Economic Downturns and Crime

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December 11, 2012

Congressional Research Service
7-....
www.crs.gov
R40726

CRS Report for Congress
Prepared for Members and Committees of Congress

Summary

The United States is currently recovering from a broad recession that is considered the longest-lasting economic downturn since World War II. Various indicators of economic strength, such as the unemployment rate and foreclosures, reached their worst showings in decades during the recession and the following months. The state of the economy has generated debate concerning whether economic factors can affect crime. This report examines research on how selected economic variables may or may not be related to crime rates.

There are multiple macroeconomic indicators, such as the consumer price index or real earnings, that can serve as estimates of economic strength. Specifically, during the most recent economic downturn, many referred to the unemployment rate and the proportion of home foreclosures as proxies for economic health. Therefore, most of the discussion in this report utilizes unemployment and foreclosure data in discussing the relationship between the economy and crime.

A number of studies have analyzed the link between the unemployment rate and crime rates (with a greater focus on property crime), some theorizing that in times of economic turmoil, people may turn to illicit rather than licit means of income. However, a review by CRS found a lack of consensus concerning whether the unemployment rate has any correlation with the property crime rate. A number of studies analyzed by CRS that did find a correlation between the unemployment rate and the property crime rate generally examined time periods during which the unemployment and property crime rates moved in tandem. Conversely, some studies that used longer time-horizons tended to find no direct link between the unemployment rate and the property crime rate.

The link between foreclosures and crime rates has not been reviewed as comprehensively by social scientists as other broader macroeconomic variables—namely, unemployment. Most of the literature in the field focuses on whether abandoned houses can be linked to increases in crime rather than looking at the particular role that foreclosures may play. The literature reviewed suggests that there is some correlation between abandoned houses and the property crime rate (but not, however, the violent crime rate). With respect to the relationship between foreclosures and crime rates, some of the studies found that foreclosures did have an impact on the violent crime rate (but not the property crime rate). However, the limited number of studies examining the relationship between foreclosure rates and crime rates complicates any attempt to draw firm conclusions.

While much research on the relationship between economic variables and crime rates has focused on macroeconomic variables such as unemployment and home foreclosures, some research suggests that other economic variables, such as gross domestic product (GDP) or gross state product (GSP), as well as consumer sentiment, could fluctuate more closely with crime rates and could thus serve as better proxies for evaluating the relationship between the economy and crime.

Policy makers continue to be concerned with potential impacts—such as increased crime—that the economic climate may have on the nation. As a result, some have suggested that focus should be placed on increasing the resources of state and local police departments (i.e., increasing the number of police officers). In addressing this concern, however, Congress may opt to consider whether economic downturns can be linked to crime rates.

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Introduction

The United States is recovering from a broad recession that is considered the longest-lasting economic downturn since World War II.[1] The National Bureau of Economic Research (NBER) determined that the recession officially began in December 2007 and ended in June 2009, followed by a period of recovery.[2] While NBER declared an end to the recession, it has not reported favorable economic conditions or a return to economic strength. The United States remains in a period of recovery—what some have characterized as slow and uneven.[3] Various indicators of economic strength, such as the unemployment rate and foreclosures, reached their worst showings in decades during the recession and the following months. While some newspapers across the country have published stories linking the depressed economy with localized increases in crime,[4] others have reported decreases in crime.[5] The current state of the economy has continued to spark debate concerning whether economic factors can affect crime.[6]

Any increase in crime rates during a period of economic uncertainty could exacerbate an already difficult situation for communities across the United States. Congress has voiced concern over this issue and deliberated funding for federal programs that provide support for state and local law enforcement agencies.[7] Advocates of increasing funding for state and local law enforcement assistance believe that additional funding is needed for a number of reasons, including that crime rates tend to increase during periods of economic uncertainty and that state law enforcement agencies facing budget cuts may be forced to stop hiring new officers or filling vacated positions.[8] Opponents of this funding argue that there is no documented link between economic

[1] Business Cycle Dating Committee, National Bureau of Economic Research, http://www.nber.org/cycles/sept2010.html. See also *Economic Report of the President*, Transmitted to the Congress, February 2012, http://www.nber.org/erp/ERP_2012_Complete.pdf.

[2] Ibid. In October 2009, the National Association of Business Economics (NABE) indicated that the vast majority of 44 business economists surveyed believed that the "great recession" was over, but the true end of the recession was not officially determined by the National Bureau of Economic Research until September 2010.

[3] Money & Company, "Top U.S. CEOs still cautious about economic recovery," *Los Angeles Times*, December 14, 2011, http://latimesblogs.latimes.com/money_co/2011/12/top-business-executives-still-cautious-about-economic-recovery.html.

[4] See, for example, Tabitha Clark, "Marion Thieves Are Busy This Holiday Season," *The Marion Star*, December 11, 2011; Lauren King, "Statistics Point to Increase in Crime During Recessions," *The Virginian-Pilot & The Ledger-Star*, January 19, 2009; Andy Giegerich, "White-Collar Crime Strikes Often in Times of Recession," *Denver Business Journal*, May 26, 2009; Gary Stoller.

[5] See, for example, Allison Klein, "Major Cities' Plummeting Crime Rates Mystifying," *The Washington Post*, July 20, 2009.

[6] Richard A. Oppel Jr., "Steady Decline in Major Crime Baffles Experts," *The New York Times*, May 23, 2011, http://www.nytimes.com/2011/05/24/us/24crime.html?_r=1.

[7] See, for instance, U.S. Congress, Senate Committee on the Judiciary, *Helping State and Local Law Enforcement During an Economic Downturn*, 111th Cong., 1st sess., January 8, 2009. The 111th Congress passed legislation that authorized over $3 billion in additional funding for law enforcement assistance. In response to the most recent economic crisis, funding for the two main federal grant programs related to state and local law enforcement assistance—the Community Oriented Policing Services (COPS) and the Justice Assistance Grants (JAG) programs—was included in the American Recovery and Reinvestment Act of 2009 (P.L. 111-5). The 112th Congress did not provide any additional law enforcement funding specifically in response to the economic climate.

[8] Proponents of increased funding for state and local law enforcement also argue that hiring law enforcement officers will provide economic stimulus at the local level by creating new jobs. U.S. Congress, Senate Committee on the Judiciary, *Helping State and Local Law Enforcement During an Economic Downturn*, 111th Cong., 1st sess., January 8, 2009.

downturns and increases in crime rates, and that the federal grant programs in question are inefficient.[9]

This report examines the relationships between selected variables of economic strength and crime.[10] It begins with an overview of crime rates during times of economic recession in the United States. It then reviews the existing literature in the field analyzing various data sets that examine whether the unemployment rate and foreclosures can be related to increases in the national crime rate. This report focuses primarily on national-level data rather than on state- or local-level data. Because of the aggregation of national-level data, local trends may be lost. Therefore, this report presents a picture of the relationship between crime and economic indicators for the nation as a whole, but it does not discuss these relationships that may exist at the state or local level. Further, conclusions drawn about the relationship between national crime rates and economic variables may not be able to be generalized to the relationship between the economy and crime in all states and localities around the country.[11] In essence, there may exist a relationship between the economy and crime in specific areas of the country, even if this relationship is not visible at the national level.

The report also considers other economic indicators that may warrant further research with respect to their relationship with crime. Lastly, the report raises several issues that Congress may debate should it consider the relationship between the current state of economic recovery and crime, including whether crime rates are related to periods of economic turmoil and whether hiring additional police officers can reduce crime.

Crime Rates During Recessions

According to NBER, "[a] recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income, and other indicators. A recession begins when the economy reaches a peak of activity and ends when the economy reaches its trough."[12] NBER has identified seven recessions in the United States since 1960.[13]

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[9] Opponents of this increased funding also argue that hiring additional police officers may not stimulate the economy. U.S. Congress, Senate Committee on the Judiciary, *Helping State and Local Law Enforcement During an Economic Downturn*, 111th Cong., 1st sess., January 8, 2009.

[10] This report discusses the *relationship* between economic indicators and crime rates in terms of whether there is a *correlation* between a given indicator and crime. A positive correlation exists when increases in one variable are accompanied by increases in another variable. A negative correlation, on the other hand, occurs when increases in one variable are accompanied by decreases in another variable. One important concept is the idea that *correlation does not imply causation*; the presence of two sets of data (two variables) showing similar trends does not indicate that changes in one variable *cause* any visible changes in the other. Instead, a correlation shows that changes in one variable can, to some extent, predict changes in another variable. Many of the studies discussed in this report attempt to find causal links between certain variables that are examined, but are unable to draw firm causal conclusions because of the correlational nature of the research.

[11] An analysis of such data at the state or local level may be difficult because of the differing nature of crime across various states, counties, cities, neighborhoods, or even streets. For instance, while some neighborhoods may exhibit a relationship between certain types of crime and the economy, other neighborhoods may exhibit a relationship between different types of crime and the economy or may not exhibit a relationship at all.

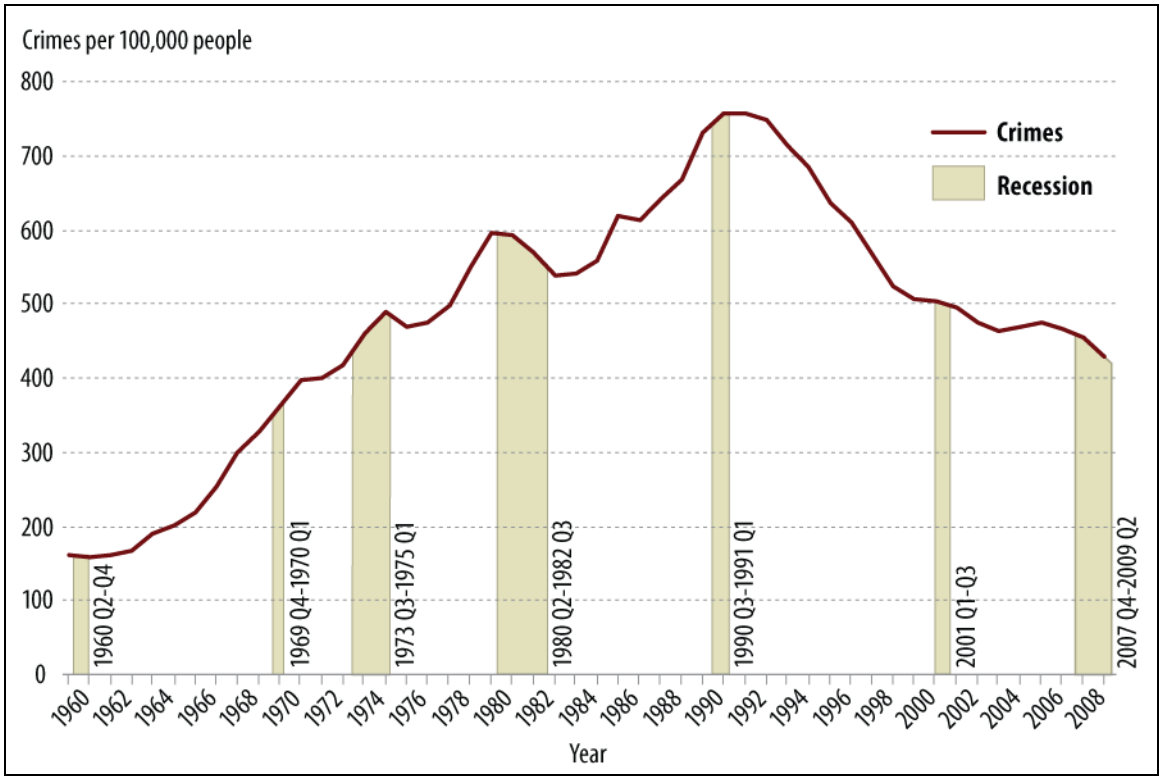
[12] National Bureau of Economic Research, "Determination of the December 2007 Peak in Economic Activity," December 11, 2008.

[13] For more information about past recessions in the United States, see CRS Report RL31237, *The 2001 Economic* (continued...)

Figure 1 and **Figure 2** illustrate the violent and property crime rates, respectively, from 1960 through 2009.[14] Both figures identify each of the seven recessions identified by NBER. In general, property crime rates increased fairly steadily from the early 1960s through the mid-1980s and violent crime rates continued to increase through the early 1990s. Both property crime and violent crime rates have generally been decreasing since the early 1990s. **Figure 1** and **Figure 2** show that, since 1960, there has been no consistent relationship between periods of economic recession and the crime rates. While the violent crime and property crime rates did increase during some recessions (generally in the 1970s), during others they either remained relatively stable or actually decreased.

Figure 1. Violent Crime Rate and Recessions

1960-2009



Source: CRS presentation of the FBI's Uniform Crime Report (UCR) data as well as National Bureau of Economic Research (NBER) data.

Notes: Official UCR data can be found at http://www.fbi.gov/ucr/ucr.htm.

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Recession: How Long, How Deep, and How Different From the Past? by (name redacted) and (name redacted).

[14] This analysis of the relationship between crime rates and recessions is based on a simple correlation. CRS did not control for any other variables when evaluating this relationship. Further, CRS did not perform any other statistical analyses to assess the relationship between crime rates (as reported by the Federal Bureau of Investigation's Uniform Crime Report) and periods of economic recession (as identified by the National Bureau of Economic Research).

Figure 2. Property Crime Rate and Recessions

1960-2009

Source: CRS presentation of the FBI's Uniform Crime Report (UCR) data as well as National Bureau of Economic Research (NBER) data.

Notes: Official UCR data can be found at http://www.fbi.gov/ucr/ucr.htm.

Research on Crime Rates and Recessions

CRS was unable to find any literature examining potential links between recessions in the United States and crime rates. Instead, the literature in the field tends to focus on the impact that macroeconomic trends have on crime rates. With a recession defined as "a significant decline in economic activity spread across the economy," this leaves open the possibility that any number or combination of economic variables may be affected in a recession. It also suggests that no two recessions may be the same, and thus some economic variables may be at greater flux during some recessions than during others. This poses challenges in analyzing the relationship between recessions—in general—and crime. Consequently, researchers tend to use individual economic indicators, such as the unemployment rate, as a proxy for the state of the economy. However, any given indicator may not be generalizable to the state of the economy as a whole during any one given recession or across recessions.[15]

Despite the limitations in using specific economic variables as proxies for a complex economic state, this methodology does allow researchers to isolate variables and analyze their individual

[15] Generalizability is typically defined as the extent to which the results generated by a variable being studied can be applied to other settings, times, or groups of subjects and be expected to deliver a similar outcome.

effects. Specifically, during the most recent economic downturn, many referred to the unemployment rate and the proportion of home foreclosures as proxies for economic health. The following sections will examine these particular economic indicators in order to see whether they can be linked to changes in the crime rates.

Impact of Unemployment on Crime

The unemployment rate is one of the most widely referenced economic indicators. In discussions of potential impacts of the economy on crime rates, many scholars and policy makers use the unemployment rate as a proxy for economic strength. Congress has shown interest in the relationship between the economy—unemployment, in particular—and crime rates since the 1970s.[16] The most recent recession, which was accompanied by a rise in the unemployment rate, once again focused attention on the relationship between unemployment and crime rates. In fact, according to the Bureau of Labor Statistics, at the beginning of the most recent recession in December 2007, the national unemployment rate was 5.0%. This rate continued to increase throughout the recession, reaching 9.5% at the official end of the recession in June 2009. This rate grew further and peaked at 10.1% in October 2009 before decreasing slightly. The most recent data indicates that unemployment in November 2012 was at 7.7%. The current unemployment rate represents the highest level of unemployment in the United States since the early 1990s.[17]

Theories

Researchers and scholars have several theories concerning the relationship between unemployment and crime. One of these theories, the economic theory of crime, assumes that people make rational choices between legitimate activities and criminal activities as a source of economic gain.[18] More specifically, the comparison is between the economic benefit of legitimate work versus that of violent or property crime, after accounting for crime-related costs such as incarceration. Although the theory was originally formulated with an application to all crimes, many researchers have used it in discussions of unemployment and property crime. This theory predicts a positive correlation between unemployment and property crime; in other words, that increases in the unemployment rate will be correlated with increases in property crime rates. The reason for this positive correlation, according to the economic model, is that during periods when there are fewer opportunities for legitimate income, people may turn to illegal activities, while when more jobs are available, the risks of committing a crime may be weighed against the opportunity for legitimate work.

A second theory factors both the motivation to commit crimes as well as the opportunities available to commit crimes.[19] On one hand, this theory concurs with the economic theory of crime

[16] U.S. Congress, House Committee on the Judiciary, Subcommittee on Crime, *Unemployment and Crime*, 95th Cong., 1st sess., September 27, 1978.

[17] Historical unemployment data is available from the Bureau of Labor Statistics at http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?data_tool=latest_numbers&series_id=LNS14000000.

[18] Gary S. Becker, "Crime and Punishment: An Economic Approach," *The Journal of Political Economy*, vol. 76, no. 2 (March-April 1968), pp. 169-217. Richard B. Freeman, "Why do so Many Young American Men Commit Crimes and What Might We do About it?," *The Journal of Economic Perspectives*, vol. 10, no. 1 (Winter 1996), pp. 25-42.

[19] David Cantor and Kenneth C. Land, "Unemployment and Crime Rates in the Post-World War II United States: A Theoretical and Empirical Analysis," *American Sociological Review*, vol. 50 (June 1985), pp. 317-332.

in predicting that the unemployment rate may be positively correlated with the crime rates because of increased criminal motivation (with potential benefits of legitimate work weighed against potential costs of crime). However, the theory simultaneously predicts that unemployment may be negatively correlated with the property crime rate, because during periods of increasing unemployment, there may be decreased criminal opportunities for reasons including that potential targets/victims may also be unemployed and thus better able to guard their property. Similarly, the theory predicts that unemployment may be negatively correlated with the violent crime rate using two assumptions: (1) during periods of unemployment, individuals may have more time to spend in situations (i.e. home and neighborhood) where people may be more close-knit, and (2) violent crimes more often involve casual acquaintances or strangers rather than individuals with close relations (based on Department of Justice and Uniform Crime Report data).[20] If unemployment had an equal effect on increasing criminal motivation and decreasing criminal opportunity, this theory would predict no correlation between unemployment and crime rates. If the effects on increased motivation were stronger than the effects on decreased opportunity, this theory would predict (as does the economic model of crime) a positive correlation between unemployment and the property crime rate.

Overview of the Literature

A number of studies analyzing the relationship between unemployment and crime rates tend to find small statistically significant correlations between unemployment and the property crime rate but not between unemployment and the violent crime rate. During congressional hearings on unemployment and crime in 1979 and 1981, Congress heard testimony that there is a positive, but generally insignificant, relationship between unemployment and crime rates, and that this relationship holds true more often for the property crime rate than for the violent crime rate.[21] A review of the literature found large disparities in the magnitude of the correlation between unemployment and the property crime rate. Some researchers found a small relationship (unemployment accounts for about 2% of the change in the property crime rate);[22] other researchers found a large relationship (unemployment may account for up to 40% of the change in the property crime rate),[23] while still others found no relationship.

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[20] Ibid., p. 320.

[21] From remarks by Dr. Ann Dryden Witte, Department of Economics, University of North Carolina, Chapel Hill, at U.S. Congress, Joint Economic Committee, *The Social Costs of Unemployment*, 96th Cong., 1st sess., October 31, 1979. Also from remarks by Dr. Ann Dryden Witte, Department of Economics, University of North Carolina, Chapel Hill, at U.S. Congress, House Committee on the Judiciary, Subcommittee on Crime, and House Committee on Education and Labor, Subcommittee on Employment Opportunities, *Unemployment and Crime*, 97th Cong., 1st sess., October 27, 1981, pp. 191-222.

[22] Steven D. Levitt, "Understanding why crime fell in the 1990s: Four factors that explain the decline and six that do not," *The Journal of Economic Perspectives*, vol. 18, no. 1 (Winter 2004), pp. 163-190.

[23] Steven Raphael and Rudolf Winter-Ebmer, "Identifying the effect of unemployment on crime," *Journal of Law and Economics*, vol. XLIV (April 2001), pp. 259-283. The Government Accountability Office cites this research in their report linking poverty with crime. See U.S. Government Accountability Office, *Poverty in America: Economic Research Shows Adverse Impacts on Health Status and Other Social Conditions as well as the Economic Growth Rate*, GAO-07-344, January 2007, p. 16, http://www.gao.gov/new.items/d07344.pdf. Steven Raphael and Rudolf Winter-Ember evaluated the relationship between state unemployment rates and state property crime rates for the time period from 1971 through 1997. In their analysis, Raphael and Winter-Ember controlled for several variables, including alcohol consumption per capita, average income, race, age, poverty, city size, incarceration rate, and military spending. Similar to Steven Levitt's results, they found that a one percentage point decrease in the unemployment rate was associated with a 1.6%-2.3% decrease in the property crime rate. Constraining their analysis to the time period between 1992-1997, they found that a one percentage point decrease in the unemployment rate may have been associated with (continued...)

Steven Levitt examined empirical studies on the relationship between unemployment and the property crime rate between 1973 and 2001. Assimilating the findings across five studies including his own research, Levitt concluded that

> controlling for other factors, almost all of these studies report a statistically significant but substantively small relationship between unemployment rates and property crime. A typical estimate would be that a one percentage point increase in the unemployment rate is associated with about a one percent increase in property crime.[24]

Levitt estimated that changes in the economy (unemployment) accounted for only about 2% of the changes in the property crime rate between 1991 and 2001. He argued that most of the decline in the property crime rate during the 1990s can be attributed to non-economic factors (increases in the number of police, increases in the prison population, the receding crack epidemic, and increases in abortion[25]) rather than the declining unemployment rate.[26]

Factors Affecting Conclusions About the Unemployment-Crime Relationship

In reviewing the literature examining the relationship between unemployment and the property crime rate, CRS identified several issues that may affect policy makers' abilities to draw conclusions about the true relationship between unemployment (as a proxy for economic strength) and crime. For one, the effects of the unemployment rate on the property crime rate may better explain property crime trends during some time periods than during others. For example, Theodore Chiricos reviewed 63 studies, some of which evaluated the unemployment-crime relationship between 1960 and 1970, and some of which evaluated this relationship after 1970.[27] Although the 1960s saw a decrease in unemployment and the 1970s saw an increase in unemployment, both decades witnessed a general increase in the property crime rate. Consequently, Chiricos's research suggests an "inconsistent" relationship between unemployment and property crime rates during the 1960s and a positive relationship during the 1970s.[28] Eric Gould and his colleagues evaluated the relationship between unemployment and the property crime rate between 1979 and 1997, and similarly found that the significance of the relationship was dependent on the time period.[29] They found a strong, short-term correlation for the years

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up to a 5% decrease in the property crime rate; Raphael and Winter-Ember thus attribute 40% of the overall decline in the property crime rate between 1992 and 1997 to a drop in unemployment. These findings indicate that the conclusions drawn about the effects of unemployment on the property crime rate may be time-period-sensitive.

[24] Steven D. Levitt, "Understanding why crime fell in the 1990s: Four factors that explain the decline and six that do not," *The Journal of Economic Perspectives*, vol. 18, no. 1 (Winter 2004), pp. 170.

[25] Levitt based the claim that abortion was a factor contributing to the declining crime rate in the 1990s on two assumptions: (1) unwanted children are at a greater risk for crime, and (2) legalized abortion led to a decrease in the number of unwanted births and thus a decrease in the number of children later at risk for crime.

[26] Steven D. Levitt, "Understanding why crime fell in the 1990s: Four factors that explain the decline and six that do not," *The Journal of Economic Perspectives*, vol. 18, no. 1 (Winter 2004), pp. 170.

[27] Theodore G. Chiricos, "Rates of Crime and Unemployment: An Analysis of Aggregate Research Evidence," *Social Problems*, vol. 34, no. 2 (April 1987), pp. 187-212.

[28] Ibid., p. 199.

[29] Eric D. Gould, Bruce A. Weinberg, and David B. Mustard, "Crime Rates and Local Labor Market Opportunities in the United States: 1979-1997," *The Review of Economics and Statistics*, vol. 84, no. 1 (February 2002), pp. 45-61.

1993 through 1997, but determined that there was no evidence for a long-term relationship between unemployment and the property crime rate between 1970 and 1997. Further, Steven Levitt concluded that there was a statistically significant, but substantively small, impact of unemployment on the property crime rate during the 1990s.[30] Even looking within the 1990s, there is a stronger correlation between unemployment and the property crime rate in the late 1990s than in the early 1990s.[31] Because the conclusions drawn about the relationship between unemployment and the property crime rate differ not only across larger time periods, but across shorter segments of time, it is difficult for researchers to predict the effect—if any—that recent unemployment rates may have on the property crime rate.

Secondly, the source of the data and its level of aggregation, both for unemployment and for crime statistics, appears to affect the strength of the relationship between these variables.[32] For example, Theodore Chiricos found that the "level of aggregation" of the data influenced the conclusions. Of the studies he examined using state-level data, 21% revealed a significant positive relationship between unemployment and the property crime rate, while 14% of the studies showed a significant negative relationship. Of those studies that relied on city-level data, a larger proportion showed a significant positive relationship, while a smaller proportion of the studies showed a significant negative relationship.[33] Chiricos suggested that whereas state-level data may be relatively heterogeneous (e.g., it includes a wider variety of socioeconomic variables), city-level data may be more homogenous and thus more likely to reflect the specific trends observed within a given group of individuals in the city. Therefore, in considering potential effects of the most recent economic downturn and its after-effects on crime rates, it may be that the unemployment-crime relationship differs across various parts of the country. If this relationship is not consistent across the country, it may affect conclusions drawn about unemployment-crime trends across the nation as a whole.

Thirdly, there may be external factors that affect the unemployment-crime relationship. If there were a direct link between unemployment and the property crime rate, varying one would necessarily vary the other. The lack of conclusive evidence for a strong, or even significant, correlation between the two suggests that the unemployment rate may have an indirect relationship with the property crime rate. Although unemployment is correlated with overall economic conditions, it may not fully capture other key economic indicators such as work hours, employment stability, and wages.[34] Some researchers, for example, have found that employment stability and wages may correlate more strongly with the property crime rate than does unemployment.[35] Eric Gould and colleagues demonstrated that, although the increased

[30] Steven D. Levitt, "Understanding why crime fell in the 1990s: Four factors that explain the decline and six that do not," *The Journal of Economic Perspectives*, vol. 18, no. 1 (Winter 2004), pp. 163-190.

[31] Franklin E. Zimring, "The Usual Suspects: Imprisonment, Demography, and Economy," in *The Great American Crime Decline* (New York: Oxford University Press, 2007).

[32] The effect of the level of data aggregation on the relationship between unemployment and crime was also discussed in congressional testimony by Dr. Ann Dryden Witte, Department of Economics, University of North Carolina, Chapel Hill, at U.S. Congress, Joint Economic Committee, *The Social Costs of Unemployment*, 96th Cong., 1st sess., October 31, 1979.

[33] Theodore G. Chiricos, "Rates of Crime and Unemployment: An Analysis of Aggregate Research Evidence," *Social Problems*, vol. 34, no. 2 (April 1987), pp. 193-197.

[34] Thomas M. Arvanites and Robert H. Defina, "Business Cycles and Street Crime," *Criminology*, vol. 44, no. 1 (2006), pp. 139-164.

[35] From remarks by Dr. Ann Dryden Witte, Department of Economics, University of North Carolina, Chapel Hill, at U.S. Congress, Joint Economic Committee, *The Social Costs of Unemployment*, 96th Cong., 1st sess., October 31, 1979.

unemployment of non-college-educated men was associated with an increase in the property crime rate, a decrease in wages for this demographic group was actually more strongly correlated.[36]

Home Foreclosures and Crime Rates

The most recent recession has been linked by some to falling home prices and increases in mortgage delinquencies that led to home foreclosures.[37] Essentially, as home prices fell over several years, homeowners across the country increasingly found themselves owing more on their mortgages than the market value of their homes. This, in turn, led to a rapid increase in the delinquency rate on mortgage payments and to the rate at which banks entered into the foreclosure process. As mentioned earlier, NBER indicates that the economic recession began in December 2007. Home foreclosure data from that time (the fourth quarter of 2007) indicate that 2.04% of all home loans were in foreclosure.[38] At the official end of the recession in June 2009, 4.30% of all home loans were in foreclosure.[39] Data indicate that this percentage continued to increase beyond the recession itself, as 4.43% of all home loans were in foreclosure at the end of September 2011.[40] Foreclosures have since begun to decline, and at the end of September 2012, 4.07% of all home loans were in foreclosure.[41] Given the still-elevated percentage of home foreclosures across the nation—relative to foreclosure rates before the most recent economic downturn—there has been interest concerning what kind of impact foreclosures, which can lead to houses sitting empty for some time, have on crime rates. Although a number of newspaper articles have cited anecdotal evidence that crime rates increase in neighborhoods where many foreclosures have occurred,[42] there is a dearth of scientific studies on the impact that home foreclosures have on crime rates. For example, one academic study addressing the link between foreclosures and crime examined this foreclosure-crime relationship in one particular locale rather than on a national level.[43]

Theories

The main literature analyzing crime rates through the spectrum of the housing market has descended from the "broken windows" theory elucidated by James Wilson and George Kelling in 1982. According to this theory, physical signs of disorder in a neighborhood (such as broken

[36] Eric D. Gould, Bruce A. Weinberg, and David B. Mustard, "Crime Rates and Local Labor Market Opportunities in the United States: 1979-1997," *The Review of Economics and Statistics*, vol. 84, no. 1 (February 2002), pp. 45-61.

[37] See, for example, Christopher Foote, Kristopher Gerardi, and Lorenz Goette, et al., *Reducing Foreclosures: No Easy Answers*, National Bureau of Economic Research, Working Paper 15063, Cambridge, MA, June 2009; Sudeep Reddy, "Recession, Tight Credit Compound Housing Woes," *Wall Street Journal*, December 24, 2008; "Home ownership: Shelter, or burden?" *The Economist*, April 16, 2009.

[38] Mortgage Bankers Association, *National Delinquency Survey*, Fourth Quarter 2007.

[39] Mortgage Bankers Association, *National Delinquency Survey*, Second Quarter 2009.

[40] Mortgage Bankers Association, *National Delinquency Survey*, Third Quarter 2011.

[41] Mortgage Bankers Association, *National Delinquency Survey*, Third Quarter 2012.

[42] See, for example, Christopher Snowbeck, "St. Paul neighborhood hit hard by foreclosures is glad to see homes selling but worried about who's buying," *Pioneer Press*, May 3, 2009. See also Carolyn Said, "Vacant foreclosed homes spawn blight, crime," *San Francisco Chronicle*, May 3, 2009, p. A-1.

[43] Dan Immergluck and Geoff Smith, "The Impact of Single-family Mortgage Foreclosures on Neighborhood Crime," *Housing Studies*, Vol. 21, No. 6, 851-866, November 2006. Hereafter referred to as *Impact of Foreclosures on Crime.*

windows, graffiti, and abandoned buildings) generate apathy and fear among the residents of that neighborhood. Wilson and Kelling argue that "at the community level, disorder and crime are usually inextricably linked, in a kind of developmental sequence."[44] The authors reason that as more houses become abandoned in a neighborhood, the neighborhood begins to feel untended to its residents, leading to an increase in the delinquent activities and ultimately the crime that will occur there. Wilson and Kelling suggest that by focusing policing on minor misdemeanor laws (such as graffiti, vandalism, and loitering), urban police departments could help reduce more serious crime. This has come to be known as "order maintenance" policing, and it has been adopted as a strategy by many urban police departments across the country.[45] A number of studies have shown a relationship between physical signs of disorder in a neighborhood and increasing crime. However, there is mixed evidence concerning whether there is a causal link between neighborhood disorder and crime, and whether "order maintenance" policing can reduce crime rates.[46]

It is important to note, however, that the neighborhood declines measured in many of these studies usually take place over an extended period of time—often longer than a decade—while home foreclosures can occur suddenly. However, if foreclosed properties remain on the market for extended periods of time, or become abandoned or blighted, they may accelerate the process of neighborhood decline. The impact that foreclosures have on neighborhoods can also differ widely depending on the characteristics of the particular neighborhood involved. In neighborhoods where demand for residential property is strong, or neighborhoods where foreclosures are not heavily concentrated, foreclosures may not have much of an impact. On the other hand, if foreclosures are concentrated heavily in one particular neighborhood, or if foreclosures take place in neighborhoods with low demand for residential property, the impact on the neighborhood may be significant.[47]

Overview of the Literature

One academic study addressing the link between foreclosures and crime that CRS was able to identify analyzed the housing market and crime rates in Chicago.[48] After controlling for a number of socioeconomic factors, the authors concluded that violent crime—but not property crime—was linked to increases in neighborhood foreclosures. The authors noted that, given their statistical analysis, a 1% increase in foreclosures would be accompanied by a 2.3% increase in violent crime. They also noted that property crimes may have been underreported because they were related to vacant or abandoned houses, or because they took place in lower-income neighborhoods, where residents may be less likely to report property crimes than residents in comparable higher-income neighborhoods.[49] Because the study was restricted to a large urban

[44] James Q. Wilson and George L. Kelling, "Broken Windows: The Police and Neighborhood Safety," *The Atlantic*, March 1982.

[45] Bernard E. Harcourt and Jens Ludwig, "Broken Windows: New Evidence from New York City and a Five-City Social Experiment," The University of Chicago Law Review, Vol. 73, No. 1, (Winter, 2006), pp. 271-320. Hereafter referred to as New Evidence from New York City.

[46] For a perspective on why order maintenance policing may be ineffective, see *New Evidence from New York City*. For an opposing viewpoint, see George L. Kelling and William H. Sousa, Jr., "Do Police Matter? An Analysis of the Impact of New York City's Police Reforms," *Manhattan Institute Civic Report*, No. 22, December 2001.

[47] *Impact of Foreclosures on Crime*.

[48] *Impact of Foreclosures on Crime.*

[49] Ibid., p. 863.

center, however, it has limited generalizability to other, less urban parts of the country.[50] Moreover, the study analyzed one year of data.[51] This focus on one year of data may make it difficult to extrapolate the study's results over a longer period; instead, the study represents a snapshot of one place in time.

Similar findings regarding the relationship between home foreclosures and crime rates come from the Charlotte-Mecklenburg Police Department (CMPD) in North Carolina. The CMPD examined a five-year period from 2003 through 2007 and concluded that "[v]iolent crime rose consistently during the 5-year period in the high-foreclosure neighborhoods, but remained significantly lower in the low-foreclosure neighborhoods, except in 2004."[52] Property crime rates did not appear to be as closely linked to foreclosures as were violent crime rates. Moreover, the authors did not control for other factors (such as the age of homes in foreclosure) that may have contributed to the difference in violent crime between the high-foreclosure neighborhoods and other neighborhoods.

Another study identified by CRS from the 1990s examined the relationship between foreclosures and crime—specifically, the impact of crime on foreclosures rather than the impact of foreclosures on crime. The study concluded that increases in crime rates led to increases in mortgage delinquencies and foreclosures.[53] The authors found that crime rates were inversely related to property values in the United States; decreases in property values were one of the chief determinants of increases in mortgage delinquency rates leading to foreclosures. It should be noted that this is not a direct relationship between crime and foreclosures, but rather an indirect relationship; crime is linked to property values, and property values are linked to mortgage delinquencies, which are in turn linked to foreclosures. The author concluded that increases in violent crime had a three-year lag effect on decreasing property values, while increases in property crime had a more immediate one-year lag effect on decreasing property values. However, the author did not control for other socioeconomic, neighborhood, and financial characteristics that could have contributed to or accounted for the decreases in property values. Conversely, as previously noted, the use of aggregate data could have had a dampening effect on the study's results.

Other Economic Indicators

While much research on the relationship between economic variables and crime rates has focused on macroeconomic variables such as unemployment and home foreclosures, some research suggests that other economic variables could fluctuate more strongly with crime rates and could thus serve as better proxies for evaluating the relationship between the economy and crime.

[50] As mentioned earlier, generalizability refers to whether a study's results can be applied to other populations than the one studied. In this case, urban areas are very different from rural or suburban areas in a number of socioeconomic variables that may inhibit this study's ability to predict the relationship between foreclosures and crime in non-urban areas.

[51] The study used 2000 census tract data for the population in the city, and 2001 crime data and business count data.

[52] Michael Bess, "Assessing the Impact of Home Foreclosures in Charlotte Neighborhoods," *Geography and Public Safety*, Vol. 1, No. 3, October 2008, p. 2. "High-foreclosure" neighborhoods were those that had a high rate of foreclosure compared to similar houses in the "low-foreclosure" neighborhoods.

[53] Robert Feinberg, The Impact of Crime Rates on Residential Mortgage Default, *Mortgage Banking*, June 1997, pp. 63-67.

Gross Domestic Product (GDP)[54]/Gross State Product (GSP)[55]

For example, in examining factors affecting the property crime rate between 1980 and 1997, Reza Fadaei-Tehrani and Thomas Green ran a correlation between six different independent variables (GDP, median income, education expenditures, poverty rate, drug seizures, and unemployment) and the property crime rate. They did not find a significant relationship between unemployment—the most highly examined economic variable—and the property crime rate. They did, however, determine that a decrease in the property crime rate was significantly related to an increase in public expenditures for education, median income, and gross domestic product (GDP).[56] Together, these three variables accounted for about 74% of the variation in the property crime rate from 1980 through 1997, and the GDP accounted for about 28%. These results suggest that crime rates—the property crime rate, in particular—may be linked to the economy, but that researchers may not see the relationship by studying traditional macroeconomic factors such as unemployment.

Thomas Arvanites and Robert Defina utilized inflation-adjusted, per capita gross state product (GSP) as an indicator of economic strength and found a significant relationship between GSP and the property crime rate from 1986 through 2000.[57] They argue that GSP may be a more valid proxy for economic strength than the unemployment rate because while the unemployment rate may correlate with overall economic conditions, it may not reflect changes in other economic indicators such as work hours, wages, job mobility, and job security—other key indicators of economic conditions. One particular limitation of using this data range (1986-2000) is that crime rates were generally declining during that time; a larger range would allow the researchers greater generalizability of their findings. Like many of the other studies, the correlational nature of these studies does not allow for conclusions about causality.[58]

Consumer Sentiment

Researchers have suggested that consumer sentiment may correlate with crime rates, particularly for those crimes that may be, to some extent, economically motivated. The idea behind the use of a broader gauge for the economy than concrete macroeconomic factors is the notion that "[a]s the economy deteriorates, one's ability to meet their financial and emotional needs, regardless of her/his employment status, may become strained."[59] In direct response to this idea, Richard Rosenfeld and Robert Fornango used annualized values from the Index of Consumer Sentiment

[54] According to the Bureau of Economic Analysis, gross domestic product is "the market value of goods and services produced by labor and property in the United States, regardless of nationality; GDP replaced gross national product (GNP) as the primary measure of U.S. production in 1991," http://www.bea.gov/glossary/glossary.cfm.

[55] Gross state product, also referred to as GDP by state, is the value added in production by the labor and capital located in a state. GDP for a state is derived as the sum of the GDP originating in all industries in the state. Bureau of Economic Analysis, "Gross domestic product by State," September 19, 2008.

[56] Reza Fadaei-Tehrani and Thomas M. Green, "Crime and Society," *International Journal of Social Economics*, vol. 29, no. 10 (2002), pp. 781-795.

[57] Thomas M. Arvanites and Robert H. Defina, "Business Cycles and Street Crime," *Criminology*, vol. 44, no. 1 (2006), pp. 139-164.

[58] As discussed earlier, *correlation does not imply causation*.

[59] David Cantor and Kenneth C. Land, "Unemployment and Crime Rate Fluctuations: A Comment on Greenberg," *Journal of Quantitative Criminology*, Vol. 17, pp. 329-42, 2001. p. 331.

(ICS)[60] as a proxy for how individuals perceived the economy and contrasted it with UCR data for crimes they deemed to be economically motivated, such as robbery, burglary, and larceny.[61] Results from their analyses indicated that consumer sentiment was more highly correlated with robbery and property crimes than more traditional measures of the economy, such as the unemployment rate. These results underscore the importance of analyzing perceived economic conditions in addition to actual economic conditions. One particular limitation of this study, however, is that the researchers did not consider the effect of consumer sentiment on violent crimes other than robbery. Many violent crimes, including murder and assault, may have a nexus to economic motivation, such as a robbery that ends up with the victim being accidentally killed. However, most of the research reviewed by CRS failed to establish a reliable link between economic variables and violent crimes.

Issues for Congress

As discussed earlier, no two recessions are identical, and thus some economic variables may be at greater flux during some recessions than during others. Similarly, as illustrated in **Figure 1** and **Figure 2**, crime rates may fluctuate more during some recessions than during others. As also mentioned, while research is inconclusive regarding the true relationship between economic indicators and crime rates, some have found lag or time-delay relationships between changes in economic indicators and subsequent changes in crime rates. As such, if crime rates were to increase in the wake of the most recent recession, policy makers may focus on the nature of the relationship between this recession and crime rates. Of note, however, in the immediate years following the recession, 2010 and 2011, crime rates—both violent and property crime rates—have continued to decline.[62]

The literature reviewed by CRS has several possible implications for policy makers. It does not appear that recessions—as measured by macroeconomic variables such as the unemployment rate or home foreclosures—can be definitively linked to increases in crime rates. However, preliminary research on other (though less-studied) factors, such as GDP (or GSP) as well as consumer sentiment, indicates there may be some correlation between these factors and crime rates, and these relationships warrant further research. In addition, research on economic indicators and crime rates using aggregate data—particularly on the national level—appears to produce less conclusive results than research using state or city-level data. Congress may also consider issues including whether the current state of the country's economic health is linked to crime rates and, if so, whether changes in the number of law enforcement officers may impact crime rates.

[60] Both the Confidence Board and the University of Michigan, Index of Consumer Sentiment publish monthly consumer confidence ratings. The Index of Consumer Sentiment is calculated based on individuals' responses to questions about personal finances, outlook for the economy, and buying conditions for durables. Richard Curtin, *The University of Michigan's Consumer Sentiment Index*, Surveys of Consumers, the University of Michigan.

[61] Richard Rosenfeld and Robert Fornango, "The impact of economic conditions on robbery and property crime: The role of consumer sentiment," *Criminology*, vol. 45, no. 4 (2007), pp. 735-769.

[62] The 2010 and 2011 UCR data can be found at http://www.fbi.gov/ucr/ucr.htm.

Wake of the Economic Downturn and Crime Rates

The most recent economic downturn led some to speculate that increases in unemployment and home foreclosures could lead to increases in crime. However, CRS found little historical evidence of correlation between broad macroeconomic trends or foreclosures and crime rates, and the literature on the relationship between unemployment and crime rates provided mixed results. However, as noted, research using city- and state-level data rather than aggregate national data demonstrated stronger relationships between economic variables and crime rates—particularly property crime rates. This suggests that some areas of the country may experience a greater relationship between various economic indicators of the ongoing recovery from the economic downturn and crime rates than other areas. Consequently, one policy option may involve determining those localities that are experiencing larger increases in crime and directing state and local law enforcement assistance to those areas.

As mentioned earlier, the CRS review did find limited evidence of some correlation between crime and microeconomic indicators such as consumer sentiment. This could suggest that how people perceive the economy may be more related to increases in crime than any tangible economic trends. This may be of interest to Congress, given the negative view of the economy revealed by recent surveys of consumer sentiment. The University of Michigan consumer sentiment survey used by CRS in this report, for example, reached 55.3—its lowest level in almost three decades—in November 2008. Consumer sentiment then rebounded and reached 76.0 in June 2010 before declining again. The most recent data indicate that in November 2012, consumer sentiment was at 82.7, still lower than consumer sentiment levels for most of 2007 before the start of the recession.[63] If the past correlation between consumer sentiment and crime holds true, and if consumer sentiment remains on an upswing, policy makers may choose to follow whether crime rates—and in particular, the property crime rate—may continue to trend downward in the future.

Number of Law Enforcement Officers and Crime Rates

If crime rates do in fact increase during times of economic decline or instability (something that the literature and data are inconclusive about), policy makers may be interested in what measures can be taken to address such increases in specific localities that may be related to the economic decline. As mentioned, there may be stronger relationships between economic variables and crime rates—particularly property crime rates—when looking at city- and state-level data rather than at national level data. While the FBI's UCR data indicated that both violent and property crime rates fell in all regions of the country in 2011, some regions of the country may have experienced localized increases in property and violent crimes.[64] It is unknown, however, whether any of these trends may be related to lingering impacts of the most recent economic downturn. Some have suggested that additional funding be made available for state and local law enforcement agencies to hire additional police officers in order to counteract any potential increases in crime rates that may be generated during the recovery from the economic downturn. This line of thought is related to the deterrence theory of crime, which predicts that increasing law enforcement (in this case by increasing the police force) has a deterrent effect on crime.[65] Policy makers have often

[63] University of Michigan Survey of Consumers, http://press.sca.isr.umich.edu/press/press_release.

[64] Annual UCR data can be found at http://www.fbi.gov/ucr/ucr.htm.

[65] Samuel Cameron, "The Economics of Crime and Deterrence: A Survey of Theory and Evidence," *Kylos*, vol. 41, no. (continued...)

discussed whether increasing the number of police on the streets will subsequently decrease the incidence of crime.

CRS reviewed the empirical literature that has evaluated the impact of the size of the police force on crime rates.[66] Overall, the results of these investigations indicate that there is no conclusive evidence regarding the impact of police force size on national crime rates; the studies reported all possible results—law enforcement increased crime, decreased crime, and had no effect on crime.[67] The total body of research suggests that law enforcement may have little impact on the amount of crime. However, researchers have acknowledged that past research suffered from a series of methodological and analytical problems, which could mean that any conclusions drawn from those studies are dubious. Some of the most recent research—which some argue is more methodologically sound than past research—suggests that more law enforcement officers could have a negative impact on crime. Yet, as some experts have noted, the ability to study the relationship between law enforcement levels is limited by the amount of data available and the current theory about what factors impact crime rates.[68]

Congress may face the issue of whether funding additional law enforcement officer positions is a cost-effective method of reducing crime, or whether there may be other ways to support the states' criminal justice systems.[69] Congress may also consider whether it might be more effective to fund programs that address other correlates of crime rather than funding state and local law enforcement hiring programs such as Community Oriented Policing Services (COPS).

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2 (1988), pp. 301-323.

[66] The information in this paragraph was provided by CRS analyst, (name redacted).

[67] "Violent crime" included homicide, rape, robbery, and aggravated assault. John E. Eck and Edward R. Maguire, "Have Changes in Policing Reduced Violent Crime? An Assessment of the Evidence," in *The Crime Drop in America, Revised Edition*, ed. Alfred Blumstein, Joel Wallman (New York: Cambridge University Press, 2006), pp. 210-214.

[68] Franklin E. Zimring, *The Great American Crime Decline* (New York: Oxford University Press, 2007), pp. 78-79.

[69] For a discussion of the costs and benefits of increasing law enforcement positions (and in particular through the COPS Program), see CRS Report RL33308, *Community Oriented Policing Services (COPS): Background and Funding*, by (name redacted).