Does fringe banking exacerbate neighborhood crime rates?
Investigating the social ecology of payday lending

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Payday lenders have become the banker of choice for many residents of distressed urban communities in the United States. By offering cash advances on postdated checks, these businesses provide a growing number of financially strapped families the money they need to get by at least in the short run. As just one piece of a growing fringe banking industry (consisting of check cashers, pawn shops, rent-to-own stores, and other high-cost financial services), payday lenders provide services but at a heavy cost to some of the most financially vulnerable families. Much attention has been given to the costs the customers of such services are incurring. Yet additional broader community costs might have been ignored in recent debates and in the scholarly literature. One of those costs, and the focus of this research, is a possible link between payday lending and neighborhood crime rates.

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Although pawn shops, loan sharks, and other predatory financial service providers have long histories, the number and range of such fringe banking institutions have mushroomed in the latter part of the 20th and early years of the 21st centuries amid great controversy. In financial services, the rise of subprime and predatory lending has led to record foreclosure rates. A broader economic recession is now reaching overseas. These developments have been followed by unprecedented bailout and rescue plans. Although these events have received most of the attention in financial industry circles, the increase in payday lending and other high-priced services has hardly gone unnoticed. Critics accuse payday lenders with charging exorbitant, exploitative interest rates and fees, and several states have taken legal action to restrict their activities or virtually put them out of business altogether. Providers maintain that they are offering valuable services to markets that are ignored by conventional financial services (e.g., banks, thrifts, and credit unions) and that their costs simply reflect the risks they encounter as well as other legitimate business costs.

The debates over payday lending so far have focused almost exclusively on the implications for immediate customers. Yet given the location of these services and the socioeconomic status of their customer base—what we refer to as the ecology of payday lending—other costs might be incurred by the communities in which they are located, costs that are paid by community members who do not use their services along with those paid by the clients. One potential cost for all residents might be higher crime rates in communities where payday lenders are located. Several theoretically plausible reasons have been suggested for such a link, starting with the simple fact that where payday lenders are present, a concentration of cash exists among store customers often late into the evening and during weekends in neighborhoods where many residents are experiencing financial hardships.

In the following pages, we provide some empirical evidence that such a connection, in fact, exists. Subsequently, we report on a case study of a fairly typical U.S. city where payday lending has grown in recent years—Seattle, Washington. In our discussion leading up to the analysis, we document the growth of payday lending and other fringe banking services in the United States and describe the controversy that such growth has produced. Next, we elaborate several theoretical arguments that support the hypothesized relationship between payday lending and neighborhood crime rates. Finally, we provide empirical evidence for that relationship in Seattle neighborhoods. Crime is just one community cost that might be associated with payday lending. In the conclusion, we briefly note other potential costs. We conclude with a discussion of the policy implications of our findings and recommendations for future research.

The Growth of Fringe Banking and Payday Lending
A two-tiered system in financial services has emerged in the United States in recent years, with one featuring conventional products distributed by banks and savings institutions and the other featuring alternative, higher cost services offered by payday lenders, check
cashers, and pawnshops—often referred to as “fringe bankers.” Fringe banking services are disproportionately though not located exclusively in low-income, minority neighborhoods (Fellowes, 2006; Graves, 2003; Li, Parrish, Ernst, and Davis, 2009; Logan and Weller, 2009; Temkin and Sawyer, 2004), and minority and low-income families are more likely than other families to use fringe banking services (Caskey, 1994; Hudson, 1996; Karger, 2005).

Fringe banking has been the subject of much policy debate among financial service providers, regulators, elected officials, and consumer groups. This reflects, in part, substantial growth of fringe banking, its greater concentration in distressed communities, and adverse economic consequences for those who rely on these institutions for financial services. To illustrate, payday lending outlets were virtually nonexistent in 1990, but by 2006, more than 15,000 outlets extended $25 billion in credit (Lawrence and Elliehausen, 2008: 299). By 2008, more than 22,000 locations originated more than $27 billion in loan volume annually (Parrish and King, 2009: 11). The growth of payday lending has been impressive, growing faster than Starbucks during the mid-1990s (Graves and Peterson, 2008: 668). Today, more payday lenders exist than McDonald’s restaurants (Karger, 2005: 73).

Several studies demonstrate that these services are concentrated in low-income and minority neighborhoods, although they are starting to grow in many working and middle-class neighborhoods. In North Carolina, three times as many payday lenders per capita are present in African American neighborhoods as in White neighborhoods (King, Li, Davis, and Ernst, 2005). In the state of Washington, the site of the current study, they are twice as likely to be located in predominantly African American as White areas, and they also are concentrated in poverty zip codes (Oron, 2006). In California, they are eight times as concentrated in African American and Latino neighborhoods as in White neighborhoods. Even controlling on income, poverty, population, education, and other socioeconomic factors, the racial disparity persists (Li et al., 2009: 2). In Denver neighborhoods where the median income is below $30,000, one check-casher exists for every 3,196 residents compared with one check cashier for every 27,416 residents in neighborhoods where the median income is between $90,000 and $120,000 (Fellowes, 2006: 26–28).

These services are expensive, and it is struggling working families who are paying the highest costs. The Center for Responsible Lending reported that payday lending costs U.S. families $4.2 billion annually in excessive fees, or fees that exceed the risk posed by

1. Payday loans are cash advances on a postdated personal check generally for 2 weeks or less when the borrower will receive the next paycheck. Amounts are typically in the range of $300 to $500. To qualify, a borrower must have a checking account, source of income, and identification. Typically, the borrower writes the check for an amount exceeding the cash loan (to cover the finance charge, generally $15–$30 per $100 or approximately a 390–780% annual percentage rate for a 2-week loan). At the next payday, the borrower can repay the full loan amount, the check could be deposited for payment, or the borrower can pay the finance charge and renew the loan for another term (Consumer Federation of America, 2007: 3, 4).

2. Check cashers are businesses that charge a fee for cashing checks (Karger, 2005: 215).
borrowers and the costs of similar services provided by conventional financial institutions (King, Parrish, and Tanik, 2006: 2,7). Ironically, more than 75% of these fees cover the costs of loans taken out by borrowers to repay debts incurred from previous payday loans, which they could not pay when the debt originally came due (Parrish and King, 2009: 11). Payday lenders claim that their fees simply reflect the costs of doing business.

Payday lenders also assert their borrowers are primarily middle income, although recent research indicates it is low- and moderate-income borrowers who constitute a disproportionate share of customers. A study of Colorado borrowers found that those earning less than $30,000 a year make up two thirds of payday lender customers. A Texas study found that the median income of borrowers was $18,540 (Fox, 2007: 6, 7). A 2001 nationwide survey found that 23% earned less than $25,000 and that 51.5% earned between $25,000 and $50,000 (Lawrence and Elliehausen, 2008: 305). In its 2007 Survey of Consumer Finances, the Federal Reserve, for the first time, asked whether respondents had taken out a payday loan in the previous year. Those who did so had a median income of $30,892 compared with $48,397 for those who had not taken out such loans. Payday loan borrowers had a median net worth of zero compared with $80,510 for nonborrowers (Logan and Weller, 2009: 8).

The industry also claims that its customers are generally people who use their services only on rare occasions to meet sudden emergencies. According to the 2001 survey, however, more than 22% had 14 or more payday loans that year, another 26% had more than 6, and just 15% had only 1 or 2 (Lawrence and Elliehausen, 2008: 311). The Center for Responsible Lending found that less than 2% of all payday loans went to borrowers who just took out one loan. Repeat borrowing was more common with more than 60% of loans going to those who took out 12 or more loans per year and 24% going to those with 21 or more per year (King and Parrish, 2007: 2, 3). Half of these loans were taken out within 1 day of repaying a previous loan, indicating that borrowers often take out such loans to retire the debt of previous payday loans (Parrish and King, 2009: 8). Given the high fees and frequent use, payday loans have been referred to as “debt traps” by many consumer groups (Fox, 2007: 7, 8).

Policy makers have begun to listen to consumer complaints. In 2006, the U.S. Congress prohibited payday lending to military members and capped at 36% the interest rate that could be charged to them on any loan in connection with any other product (Powers, 2006). Fifteen states and the District of Columbia have small loan usury laws or rate caps that effectively prohibit payday lending at triple-interest rates (Center for Responsible Lending, 2010: 7). Several other states and Congress are considering legislation and regulations restricting such lending (American Banker, 2007). However, some national banks (e.g., Wells Fargo and U.S. Bank) are now offering “direct deposit advance” or “checking account advance” products that are similar to payday loans. Because the Office of the Comptroller of the Currency has preempted many state banking laws, the national banks it regulates
legally can make such loans, and they are doing so in at least six of the states with the 36% cap (Center for Responsible Lending, 2010).

All this attention is generated primarily by the growth of the industry, the fees that are being charged, and the customers and neighborhoods that are being targeted. Borrowers are clearly paying high costs, as already noted. Lost in this discussion, however, are the broader costs that many communities might be incurring, including perhaps heightened levels of crime. Payday lenders seem to be more concentrated in precisely those neighborhoods where crime rates are highest and where ex-offenders are most likely to return when they leave prison (Lynch and Sabol, 2001: 3; Rose and Clear, 1998; Visher, Kachnowski, LaVigne, and Travis, 2004). No research, however, has examined the direct impact of fringe banking services on neighborhood crime rates. There is reason to believe that such a connection exists and that it is costly.

**Theoretical Context of the Payday Lending-Crime Nexus**

Theoretical arguments for why payday lending and crime might be related draw on a mixture of criminological perspectives. At a minimum, the availability of cash in distressed neighborhoods at readily identifiable businesses frequently operating with evening and weekend hours suggests a probable link between crime and payday lending, according to routine activities theory. According to this theory, crime can be understood in terms of the “routine activities” of everyday life including what we do, where we go, and with whom we interact on a daily basis (Cohen and Felson, 1979). At its core is the idea that, in the absence of effective controls, offenders will prey on attractive targets. In the current context, residents who use payday lenders often leave these establishments with great sums of cash in their wallets and at late hours in the evenings as well as on the weekends, a fact likely not overlooked by potential criminals.

It is also reasonable to believe that some increase in crime could be attributable to the manner in which payday lenders might lubricate the cash-only drug trade. In places where cash is available on a moment’s notice to anyone with a job or government check, those wanting to fuel an addiction, or deviant lifestyle, need not wait until payday with ample payday loan opportunities.

Persons who find themselves in an ever-descending debt spiral, perhaps pressured by the threats of debt collectors, also would seem more likely to suffer from emotional difficulties that manifest themselves in violence, particularly against family, coworkers, friends, and neighbors, as strain theory would predict. Agnew (1992) claimed that strain, which can result from the presentation of negative stimuli (e.g., going into debt), can produce “negative affective states,” including anger, fear, frustration, or depression, that might lead to crime. This result is especially likely to occur among individuals who have few resources for coping with strain. Along these lines, it is also easy to imagine that hopelessly indebted persons might turn to other forms of crime to compensate for the debt incurred to payday lenders.
Perhaps the greatest insight on the payday lending-crime nexus comes from social disorganization theory, which has emerged as the critical framework for understanding the relationship between neighborhood characteristics and crime in urban areas. According to the theory, certain neighborhood characteristics can lead to social disorganization, defined as the inability of a community to realize the common values of its residents and to maintain effective social controls (Kornhauser, 1978: 120). Social disorganization, in turn, can lead to more crime.

The most commonly studied aspects of neighborhoods include economic deprivation, residential instability, and population heterogeneity. An impressive literature produced over decades has found that these and related characteristics are positively associated with community crime rates, both directly and indirectly through their effect on neighborhood processes such as informal social control and collective efficacy (for a review of this literature, see Kubrin and Weitzer, 2003).

Along with these community characteristics, local institutions are theorized to play a key role in shaping crime rates. This effect occurs in large part because such institutions structure the daily interaction patterns of residents, affect the ability of communities to exercise social control, and influence available routes to valued goals such as economic or community development. Disadvantaged neighborhoods, in particular, have difficulty attracting and maintaining the types of local institutions that impede crime by providing community stability, social control, and alternatives to occupy residents’ time (Peterson, Krivo, and Harris, 2000: 32).

Neighborhood studies of crime have focused on a variety of local institutions such as bars, public housing, and recreational facilities. It is argued that recreation centers and libraries:

provide places and activities where people can gather, thereby structuring time and observing each other in public. To the degree that these institutions offer organized activities, they place local residents in settings that promote and facilitate the sharing of common values and goals. As this occurs, community networks are more likely to form and fulfill control functions. (Peterson et al., 2000: 34)

Other types of local institutions, however, such as bars, might serve to encourage criminal behavior in neighborhoods. Researchers have argued that their presence can cause crime directly by inducing violence within these establishments themselves (because of intoxication and impaired judgment) and indirectly by undermining informal social control in communities where bars are densely located (Parker, 1995; Roncek and Maier, 1991).

In a study on the role of local institutions and their effect on violent crime rates in Columbus, Ohio, neighborhoods, Peterson et al. (2000) found support for these arguments. They documented that a greater prevalence of recreation centers reduces violent crime, at least in the most economically disadvantaged areas of Columbus. They also documented
that a greater prevalence of bars in Columbus tracts is related to higher levels of violent crime. Beyond their study and previous research, however, they claimed that “scholars have not explored the empirical linkages between the presence of various types of institutions and neighborhood crime” (2000: 36) and cautioned that “additional research is needed to specify more fully what types of institutions . . . will have the most payoff” (2000: 57) for reducing community crime rates.

We would like to add payday lenders to the list of local institutions that might affect community crime rates. In line with social disorganization theory, we argue that a concentration of payday lenders might constitute a visible sign of neighborhood disorder and decline. According to research, disorder has been shown to increase fear of crime (Taylor, 2001) and to reduce informal social control, thereby increasing crime (Wilson and Kelling, 1982). Skogan (1992), in particular, characterizes disorder as an instrument of destabilization and neighborhood decline, with implications for community crime rates.

In summary, several reasons suggest why the presence of payday lenders in neighborhoods might be associated with violent and property crime rates in those neighborhoods. Previous research has investigated the relationship between crime and residential instability, poverty, unemployment, and other factors. Previous research also has documented the effect of local institutions on community crime rates including bars and recreational facilities. To date, however, no research has systematically examined the relationship between payday lending and crime. In fact, little overlap has occurred in the payday lending and crime literatures, despite the plausibility of such a relationship. As such, this study is the first empirical examination of the fringe banking–neighborhood crime nexus.

**The Research Context**

The city of Seattle, Washington, was selected because it is a representative major U.S. city (with a population of more than 550,000, of which non-Whites account for 30%) and is located in a state where payday lending has grown substantially over the last several years. Payday lending was legalized in Washington State in 1995. It grew slowly at first but then gained momentum in 2003 when the state legislature increased the maximum loan amount from $200 to $700. In Seattle, the number of payday lenders has grown from 37 in 2003 to 52 in 2007, an increase of nearly 41%. Equally important, as in most metropolitan areas, the location of payday lenders in Seattle is concentrated in low- and moderate-income and minority communities, where crime rates are the highest. We also selected Seattle as our study site because it is typical in terms of the number and density of payday lenders. Payday lenders in Seattle do not exhibit any unusual spatial pattern as one might find in heavily ghettoized cities or in cities with a significant military presence. Finally, we chose Seattle because it has been the focus of numerous studies of community crime rates over the last 20 years (Crutchfield, 1989; Kubrin, 2000; Matsueda, Drakulich, and Kubrin, 2006; Miethe and McDowall, 1993; Warner and Rountree, 1997). The current study builds on this literature.
The primary question we explore is whether those neighborhoods that have a relatively greater share of payday lenders exhibit higher crime rates after taking into consideration a range of factors known to be associated with crime (e.g., poverty, unemployment, population turnover, and related socioeconomic factors). We continue to consider that question in analyses that attempt to account for analytic complexities such as spatial autocorrelation and endogeneity. The findings will inform current policy debates and suggest directions for future research on the impact of payday lending.

Data and Methodology
To examine the relationship between payday lending and neighborhood crime rates, we perform a series of regression analyses using data on the location of payday lenders in conjunction with census and crime data for census tracts in Seattle. Census tracts approximate neighborhoods and are the smallest geographic level for which all three data sets are available.

Independent Variables
Our key independent variable is the prevalence of licensed payday lenders in Seattle census tracts in 2005. To calculate this variable, we divide the number of payday lenders in a tract by the tract population size (expressed in units of 1,000 persons) and take the natural logarithm of this rate. The raw data on payday lenders were collected by Steven Graves as part of a larger study focused on payday lenders and the military (Graves and Peterson, 2005). The street address for each lender was assigned a census tract number using ArcView GIS. In the 116 Seattle tracts for which crime data were available, 44 lenders were in operation in 2005. This number is comparable with other major U.S. cities including Milwaukee (41), Fort Worth (62), San Francisco (45), and Salt Lake City (53). The minimum number of payday lenders in a Seattle tract was 0, whereas the maximum was 4. The mean number of lenders across all tracts was .38.

The following variables were constructed from the 2000 U.S. Census to reflect critical neighborhood differences: percent secondary sector low-wage jobs (percent of total employed civilian population age 16 years and older employed in the six occupations with the lowest mean incomes), jobless rate (percent of civilian labor force age 16–64 years who

3. Seattle has 123 census tracts, but only 116 were included in the analyses. Recently, several tracts have been reconfigured into other tracts or eliminated altogether. Tract 23 is now subsumed in tract 40, tract 55 is now subsumed in tract 57, and tract 37 no longer exists. The remaining tracts were excluded because they encompass unique areas without corresponding census data. Tract 53 is excluded because it encompasses the University of Washington campus, and tracts 83 and 85 are excluded because they encompass the University’s medical complex.

4. We added a constant of 1 to the rate prior to computing the logarithmic transformation.

5. The occupations include health-care support; food preparation and serving-related occupations; building and grounds cleaning and maintenance; personal care and service; farming, fishing, and
are unemployed or not in the labor force), \textit{percent professionals and managers} (percent of employed civilian population age 16 years and older in management, professional, and related occupations), \textit{percent high-school graduates} (percent of adults age 25 years and older who are at least high-school graduates), \textit{poverty rate} (percent of the population for whom poverty status is determined whose income in 1999 was below the poverty level), \textit{percent Black} (percent of the total population that is non-Hispanic Black), \textit{percent young males} (percent of the total population who are males between the ages of 15 and 24 years), \textit{residential instability index} (index comprising percent renters, or percent of occupied housing units that are renter occupied, and percent movers, or percent of population ages 5 years and older who lived in a different house in 1995),\textsuperscript{6} \textit{percent female-headed households} (percent of households that are female-headed with no husband), and \textit{population} (tract population).\textsuperscript{7}

The literature has demonstrated that these characteristics are related to community crime rates in a variety of cities throughout the United States (Krivo and Peterson, 1996; Kubrin, 2000; Morenoff et al., 2001; Warner and Rountree, 1997).

An important variable that classifies tracts as within or not within the Seattle Central Business District (CBD) is included in the analyses because few and atypical residents live in CBD tracts. In Seattle, CBD residents tend to be urban professionals with high incomes or people who are poor and homeless. Controlling for whether tracts are inside or outside the CBD minimizes the likelihood that the unique characteristics of this area will distort the results (Crutchfield, 1989).

Previous community-level studies have found it necessary to address the problem of multicollinearity among the independent variables. To evaluate this issue, we examined variance inflation factor (VIF) scores, which confirmed the high level of collinearity among many disadvantage-related variables. Using these diagnostics and previous research as a guide (e.g., Sampson and Raudenbush 1999: 621), we performed principal components factor analysis with varimax rotation. Not surprisingly, the results suggest that the disadvantage-related variables all load on a single component with an eigenvalue of 4.39. This component, which we label \textit{Neighborhood Disadvantage}, explains 73\% of the variance and consists of the following variables (factor loadings in parenthesis): percent secondary sector low-wage jobs (.94), jobless rate (.87), percent professionals and managers (–.86), percent high-school graduates (–.93), poverty rate (.80), and percent Black (.71).\textsuperscript{8}

\begin{footnotesize}
\begin{enumerate}
\item The index represents the average of the standardized scores of these two variables.
\item All census data used in the study were compiled by Ruth D. Peterson and Lauren J. Krivo (2006) as part of the National Neighborhood Crime Study (NNCS). The NNCS contains information on the Federal Bureau of Investigation’s Index crimes and sociodemographic characteristics for census tracts in a representative sample of large U.S. cities for 2000.
\item Similar to prior research, we include percent Black in the disadvantage index because of its high correlation with the other items that comprise the index. Treating percent Black as a separate covariate
\end{enumerate}
\end{footnotesize}
In the analyses, the disadvantage index is used along with the residential instability index, young male rate, rate of female-headed households, total population, central business district, and our payday lending measure to predict Seattle neighborhood crime rates.9

**Dependent Variables**

Data used to compute violent and property crime rates at the census tract level come from Seattle Police Department annual reports. Following common practice, multiple year (2006–2007) average crime rates (per 1,000 population) were calculated to minimize the impact of annual fluctuations.10 The violent crime rate sums murder, rape, robbery, and assault rates, whereas the property crime rate is calculated as a sum of the burglary, larceny, and autotheft rates.11

**Analytic Issues and Strategy**

One critical issue in neighborhood research is that of spatial dependence. Crime is not randomly distributed but is spatially concentrated in certain areas in the metropolis. Formally, the presence or absence of this pattern is indicated by the concept of spatial autocorrelation, or the coincidence of similarity in value with similarity in location (Anselin, Cohen, Cook, Gorr, and Tita, 2000: 14). When high values in a location are associated with high values at nearby locations, or low values with low values for neighbors, positive spatial autocorrelation or spatial clustering occurs. In analyses using spatial data, such as in the current study, one must attend to potential autocorrelation because ignoring spatial dependence in the model might lead to false indications of significance, biased parameter estimates, and misleading suggestions of fit (Messner, Anselin, Baller, Hawkins, Deane, and Tolnay, 2001: 427).

In the current study, we address potential spatial dependence by mapping the residuals from our regression analyses and running a series of diagnostic tests to check for problematic levels of spatial autocorrelation. We used multiple variants of the Moran’s I test and several software packages, including GeoDA, SPSS, ArcMap 9.3, and s3 (Mathematica).

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9. Examination of collinearity diagnostics revealed no multicollinearity problems in the parameter estimates presented subsequently (maximum VIF was 2.5).

10. Crime data by census tract for 2008 through the present have not yet been released publically.

11. Histograms and descriptive statistics indicate that several variables are highly skewed, and we include log-transformed versions of these variables in the analyses that follow. Transformed variables include the young male rate, payday lender rate, and violent and property crime rates.
A second critical issue has to do with the possibility that endogeneity might be found in the payday lending–crime relationship. Although it is our contention that the most well-grounded theoretical relationship is one in which the presence of payday lenders in an area affects the crime rate, we acknowledge the possibility that the relationship might be reciprocal (i.e., crime could affect where payday lenders set up shop). One reason for this trend is that moderate levels of crime might serve as an environmental signal that informs payday lenders of locations where a reasonably high demand should exist for the sorts of financial services they provide. To the extent this argument has some merit, it seems prudent to account for the possibility that payday lenders might be an endogenous, rather than an exogenous, regressor in our analyses. As discussed subsequently, we do this by implementing an instrumental variables model, a commonly used approach to model endogeneity in social relationships.

Given the issues just raised and our focus on investigating the relationship between payday lending and neighborhood crime rates, after providing some descriptive statistics, our multivariate analysis begins with the estimation of a series of ordinary least-squares (OLS) regression analyses in which the effects of payday lending on crime are examined. In the first model, we assess whether payday lending and crime rates are associated using a baseline model in which only payday lending is included. In the second model, we introduce into the analysis the standard neighborhood crime correlates (e.g., neighborhood disadvantage, residential instability, etc.) to determine whether any payday lending effect withstands these controls. In the third model, we make an effort to allow for the possibility that our payday lending measure is endogenous by estimating an instrumental variables regression via the two-stage least-squares (2SLS) estimator. To implement the instrumental variable model, we require an instrument that is justified on theoretical grounds and meeting the following conditions: (a) It is highly correlated with the measure of payday lenders, and (b) it is uncorrelated with the disturbance terms from the payday lending–crime equations. To that end, we instrument payday lender rates with a measure of the prevalence of Federal Deposit Insurance Corporation (FDIC) banking institutions (i.e., the natural log of banks per 1,000 population). Our theoretical justification for this instrument follows below.

Within the limits of zoning regulations, FDIC banks are likely to locate themselves strategically to provide convenient access to consumers with financial and banking needs. Payday lenders, in turn, are likely to opt for locations in relative proximity to traditional banks for several reasons. First, because FDIC banks are likely to be located in an advantageous position relative to consumer demand, setting up shop nearby provides payday lenders with access to a steady flow of potential customers. Second, because payday lenders tend to provide services that traditional banks do not (e.g., short-term loans to customers with weak credit histories, nighttime, and weekend hours), a location near an FDIC bank provides potential visibility to banking customers whose needs occasionally might be unmet by the traditional bank. Third and most important theoretically, almost every payday loan transaction requires the customer to present a postdated personal check
from a valid checking account to obtain their cash loan. Therefore, logic suggests that the vast majority of Seattle’s payday loan customers keep a checking account with a bank that is also nearby. As such, traditional banks and payday lenders do not attract completely different clientele; the customers of the latter are simply a subset of the banks’ clients. Although the availability of banks is a necessary condition for payday lenders, banks have little, if any, need for payday lenders (although some lenders have partnered with and, in some cases, even purchased, payday lenders). In essence, the relationship between payday lenders and FDIC banks is commensalistic. Payday lenders benefit from their geographic connection to FDIC institutions without seriously affecting the financial service market of the bank itself. Based on these reasons, we argue that a concentration of payday lending institutions is driven, in part, by the location of traditional banking institutions. Consequently, we expect that payday lenders and FDIC banks will collocate and that the concentration of FDIC banks should be correlated positively with the concentrations of payday lenders.

Consistent with this expectation, a recent analysis by Fellowes and Mabanta (2008: 10) reports that “of the 22,984 payday lenders now in business, about 95 percent are located within one mile of a bank or credit union branch, and 84 percent are located in the same neighborhood or census tract as a bank or credit union branch.” This pattern of colocation between payday lenders and FDIC banks also appears in Seattle. As evidenced by the map presented in Appendix A, tracts with a greater prevalence of FDIC banks tend to be tracts that also exhibit more payday lending institutions. Moreover, as expected, we find that the bivariate correlation between the payday lender rate and the FDIC banking rate across Seattle census tracts is fairly strong at $r = .64$. Thus, consistent with its role as an instrument, we believe both theoretical and empirical evidence is present indicating that the prevalence of FDIC banks is related to the prevalence of payday lenders. In contrast, we perceived no compelling reason to expect that the FDIC banking institution rate will be correlated with the disturbance terms from the crime equations. However, because this latter “exogeneity” assumption cannot be tested directly (Wooldridge, 2002: 86), findings should be interpreted with appropriate caution.

12. Given that FDIC banks and payday lenders tend to be located close to one another, one might wonder why individuals choose to use the high-cost services of the latter. For starters, geographic proximity is not equivalent to access. As noted earlier, banks frequently do not offer products sought out by payday lending customers or provide services in a manner or at a time that is convenient for them. Furthermore, available evidence suggests payday loan usage is tied to limited or negative credit experiences, imbalances between living expenses and income, and ignorance about lower cost options (Fellowes and Mabanta, 2008). Lower income residents also indicate that they avoid banks because they fear that they do not have enough money, think the fees are too high, are not comfortable dealing with banks, find banks have inconvenient hours, and believe banks refuse to provide the desired services (e.g., see Fellowes and Mabanta, 2008; Washington, 2006; see also Caskey, 1994: 78–83).

13. Because this assumption involves an unobservable (the disturbance term) concept, it cannot be tested directly with empirical data. However, when two or more instruments are available for a single endogenous regressor (i.e., the equation is “overidentified”), one can assess the adequacy of instruments.
Finally, for each model, we test for evidence of spatial autocorrelation, and if needed, we account for spatial effects that might bias our estimates of the direct relationship between payday lending and crime. For all sets of analyses, we examine both violent and property crime rates in Seattle neighborhoods.

**Findings**

**Descriptive Statistics**

A preliminary view of descriptive statistics suggests a positive association between payday lending and crime. Means, standard deviations, and correlations for all variables are presented in Table 1. The average count of payday lenders across Seattle neighborhoods is .38; the corresponding rate is 10 per 1,000 persons. Consistent with crime patterns throughout the United States, property offenses comprised the majority of reported crimes in Seattle in 2006–2007. The average rates for property and violent crime, respectively, were roughly 74 and 8 per 1,000 population. As expected, the explanatory variables, and particularly neighborhood disadvantage, have positive relationships with crime rates. More importantly, payday lending is significantly positively associated with both violent ($r = .48$) and property crime ($r = .56$). These correlations suggest initial support for a payday lending–crime relationship.

The bivariate relationship between payday lending and crime can be illustrated visually. Figure 1 plots the distribution of payday lenders and violent crime rates in Seattle neighborhoods. The map in Figure 1 clearly displays the strong bivariate relationship between payday lending and violent crime. In the downtown and inner-city areas where payday lenders are more numerous (as indicated by “x” on the map), the violent crime rate is also highest (as indicated by the darkest shading on the map). The safest neighborhoods in Seattle have no payday lenders in them. The map also shows moderate violent crime rates in areas with lower densities of payday lending. Results for the distribution of payday lenders and property crime rates, although not presented, mirror closely those for violent crime rates. At issue, however, is whether the relationship between payday lending and crime will remain after controlling for other community characteristics known to be associated with crime. To determine this relationship, we turn to the regression results.

**Regression Results**

Tables 2 and 3 present regression results for violent and property crime rates, respectively. These tables contain results from the series of three regression models, which were outlined earlier. For both tables, the first column reports a baseline OLS regression model in which violent or property crime rates are predicted only by the payday lending via a test of overidentifying restrictions (e.g., see Baum, 2006: 191; Wooldridge, 2002: 121). Such testing is not possible in cases like ours in which only one excluded instrument is used for the endogenous regressor variable.
## Table 1

Descriptive Statistics and Correlations ($N = 116$ Census Tracts)

<table>
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<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
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<td>1. Violent crime rate (ln)</td>
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<td>.45*</td>
<td>.63*</td>
<td>.25*</td>
<td>.45*</td>
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<td>.56*</td>
<td>-.61*</td>
<td>.65*</td>
<td>-.63*</td>
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<tr>
<td>2. Property crime rate (ln)</td>
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<td>.38*</td>
<td>.75*</td>
<td>-.15</td>
<td>.58*</td>
<td>.56*</td>
<td>.64*</td>
<td>.41*</td>
<td>.25*</td>
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<tr>
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<td>.32*</td>
<td>.56*</td>
<td>.19*</td>
<td>.18</td>
<td>.80*</td>
<td>.87*</td>
<td>.71*</td>
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<td>.94*</td>
<td>-.93*</td>
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<td>.13</td>
<td>.05</td>
<td>.20*</td>
<td>.46*</td>
<td>.23*</td>
<td>.18</td>
<td>-.44*</td>
<td>.40*</td>
<td>-.30*</td>
<td></td>
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<tr>
<td>6. Residential instability</td>
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<td>-.28*</td>
<td>.46*</td>
<td>.34*</td>
<td>.65*</td>
<td>.23*</td>
<td>.09</td>
<td>-.23*</td>
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<td>7. Female-headed households</td>
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<td>-.10</td>
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<td>.33*</td>
<td>.70*</td>
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<td>.48*</td>
<td>-.64*</td>
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<td>8. Central business district</td>
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<td>.42*</td>
<td>.31*</td>
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<td>9. Payday lender rate</td>
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<td>.19*</td>
<td>.05</td>
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<td>.13</td>
<td>-.09</td>
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<td>10. Poverty rate</td>
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<td>-.55*</td>
<td>.70*</td>
<td>-.61*</td>
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<td>11. Jobless rate</td>
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<td>-.60*</td>
<td>.74*</td>
<td>-.77*</td>
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<td>12. Percent Black</td>
<td>1.00</td>
<td>-.50*</td>
<td>.57*</td>
<td>-.65*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13. Percent professional</td>
<td>1.00</td>
<td>-.87*</td>
<td>.85*</td>
<td></td>
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<tr>
<td>14. Percent low wage</td>
<td>1.00</td>
<td>-.87*</td>
<td>.85*</td>
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</tr>
<tr>
<td>15. Percent high-school graduate</td>
<td>1.00</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Mean: 7.69 73.74 4709 0.00 6.30 .14 8.29 .08 .10 11.93 23.59 7.74 48.70 14.85 89.77

Mean: 11.60 78.00 1875 1.00 3.52 .86 5.27 .27 .24 9.16 8.25 10.11 13.30 7.46 9.45

Note: ln = measured in natural logarithm; means and standard deviations for all variables are expressed in nonlogged values for ease of interpretation.

*p < .05.
lending variable. In the second column of each table, we expand on that initial model by adding measures typically associated with neighborhood crime rates. In the third column, we present results from a model that accounts for the potential endogeneity of payday lenders through an instrumental variables estimator. Finally, we calculate the level of spatial autocorrelation in each of the prior models. Consistent with our
Research Article Investigating The Social Ecology of Payday Lending

### Table 2

<table>
<thead>
<tr>
<th></th>
<th>1 Baseline Model</th>
<th>2 Ecological Correlates Model</th>
<th>3 2SLS-IV Endogeneity Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payday lenders (ln)</td>
<td>.482***</td>
<td>.248***</td>
<td>.196**</td>
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<td></td>
<td>3.424</td>
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<td></td>
<td>(.582)</td>
<td>(.325)</td>
<td>(.658)</td>
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<td>Neighborhood disadvantage</td>
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<td>.431***</td>
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<td></td>
<td>.506</td>
<td>.494</td>
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<td></td>
<td>(.076)</td>
<td>(.075)</td>
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<tr>
<td>Young male rate (ln)</td>
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<td>.017</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.062</td>
<td>.046</td>
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<td></td>
<td>(.143)</td>
<td>(.141)</td>
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<tr>
<td>Residential instability index</td>
<td>.351***</td>
<td>.334***</td>
<td></td>
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<td></td>
<td>.469</td>
<td>.447</td>
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<td></td>
<td>(.087)</td>
<td>(.088)</td>
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<tr>
<td>Female-headed households</td>
<td>.182**</td>
<td>.188**</td>
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</tr>
<tr>
<td></td>
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<td>.041</td>
<td></td>
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<tr>
<td></td>
<td>(.015)</td>
<td>(.014)</td>
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<tr>
<td>Central business district</td>
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<td>.182**</td>
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<td></td>
<td>.806</td>
<td>.776</td>
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<td></td>
<td>(.000)</td>
<td>(.000)</td>
<td>(.000)</td>
</tr>
<tr>
<td>Constant</td>
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<td></td>
<td>(.104)</td>
<td>(.318)</td>
<td>(.283)</td>
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<tr>
<td>$R^2$</td>
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<td>.802</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>Total number tracts ($N$)</td>
<td>116</td>
<td>116</td>
<td>116</td>
</tr>
</tbody>
</table>

**Notes.** Cell entries are standardized coefficients and unstandardized coefficients followed by standard errors in parenthesis. In the first stage of the 2SLS model, the excluded instrument predicting payday lenders is the number of FDIC lending institutions per 1,000 population (see Appendix A for full first-stage results).

$p < .05; ** p < .01; *** p < .001$.

### Objectives

This model-building strategy allows us to gauge the extent to which the observed relationship between payday lending and crime remains after controlling for other ecological correlates.

**Baseline model.** In the first model of Table 2, we find evidence, not surprisingly, of a statistically significant positive relationship between payday lending and violent crime. Also not surprisingly, we find evidence of a statistically significant positive relationship between payday lending and property crime, as indicated in the first model of Table 3. In essence,
**TABLE 3**

**OLS Regression Results for Property Crime**

<table>
<thead>
<tr>
<th></th>
<th>1 Baseline Model</th>
<th>2 Ecological Correlates Model</th>
<th>3 2SLS-IV Endogeneity Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payday lenders (ln)</td>
<td>.565***</td>
<td>.289***</td>
<td>.340***</td>
</tr>
<tr>
<td></td>
<td>2.323</td>
<td>1.189</td>
<td>2.365</td>
</tr>
<tr>
<td></td>
<td>(.318)</td>
<td>(.205)</td>
<td>(.466)</td>
</tr>
<tr>
<td>Neighborhood disadvantage</td>
<td>.207**</td>
<td>.171*</td>
<td>.137</td>
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<tr>
<td></td>
<td>(.048)</td>
<td>(.054)</td>
<td>(.048)</td>
</tr>
<tr>
<td>Young male rate (ln)</td>
<td>.010</td>
<td>.016</td>
<td>.010</td>
</tr>
<tr>
<td></td>
<td>(.090)</td>
<td>(.090)</td>
<td>(.100)</td>
</tr>
<tr>
<td>Residential instability index</td>
<td>.534***</td>
<td>.401***</td>
<td>.355</td>
</tr>
<tr>
<td></td>
<td>(.055)</td>
<td>(.062)</td>
<td>(.055)</td>
</tr>
<tr>
<td>Female-headed households</td>
<td>-.006</td>
<td>.016</td>
<td>-.001</td>
</tr>
<tr>
<td></td>
<td>(.009)</td>
<td>(.010)</td>
<td>(.009)</td>
</tr>
<tr>
<td>Central business district</td>
<td>.237***</td>
<td>.214**</td>
<td>.587</td>
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<td>(.139)</td>
<td>(.155)</td>
<td>(.139)</td>
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<td>$R^2$</td>
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<td>.773</td>
<td>.704</td>
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<td>Adjusted $R^2$</td>
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<td>.759</td>
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<td>D-W-H endogeneity test</td>
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<td>11.04**</td>
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<td>Total number tracts ($N$)</td>
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<td>116</td>
<td>116</td>
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</tbody>
</table>

*Notes. Cell entries are standardized coefficients and unstandardized coefficients followed by standard errors in parenthesis. In the first stage of the 2SLS model, the excluded instrument predicting payday lenders is the number of FDIC lending institutions per 1,000 population (see Appendix A for full first-stage results).

$p < .05; **p < .01; ***p < .001.$

these results suggest that across Seattle neighborhoods, as the presence of payday lenders increases, so do violent and property crime rates.

**Ecological correlates model.** In the second model, we introduce several measures typically associated with neighborhood crime rates. In line with prior research, regression results show that neighborhood disadvantage, residential instability, and female-headed households are all significantly positively associated with violent crime rates. Likewise, disadvantage and residential instability are significantly positively associated with property crime rates.
Moreover, whether the census tract is located in the CBD also matters for violent and property crime rates. Our CBD variable is significant and positive in both models. Most important, however, is that the inclusion of these variables does not eliminate the association between payday lending and crime. Although the coefficients for the payday lending variable are roughly cut in half in the violent and property crime equations, payday lending remains a significant predictor in both models. In fact, the standardized coefficients suggest that the effect of payday lending is fairly robust, with a magnitude that compares favorably with several neighborhood measures that have been considered important predictors of crime for a long time.

Using variants of the Moran’s I test and several software packages, we next measured the potential effects of spatial autocorrelation within the OLS ecological model. We found that the effect of spatial autocorrelation was minimal in both analyses of violent and property crime, falling well below the threshold that might raise concern (see, e.g., Parker and Asencio, 2009: 208).

Table 4 reports the results of these tests, using a minimum threshold distance of 2,500 m and first-order contiguity models. As shown, the Moran’s I scores, which are similar to a Pearson’s $r$ score, are low and in some instances slightly negative. Although typical in many cities, the lack of spatially autocorrelated data in Seattle appears because of its unusual physical geography. Unlike many cities, Seattle has numerous natural (e.g., bodies of water, hills, etc.) and manmade (e.g., bridges, freeways, etc.) barriers that seem to inhibit interaction. The map in Figure 1 helps make this point clear. This finding is consistent with other studies that have examined spatial autocorrelation and neighborhood crime rates in Seattle (e.g., Kubrin, 2000) and accounts for why previous researchers have not addressed autocorrelation directly in their analyses of Seattle neighborhoods (e.g., Crutchfield, Matsueda, and Drakulich, 2006; Rountree, Land, and Miethe, 1994; Warner and Rountree, 1997).
**Endogeneity model.** The third model in our investigation is an effort to explore the possibility that the payday lender rate is an endogenous regressor in our models. To account for endogeneity, we use an instrumental variables approach via 2SLS regression. Per our earlier discussion, in the first stage of the 2SLS analysis, the prevalence of payday lenders is instrumented by a single “excluded” instrument—the natural logarithm of FDIC banks per 1,000 persons—with the ecological variables specified as “included” instruments.

The results of this first-stage analysis, reported in Appendix B, are consistent with the bivariate evidence cited earlier and suggest that “FDIC banks” is a “relevant instrument” for the payday lender rate. Several statistics provide evidence of such relevance. First, the coefficient for the FDIC bank rate, which reflects its partial association with the payday lending rate (net of the other covariates), is positive and has a large and statistically significant $t$ ratio. Second, we report an $F$ test that also evaluates the relevance of the included instrument. This statistic is derived based on the $R^2$-squared of the first-stage equation after the included instruments have been partialled out (Baum, 2006: 207; see also Bound, Jaeger, and Baker, 1995). Previous research on instrumental variables (IV) methods has shown that, even when the instrument is a statistically significant predictor, bias might be found in the IV estimator because of limitations in the explanatory power of the instrument (see Baum, 2006; Staiger and Stock, 1997). Consequently, it has been suggested that, for a model with one endogenous regressor, an $F$ statistic lower than 10 is problematic (Baum, 2006: 211). As shown at the bottom of the table in Appendix B, the $F$ statistic in our analysis is 33—more than three times the minimum threshold suggested. Finally, we also present results of the Anderson canonical correlation underidentification test, which evaluates the null hypothesis that the equation is underidentified. In this case, the test statistic is large and statistically significant, thereby indicating a rejection of the null. In summary, these statistics imply that one of the two critical assumptions of IV analysis is supported in our data (i.e., that the instrument has a high partial correlation with the endogenous regressor). We note again, however, that the second assumption cannot be evaluated empirically, so findings and conclusions should be regarded as suggestive, not definitive.

Turning our attention to the second-stage regression results, reported as model 3 in Tables 2 and 3, our interest centers on whether the criminogenic effect of payday lenders remains evident in the instrumental variable analysis. Examining the results for violent crime first, the findings continue to indicate that the prevalence of payday lending institutions has a significant positive relationship with violent crime rates. Indeed, the results of the IV analysis mimic fairly closely the substantive results of the OLS analysis, both for the measure of payday lending as well as for the ecological variables. Moreover, a closer inspection of the coefficients in models 2 and 3 indicates that differences are not especially great. Intuitively, this similarity suggests that payday lenders might not be endogenous to violent crime. The “Durbin–Wu–Hausman (D-W-H) endogeneity test” reported at the bottom
of Table 2 evaluates that idea.\textsuperscript{14} In this case, the test is not significant, which suggests that little is changed by specifying payday lenders as endogenous to violent crime. Across model specifications, the evidence is consistent in indicating that payday lending is predictive of violent crime rates, controlling on a range of factors associated with neighborhood crime rates.

Looking next at the results for property crime, reported in the third model of Table 3, several findings are noteworthy. Most importantly, in big picture substantive terms, the results of the instrumental variables analysis differ little from OLS results. Payday lenders, neighborhood disadvantage, residential instability, population size, and location within the CBD all are significantly related to property crime rates in expected ways. Thus, the substantive issues most central to the current study seem unaffected by our efforts to model endogeneity in the relationship between payday lending and crime. However, differences in the magnitude of the coefficients in the OLS and IV analyses are more prominent in the property crime analyses than they were in the analyses of violent crime. For instance, the estimated effect of payday lending is roughly twice as large in the IV analysis compared with the OLS analysis. Given this difference, it is not surprising that the D-W-H test is statistically significant in Table 3. In essence, this test suggests systematic differences occur in the coefficients for the OLS and 2SLS-IV models. On the assumption that the instrumental variable is exogenous to the disturbance term of the property crime equation, this result is consistent with the idea that endogeneity exists in the relationship between payday lender prevalence and property crime rates. Nonetheless, our analyses suggest little reason to doubt that payday lending has an effect on property crime rates, net of our controls.\textsuperscript{15}

Finally, to evaluate the potential for biases related to spatial processes in the endogeneity models, we once again measured the level of spatial autocorrelation using a variety tests. As before, these results suggest no appreciable evidence of unmeasured spatial effects in our analysis of violent or property crime rates. The results of tests for spatial autocorrelation in these models using Moran’s I are listed in Table 4.

In sum, the results of our analyses indicate that payday lending is significantly associated with both violent and property crime rates. This relationship holds even after controlling for a host of factors typically associated with neighborhood crime rates. Moreover, the significant, positive relationship between payday lending and crime remains evident in models that attempt to deal with endogeneity as well as after concerns with spatial autocorrelation have been addressed.

\textsuperscript{14} It should be noted this test statistic also relies on the critical assumption that the instrumental variable is uncorrelated with the crime equation disturbance term.

\textsuperscript{15} We replicated the models substituting in the individual components of the disadvantage index to see whether the effects of payday lending remained. In all supplemental analyses, payday lending remained a significant predictor of violent and property crime rates. Results of these analyses are available on request.
Conclusion

Payday lenders in Seattle tend to be concentrated in communities where crime rates are higher. More importantly, the correlation between payday lending and violent and property crime remains statistically significant after a range of factors traditionally associated with crime have been controlled for and when other model specifications have been taken into account. The substantial costs that customers pay for using payday lenders have long been documented for a long time. Our findings indicate that important broader community costs also might persist—such as exposure to crime—that all residents pay when they reside in neighborhoods with a concentration of payday lenders. These costs suggest numerous policy implications.

Policy Implications

One critical public policy challenge is to preserve access to small consumer loans on an equitable basis and to do so in a way that does not enhance the danger to those in the community where these services are provided. This is a challenge not just for financial service providers and regulators, law enforcement authorities, or community development officials. Coordinated efforts should be launched to meet these objectives successfully. One approach would be to cap the interest rate that payday lenders are allowed to charge at 36% as several states have done and as Congress did with respect to loans given to members of the military and their families. (Credit cards, although not ideal for all consumers, currently offer cash advances for far less than the 36% annual percentage rate.) Although this approach would reduce many abusive practices often associated with payday lending, it would likely put many payday lenders out of business. This outcome raises the question of whether alternative financial institutions could step in and provide small consumer loans.

One credit union has found a profitable way to serve this function with a high-risk pool of borrowers. In 2001, the North Carolina State Employee’s Credit Union (SECU) created the Salary Advance Loan (SALO) product that helps employees make it from paycheck to paycheck while building savings. Members who have their paycheck automatically deposited can request salary advances up to $500. The advance is repaid automatically the next payday. The annual percentage rate is 12%. Typical SALO borrowers have an annual income of less than $25,000 with account balances of less than $150. Two thirds take out advances every month. SECU has earned a net income of $1.5 million on a loan volume of $400 million with loan charge-offs of 0.27%. As Michael A. Stegman (2007: 183) concluded, this experience “shows that large institutions can market more affordable payday loan products to high-risk customers at interest rates that are a small fraction of prevailing payday loan rates.” Credit unions around the country offer similar loans, generally with the proviso that borrowers also build a “rainy-day” fund with the credit provider.

Federal banking regulators could encourage larger financial institutions to offer similar services by giving credit to those lenders in their Community Reinvestment Act (CRA) examinations and evaluations. Under the CRA, federally regulated depository institutions
are required to ascertain and respond to the credit needs of their entire service areas, including low- and moderate-income communities. Regulators take lenders’ CRA records into account when considering applications for mergers, acquisitions, and other changes in bank lending practices (Immergluck, 2004). Providing CRA credit for offering small consumer loans on equitable terms would encourage more large institutions to do so.

State and local governments could enact zoning laws that limit the number of new payday lenders. Today 81 cities, 5 counties, and 19 states have enacted local ordinances limiting the location and density of alternative financial institutions like payday lenders, check cashers, and pawn shops. For example, in 2008, St. Louis passed an ordinance prohibiting check cashers and short-term loan operators from opening within 1 mile of an existing store and within 500 feet of a residence, elementary school, or secondary school (Standaert, 2009: 432). Similar rules could be targeted explicitly to payday lenders. Such zoning laws could reduce the extent to which neighborhoods become stigmatized as a result of the concentration of fringe banking institutions.

A more direct approach would be to establish a suitability standard prohibiting payday lenders from providing multiple loans to borrowers or from offering loan terms that are designed to entrap borrowers in a cycle of debt. Current FDIC guidelines that prohibit regulated banks working with third parties (like payday lenders) from issuing loans to borrowers with recent outstanding payday loan debts could be extended to cover all payday lenders.

Another immediate concern is the safety of those in neighborhoods where payday lenders are concentrated. Local law enforcement authorities should assess levels of criminal activity carefully in those areas and consider providing additional service at appropriate times. Not only would employees and customers of payday lenders benefit, but residents of the surrounding neighborhoods likely would enjoy safer streets as well. In turn, this change might attract other businesses and more residents to the area, stimulating broader economic and community development in many currently distressed areas. In essence, by reducing the social disorganization of such neighborhoods, a virtuous cycle could be launched that might bring lower crime rates and several associated benefits.

Research Implications

A growing body of research has been developing on the business operations of payday lenders, their customer base, and the linkages to other financial services. Not so widely researched are the potential neighborhood costs associated with such institutions. As detailed in this study, a spike in neighborhood crime rates is one probable cost, but other related costs also might be associated. Most problematic, perhaps, might be a depressing impact on local property values because crime has been shown to be associated with declining property values (Bowes and Ihlanfeldt, 2001; Gibbons, 2004; Thaler, 1978). If a concentration of payday lenders reduced property values (and it is difficult to imagine it would increase values), then this effect would reduce the equity and wealth of property owners. In turn, property tax revenues would
decline and thereby require either a reduction in critical public services (e.g. schools, police, and fire protection) or an increase in taxes for local residents and businesses. It would be informative to know whether payday lenders have such an impact and, if so, to quantify that impact.

It also stands to reason that, in communities with significant concentrations of payday lenders, capital loss in the form of the so-called multiplier leakage might occur. In this scenario, capital crucial to local economic development efforts, or for simple circulation within the local economy, is siphoned off by payday lenders, most of which are owned by interests far removed from local branch operations. Compounding this, of course, is the fact that payday lenders are most prevalent in neighborhoods that already suffer from various types of disinvestment. Estimating the flight of capital from such communities because of the activity of payday lenders would provide valuable information for planners and regulators as well as for the research community.

Limitations of our study suggest several additional directions for future research. An obvious extension would be case studies of additional cities. We suspect that our findings are not unique to Seattle but that variations might be associated with the size, demography, regional location, industrial structure, and other city characteristics that affect the linkage between payday lending and crime. Unfortunately, uneven crime data and even poorer data on payday lenders constitute a key challenge.

How the payday lending–neighborhood crime link varies over time is also unknown. Payday lenders suddenly appeared on the map of virtually all major cities within the past 20 years. Depending on the trajectory of various political initiatives, their numbers could continue to grow or decline with equal speed. In the current study, we offer a snapshot. Longitudinal or pooled time-series work would offer the opportunity to flesh out this connection better. Moreover, relative to the limitations of the current analysis, such data likely would provide a better means of investigating the potential for reciprocal relationships between payday lenders and crime.

A final suggestion for future research involves expanding our model of neighborhood crime rates to include other potentially salient local institutions. Indeed, because of data limitations, we did not include measures of bars or recreational facilities, which previously have been linked to community crime rates. Although we believe incorporating such measures would not change the pattern of results, it is important for future research to account for the scope and diversity of local institutions when assessing the predictors of neighborhood crime rates.

**A Final Word**

Access to a wide range of financial services on fair and equitable terms has become a major public policy issue as well as the topic of much social science research in recent years. Payday lenders constitute part of the growing web of fringe bankers that have been concentrated in low-income and disproportionately minority communities, although they have begun to
expand into working- and middle-class communities as well. The cost of these services to individual borrowers and families has been evident for a long time, often quantified with some precision. Although not understood with the same level of specificity, the broader neighborhood costs are becoming recognized as facts of life in the nation’s metropolitan regions. The link between payday lending and neighborhood crime, in fact, should come as no surprise. How we choose to respond to that connection, if we choose to respond at all, remains to be determined.

References


Baum, Christopher F. 2006. *An Introduction to Modern Econometrics Using Stata*. Stata Press.


**Gregory D. Squires** is a professor of sociology and public policy and public administration at George Washington University. His research has focused on racial inequality and uneven metropolitan development with a focus on the role of financial institutions in shaping the opportunity structure in the nation’s metropolitan regions. Recent publications include *Privileged Places: Race, Residence, and the Structure of Opportunity* (Lynne Rienner, 2006) and *The Integration Debates: Competing Futures for American Cities* (Routledge, 2010). He currently serves on the Social Science Advisory Board of the Poverty & Race Research Action Council, the Board of the Woodstock Institute, and the Advisory Board of the Fair Housing Legal Support Center at John Marshall Law School.

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APPENDIX A

Payday Lenders, FDIC Banks, and Violent Crime Rates in Seattle, Washington
## First-Stage Model of Payday Lenders (ln)

<table>
<thead>
<tr>
<th>Excluded Instrument</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDIC banks per 1,000 (ln)</td>
<td>.262**</td>
<td>.046</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhood disadvantage</td>
<td>−.015</td>
<td>.021</td>
</tr>
<tr>
<td>Young male rate (ln)</td>
<td>.069</td>
<td>.038</td>
</tr>
<tr>
<td>Residential instability index</td>
<td>.014</td>
<td>.023</td>
</tr>
<tr>
<td>Female-headed households</td>
<td>.002</td>
<td>.004</td>
</tr>
<tr>
<td>Central business district</td>
<td>−.043</td>
<td>.059</td>
</tr>
<tr>
<td>Population size</td>
<td>−.000008</td>
<td>−.000007</td>
</tr>
</tbody>
</table>

Summary results for first-stage regression

- Partial $R^2$ of excluded instrument: .234
- $F$ test of excluded instrument (1, 108 degrees of freedom): 33.00*
- Anderson canon. corr. underid. test: 27.15*

***$p < .001$. **$p < .01$. *$p < .05$. 