Revisting Property Crime and Economic Conditions: An Exploratory Study to Identify Predictive Indicators beyond Unemployment Rates

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Criminology and Justice Analysis

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In addition to his governmental roles, he has published articles and book reviews in Justice Research and Policy, the British Journal of Criminology, Criminal Justice Policy Review, the Southern Journal of Criminal Justice, and other journals. He is also a member of the American Society of Criminology and the American Society of Criminology.

Abstract

 Numerous researchers have questioned the use of the unemployment rate as an


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Revisiting Property Crime and Economic Conditions: an Exploratory Study on Identity
and empirical techniques.

While, 1981, for an excellent summary of these studies including data sources and level using aggregated crime and economic time series or trend data (see Long and economist began to employ advanced quantitative techniques on a macroeconomic the crime-economy debate until the mid to late 1970s when both criminologists and involving personal cost/benefit assessments. Indeed, microeconomic theories dominated literature focused on individual decision making and individual rational choice models.

As Gould, Wiemeler and Whysard (2002) argue the vast majority of the early

that a weaker economy will increase criminal motivation.

crime as a result of increasing relative deprivation (Wall and Land, 1983) argue
which 1973) suggests that individuals will engage in theft and other property related
benefits of perpetuation outweigh or surpass the associated costs of apprehension. Thus,
individuals are more likely to commit income producing crimes than violent.

of Becker’s (1968) seminal work suggests that as the economy spirals downward
increases in property crimes such as burglary, larceny and motor vehicle theft. A review
directly or implicitly inferred a causal association between the current recession and
anecdotal evidence and media accounts which depict rising crime rates have either
and policy makers, emphasizing the relationship between economic decline and crime.

The current state of the national economy has once again sparked intense interest,

Introduction/Literature Review

Both cyclical and frictional unemployment on reported property crime rates in the United
unemployment and auto theft. Kahlson (1999) also found significant positive effects for
the car while Oster and Agel (2007) did find statistical significance between
burglary, but found no statistical significance between unemployment and motor vehicle
significant positive associations between the unemployment rate and robbery and
Employing a more robust and statistically powerful analysis, Allen (1996) reported
national and their respective national theft rates.

correlation between the percentage of unemployed men and women in 20 different
rates and both larceny and assault. Conversely, Young (1993) found no significant
of 5 months and found a statistically significant correlation between unemployment
Louisiana, which had experienced considerable economic fluctuation over a time period
Neustrom, Jimison, Hinkle, and Grantham (1988) studied a region in southern
spanning fifteen to thirty years or more in the past.

of the data such as cross sectional or panel designs with historical numbers and rates
commonly either regression on time-series ARMA models and the type and time frames
statistical methods employed which range from simple correlation tests to more
the level of data analysis, employing either national, state or local time series data, the
health, stability of prosperity, These studies have also varied significantly in terms of
robbery, either directly or indirectly through a proxy measure of general economic
role on property crimes such as burglary, larceny and motor vehicle theft and sometimes
Typically, these macroeconomic analyses assess the effect of the unemployment

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The study author reported that unemployment-crime research studies persist today. The results indicate the need for further study in this field. Specifically, the author pointed to the need for more empirical evidence regarding the relationship between unemployment and crime rates.

According to the author, Freeman (1995) suggested that the link between unemployment and crime rates is a complex one, depending upon the type of data used and the statistical methods employed. The author also noted that unemployment rates and crime can be described as mixed, inconsistent, and varied.

In summary, the author stated that the findings of the external literature on the relationship between unemployment and crime rates are complex and inconsistent, as well as prior and limited in some cases.

The author stated that vehicle theft and robbery rates were controlled for population effects, such as age and income level. The author also commented on the importance of crime rates varying between social and economic conditions and the findings of prior research. The author pointed to the need for further research in this area.

Referring to a study by Langan (1985), the author noted that a high degree of panel model with cross-sectional data was found to support for an inverse relationship between unemployment and crime rates. The author also mentioned that criminal opportunity and opportunity unexplained variation in crime rates can be seen as a stronger and stable effect on both property and violent crime rates.

Moreover, the author noted that research has shown a pro-cyclical relationship between unemployment and crime rates, meaning that increases in unemployment are related to increases in crime rates. The author also pointed to the need for further research in this area, including studies that control for other factors that may influence crime rates.

The author concluded that more recent studies reveal the complexity of the relationship between unemployment and crime rates.
Examine the effects of unemployment on crime rates and note that anti-unemployment policies significantly affect both burglary and robbery rates and notes that anti-unemployment policies

of employment factors. The research on the relationship between crime and economic conditions other than

as these methodological concerns many scholars have included other economic factors in

Continued with studies reporting either moderate or inconclusive evidence as well

in their work and statistical models (National Public Radio, 2009).

In their article, such as the Cross National Product of the Consumer Confidence Index,

criminalologists Richard Rosenfeld and Rosenfeld researchers to include better and more

criminal patterns over an extended period. Recently, in a national radio broadcast

the unemployment rate may be too short term and cyclical to accurately predict

and Dean (2006), Coyle, Weinberger and Munyard (2002) offer further criticism arguing

underreporting may produce an underestimation bias in many research studies. (Avila

completely ceased to actively seek out general unemployment. Consequently, this

ideal indicator of predictor variable as the measure does not include people who have

measures. Seals and Nunez (2007) critically argue that the unemployment rate is not an

scholars have become skeptical and have critically questioned the validity of this

use of the unemployment rate to predict or account for changes in crime rates numerous

Comparing on identical substantive and methodological issues surrounding the

positive, yet statistically significant, association exists between unemployment and crime

(2002) report the same general inconclusive finding but do note that larger or smaller

aggregate crime and unemployment rates. More recently Coyle, Weinberger and Munyard

fewer than half of those 65 studies revealed a statistically significant relationship between

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unemployment within their study areas. Macmillan and Weiglin (2000) found similar effects.

Authors conclude that wages exerted a greater influence over recent crime trends than
increases of 1.5 percent and 7.1 percent for burglary and larceny respectively. The
unskilled men were placed as contributing to an 8 percent increase in robbery and
significant rate growth rates for both violent and property crime. Declining wages for
Wistand (2002) report that counties with larger decreases in real wages encountered
relationships between rising youth crime and declining wages where could. Wenkner and
assess the crime-economy relationship, Grogger (1997) found a significant
Power studies have used employment wages as a default proxy for earnings to
enhance rates.

percent in the motor vehicle theft rate and an increase of 0.19 percent in breaking and
theft. A one percentage point gain in the inflation rate contributed to an increase of 0.21
and not unemployment, was a better predictor of breaking and stealing and motor vehicle
and study on Canadian crime patterns Bunge, Johnson and Biddle (2005) found that inflation,
occurs which rewards and encourages property crime. Research this theory within a larger
of unskilled laborers a concurrent rise in the demand for cheaper and often illegal goods
Devine, Sherlock and Smith (1988) hypothesize that as inflation reduces the real income wage
conclude that the unemployment rate does not provide consistent predictive power.
Inflation increases property crimes increase as well and vice-versa. The authors further
Inflation rates and all property crimes with both moving in a positive direction. In a
structured long-series design, study findings indicated statistical significance between
extended work in this area by assessing the effects of inflation on property crime using a
may have a substantial impact on lowering property crime. Seals and Nunez (2007)
and Wilie (1981) conducted more research on the relationship between crime and the

labor market, motor vehicle theft, robbery as well as fraud and embezzlement. As Long

economic indicators, beyond unemployment, on crime rates: specifically burglary,

(National Public Radio, 2009) calls for analyzing the effects of other and more varied

This paper presents the findings from an exploratory study following Rosenfeld's

number of mortgage foreclosures (United States Conference of Mayors, 2008).

building rates. Increasing crime rates have also been attributable to decreases in the
decline in the manufacturing to service employment ratio and increased vacancy and

crime rates during the 1990s. Of (2005) reports a significant relationship between a
economy, concluding to 20 to 50 percent of the decline in reported robbery and property

significant negative effects with improving consumer sentiment, or perceptions about the
the effects of consumer sentiment on robbery and property crimes and found substantially


and Kuhn (2004) found higher interest rates were statistically and significantly

increasing cross domestic product (GDP) per capita and a fall in robbery rates. Jones

Rafizadier, Lederman and Lanya (2002) found a significant relationship between

traditional economic variables beyond unemployment, inflation and salary data.

Recently, additional studies have been conducted which indicate other non-

distribution scale:

areas having more stable or non-declining wages among the lower end of the wage

sincerely decay rates of growth for property-related offenses when compared with

areas with larger changes at the bottom end of the wage distribution scale, experience

analyzing panel data from England and Wales for the period between 1975 and 1996.
The economic indicators of predictor variables, of wage and salary disbursements, and the average canning production, food stamp distribution, income maintenance benefits, and the average canning supplemental security income, per capita disposable income, the gross domestic price, etc.

Variables.

The other offenses listed above, contraception, arrests rates were used for these two offenses the number of reported offenses are not collected and compiled as they are for violent crime. Rates were also included in the study as this offense is typically assumed to criminal offenses per 100,000 or crime rates were obtained for the Part I index property.

Crime in the United States publication of Uniform Crime Reports, the number of reported offenses, per 100,000 or crime rates were obtained from the Federal Bureau of Investigation’s annual experience the significant fluctuations both upward and downward during this 30-year period.

Crime and economic data for North Carolina, covering a time period of 1977 to 2007, were compiled and analyzed for this study. Both crime and the state’s economy.

Data Sources

Methods

Aggregate property and/or violent crime rates.

Type of criminal activity as opposed to simply analyzing the cumulative effects on to determine how these factors interact with and possibly affect change on each different economy should be broadened to include numerous measures of economic viability and
indicators on the specific types of criminal offenses.

R values were reported and considered when discussing the effects of the economic data where non-normal distributions were present. Given the small sample size, adjusted time series data, to transform any non-linear distributions and to correct or normalize the transformations were completed for each variable in order to achieve stationarity in the data. Conversely, variance inflation factors less than four, in addition, were used to perform stepwise regression. A model selection was based upon tolerance levels greater than 0.20 and consequently variance inflation factors less than four. In addition, manual log transformation was assessed to determine the best fit models for each of the stepwise regressions.

Collinearity diagnostics were assessed to determine the best fit models for each of the regression models.

A common assumption for regression statistical techniques (Cameron, 2009), Curve estimation procedures were employed to test for linearity which is preferred when comparing multiple models in exploratory and or predictive studies. Stepwise regression is utilized as opposed to time series ARIMA modeling. Stepwise regression is social sciences (SPSS). Since this study is exploratory in nature, regression techniques were utilized using the latest version of the statistical package for the data analysis.

Data analysis proceeded to 2007 dollars. Where applicable variables were converted to per capita rates and inflation revenue. Where applicable variables were collected from the North Carolina Department of Labor. Retail sales data were collected from the United States Department of Labor. All data were obtained from the United States Department of Labor.
This rate grew each year until it reached the study period high of 5.16 reported offenses.

Growth spurt from 1977 to 1980, followed by four years of decline. Beginning in 1984, a descriptive analysis of the state's reported property crime rate reveals a minor

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### RESULTS

The state's gross domestic product rate experienced steady and sizable growth from 1982 to 1992, remaining relatively stable until 1996 and then grew from 3.5 million to 4.3 million in 2007. Total real sales per capita, followed a similar trend with from 1982 to 1990, remaining relatively stable until 1996 and then grew from 3.5 million

In 1994, during the trend period, ranging from 9.72 dollars per capita in 1982 to 13.819 dollars, supplemental security income payments did not demonstrate a higher degree of variance from a low of 1.3 percent in 1988 and a trend low index of 60 in 1977. Inflation adjusted inflation rates and the consumer price indices, for the Southern United States, ranged between a low of 3.3 percent in 1990 to a trend high 7.5 percent in 1982.

The average unemployment rate for North Carolina during the study period was 5.5 percent. Included in the study, while Table 2 displays the same information for the crime variables.

### RESULTS

Table 1 presents descriptive information for each of the economic indicators.
through 2001. Rates dropped the final six years of the study period.

1998 re. Arrest rates declined from 1989 to 1996 and then experienced another upward tick insignificant small rise from 1977 to 1993 followed by a huge increase in arrests though

Embezzlement arrest rates demonstrated a greater amount of fluctuation with an

1991 and dropped each year to a trend low of less than three arrests per capita in 2007.

where study period a few discernable trends emerged here. Arrests for fraud spiked in

despite having relatively low fraud and embezzlement arrest rates throughout the

this period.

1993, Indeed, North Carolina had one of the highest robbery rates in the country during

exponentially from a 1986 rate of 90 per capita to reach a peak high of 198 per capita in

upward trek in 1986 and doubled the 1983 rate by 1996. Robbery rates grew

vehicle theft rate was a trend low of 0.000, in 1983, experienced an extreme

which rate did not mimic or parallel trends for the other property crime rates. The motor

where the 2007 rate was slightly less than the 1978 rate. Conversely, the motor vehicle

drop from 1987 to 1991. Since that period reported burglaries decreased to the point

Reported burglaries followed a similar trend with the notable exception of a rapid

skyrocketed to a trend high of 32.90 reported offenses per capita in 1987.

Locally and which rose slightly in the late 1970s, dropped in the early 1980s and then

late 1970s. The largest contributor to the regression reported property crime rate is

dropped precipitously returning to levels approaching the study period low point in the

per capita in 1991. Since this spike occurred the affect to the property crime rate has
Incorporate unemployment payments (g = 0.00) and the state’s unemployment
motor vehicle theft rate was explained by the two economic indicator variables
from 1977 to 2007 (Adjusted R² = 0.49, F (1, 28) = 10.57, p = 0.00). Variation in the
explaining nearly half of the variance of fluctuations in the reported Larceny-theft rates
index (g = 1.28, t = 4.77, p = 0.00 and once again average wage and salary disbursements
reported Larceny-theft rates were best predicted by changes in the consumer price
index). Results were more promising for the
effectiveness criteria or economic thresholds (g = 0.05). Not a single economic variable survived the scree
on the reported burglary rate. Not a single economic variable excepted any influence
produced a surprising effect in that none of the economic variables exerted any influence
Disaggregating the local property crime rate into it’s three constituent components

(Adjusted R² = 0.379, F (1, 28) = 5.66, p = 0.02)

variation in the reported property crime rate over the course of the study period
wage and salary disbursements (g = -0.22, p = 0.02) explained 38 percent of the
variables, supplemented security income receipts (g = -0.24, t = 1.34, p = 0.07) and
and average
predictors of indicators for the aggregate reported property crime rate. These two
criminal offenses. As Table 3 reveals two economic indicators emerged as significant
economic predictors and to assess the effects of these variables on the seven different
seven stepwise regressions were completed in order to identify those significant


INSERT TABLE 2 HERE


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Income grows over a period of time, while cap per capita income remains constant in a direct manner. As the average per capita personal income grows, the average wage and salary distribution increases. The average wage and salary distribution are found to be significantly correlated with the average wage and salary distribution. The results of this study are presented in Table 4.

Table 4 presents the regression results for the remaining three crime variables.

\[ R^2 = 0.903, p(1.28) = 25.7, p = 0.00 \]

The results are significant and sizable proportions of the model vehicle theft rates (adjusted for

\[ \text{R}^2 = -0.30, p = 0.10, p = 0.00 \]

Combined these two variables were capable of explaining a 48.1% of

\[ \text{R}^2 = -0.38, p = 1.33, p = 0.00 \]

The results are significant and sizable proportions of the model vehicle theft rates (adjusted for
Goods that they would normally buy above ground during economic prosperity. Participants in this underground economy will now find themselves purchasing stolen goods at prices which enter the black market. Many individuals, who normally do not purchase goods at prices which enter the black market and are normal, may engage in property crimes as the value of a product becomes prohibitive in which property crimes rise directly with a declining economy. The same individuals may engage in property crimes as the value of a product becomes prohibitive in which property crimes rise directly with a declining economy and the greater reduction in income, they may be forced to implement temporary layoffs or furlough programs which would cause property crime. As economic conditions worsen, or head downward, businesses and employers may be forced to implement temporary layoffs or furlough programs which would cause property crime. As supplemental security payments increase and the average wage and income payments on a per capita basis, average wage and salary distributions and property crime rise. This finding indicates significant relationships between supplemental security and property crime. Study findings indicate significant relationships between supplemental security and property crime.

Discussion

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INSERT TABLE 4 HERE

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(Adjusted R² = 0.76, F (1, 29) = 97.31, P = 0.00)

Assessing the average per capita personal income level reveals that this measure is...
Thefts from business and private residences vary with the economy. Specifically, more work is needed to examine shoplifting offenses and to determine how particular types of property theft, such as stealing as a direct result of economic conditions.

Types of larceny-theft more research should be conducted which seeks to ascertain if hypotheses advanced above. While data limitations precluded a more in-depth analysis of the more consumers may be induced to engage in theft of property for similar reasons as the price of goods and services rise, in conjunction with declining or diminishing salaries, nearly half of the variance in the reported rate of larcenies during the study period. As price index and the average wage and salary disbursement measure were found to explain differences also varied inversely with the reported larceny-theft rate. The consumer in addition to the aggregate property crime offenses, average wage and salary periods of economic prosperity.

Assumptions and to determine if crimes against the elderly and disabled increase during robbery or larceny-theft. Further research needs to be conducted to test these assumptions that the elderly have cash stored in the home or will offer less resistance to and disabled will increase as they offer few Burglaries for perpetrators; perpetrators who payment amounts. Thus it is plausible that property crimes committed against the elderly, disabled population, as the population ages, and the number of SSI recipients, as well as (SSI) payments may be partly explained by co-variation with an increasing elderly and the relationship between rising property crime and supplementary security income.

The relationship between rising property crime and supplementary security income not normally have held during periods of economic prosperity. In the police, in an effort to recoup costs through insurance claims; claims that they might be also plausible that more individuals may be induced to report minor property losses.
do not trust or utilize banks, and tend to carry and possess more cash both inside and outside of their homes. This is also true of many individuals, who, particularly the elderly, who are less likely to use credit and debit cards, carry more cash. Goods and services they have previously purchased at a lower value. If people purchase items with a significant increase in price, as prices rise more money is needed to buy the same item.

Indications accounted for 79 percent of the variance with both moving in a direct and significant manner with robbery. A price rise more money is needed to buy the same item.

Supplemental security income recipients per capita. Combined these two economic indicators robbery rates were best predicted by the consumer price index and the

Reported robbery rates were best predicted by the consumer price index and the

make the difference. Consequently, their vehicles are more closely monitored as well.

In comparison to the reduced assistance and to use funds normally used to fund

the government, and own a vehicle, may drive less or force them to use unnecessary trips in order.

persons who receive a cut of a reduction in their supplemental financial assistance from

occupied and more closely monitored under these circumstances. In a similar vein,

Either way this would remove or lessen the opportunity to steal vehicles as they are

spending more time at home or are using their vehicles more to search for employment.

is possible that as unemployment increases, and people lose their jobs, they are either

non-direct and inverse relationship between economic measures and motor vehicle theft. If

their economic indicators and motor vehicle theft. Findings from this study indicate a

Johnson and Biddle (2005) who found a significant and direct linear relationship between

motor vehicle thefts also decline. This finding is contrary to a similar study by Dunce,

(2007), as unemployment rises, and income maintenance benefit payments decline.

Surprisingly, motor vehicle theft was the only criminal offense to be significantly

associated with the unemployment rate, supporting prior findings by Other and Agell.
defence to managing more serious offenses.

Consequently, fraud and embezzlement investigations are assigned a lower priority in
experience layoffs and an inability to provide compensation for overtime work.
shifting police enforcement patterns. During bad times law enforcement agencies may
arouse economic periods, not as a result of the economy itself, but as a reflection of
productivity and activity. Thus fraud and embezzlement arises may decline during
One career should be noted here. Arrest rates are also a measure of police

[Edited text]

are living beyond their means and must continue fraud and embezzlement to support their
when their salaries were lower. It is also possible that many of these same individuals
will continue to make risky purchases and investments than they would have normally done
funds and pensions. With more wealth many become less fiscally conservative and more
 greedily and be more tempted to acquire even more wealth through the theft of company
debted by get-rich-quick schemes, Internet and other investment scams as well as becoming
desire to have more. Increasingly capital gain signals more than money and money may be
and salaries rise so do the number of frivolous and frivolous acquisitions as well as the
income grows so do arrests for embezzlement. If it is hypothesis that embezzlement
wage and salary distributions increase so do the number of fraud arrests. As personal
wage and salary distributions and per capita personal income respectively. As average
fraud and embezzlement were found to be significantly associated with average
occurrence as home invasions.

correlations vary by age and ethnicity and to determine to what extent these hypotheses are
outside of the home. More research is needed to determine how robberies and economic

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Sources

Measures across numerous jurisdictions, historical time periods, and with varying data
and cross-sectional research designs in an effort to test the effects of wage and salary
also be conducted at both macro and micro economic levels and utilize both panel data
between wages or salaries and economic and legal/motivated crimes. These studies should
(2002) methodology should be conducted to further explore the relationship
and predict crime. More detailed and statistically powerful work, following Gould’s, Wimbush and
which of the seven regression models’ effects/property crime, burglary and theft
Study findings provide more support for the use of wage and salary measures with
race and criminal activity.

Further validation to Rosenthal’s (1990) present argument to look beyond the unemployment
significant measure in six of the study’s seven regression models. These findings add
crime. Indeed, the unemployment rate proved to be neither a sufficient nor statistically
beyond the use of the unemployment rate, when assessing the effects on the economy on
rates. The main study findings support the use of other economic variables or measures,
indicators of predictor variables, when explaining or predicting changes in property crime
essentially examine the use of the unemployment rate, and numerous other economic
this paper presents the findings from an exploratory study which sought to
p. 413-415.


Mayors' Wash. D.C.

<table>
<thead>
<tr>
<th>Indicator Variables</th>
<th>Range</th>
<th>SD</th>
<th>Mean</th>
<th>Average earnings per job (dollars) 37,966</th>
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<tbody>
<tr>
<td></td>
<td>32.360 - 42.417</td>
<td>3.196</td>
<td>33.264</td>
<td>Average wages and salaries</td>
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<tr>
<td></td>
<td>28.864 - 38.556</td>
<td>3.012</td>
<td>33.264</td>
<td>Average earnings per job (dollars) 37,966</td>
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<td></td>
<td>73.8 - 1.123</td>
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<td>1.0</td>
<td>Total retail sales rate (dollars) 971</td>
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<td>27.873 - 58.012</td>
<td>1.0</td>
<td>1.0</td>
<td>Gross sales product rate (millions) 3,446.9</td>
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<td></td>
<td>2.476.8 - 4.020</td>
<td>2.486</td>
<td>2.486</td>
<td>Income per capita (dollars) 24.204</td>
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<tr>
<td></td>
<td>59.7</td>
<td>0.01</td>
<td>0.01</td>
<td>Disposable personal income 27,500</td>
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<td></td>
<td>32.17</td>
<td>0.0001</td>
<td>0.0001</td>
<td>Per capita personal income 27,500</td>
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<td></td>
<td>4.366</td>
<td>0.000001</td>
<td>0.000001</td>
<td>Food stamp payments per capita 8.426</td>
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<td>5.817 - 10.977</td>
<td>1.0</td>
<td>1.0</td>
<td>Supplemental security income 11.874</td>
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<td></td>
<td>1.403</td>
<td>0.0000001</td>
<td>0.0000001</td>
<td>Consumer price index (South) 1,340.0</td>
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<td></td>
<td>6.0.0 - 200.0</td>
<td>1.3</td>
<td>1.3</td>
<td>Initial rate (South, percent) 4.2</td>
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<td></td>
<td>1.3 - 1.3.1</td>
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<td>0.000001</td>
<td>Unemployment rate (percent) 5.3</td>
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|                     | 3.3 - 9.5 | 0.5 | 0.5 | Table I

Descriptive statistics for the Economic Indicators
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<th>Range</th>
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<th>SD</th>
<th>Offense Type</th>
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<tbody>
<tr>
<td>1.1 - 4</td>
<td>0.09</td>
<td>2</td>
<td>Embezzlement (arrests)</td>
</tr>
<tr>
<td>2.9 - 7.9</td>
<td>1.2</td>
<td>6.1</td>
<td>Fraud (arrests)</td>
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<tr>
<td>61.4 - 198.5</td>
<td>43.1</td>
<td>132.4</td>
<td>Robbery</td>
</tr>
<tr>
<td>169.3 - 340.2</td>
<td>58.9</td>
<td>268.7</td>
<td>Motor vehicle theft</td>
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<td>2,030.0 - 3,290.0</td>
<td>354.1</td>
<td>822.8</td>
<td>Larceny-theft</td>
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<td>1,145.3 - 1,720.7</td>
<td>156.4</td>
<td>1,330.5</td>
<td>Burglary</td>
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<td>3,360.0 - 5,316.0</td>
<td>511.7</td>
<td>4,374.7</td>
<td>Aggravated property crime</td>
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Table 2

Descriptive statistics for the Reported Crime Rates Per Capita
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<th>Description</th>
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<td>----</td>
<td>Adjusted R²</td>
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<tr>
<td>1932</td>
<td>----</td>
<td>Average earnings per job</td>
<td>1.166</td>
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<tr>
<td>1933</td>
<td>----</td>
<td>Average wage and salary distributions</td>
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<tr>
<td>1975</td>
<td>----</td>
<td>Total retail sales rate</td>
<td>0.725</td>
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<tr>
<td>1984</td>
<td>----</td>
<td>Beneath per capita rate</td>
<td>0.303</td>
</tr>
<tr>
<td>2002</td>
<td>----</td>
<td>Gross state product base</td>
<td>2.544</td>
</tr>
<tr>
<td>1924</td>
<td>----</td>
<td>Per capita disposable personal income</td>
<td>1.851</td>
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<tr>
<td>1933</td>
<td>----</td>
<td>Per capita personal income</td>
<td>1.955</td>
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<tr>
<td>1921</td>
<td>----</td>
<td>Food stamp payments per capita</td>
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<td>1963</td>
<td>----</td>
<td>Income receipts per capita</td>
<td>0.939</td>
</tr>
<tr>
<td>1950</td>
<td>----</td>
<td>Consumer price index (south)</td>
<td>1.090</td>
</tr>
<tr>
<td>1901</td>
<td>----</td>
<td>Unemployment rate</td>
<td>1.124</td>
</tr>
<tr>
<td>1930</td>
<td>----</td>
<td>Inflation rate (south)</td>
<td>0.450</td>
</tr>
</tbody>
</table>

Table 3: Regression Models for Reported Property Crime Rates
<table>
<thead>
<tr>
<th>Year</th>
<th>Fraud</th>
<th>Robbery</th>
<th>Embezzlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>2.32</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>1.071</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.988</td>
<td>-7.40*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.144</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.480</td>
<td>2.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.150</td>
<td>1.887</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.956</td>
<td>1.215</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.878</td>
<td>1.241</td>
<td>-3.40 *</td>
<td></td>
</tr>
<tr>
<td>2.323</td>
<td>2.48</td>
<td>-0.14 *</td>
<td></td>
</tr>
<tr>
<td>0.334</td>
<td>0.605</td>
<td>4.81*</td>
<td></td>
</tr>
<tr>
<td>0.322</td>
<td>0.455</td>
<td>4.75*</td>
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</tr>
<tr>
<td>1.183</td>
<td>3.83</td>
<td>1.28</td>
<td></td>
</tr>
<tr>
<td>1.69</td>
<td>3.41</td>
<td>-1.08</td>
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</table>

Economic Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unemployment Rate</th>
<th>Inflation rate (South)</th>
<th>Consumer Price Index (South)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>-1.69</td>
<td>1.83</td>
<td>0.435</td>
</tr>
</tbody>
</table>

Regression Models for Reported Robbery, Fraud, and Embezzlement Arrest Rates

Table 4