Do Black-Owned Banks Substitute for Payday Lenders? An Exploratory Study

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ABSTRACT

The annualized interest rate charged on payday loans can reach 1,950 percent, whereas similar rates charged by banks are typically less than 25 percent. Also, persons borrowing from payday lenders and paying the higher interest rates are disproportionately lower-income Blacks. This provides an incentive for Blacks seeking loans to turn to banks rather than payday lenders. This may be more likely to happen when there are Black-owned banks in communities with greater percentages of Blacks. Indeed, offices of such banks may substitute for payday loan stores, providing a greater opportunity for Blacks to avoid the higher interest rates associated with payday lenders. We hypothesize that to the extent Black-owned banks substitute for payday there is a greater opportunity for lower-income Blacks to substitute/switch firms and thereby seek lower-cost loans. We do find that there are significantly fewer payday loan stores in counties where there are more Black bank offices.

KEYWORDS

INTRODUCTION

Banks and payday lenders are well-known categories of financial firms that provide loans to their customers. Both types of firms, moreover, charge interest on the loans they provide to borrowers. But the similarity between these two institutional types effectively ends there because the interest rates charged differ widely. Indeed, the annualized rates charged on payday loans can reach 1,950 percent (Barth et al., 2016), whereas similar rates charged by banks are typically less than 25 percent.

The higher interest rates *per se* that are charged by payday lenders are controversial. So high that several states and the District of Columbia have prohibited payday lenders from even opening stores within their borders (Barth et al., 2016). Adding to the controversy is the fact that persons borrowing money from payday lenders and paying much higher interest rates are disproportionately lower-income Blacks. Indeed, important research by Stegman (2007) finds that lower-income Blacks are more than twice as likely than whites to have taken out a payday loan.

The fact that persons borrowing money from payday lenders and paying higher interest rates are disproportionately lower-income Blacks provides an incentive for Blacks seeking loans to turn to banks rather than payday lenders. This may be more likely to happen when there are Black-owned banks *per se* located in communities that have higher percentages of Black residents. Indeed, where there are offices of such banks, Blacks may switch from payday loan stores to offices of Black-owned banks, thereby obtaining a greater opportunity to reduce, if not avoid, the higher interest rate charges associated with payday lenders. Based on the previous literature, we believe we are the first to

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hypothesize that to the extent Black-owned banks and payday lenders both have offices or stores in the same counties, there is a greater opportunity for lower-income Blacks to substitute/switch firms and thereby seek lower-cost loans.

A factor motivating such a substitution is that banks offer deposit advances to customers, which are typically structured as short-term loans but without a predetermined repayment date. This product is a potentially much less costly substitute for payday loans. Our exploratory investigation seeks to determine whether there is a substitution of Black-owned bank offices[1] for payday loan stores while controlling for a variety of demographic and economic characteristics in geographical locations where both types of financial firms simultaneously operate.[2] The inclusion of such controls better enables us to isolate the association between Black banks and payday stores. Importantly, we do find (consistent with the hypothesized substitution process described) that there are fewer payday loan stores in counties where there are more Black bank offices.

An issue that immediately arises when focusing on Black-owned banks is exactly how to distinguish these institutions from other depository institutions. In this regard, Section 308 of FIRREA defines a "Black-owned bank" as a depository institution where "Black Americans" own 51 percent or more of the stock. In addition to institutions that meet the ownership test, institutions are "Black-owned banks" if a majority of the Board of Directors is Black and the community that the institution serves is predominantly Black. Institutions not already identified as Black-owned depository institutions can request such a designation by certifying that they meet the above criteria.

In addition to examining whether there is a substitution of Black-owned bank offices for payday lending stores, we also test whether there is a substitution of non-Black-owned bank offices for payday lending stores. Lastly, we also investigate whether there is a substitution of non-Black-owned bank offices for Black-owned bank offices.

The remainder of our exploratory study proceeds as follows. In section 2, a brief review of related literature is provided. This is followed by an overview of both the payday lending industry and the Black banking sector in which we emphasize two somewhat unique issues that arise when studying these types of financial firms. Section 3 presents and discusses our approach to empirically analyzing the relationship between the number of Black bank offices and the number of payday loan stores operating in the same geographical locations in the U.S. In Section 4, our empirical results are presented and discussed. Section 5 presents the estimation results for determining whether there is a substitution of non-Black-owned bank offices for payday lending stores as well as whether there is a substitution of non-Black offices for Black bank offices. Section 6 provides conclusions, limitations, and suggestions for future research.

RELATED LITERATURE

The criteria for receiving a payday loan are evidence of both employment and a checking account. The maturity of payday loans is most often two weeks, which is intended to coincide with a common pay cycle and set so that a borrower can repay upon receipt of the next paycheck. At the time a loan is originated, the borrower writes a postdated personal check or electronic authorization to debit the borrower's checking account for the loan amount plus the lending fee to the payday lender. When the loan is due, the payday lender can deposit the personal check or initiate the electronic withdrawal.

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[1] We use the terms "Black banks" and "Black bank offices" rather the "Black-owned banks" and Black-owned bank offices," respectively, throughout the remaining sections of this study. We do so simply because this terminology is consistent with previous related literature (see, e.g., Baradaran, 2017).

[2] Interestingly, solely Black-owned banks flourished in the 1950s and 1960s; however, over the 2001-2018 period, the number of exclusively Black-owned financial institutions declined over 50%, leaving only 21 Black-owned banks in the United States. Although there are a moderate number of branch banks for each of these institutions, it also is noteworthy that they all are comparatively small, with none managing even $1 billion.

Numerous studies of payday lenders focus on the demographics of their customer base (Graves, 2003; Stegman and Faris, 2003; Gallmeyer and Roberts, 2009; Bhutta, 2014; Barth et al., 2015) and the effect of regulations on their locational decisions (Morgan and Strain, 2008; Zinman, 2010; Barth et al., 2016; Bhutta et al., 2016). A general conclusion of these studies is that payday lenders tend to concentrate in low-income areas having a relatively high percentage of Black residents. Accordingly, in the present study, the percentage of the population that is Black is included as a control variable. Not surprisingly, it is found that states with more lenient regulations on payday lenders tend to have a higher concentration of such stores. We, therefore, include variables to control for the regulatory environment of the counties used in our analysis.

A serious challenge that confronts one studying the payday lending industry is that there is currently no available dataset that identifies only licensed payday lenders throughout the country. Accordingly, some studies (Stegman and Faris, 2003; Burkey and Simkins, 2004; Johnson, 2005; Graves, 2005; Xu, 2016) consider only a few states, a procedure that appears to facilitate identifying payday lenders more easily. In other cases, studies rely on two North American Industrial Classification System (NAICS) codes to capture payday loan firms operating across the country. In addition to payday lenders, however, these codes include other types of lending firms. Specifically, the codes include firms primarily engaged in making unsecured cash loans to consumers and firms that facilitate credit intermediation, including check cashing services and money-order issuance services.[3] Although researchers using the NAICS codes try to screen out non-payday loan firms, the resulting effort is problematic, and the firms identified generally overstate the total presence of payday stores (Barth et al., 2016). We, therefore, rely on data that were obtained directly from the appropriate state regulatory authorities, following Barth et al. (2016). Importantly, this dataset contains only payday loan stores, excluding firms that simply provide cash checking services. Another uniqueness of the dataset is it also contains information on the various restrictions that states imposed on payday lenders, which will be used in our empirical analysis.

DATA AND MODEL

Figure 1 shows the location of Black bank offices and payday loan stores throughout the U.S. The bank office data are collected from the Federal Deposit Insurance Corporation (FDIC) and the payday loan stores data rely upon the data used by Barth et al. (2016). Their unique dataset is obtained directly from the state regulatory authorities through a combination of phone requests, written requests, and FOIA requests. As illustrated, there are (1) states with both types of financial firms, (2) states with only one or the other type of firm, and (3) states with neither type of firm. Payday loan stores are located in 35 states, while Black bank offices are located in 22 states and Washington, D.C. Both types of firms are located in 15 states. Lastly, there are seven states with neither type of firm. The focus of our examination is on counties within the 15 states having *both* types of firms.

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[3] The codes are 522291 (consumer lending) and 522390 (other activities related to credit intermediation). Barth et al. (2015) follow Bhutta (2014) and therefore rely on the same two NAICS codes.
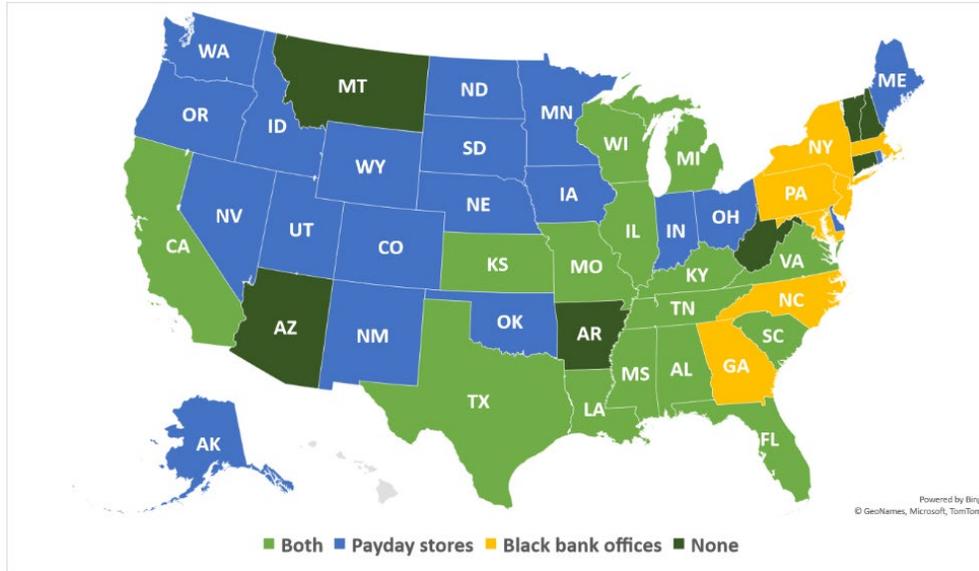
The initial model[4] that is used for examining whether Black bank offices substitute for payday loan stores is, as follows:

$$Payday\ Stores_c = \beta_0 + \beta_1 Black\ Bank\ Offices_c + \sum_{i=2}^{14} \beta_i Controls_{c,i} + \varepsilon_1 \qquad (1)$$

where Payday Stores is the number of payday loan stores per 10,000 population in each county, Black Bank Offices is the number of Black bank offices per 10,000 population in each county, Controls are the 13 control variables that are described in Table 1, ε is the stochastic error term, c denotes a county, and i denotes a control variable. If for Blacks, Black bank offices and payday loan stores are regarded as substitutes, we would expect that the coefficient on Black Bank Offices, β_1, will be significantly negative.

Table 1 provides the variables used in our analysis, their definitions, and data sources.[5]

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[4] We use the phrase "initial model" because, in Section 5, we perform additional tests that allow us to examine whether similar substitutions exist between payday loan stores and non-Black bank offices as well as between Black bank offices and non-Black bank offices.

[5] A Pearson correlation matrix for all the variables is available upon request.

Table 1. Variable Definitions and Data Sources

Variable	Definition	Source
Black	*Percent Black Population*	*U.S. Census Bureau*
Asian	*Percent Asian Population*	
Hispanic	*Percent Hispanic Population*	
Age<15	*Percent Population under Age 15*	
Age>65	*Percent Population over Age 65*	
HSD	*Percent Population Age 25 and Older with a High School Diploma or Higher*	
Rural Pop	*Percent Population Residing in Rural Areas*	
Female Pop	*Percent Population Female*	
Payday Stores	*Number of Payday Lenders per 10,000 Population*	
Max Loan	*Dummy Variable Maximum Dollar Loan Amount*	*Barth, Hilliard, Jahera, and Sun (2016)*
14-day-APR	*Dummy Variable APR for a Fourteen-day $100 Loan*	
Max OST	*Maximum Number of Outstanding Loans*	
Max NRO	*Maximum Number of Rollovers or Renewals*	
UR	*Unemployment Rate (Percent)*	*U.S. Bureau of Labor Statistics*
Black Bank Offices	*Number of Black-owned MDI Offices per 10,000 Population*	*Federal Deposit Insurance Corporation*

Note: All variables are for the year 2015. Also, we exclude the percent White population because all four categories total 100 percent and our focus is on controlling for the different minority populations. Thus, the percent White population is captured by the constant term in the regressions that are estimated below.

The summary statistics for these variables are shown in Table 2. As shown, there are far more payday loan stores than there are Black bank offices. It is also shown that in the counties located within the 15 states having both of these types of financial firms, the percentage of the minority population that is Black is the highest at 7.3 percent, followed by Hispanics at 5.7 percent, and Asians at 0.8 percent, respectively. The other control variables exhibit substantial variation, as indicated by the differences between the minimum and maximum values.

Table 2. Summary Statistics (N=1,457 Counties)

Main Variables	Mean	Std. Dev.	Min	Max
Payday Stores (# per 10,000)	1.01	1.12	0	6.68
Black Bank Offices (# per 10,000)	0.002	0.03	0	1.15
Blacks (%)	7.31	10.09	0	54.92
Asians (%)	0.78	1.75	0	26.79
Hispanics (%)	5.69	9.36	0	59.86
Age<15 (%)	18.75	2.77	6.50	29.50
Age>65 (%)	17.06	4.43	6.80	50.90
HSD (%)	83.38	7.00	46.20	97.70
UR (%)	5.85	1.97	2.00	24.50
Rural Pop (%)	58.33	31.94	0.00	100
Female Pop (%)	50.00	2.60	31.47	59.42
Poverty (%)	17.44	6.57	3.30	44.90
MHHI (Ln $)	10.68	0.25	9.87	11.72
Max Loan (0,1)	0.38	0.49	0	1
14-day-APR (0, 1)	0.55	0.50	0	1
Max OST (#)	2.49	1.63	0	6
Max NRO (#)	1.00	2.13	0	6

EMPIRICAL FINDINGS

The results from estimating the model in equation (1) are reported in Table 3. The most important result is that Black bank offices do indeed substitute for payday loan stores. The coefficient on the number of Black bank offices is negative and highly statistically significant. A one standard deviation increase in the number of Black offices per 10,000 persons is associated with a decline of 0.06 per 10,000 persons in the number of payday loan stores. The results also indicate that there is a significantly positive relationship between the number of payday lender stores and the percent of the population that is African American, whereas the relationships between the number of payday lender stores and the percent of the population that is either Asian or Hispanic are significantly negative. Also, the findings indicate that less restrictive regulations governing the operations of payday lenders, measured by 14-day-APR, Max OST, and Max NRO, are all positively and statistically associated with more such stores. Furthermore, the number of payday loan stores is found to be statistically negatively associated with higher percentages of the population that have high school degrees but significantly positively associated with higher unemployment rates. Lastly, fewer payday lenders are associated with a higher percentage population over age 65, a higher percentage of the population residing in rural areas, and a lower percentage population that is female.

Table 3. Empirical Results

Payday Stores	Coefficient	Robust Std. Err.	t-value	p-value
Intercept	2.263***	0.904	2.81	0.005
Black	0.007*	0.004	1.79	0.073
Asian	-0.067***	0.015	-4.55	0.000
Hispanic	-0.030***	0.004	-7.06	0.000
Age<15	0.016	0.014	1.16	0.248
Age>65	-0.016**	0.008	-2.08	0.038
HSD	-0.053***	0.006	-9.01	0.000
UR	0.045***	0.016	2.77	0.006
Rural Pop	-0.009***	0.001	-8.69	0.000
Female Pop	0.061***	0.013	4.85	0.000
Max Loan	-0.020	0.081	-0.24	0.807
14-day-APR	0.247***	0.076	3.24	0.001
Max OST	0.117***	0.026	4.59	0.000
Max NRO	0.084***	0.014	5.87	0.000
Black Bank Offices	-1.923***	0.430	-4.48	0.000
N = 1,457 counties	Adjusted R² = 0.30		F = 38.30	

Note: The dependent variable is Payday Stores, the number of payday lender stores per 10,000 population. All variables are defined in Table 1. The t-values and p-values are based on robust standard errors. Symbols ***, **, and * denote statistical significance at 1%, 5%, and 10% levels, respectively. Also, we exclude the percent White population because all four categories total 100 percent and our focus is on controlling for the different minority populations. Thus, the percent White population is captured by the constant term.

ADDITIONAL TESTS

As discussed, our empirical results are consistent with the perspective that payday lending stores and Black bank offices are substitutes. However, two additional issues merit further consideration. The first issue is whether the same substitution exists between payday lending stores and non-Black bank offices, whereas the second issue is whether there is a substitution effect between Black bank offices and non-Black bank offices. To examine these issues, we estimate two additional regression equations.

Equation (2) addresses the first issue, whereas Equation (3) addresses the second. The control variables are the same in these two models as in Equation (1).

$$Payday\ Stores_c = \beta_0 + \beta_1 Non-Black\ Bank\ Offices_c + \sum_{i=2}^{14} \beta_i Controls_{c,i} + \varepsilon_2 \quad (2)$$

$$Black\ Bank\ Offices_c = \beta_0 + \beta_1 Non-Black\ Bank\ Offices_c + \sum_{i=2}^{10} \beta_i Controls_{c,i} + \varepsilon_3 \quad (3)$$

The empirical results from estimating Equation (2) are reported in Table 4. As may be seen, the coefficient of Non-Black Bank Offices enters with a negative sign but is not significantly different from zero. This indicates that payday lending stores and non-Black bank offices are neither substitutes nor complements. The results for the control variables are generally consistent with those reported in Table 3.

Table 4. Empirical Results

Payday Stores	Coefficient	Robust Std. Err.	t-value	p-value
Intercept	2.548***	0.313	4.16	0.000
Black	0.013***	0.004	3.45	0.001
Asian	-0.070***	0.012	-5.70	0.000
Hispanic	-0.017***	0.003	-6.09	0.000
Age<15	-0.018**	0.009	-2.07	0.039
Age>65	-0.013**	0.006	-2.20	0.028
HSD	-0.051***	0.004	-12.44	0.000
UR	0.032**	0.013	2.40	0.017
Rural Pop	-0.008***	0.001	-9.76	0.000
Female Pop	0.065***	0.010	6.64	0.000
Max Loan	-0.202***	0.037	-5.44	0.000
14-day-APR	0.328***	0.036	9.15	0.000
Max OST	0.054***	0.014	3.81	0.000
Max NRO	0.080***	0.010	7.82	0.000
Non-Black Bank Offices	-0.001	0.007	-0.22	0.827
N = 2,401 counties	Adjusted R^2 = 0.30		F = 60.37	

Note: The dependent variable is Payday Stores, the number of payday lender stores per 10,000 population. The t-values and p-values are based on robust standard errors. Symbols ***, **, and * denote statistical significance at 1%, 5%, and 10% levels, respectively.

As far as whether Black bank offices and non-Black bank offices are substitutes or not, the results are reported in Table 5. For this estimation, the results indicate there is no significant relationship between the two variables. Indeed, only two of the explanatory variables are statistically significant, the variables *Black* and *Female Pop.*

Table 5. Empirical Results

Black Bank Offices	Coefficient	Robust Std. Err.	t-value	p-value
Intercept	-0.0472	0.0294	-1.61	0.108
Black	0.0005*	0.0003	1.94	0.052
Asian	0.0000	0.0001	0.33	0.739
Hispanic	0.0002	0.0001	1.62	0.106
Age<15	-0.0001	0.0002	-0.79	0.430
Age>65	-0.0001	0.0008	-0.82	0.412
HSD	0.0002	0.0002	1.47	0.141
UR	0.0002	0.0003	0.63	0.528
Rural Pop	0.0000	0.0000	0.57	0.569
Female Pop	0.0005**	0.0002	2.21	0.027
Non-Black Bank Offices	-0.0000	0.0001	-0.28	0.778
N = 3,046 counties	Adjusted R^2 = 0.03		F = 3.38	

Note: The dependent variable is Black Bank Offices, the number of Black bank offices per 10,000 population. The t-values and p-values are based on robust standard errors. Symbols ***, **, and * denote statistical significance at 1%, 5%, and 10% levels, respectively.

CONCLUSIONS

Some consider payday lenders to be controversial financial firms. Aside from a degree of preference for these types of firms over traditional banks that may exist on the part of certain minorities (Baradaran, 2017), the controversy is largely due to the extraordinarily higher interest rates payday lenders charge on loans to their customers. Adding to this controversy is the fact that they are found to operate in locations with relatively high percentages of Blacks and tend to cater to low-income Blacks, as our empirical results indicate. In this exploratory study, we investigate empirically whether, in those locations where both payday loan stores and Black bank offices operate, there is evidence of a substitution effect. That is, Blacks can substitute Black banks for payday lenders because they would be in a more favorable position to benefit by obtaining lower-cost loans. Specifically, we analyze whether there is a significantly negative relationship between the numbers of payday loan stores and Black bank offices in counties in states where both types of firms operate simultaneously. Our empirical estimation results indicate that there is indeed such a statistically significant negative relationship, which is consistent with the hypothesized substitution of Black bank offices for payday loan stores.

In addition, we perform two additional tests to determine whether the same type of substitution exists between payday lending stores and non-Black bank offices and whether there is a substitution effect between Black bank offices and non-Black bank offices. In both of these cases, we find there is no such substitution effect. Indeed, there is therefore only evidence that such an effect exists between payday lending stores and Black bank offices.

A limitation of our study is that we do not have access to individual loan data over time for both payday lenders and Black banks to be able to perform a panel data analysis. This prevents one from determining more definitively whether Blacks do switch from payday loan stores to Black bank offices in those counties where both offer their services as well as address potential endogeneity issues. To the extent possible, future research should pursue such an analysis. Despite this limitation, it is nevertheless pertinent to have found that there is a statistically inverse relationship between payday

loan stores and Black bank offices in counties where there is a significantly positive association between payday loan stores and the percentage of the population that is Black.

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REFERENCES

Baradaran, M. (2017). *The color of money: Black banks and the racial wealth gap.* Cambridge: Harvard University Press. 79 Garden Street, Cambridge, MA 02138 USA & 71 Queen Victoria Street, London EC4V 4BE UK.

Barth, J. R., Hilliard, J., & Jahera, J. S. (2015). Banks and payday lenders: Friends or foes? *International Advances in Economic Research, 21*(2), 139-153. https://doi.org/10.1007/s11294-015-9518-z

Barth, J. R., Hilliard, J., Jahera, J. S., & Sun, Y. (2016). Do state regulations affect payday lender concentration? *Journal of Economics and Business, 84,* 14-29. https://doi.org/10.1016/j.jeconbus.2015.08.001

Bhutta, N. (2014). Payday loans and consumer financial health. *Journal of Banking and Finance, 47,* 230–242. https://doi.org/10.1016/j.jbankfin.2014.04.024

Bhutta, N., Goldin, J., & Homonoff, T. (2016). Consumer borrowing after payday loan bans. *Journal of Law and Economics, 59*(1), 225– 259. https://doi.org/10.1086/686033

Burkey, M. L., & Simkins, S. P. (2004). Factors affecting the location of payday lending and traditional banking services in North Carolina. *The Review of Regional Studies 34* (2), 191–205.

Federal Deposit Insurance Corporation. (2015). Minority Depository Institutions List [Data file]. Retrieved from https://www.fdic.gov/regulations/resources/minority/mdi.html

Federal Deposit Insurance Corporation. (2015). Statistics on Depository Institutions (SDI) [Data file]. Retrieved from https://www7.fdic.gov/sdi/download_large_list_outside.asp

Federal Deposit Insurance Corporation. (2015). Branch Office Deposits [Data file]. Retrieved from https://www7.fdic.gov/sod/dynaDownload.asp?barItem=6

Gallmeyer, A., & Roberts, W.T. (2009). Payday lenders and economically distressed communities: A spatial analysis of financial predation. *The Social Science Journal, 46*(3): 521-538. https://doi.org/10.1016/j.soscij.2009.02.008

Graves, B. (2005, December 11). *Quick Cash Now Leads to Debt Burden Later*. The Oregonian.

Graves, S.M. (2003). Landscapes of predation, landscapes of neglect: a location analysis of payday lenders and banks. *The Professional Geographer, 55*(3), 303-317. https://doi.org/10.1111/0033-0124.5503017

Johnson, A. (2005, December 11). *Payday Loans No Bargain, Borrowers Soon Find*. The Columbus Dispatch.

Morgan, D.P., & Strain, M.R. (2008). Payday holiday: How households fare after payday credit bans. *Federal Reserve Bank of New York Staff Report,* No. 309.

Stegman, M.A. (2007). Payday lending. *Journal of Economic Perspectives, 21*(1), 169-190.

Stegman, M.A., & Faris, R. (2003). Payday lending: A business model that encourages chronic borrowing. *Economic Development Quarterly, 17*(1), 8-32. https://doi.org/10.1177/0891242402239196

U.S. Bureau of Labor Statistics. (2015). Labor force data by county [Data file]. Retrieved from https://www.bls.gov/lau/#tables

U.S. Census Bureau. (2015). American Community Survey [Data file]. Retrieved from https://data.census.gov/cedsci/all

Xu, Y. (2016). Payday loan regulation and neighborhood crime. Available at: https://ssrn.com/abstract=2470170 or https://doi.org/10.2139/ssrn.2470170

Zinman, J. (2010). Restricting consumer access: Household survey evidence on effects around the Oregon rate cap. *Journal of Banking and Finance, 34*(3), 546-556. https://doi.org/10.1016/j.jbankfin.2009.08.024