a high percentage of counties in which there are no changes in the number of establishments.

Changes in establishments per capita have very little correlation with median household income. In five of the six states there is a mix of positive and negative

coefficients, and only two of the twenty-four Δ Median Income regressions have statistically significant Δ NumEstbl coefficients (positive in Alabama '09-'10, negative in Florida '10-'11). Change in establishments has a statistically significant correlation to change in the poverty rate in at least one regression for every state except Georgia. However, in the Δ Poverty Rate regressions, these seven significant Δ NumEstbl coefficients have a mix of positive and negative signs: negative in Alabama ('09-'10) and Mississippi ('09-'10 and '12-'13), and positive in Florida ('09-'10 and '10-'11), Louisiana ('12-'13), and Tennessee ('11-'12).

A negative Δ NumEstbl coefficient in a Δ Poverty Rate regression indicates that consumer lending corresponds with a lower poverty rate, a positive effect on the economy. This could occur if consumer lending provides an essential service to those in need of credit. Notably, the significant negative coefficients for Alabama and Mississippi occur in '09-'10, right after the recession. Perhaps this is when consumer credit was needed most. In areas where consumer lending was becoming less available, county populations might be more likely to see an increase in poverty rates. A positive Δ NumEstbl coefficient in a Δ Poverty Rate regression indicates that consumer lending corresponds with higher poverty rates, a negative effect on the economy. There is some evidence that this occurred in Florida, Louisiana, and Tennessee. In Figure 3 above, Florida has the fewest number of consumer lending establishments, and that number has been steadily falling since 2008. In '09-'10 and '10-'11 there is evidence that in Florida counties where establishments decreased, the poverty rate decreased. Interestingly, Florida has among the most generous laws for consumer lending. Florida does not have the same high levels of

consumer lending establishments that are seen in other lending-friendly states like Mississippi and Louisiana. The decrease in consumer lending seems to be to Florida's advantage though with regard to the poverty rate. Thirty out of thirty-four counties decreased from '09-'10 (34 of 67 counties had change in establishments). Louisiana and Tennessee have similar patterns in numbers of establishments (Figure 3 above), and they also have usury laws that support consumer lending establishments. In '12-'13, Louisiana's establishments dropped in 34 out of 37 parishes, and in 21 of those 34 parishes, the poverty rate dropped. In '11-'12, Tennessee establishments increased in 54 out of 59 counties, and the poverty rate decreased in 30 of those 54 counties. This supports the theory that consumer lending establishments are correlated with negative effects on consumer financial well-being.

Table 5. County-Level Multiple Regression

Alabama

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	1941.510 (.040)	-156.452 (.861)	293.806 (.415)	-205.019 (.656)	-2.666 (.081)	-0.758 (.521)	-0.330 (.544)	-0.285 (.555)
Unemployment rate	184.071 (.565)	-334.077 (.572)	-581.100 (.108)	221.319 (.745)	0.239 (.649)	0.539 (.489)	0.670 (.219)	-0.886 (.220)
Some college education or higher	20,321.74 (.462)	-20,599.29 (.499)	-25,494.07 (.268)	42,943.30 (.249)	-11.553 (.798)	78.782 (.058)	-14.034 (.686)	- (.001)
Percent white	-12,802.663 (.726)	16,341.23 (.888)	-93,657.06 (.261)	-96,505.85 (.270)	64.612 (.289)	-27.136 (.859)	50.819 (.685)	99.147 (.279)
<i>n</i>	26	29	47	31	26	29	47	31
R ²	0.247	0.048	0.091	0.120	0.253	0.230	0.042	0.410
F	1.723	0.300	1.050	0.885	1.777	1.796	0.465	4.518
Significance F	(.183)	(.875)	(.393)	(.487)	(.171)	(.163)	(.761)	(.007)
Number (percentage) of counties where change in establishments equals zero	41 (61%)	38 (57%)	20 (30%)	36 (54%)	41 (61%)	38 (57%)	20 (30%)	36 (54%)

Florida

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	-1,803.897 (.589)	-10,312.28 (.020)	241.228 (.919)	1,275.226 (.825)	5.301 (.045)	12.379 (.023)	-2.964 (.190)	-2.369 (.564)
Unemployment rate	154.201 (.698)	555.687 (.543)	1,011.106 (.349)	-2,091.239 (.294)	-0.361 (.241)	-0.412 (.714)	-0.572 (.570)	-0.143 (.919)
Some college education or higher	20,690.33 (.600)	96,463.97 (.081)	63,974.08 (.313)	-38,898.05 (.578)	1.205 (.968)	-158.633 (.024)	-26.600 (.652)	-39.480 (.428)
Percent white	54,316.71 (.224)	-35,342.20 (.617)	59,285.34 (.481)	-34,948.01 (.782)	-83.894 (.018)	40.545 (.642)	4.545 (.954)	-32.231 (.720)
<i>n</i>	34	23	28	27	34	23	28	27
R ²	0.129	0.296	0.201	0.084	0.357	0.315	0.147	0.065
F	1.078	1.892	0.650	0.507	4.034	2.070	0.994	0.380
Significance F	(.386)	(.156)	(.633)	(.731)	(.010)	(.127)	(.431)	(.820)
Number (percentage) of counties where change in establishments equals zero	33 (49%)	44 (66%)	39 (58%)	40 (60%)	33 (49%)	44 (66%)	39 (58%)	40 (60%)

Georgia

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	-162.962 (.883)	-767.581 (.214)	-201.697 (.511)	-49.626 (.906)	-1.036 (.167)	0.378 (.763)	-0.613 (.895)	-0.415 (.412)
Unemployment rate	-1.078 (.998)	-570.038 (.268)	1,418.168 (.001)	445.278 (.455)	0.832 (.021)	0.112 (.915)	-0.963 (.060)	-1.145 (.114)
Some college education or higher	23,298.60 (.444)	26,730.90 (.277)	2,594.464 (.868)	36,585.08 (.106)	-13.652 (.501)	-67.443 (.183)	-49.130 (.012)	-59.874 (.030)
Percent white	13,639.35 (.622)	70,945.14 (.061)	18.512 (.999)	54,359.50 (.151)	-35.226 (.062)	-19.981 (.792)	-27.364 (.217)	-55.716 (.218)
<i>n</i>	37	40	69	41	37	40	69	41
R ²	0.033	0.172	0.177	0.128	0.353	0.053	0.178	0.219
F	0.272	1.822	3.452	1.325	4.373	0.487	3.464	2.521
Significance F	(.894)	(.147)	(.013)	(.279)	(.006)	(.745)	(.013)	(.058)
Number (percentage) of counties where change in establishments equals zero	122 (77%)	119 (75%)	90 (57%)	118 (74%)	122 (77%)	119 (75%)	90 (57%)	118 (74%)

Louisiana

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	399.309 (.403)	1,219.448 (.478)	-603.943 (.326)	566.231 (.530)	0.373 (.686)	1.897 (.299)	0.154 (.774)	2.292 (.029)
Unemployment rate	-221.482 (.260)	922.665 (.449)	120.323 (.902)	-821.473 (.173)	-0.128 (.735)	2.785 (.038)	-2.149 (.019)	-0.614 (.361)
Some college education or higher	2,189.150 (.919)	4,182.693 (.889)	63,307.50 (.085)	6,584.011 (.801)	55.350 (.188)	-24.462 (.442)	-77.650 (.019)	37.732 (.204)
Percent white	15,106.25 (.365)	-79,907.53 (.463)	105,290.4 (.336)	143,851.6 (.231)	-81.830 (.015)	188.065 (.109)	-133.418 (.171)	-11.997 (.928)
<i>n</i>	35	29	31	37	35	29	31	37
R ²	0.141	0.051	0.250	0.090	0.204	0.235	0.357	0.162
F	1.234	0.321	2.172	0.794	1.918	1.841	3.607	1.552
Significance F	.317	(.861)	(.100)	(.538)	(.133)	(.154)	(.018)	(.211)
Number (percentage) of counties where change in establishments equals zero	29 (45%)	35 (55%)	33 (52%)	27 (42%)	29 (45%)	35 (55%)	33 (52%)	27 (42%)

Mississippi

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	474.083 (.633)	304.125 (.834)	60.273 (.866)	-4.953 (.993)	-2.812 (.099)	-0.596 (.736)	-0.701 (.205)	-1.668 (.025)
Unemployment rate	-334.050 (.309)	32.665 (.953)	-1,148.860 (.088)	212.623 (.734)	-0.091 (.867)	0.530 (.736)	-1.211 (.236)	1.305 (.122)
Some college education or higher	3,493.148 (.910)	-4,719.970 (.885)	12,611.63 (.506)	-21,092.26 (.511)	-25.744 (.619)	-50.190 (.214)	-31.464 (.281)	-18.038 (.670)
Percent white	-23,802.67 (.486)	-114,166.0 (.614)	-48,883.47 (.420)	-194,524.9 (.153)	-91.045 (.119)	297.917 (.284)	-11.357 (.902)	-131.625 (.460)
<i>n</i>	28	28	44	38	28	28	44	38
R ²	0.070	0.015	0.104	0.064	0.195	0.209	0.106	0.210
F	0.432	0.088	1.130	0.568	1.395	1.522	1.161	2.193
Significance F	(.784)	(.985)	(.356)	(.688)	(.267)	(.229)	(.343)	(.091)
Number (percentage) of counties where change in establishments equals zero	54 (66%)	54 (66%)	38 (46%)	44 (54%)	54 (66%)	54 (66%)	38 (46%)	44 (54%)

Tennessee

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	-17.802 (.985)	2,001.620 (.140)	-374.420 (.536)	-553.727 (.579)	0.035 (.973)	-1.208 (.345)	1.092 (.043)	1.374 (.197)
Unemployment rate	97.034 (.754)	480.893 (.563)	124.461 (.784)	1,675.461 (.006)	-0.193 (.553)	-1.008 (.209)	0.051 (.899)	-0.036 (.953)
Some college education or higher	30,462.47 (.460)	-9,295.362 (.828)	-16,405.02 (.538)	52,933.51 (.147)	15.505 (.720)	-28.876 (.481)	18.761 (.423)	38.818 (.311)
Percent white	40,398.76 (.569)	-25,580.15 (.860)	58,971.74 (.504)	-64,684.57 (.368)	-14.325 (.847)	28.246 (.838)	-31.409 (.684)	-38.189 (.615)
<i>n</i>	37	36	59	39	37	36	59	39
R ²	0.038	0.075	0.017	0.216	0.015	0.086	0.076	0.089
F	0.316	0.629	0.236	2.339	0.119	0.726	1.110	0.831
Significance F	(.865)	(.645)	(.917)	(.075)	(.975)	(.581)	(.361)	(.515)
Number (percentage) of counties where change in establishments equals zero	58 (61%)	59 (62%)	36 (38%)	56 (59%)	58 (61%)	59 (62%)	36 (38%)	56 (59%)

V.3 Limitations of the Study

This study used a 10% level of significance when indicating which p-values and coefficients were statistically significant. A 10% level of significance is considered to be marginally significant. Also, there were 48 different regressions performed for the county level data, and only 9 of those 48 showed a statistically significant p-value, using a 10% level of significance. At this level of significance, it is possible that several of my statistically significant results occurred by chance. Therefore, there is no overall, strong evidence of a negative or positive correlation between consumer lending establishments and financial indicators.

The measures used in this study were also inexact. True measures of financial well-being such as debt load per capita, default rates, etc. were unavailable for this study. If such data could be found at the county level then this study might be worth repeating using different indicators of financial well-being. Also, services such as check cashing and pay day loans are typically included in the NAICS definition of consumer lending, and these establishments have their own laws and regulations in some of the states studied. A more complete legal review would have included these check cashing laws and payday lending laws, giving a more complete picture as to what effects state laws have on the frequency of consumer lending establishments. Such laws might explain why Florida had the lowest frequency of consumer lending establishments despite have high maximum interest rates for small loans. Perhaps payday lending and check cashing establishments make up a high proportion of consumer lending establishments, and entirely different laws regulate those establishments.

VI. Conclusion

This study sought to discover whether the frequency of consumer lending establishments has any correlation with financial indicators. The study used the number of establishments per capita, unemployment rate, percent white, and percent with some college education or higher as independent variables. The dependent variables were my financial indicators, which included mean wages, median income, poverty rate, and bankruptcy filings per capita. Several of these variables have been used in similar studies. The maximum interest rates for small loans in each state were also studied, and higher maximum interest rates correlated with higher frequencies of consumer lending establishments, with the exception of Florida.

Median income and wages had very few statistically significant correlations. Only two (Alabama '09-'10 and Florida '10-'11) of twenty-four coefficients are statistically significant when regressing changes in county data on changes in median income. The conclusion of this study is that either median income is a poor indicator of financial well-being when studying the effects of consumer lending establishments per capita, or consumer lending establishments per capita have very little affect on the median incomes of consumers. Also, there are conflicting coefficient signs throughout the data, further supporting this conclusion.

Robert J. Hobbs argues that income is crucial to a consumer's ability to repay debts in times of financial distress. The data indicate that consumer lending establishments per capita have very little influence, good or bad, on consumers' incomes. Therefore, consumer lending establishments per capita have little correlation with the overall financial well being of consumers with regard to income.

Two ('10-'11 and '11-'12) of the six regressions that included changes in percentage of a population that filed for bankruptcy are statistically significant, but their coefficients have opposing signs. This regression was estimated using nationwide data. Again, the results indicate that changes in bankruptcy rates are either a poor indicator of financial well being, or changes in bankruptcy rates are not affected by changes in consumer lending establishments per capita.

Both the state-level and county-level regressions found some evidence of a relationship between change in the number of consumer lending establishments and change in the poverty rate. Many of the statistical correlations occurred after the Great Recession. Negative coefficients from the change in the number of consumer lending establishments and change in poverty rate regression could be the result of economic forces from the recession that forced consumer lending businesses to close and drive up poverty rates.

Table 6 replicates Table 3, but it also gives the relationship between change in the number of consumer lending establishments and change in the poverty rate for each state, including whether the coefficient(s) were positive or negative for each regression with a statistically significant p-value, and it includes the year in which the statistically significant p-value occurred to the right of the "Positive" or

“Negative” indicator. Below that, in parentheses, is a tally of the positive/negative signs of all four coefficients for each state (whether or not it was statistically significant). The states with negative coefficients (Alabama and Mississippi) have medium and high, respectively, expected frequencies and observed frequencies of consumer lending establishments per capita. This suggests that consumer lending laws could have created a lending environment that was economically beneficial to consumers. The statistically significant regressions in '09-'10 in both states support this. Although they were not all statistically significant, all coefficients in Alabama and Mississippi were negative.

Table 6. Categories for Each State’s Maximum Interest Rate, Expected Frequency and Observed Frequency of Consumer Lending Establishments per Capita, and Δ Number of Establishments relation with Δ Poverty Rate

State	Maximum Interest Rate(s)	Expected Frequency of Consumer Lending Establishments per Capita	Observed Frequency of Consumer Lending Establishments per Capita	Δ Number of Establishments relation with Δ Poverty Rate
Mississippi	High	High	High	Negative 09-10, 12-13 (4 -, 0 +)
Louisiana	High	High	High	Positive 12-13 (0 -, 4 +)
Alabama	Low	Medium	Medium	Negative 09-10 (4 -, 0 +)
Tennessee	Medium	Medium	Medium	Positive 11-12 (1 -, 3 +)
Georgia	Low	Medium	Medium	None (3 -, 1 +)
Florida	High	High	Low	Positive 09-10, 10-11 (2 -, 2 +)

The states with positive coefficients (Louisiana, Tennessee, and Florida) have high, medium, and low, respectively, observed frequency of consumer lending establishments per capita. The fact that a positive correlation is supported by a

diversity of consumer lending establishment frequencies seems to strengthen the theory that higher frequencies of consumer lending establishments are correlated with negative effects on consumers.

Lawmakers and consumers should take notice that some states, such as Florida, might be benefitting from the number of consumer lending establishments per capita decreasing. There are few statistically significant correlations, but states such as Louisiana and Tennessee might benefit from regulation that resulted in fewer consumer lending establishments per capita. The constantly decreasing numbers of establishments in Florida indicate that decreases in establishments might not be linked to maximum interest rates because maximum interest rates in Florida are relatively high. On the other hand, Mississippi and Alabama could be benefitting from the frequency of consumer lending establishments. Consumer lending might provide borrowers with an essential line of credit that keeps consumers out of financial distress, especially in periods after the recession.

APPENDIX

Table A.1. Southern States Multiple Regression Results (including counties in which change in establishments per capita equals zero)

Alabama

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	1714.146 (.042)	-115.409 (.871)	284.316 (.393)	-304.961 (.465)	-1.991 (.211)	-0.674 (.560)	-0.338 (.538)	-0.024 (.974)
Unemployment rate	94.707 (.516)	-128.136 (.871)	-450.943 (.106)	419.623 (.366)	-0.499 (.077)	0.005 (.992)	0.647 (.160)	-1.343 (.096)
Some college education or higher	11861.816 (.388)	-8716.097 (.600)	7886.764 (.611)	14454.357 (.438)	-64.41 (.016)	41.825 (.165)	-23.783 (.354)	-52.286 (.106)
Percent white	-28993.97 (.051)	-13491.061 (.433)	-58291.413 (.380)	-10167.093 (.832)	15.395 (.581)	21.724 (.483)	39.791 (.716)	90.057 (.277)
<i>n</i>	67							
R ²	0.144	0.019	0.052	0.034	0.144	0.044	0.039	0.088
F	0.043	0.3	0.842	0.541	2.612	0.707	0.624	1.5
Significance F	(.043)	(.877)	(.504)	(.706)	(.044)	(.590)	(.646)	(.213)
Number (percentage) of counties where change in establishments equals zero	41 61%	38 57%	20 30%	36 54%	41 61%	38 57%	20 30%	36 54%

Florida

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	777.317 (.784)	-5556.911 (.122)	610.614 (.805)	3426.344 (.400)	3.559 (.269)	6.866 (.059)	-1.898 (.301)	-1.608 (.655)
Unemployment rate	341.262 (.174)	-156.066 (.759)	-791.556 (.272)	-656.506 (.418)	-0.541 (.058)	1.111 (.033)	-0.367 (.489)	0.042 (.954)
Some college education or higher	13837.772 (.478)	14238.208 (.367)	43982.659 (.072)	30540.838 (.243)	26.162 (.236)	-30.177 (.060)	-71.14 (.000)	-25.846 (.264)
Percent white	13894.632 (.475)	-30644.331 (.088)	29507.033 (.107)	-69811.618 (.138)	-31.581 (.153)	14.904 (.405)	-23.629 (.081)	42.013 (.310)
<i>n</i>	67							
R ²	0.064	0.097	0.115	0.058	0.108	0.141	0.285	0.031
F	1.068	1.661	2.022	0.961	1.867	2.555	6.191	0.502
Significance F	(.380)	(.170)	(.102)	(.435)	(.127)	(.048)	(.000)	(.734)
Number (percentage) of counties where change in establishments equals zero	33 49%	44 66%	39 58%	40 60%	33 49%	44 66%	39 58%	40 60%

Georgia

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	-230.162 (.788)	-709.051 (.266)	-248.528 (.369)	230.309 (.599)	-0.606 (.578)	0.081 (.930)	-0.025 (.951)	-0.546 (.358)
Unemployment rate	144.91 (.275)	-406.703 (.048)	1050.572 (.000)	-101.626 (.704)	-0.09 (.593)	0.258 (.385)	-0.425 (.253)	-0.3 (.409)
Some college education or higher	-4258.922 (.692)	15106.577 (.097)	8623.654 (.277)	3478.609 (.710)	-2.79 (.838)	-15.779 (.230)	-8.156 (.484)	-1.798 (.887)
Percent white	20269.101 (.019)	9863.529 (.227)	-910.152 (.917)	-19099.731 (.207)	-12.055 (.271)	3.042 (.796)	4.076 (.750)	-8.664 (.672)
<i>n</i>	159							
R ²	0.041	0.066	0.114	0.014	0.015	0.015	0.011	0.012
F	1.667	2.71	4.965	0.534	0.57	0.605	0.41	0.487
Significance F	(.160)	(.032)	(.001)	(.711)	(.685)	(.660)	(.801)	(.745)
Number (percentage) of counties where change in establishments equals zero	122 77%	119 75%	90 57%	118 74%	122 77%	119 75%	90 57%	118 74%

Louisiana

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	650.047 (.431)	580.706 (.701)	-310.228 (.653)	469.656 (.503)	0.494 (.592)	1.327 (.400)	-0.591 (.436)	1.618 (.068)
Unemployment rate	135.761 (.546)	-162.124 (.817)	-197.137 (.647)	-666.636 (.122)	-0.536 (.037)	1.711 (.021)	0.19 (.688)	0.244 (.648)
Some college education or higher	16595.167 (.329)	18575.387 (.370)	17012.173 (.399)	5823.324 (.707)	29.775 (.120)	-1.892 (.930)	11.172 (.613)	-11.034 (.570)
Percent white	-16180.873 (.386)	-23417.53 (.629)	-8264.379 (.898)	16055.396 (.771)	-52.3 (.014)	48.342 (.338)	-107.131 (.132)	35.431 (.607)
<i>n</i>	64							
R ²	0.038	0.016	0.022	0.044	0.156	0.109	0.059	0.071
F	0.582	0.239	0.326	0.678	2.731	1.811	0.921	1.135
Significance F	(.677)	(.915)	(.859)	(.610)	(.037)	(.139)	(.458)	(.349)
Number (percentage) of counties where change in establishments equals zero	29 45%	35 55%	33 52%	27 42%	29 45%	35 55%	33 52%	27 42%

Mississippi

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	195.808 (.817)	-774.667 (.350)	91.72 (.787)	54.86 (.908)	-1.793 (.251)	0.692 (.627)	-0.647 (.222)	-1.339 (.094)
Unemployment rate	76.315 (.530)	-18.816 (.937)	-760.943 (.065)	125.175 (.692)	-0.171 (.445)	-0.145 (.723)	-0.727 (.253)	0.787 (.137)
Some college education or higher	-1110.3 (.915)	4875.916 (.696)	9106.446 (.425)	-5404.198 (.720)	13.494 (.479)	-33.308 (.124)	-31.146 (.081)	-0.424 (.987)
Percent white	7862.901 (.630)	-334.816 (.989)	-56805.305 (.209)	-18104.885 (.593)	-49.584 (.101)	31.104 (.443)	-22.418 (.748)	12.53 (.824)
<i>n</i>	82							
R ²	0.008	0.013	0.086	0.012	0.062	0.043	0.074	0.069
F	0.159	0.245	1.815	0.237	1.268	0.859	1.534	1.428
Significance F	(.958)	(.912)	(.134)	(.917)	(.290)	(.492)	(.201)	(.232)
Number (percentage) of counties where change in establishments equals zero	54 66%	54 66%	38 46%	44 54%	54 66%	54 66%	38 46%	44 54%

Tennessee

	Median Income				Percent in Poverty			
	'09-'10	'10-'11	'11-'12	'12-'13	'09-'10	'10-'11	'11-'12	'12-'13
Establishments per capita	-3.303 (.997)	1834.48 (.112)	225.105 (.621)	-800.567 (.438)	0.416 (.659)	-1.006 (.441)	0.272 (.595)	1.572 (.157)
Unemployment rate	138.471 (.324)	117.748 (.685)	129.924 (.695)	1116.699 (.006)	-0.057 (.721)	-0.093 (.777)	0.41 (.274)	-0.475 (.271)
Some college education or higher	-6551.046 (.678)	7440.848 (.672)	5577.982 (.753)	22327.099 (.141)	-36.96 (.044)	2.894 (.885)	-25.276 (.207)	-0.823 (.959)
Percent white	20116.272 (.301)	-7266.47 (.804)	-229.194 (.993)	-15330.118 (.758)	-10.903 (.625)	-38.687 (.248)	-5.452 (.854)	-1.597 (.976)
<i>n</i>	95							
R ²	0.027	0.032	0.005	0.101	0.053	0.022	0.04	0.03
F	0.613	0.74	0.124	2.523	1.266	0.501	0.943	0.704
Significance F	(.654)	(.567)	(.974)	(.046)	(.289)	(.735)	(.443)	(.591)
Number (percentage) of counties where change in establishments equals zero	58 61%	59 62%	36 38%	56 59%	58 61%	59 62%	36 38%	56 59%

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