Shifting Economic Trends and Crime in Rural Communities

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Abstract

Economic and demographic shifts can shape property crime patterns in rural communities, challenging assumptions that these areas are inherently safe. Prior research has linked factors such as population size, housing turnover, employment, and resource production to crime, yet few studies examine their combined effects in rural settings. This study analyzes the relationship between economic indicators and property crime in rural Natrona County, Wyoming, guided by Routine Activity Theory, Strain Theory, and Social Disorganization Theory. The study hypothesizes that decreases in oil and gas production, heightened drought levels, a shrinking labor force, rising unemployment and residential availability, and lower high school graduation rates will be associated with increases in property crime. Additionally, it is expected that Natrona County will experience lower levels of property crime during periods of lockdown mandates. An Ordinary Least Squares (OLS) regression model with the independent variables, COVID-19, gas and oil production, total population, labor force size, and homes for sale, was applied to monthly property crime data from January 2021 through December 2023. The model explained 91% of the variance in crime. Findings show COVID-19 negatively predicted property crime, while population totals and homes for sale were positively associated. Gas production was significant without a clear trend, and oil production and labor force size were not significant. Results highlight the critical role of housing and population dynamics in rural crime patterns. Future research should expand economic measures and improve data reliability to better capture rural crime dynamics.

Keywords*:* property crime; rural communities; economic trends; population dynamics

Introduction

Shifting economic trends have profound implications for crime patterns in rural communities (Abraham et al., 2022). While rural areas are often perceived as safer than urban centers, recent data and studies reveal a more nuanced reality. Factors such as graduation rates, employment, real estate, population size and gas and oil production have been linked to changes in property crime rates (Kallberg, et al., 2025; Payne et al., 2021; Phillips et al., 2012; Shaw, 2022). Additionally, the recent Covid-19 pandemic had a measurable impact on property crime (Paramasivan, et al., 2022), highlighting the complex ways in which economic disruptions can influence criminal behavior.

The purpose of the current study is to examine how shifting economic trends relate to property crime, guided by the theoretical frameworks of Routine Activity Theory, Strain Theory, and Social Disorganization Theory. The findings of this analysis are expected to reveal the extent to which these economic indicators serve as predictors of property crime trends in rural areas, thereby contributing to a more nuanced understanding of crime dynamics beyond the traditional urban focus. While prior studies have examined the relationship between economic factors and property crime, few have considered how population changes, housing turnover, and pandemic disruptions jointly influence crime in rural settings. This gap highlights the need for a comprehensive analysis of these variables in rural communities.

Theory and Prior Findings

Theoretical Framework

Property crime in rural areas involves a mix of social and economic influences. To better understand the factors shaping these patterns, this study draws on three key criminological theories: Routine Activity Theory, Strain Theory, and Social Disorganization Theory. Together, these theories provide a framework for understanding the underlying economic, community, and environmental factors that contribute to property crime in rural communities.

Routine Activity Theory (Cohen et al., 1979; Cohen et al., 2010) posits that crime occurs when a motivated offender encounters a suitable target in the absence of a capable guardian. This framework helps explain shifts in property crimes during the COVID-19 pandemic. When stay-at-home orders were implemented, this increased home/property guardianship and reduced opportunities for offending (Hoeboer et al., 2024). Additionally, the rise in vacant housing during the pandemic (due to shifting living conditions) aligns with this theory, as empty homes present accessible targets with diminished natural surveillance. Routine Activities Theory may also be used to explore how economic shifts such as gas and oil booms may affect the routine activities of residents in ways that impact property crime. During periods of economic growth, increased workforce mobility, new housing developments, or population turnover can create more suitable targets (e.g., homes, vehicles, construction equipment) while reducing social familiarity and guardianship.

Strain Theory (Merton, 1938) offers an alternate lens to interpret the link between the energy sector and crime. Merton argues that crime results when individuals cannot achieve societal goals through legitimate means (Merton, 1938). Fluctuations in the energy sector may bring economic instability, especially if job opportunities or wages are unevenly distributed. This can generate strain, especially if economic expectations are unmet, potentially motivating property crime.

Social Disorganization Theory**,** first proposed by Shaw and McKay (1942), suggests that crime is more likely in communities experiencing breakdowns in social cohesion and institutional control. Employment and graduation rates serve as key indicators of community stability and opportunity (Phillips, 2003). Employment levels and poor graduation rates can weaken social institutions like schools and workplaces, which traditionally help maintain social order and informal social control (Shaw & McKay, 1942). Low graduation rates signal weaknesses in educational institutions, which play a vital role in socializing youth and fostering prosocial behavior (Moore et al., 2015; Osgood et al., 2000; Pinkus, 2008). Population size also factors into this framework; a rapidly changing population can disrupt established social ties and weaken informal social controls. In rural communities, population loss often means fewer residents to participate in neighborhood watchfulness or community organizations (Peters, 2019), while sudden population growth without adequate infrastructure may strain resources and reduce social cohesion (Huang et al., 2025).

Economic Conditions

Higher graduation rates are typically associated with greater access to employment, higher income potential, which can reduce pressures that lead individuals to commit property crimes (Ades et al., 2021). Education enhances individuals' qualifications and skills, making them more competitive in the job market and more likely to secure stable, well-paying employment (Massing et.al., 2017). This financial stability can significantly reduce economic stressors that often lead individuals to consider illegal activities as a means of income supplementation (Kleck et.al., 2016). Moreover, possessing a legitimate source of income raises the opportunity cost of engaging in criminal activities, making individuals less inclined to jeopardize their financial stability through crimes such as theft, burglary, or vandalism (Ades et al., 2021; Farrington et.al., 2017). As Donnermeyer (2019) notes, research on rural crime needs to account for local social and structural conditions, including access to education and employment opportunities, which shape how these factors influence crime in rural communities.

In a widely cited conference paper based on his research in Gillette, Wyoming, Kohrs (1974) argued that boomtowns, or areas experiencing an increase in oil and natural gas (ONG) and extractions, also experienced increases in an array of social problems and crime, such as violence, prostitution, domestic violence, and divorce (Kohrs, 1974). Many other studies at the time confirmed Kohrs claims, however as a decrease in energy boomtowns occurred, there was also a decrease in research on ONG impact on crime from approximately 1990 to the mid-2000s (Jones et al., 2021).

Across several studies in different states there appears to be a relationship between ONG industry growth and crime (Caniglia, et al. 2021; Komareck, 2018; Shaw, 2022). Specifically, Part I violent crimes increase as ONG production increases (Shaw, 2022). In a study of boomtowns, Komareck (2018) found areas that were currently experiencing ONG growth, and most pointedly extractions, suffered an increase in violent crime driven primarily by increases in aggravated and sexual assaults. Alternatively, O'Connor (2017) found no significant relationship between ONG and crime in North Dakota. Many of the studies on ONG increases or boomtowns must rely on small sample sizes as those areas are inherently rural, with low population density. O'Connor (2017) even acknowledged that case studies and more qualitative research would enhance results and provide better explanations for the impact of ONG on crime rates.

Community Stability

Neighborhoods with more homes for sale may experience higher property crime rates (Boessen et al., 2017). When homes are vacant or in transition, they can become attractive targets for theft or vandalism due to reduced guardianship (Prenzler, 2024). These conditions can signal neighborhood decline, potentially lowering community investment and weakening informal social controls that typically deter crime (Chen et al., 2020; Lanfear et.al., 2020). This is especially pronounced in rural communities where access to employment opportunities and suitable housing are limited, as residents may face compounded economic and social pressures (Benavides et al., 2023). As housing markets fluctuate the resulting instability can create an environment more conducive to property crime (Boessen et al., 2017). Additionally, a housing market crisis is indicative of an economic downturn (Anundsen, et al., 2016), suggesting that the state of the housing market is deeply intertwined with public safety outcomes (Lu et al., 2021).

The impact of population density and fluctuations in population have been studied extensively in criminal justice research (Hipp & Roussell, 2013; Watts, 1931). While larger population size is typically associated with increases in crime (Chang et al., 2019), some studies have cautioned against making assumptions about the reasons for the increase. According to Oliveira (2021) because crime rates per capita assume a linear relationship, crime rates can be misrepresented and bias the ranking of cities when the actual relationship is nonlinear. For instance, in cases of superlinear growth, larger cities might naturally have higher crime rates simply due to their size, not necessarily because they have a disproportionately high level of crime compared to what's expected for a city of that size. Additionally, other variables appear to have a stronger impact on crime rates when accounted for in relation to population density. For example, Glaeser and Sacerdote (1999) found that much of the urban effect on crime (increases in crime) could be explained by the presence of female headed households in larger cities. Another important consideration in the discussion of population and crime is the unequal distribution of crime in rural areas (Kadar et al. 2019). Traditionally, less focus has been placed on predicting and measuring crime in rural areas. While it appears lower population density areas have less crime, it remains an understudied area.

Environment and Public Health Conditions

The Covid-19 pandemic and associated lockdown had a profound impact on crime rates across the world (Gomez, 2020; JFA, 2021), with some exceptions (Brantingham et al., 2021). Furthermore, crime rate changes varied by crime type. For example, domestic violence calls increased dramatically during the months of the Covid-19 lockdown (Richards et al. 2021). Another impact of the Covid-19 pandemic was enforcement and arrests for crime (Nix et al. 2021). Officers were still actively participating in patrols, but due to staffing shortages patrols and proactive policing were limited and police were mostly engaging in calls for service. This may have led to some of the decline in arrests and reports of crime, but not an actual decline in crime. Interestingly, a study by Abrams (2021) found that crime in large cities dropped, but that crime was likely displaced in smaller cities and outer lying areas with less people.

Drought has a demonstrable impact on crime rates, particularly in regions where livelihoods are closely tied to cattle ranching and agricultural production (Brus, 2013; Goin, et al. 2017). Even in areas that are not tied to agricultural production, drought appears to have an impact on crime (Cohen, 2025). While more commonly an issue primarily affecting areas outside the United States, the phenomenon of increased cattle raiding during periods of drought has been well documented (Parenti, 2011). This connection between environmental stressors and criminal activity extends beyond livestock theft. Notably, a recent study on violent extremism by Regan and Young (2024) found that as precipitation levels decline, the incidence of terrorist acts tends to rise, suggesting a broader link between environmental hardship and various forms of social instability and crime.

Limitations of Prior Studies

There is limited research on the collapse of primary industries and crime in rural areas. Much of the research that exists focuses on violent crime, such as DeKeseredy (2021) and does not focus on the impact of economic decline on crime. A journalistic investigation of economic decline and crime in rural Oklahoma provides narrative examples of how poverty drives crime in rural areas, yet the report lacked empirical evidence (Oklahomans for Criminal Justice Reform, 2023). The report highlights that the decline of higher-wage jobs and the rise of poverty in rural areas are driving crime disparities, with some small towns seeing violent crime rates comparable to major cities. The report however, did not specify industry decline types and did not focus on property crime. Wuthnow (2018) conducted over 1,000 interviews about the resentment felt by citizens in rural areas. He found that rural Americans define themselves by their social interdependence and local support networks. He argues that as jobs, young people, and local institutions disappear, the community social fabric frays, leading to a feeling of being "left behind." While his study and book were illuminated in the report, it did not include specific measures of economic decline and the impact it potentially has on property crime. The current study addresses gaps in previous research by specifically examining the impact of industry decline on property crime in a rural area of the United States.

The Current Study

Building upon the understanding that a multitude of socio-economic and environmental factors can influence crime rates in rural settings, this study aims to further explore the specific relationships between demographics, economic, community, and environmental variables and property crime within rural communities. The findings of this analysis are expected to reveal the extent to which these economic indicators serve as predictors of property crime trends in rural areas, thereby contributing to a more nuanced understanding of crime dynamics beyond the traditional urban focus.

Methodology

This study investigates the relationship between economic shifts and reported property crime through a case study of Natrona County, Wyoming, a region economically dependent on primary industries such as farming and oil and gas production. These industries are susceptible to economic vulnerabilities, triggering unemployment, foreclosures, and population shifts. Such patterns could correlate with increasing rates of property-related offenses. Additionally, Natrona County provides open-source data which allows for ease of data collection. After a thorough review of the county, it was also discovered to have one of the highest suicide rates globally (Culkin, 2024), making this a unique geographical area to study.

This study analyzed monthly property-related offenses from January 2021 to December 2023, using data from all available policing jurisdictions within Natrona County, Wyoming. This timeframe was chosen as it captures public secondary data that was available at the time of the research. The departments with available data include the Natrona County Sheriff's Office, and the Casper, Evansville, and Mills city police departments. Data was compiled from the State of Wyoming Criminal Statistics Database, which provides property crime rates for most policing jurisdictions at the state and county level (Wyoming Crime Statistics, 2025). Monthly criminal computations for each of these four law enforcement agencies were combined to capture overall property crimes and their reported trends. The database also distinguished the different types of property crimes: burglaries, larcenies, car thefts, and acts of arson. For this study, such crimes were combined as the unit of analysis.

The primary aim of the study is to identify factors that may correlate with reported property crimes during the timeframe of January 2021 to December 2023. To assess this, monthly oil and gas production data from ShaleXP were gathered for Natrona County from 2021-2023 (ShaleXP, 2025). Each of these variables were operationalized based on the extraction definition within the dataset provided by ShaleXP. It is hypothesized that decreases in oil and gas production is correlated with more property crime as this would suggest downturns in the economy. Next, the research aimed to explore the vulnerabilities within the agriculture industry. Such economic shifts could also correlate with property crimes. With increased drought levels, it is hypothesized there will be more property crime based on stain-like conditions. The U.S. Drought Monitor was used as a proxy measure for the agriculture industry. Monthly drought data were collected from the National Integrated

Drought Information System during the specified timeframe of 2021-2023 (National Integrated Drought Information System, 2025). Again, data was operationalized based on the drought index provided by the National Integration Drought Information System.

In addition, a broad collection of economic and demographic data points were collected. Economic variables include the number of homes for sale per month, monthly labor force size, and monthly unemployment rates. Economic variables were collected from the Federal Reserve Economic Data. Prior empirical studies have examined the relationship between labor markets and crime. Levitt (2001), for example, reported that a one percent increase in the U.S. unemployment rate corresponded with a two percent increase in property crimes 1950-1990. Andresen (2015) reported a similar finding, citing a positive relationship between unemployment rates and property crimes in Canada 1981-2009. Individuals faced with financial constraints may engage in criminal activity. It is hypothesized that decreases in the labor force size as well as increases in the unemployment rate, positively correlate with crime. Lastly, prior empirical research has also supported a correlation between housing vacancy and property crime (Fuentes & Hernandez, 2014; Raleigh & Galastar, 2014; Regan & Myers, 2020; Yin & Silverman, 2015). Vacant properties are more susceptible to be targeted for burglaries, arson, larceny, and other property-related offenses (Fuentes & Hernandez, 2014; Raleigh & Galastar, 2014; Regan & Myers, 2020; Yin & Silverman, 2015). It is hypothesized there is a positive correlation between homes for sale and property crimes in Natrona County.

Demographic variables including population figures and graduation rates were collected from the U.S. Census Bureau and the Federal Reserve Economic Data respectively. Once collected, data were converted into monthly estimates (Federal Research Economic Data, 2025; United States Census Bureau, 2025). These socioeconomic variables were operationalized based on the definitions from the Federal Research Economic Data and the U.S Census Bureau. It is hypothesized that a decrease in high school graduate rates is associated with more property crimes, as employment opportunities will be negatively impacted. Additionally, it is forecasted that increases in population offers more opportunity and victims for crime to take place.

To capture the potential impact of the pandemic on property crime, a dummy variable representing the COVID-19 period was included in the model. This covered January 2021 through May 2023, aligning with the Biden administration's declaration of the pandemic's end. Aligning with prior quantitative research assessing the impact of COVID-19 on crime, it is hypothesized that Natrona County documented less property crime with lockdown mandates (JFA Institute, 2021; Trajtenberg et al., 2024).

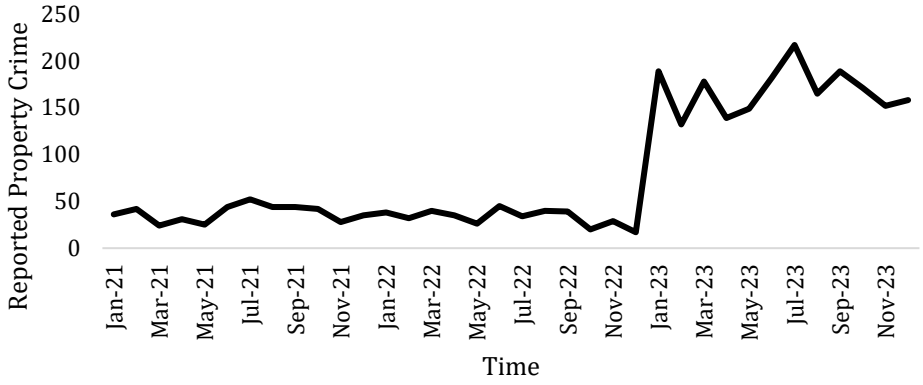
Analysis

To provide a greater comprehension of the data, descriptive statistical calculations were first conducted to further understand data distribution and analytical trends. Observations for all variables (2021-2023) were entered into the Statistical Package for the

Social Science (SPSS) software. Missing observations for years were left blank. Descriptive statistics include sample size, mean, range, standard deviation, skewness, and kurtosis. Table 1 contains these detailed computations. Figure 1 provides a longitudinal perspective of crime trends. There is a noticeable increase in reported crime beginning in 2023. This is based on how crime was reported and documented. This will be discussed in more detail within the limitations section.

Figure 1

Monthly property crimes Natrona County 2021-2023



After descriptive figures were processed, bivariate correlations were conducted to assess their relationship with reported property crimes. Table 2 has a breakdown of these correlations. All variables showed statistical correlation to crime with the exception of homes for sale. With the descriptive statistics and correlations complete, an Ordinary Least Square (OLS) Regression Model was deployed to assess the linear relationship between multiple independent variables and a dependent variable. OLS Regression Analysis, however, requires independence of the data. One key issue is multicollinearity, which occurs when two or more independent variables predict the same outcome, potentially distorting the model's accuracy and reducing the reliability of the estimated effects (Fields, 2013; Walker & Madden, 2010). SPSS has specific diagnostic tools to determine if multicollinearity is a threat. The two diagnostic tools selected were the Measure of

Table 1

Descriptive Statistics for Group Variables

Variable	N	Mean	SD	Range	Skewness	Kurtosis
Property crimes	36	79.52	65.56	200	0.843	-1.08
Unemployment	36	4.38	1.63	5.9	1.27	0.90

Variable	N	Mean	SD	Range	Skewness	Kurtosis
Labor size	36	41477.25	676.61	2472	-0.83	-0.92
Population	36	79699.67	179.17	418	0.52	-1.54
Graduation rates	36	81.13	0.61	1.40	-0.60	-1.54
Oil production (thousands)	36	367.76	19.36	71.63	-0.66	-0.43
Gas production (thousands)	36	544.85	54.91	285.30	0.42	1.51
Homes for sale	36	37.05	12.24	54.00	0.29	0.07
Drought	36	1.04	1.04	3.00	1.00	0.05
COVID	36	0.81	0.40	1.00	-1.61	0.63

Note: N= Sample Size; SD= Standard Deviation

Table 2

Bivariate Correlations

Variable	Correlation	Significance
Unemployment	-0.516	**
Labor force	0.668	**
Population	0.946	**
Graduation rate	0.627	**
Oil production	-0.617	**
Gas production	-0.335	*
Homes for sale	0.173	
Drought	0.406	*
COVID-19	0.735	*

Notes: *= $p < 0.05$; **= $p<0.01$

Tolerance and the Variance Inflation Factor (VIF). Walker and Maddan (2013) document that the VIF should be less than 4.0 and the measure of tolerance should be greater than 0.25. An OLS Regression Model was computed assessing the VIF and Measure of Tolerance. Based on the analysis, drought, unemployment, and graduation rates had to be removed as these numbers were outside of the recommended thresholds. After removing these variables, the model was reanalyzed, resulting in the mitigation of multicollinearity.

A second independence assumption is temporal autocorrelation. In the context of this research, it implies that property crimes at time one (T1) are a strong predictor of the observations at time two (T2). The Durbin-Watson Test is a means to determine if temporal autocorrelation is inherent within time-series analysis (Pickup, 2015; Worrall & Pratt, 2004). A statistic close to 2.0 implies there is no temporal autocorrelation. An OLS Regression

Model was initiated again, this time without the variables of drought, unemployment, and graduation rates. Temporal autocorrelation was assessed with the recommended tool. The Durbin-Watson statistic was 2.082, suggesting that there are no temporal autocorrelation threats in the model.

Results

Six independent variables (monthly gas production, monthly oil production, monthly homes for sale, monthly labor force size, population totals, and COVID-19) were used to predict reported monthly reported property crime (the dependent variable) in Natrona County 2021-2023 (see table 3). The OLS Regression Model was statistically significant ($p > 0.000$). The coefficient of determination was 0.911, suggesting 91% of the variance was explained using these variables. Four variables were statistically significant: COVID-19; gas production; total population, and homes for sale. COVID-19 had a negative relationship to crime (coefficient= -59.307), implying that months with the pandemic had 59.307 less property crimes. On the other hand, total population (coefficient = 0.525) and homes on the market (coefficient = 0.685) had a positive relationship to property crimes. With population increases in Natrona County, and more homes on the market within this jurisdiction, there are more monthly property crimes. Interestingly, gas production was significant but had no linear direction. Finally, oil production and total labor force, both positively related to property crime, were non-significant (coefficient = 0.0000479 and 0.14, respectively).

Discussion

This study identified four factors correlating with reported monthly property crimes in Natrona County 2021-2023. It was first discovered that months with the Covid-19 pandemic had less property crimes. This finding aligns with other studies. For instance, the JFA Institute did an examination of various property-related offenses prior to and during the pandemic within eleven U.S. jurisdictions (JFA Institute, 2021). During the pandemic, larcenies and burglaries decreased 27% (JFA Institute, 2021). With stay-at-home orders and businesses shuttered, there was less opportunity to commit these criminal offenses (JFA Institute, 2021). A second study by Trajtenberg and colleagues (2024), examined forty-five cities across five continents. Months of the pandemic reported a 28.2% decrease in robberies, a 20.4% decrease in burglaries, and an 18.8% decrease in car thefts (Trajtenberg et al., 2024). Again, mandated lockdown orders correlated with decreases in property-related offenses. This study aligns with these two established studies, identifying that months of the pandemic reported 59.307 less property crimes ($p < 0.01$). Thus, the hypothesis statement was supported. The negative relationship between COVID-19 and property crime aligns with RAT, as pandemic-related restrictions likely reduced routine activities, limiting opportunities for crime. While COVID reduced opportunities for crime, it also represented a major social and economic stressor, highlighting the complex relationship between strain and property crime.

Table 3

An Ordinary Least Square Regression Model

Variable	Coefficient	Significance
Constant	-42270.688	
COVID-19	-59.307	**
Oil production	0.0000479	
Gas production	0.000000	*
Total production	0.525	**
Homes on market	0.684	***
Total labor force	0.14	

Notes: The model was statistically significant (sig= 0.00) and the coefficient of determination (r) was 0.911

*= $p < 0.05$; **= $p<0.01$; ***= $p < 0.001$.

Secondly, a significant relationship was noted between monthly gas production and monthly property crimes in Natrona County ($p > 0.05$). There, however, was no direct causation. This concludes that the hypothesis statement cannot be supported in the study. The lack of causal direction could be triggered by the scale of the gas data. Scale adjustments were made to the data and analyzed again, but the statistical findings remained non-directional. Another explanation could be linked to the smaller population density and the type of analytical tool being used to evaluate this. As noted by O'Connor (2016), the smaller sample size of rural areas can complicate traditional quantitative research. Additionally, the non-linear direction could be linked to boom-bust timing mismatches of gas production and crime, or volatility in the reporting of those computations. Within rural communities, that is a possibility. Finally, there could be a temporal lag between gas production and crime That, however, was ruled out based on the findings from the Durbin-Watson Test. While oil and natural gas production appear to be related to crime in several studies, this finding could be spurious in nature, and boomtowns may experience spikes in crime for other reasons. Strain Theory emphasizes how social or economic stressors can increase criminal behavior (Merton, 1938). The significance of gas production, although without a clear directional trend, indicates that economic fluctuations may contribute to strain, influencing crime differently across communities.

Thirdly, it was discovered that the total population had a positive correlation with property-related crimes in Natrona County. Traditionally, areas with more people are more susceptible to crime. Here, ecological factors, such as poverty, non-social cohesion, and residential deterioration, intensify crime (Shaw and McKay, 1942). Oliveira (2021) examined crime trends across twelve countries and discovered that theft and burglaries increased with increasing populations (Oliveira, 2021). With more people, there are more interactions and more opportunities for crime to take place.

Another argument contends that as population increases, the government may be ill-equipped to provide the necessary services for its constituents. Regan (2022), for instance, found that coastal countries with rising and unsustainable population increases reported more acts of maritime piracy, as governments were unable to provide jobs and critical services.

This study concludes similar remarks. A one person increase in population was linearly related to 0.525 property crimes in Natrona County ($p < 0.01$). Population shifts, especially during the pandemic to rural areas, as well as oscillations in the gas industry, provide additional clarity with this relationship. This explains why those two variables were significant in the model. In this empirical study, the hypothesis statement was supported with the quantitative findings from the OLS regression model.

Lastly, a positive relationship was discovered with the number of homes for sale and property crimes ($p < 0.000$). As the number of property sales increases, property crimes also increase. In Natrona County, each home for sale was associated with 0.685 crimes. Vacant homes increase the risk of certain criminal activities. Prior research has discovered vacant structures are more vulnerable to arson, burglaries, drug-related offenses, and property damages (Fuentes & Hernandez, 2014; Raleigh & Galastar, 2014; Regan & Myers, 2020; Yin & Silverman, 2015). The absence of occupants nurtures these illicit activities. This research aligns with those earlier studies, concluding that the hypothesis statement was supported in this research as well.

As previously discussed, Social Disorganization Theory focuses on weakened community cohesion and informal social control (Shaw & McKay,1942). The positive associations of total population and homes for sale with property crime reflect conditions that may reduce neighborhood stability and collective efficacy, creating environments where crime is more likely.

Economic shifts and the oil and gas industry could trigger population increases and demand for housing. When these fail, unemployment and foreclosures increase. With less economic opportunities in Natrona County, individuals cannot afford to maintain possession of their home. This could explain why gas production and population were significant in this study. Additionally, it is important to capture the impact of the pandemic. With Covid-19, the population was shifting to less dense areas. Urban areas reported an out-migration of 276,000 people per month from March 2020-September 2020 (Whitaker, 2021). Vacancy rates for residential, commercial, and industrial areas within urban areas increased. This vacancy provided opportunities for crime to take place. Furthermore, the pandemic caused economic downturns. Natrona County lost 4,300 jobs during the pandemic. Without income, people could not afford to keep their home. Residential homes, in particular within Casper, were negatively affected.

Policy Implications

As rural communities face shifting economic conditions, including industry booms, demographic changes, and housing market fluctuations, local governments must adopt proactive policy strategies to address corresponding shifts in crime. This section explores policy recommendations designed to mitigate crime in the context of economic transformation, with a focus on sustainability, prevention, and community resilience.

The COVID-19 pandemic was an unprecedented global crisis that profoundly disrupted social, economic, and public health systems (Clemente-Suárez, et al., 2021). Its effects on rural communities included increased unemployment, social isolation, mental health challenges, and changes in crime patterns. However, due to the once-in-a-lifetime nature of the pandemic and the fact that it has officially concluded, this paper will not propose specific policies related to COVID-19. Instead, the focus will be on long-term economic shifts and their implications for crime in rural areas.

In rural regions undergoing gas or other natural resource extraction booms, there is often a correlated increase in crime, particularly property crime (Komarek, 2018). These issues are frequently driven by an influx of transient workers, income inequality and insufficient local infrastructure (Carrington et al. 2011; Goderis et al., 2011). A proactive policy recommendation is to earmark a percentage of revenue generated from gas production to directly support the county's criminal justice system. This funding could enhance local law enforcement capacity (mobile policing units, overtime allocations), support court systems, and strengthen community corrections. Such reinvestment not only addresses the strains on local infrastructure but also promotes community safety during periods of industrial expansion.

Population density in rural areas fluctuates dramatically during periods of economic activity (Ismael et al., 2011). Policy should focus on bolstering social services and community support systems in areas experiencing population surges. These services include substance abuse programs, youth outreach, and family counseling services. In addition, rural areas often experience disproportionately high rates of suicide (Culkin, 2024), highlighting the need for accessible mental health services. Providing mental health resources not only helps prevent acts of self-harm (Tyson et al., 2016) but also mitigates crimes associated with untreated mental illness, such as property damage or disorderly conduct (Blattman et al., 2017).

Changes in the housing market, such as an increase in homes for sale, vacant properties, or temporary housing for workers, can influence crime rates in rural areas (Battin et al., 2017). Policy in this area should draw from *Crime Prevention Through Environmental Design (CPTED)* principles, which emphasize the use of physical space to deter criminal activity (Sohn, 2016). Local ordinances could require property owners and realtors to frequently check on vacant homes, maintain clear lines of sight (e.g., trimming bushes), and install alarm systems or surveillance cameras. In addition, hot spot policing, allocating law enforcement resources to areas identified as high-risk due to temporary housing or high vacancy, may be of particular use. Proactive patrolling and partnerships with real estate professionals can create a deterrent effect and help reduce property crime in these vulnerable zones.

A foundational challenge in economically depressed areas is the unstable, punitive funding of the justice system (Ndumele & Grawert, 2025). To address this, local governments can establish a stable, non-punitive revenue stream by implementing a local severance or extraction tax, perhaps a percentage of local tax on the gross value of extracted resources like

oil, gas, or timber. A specified percentage of this revenue would be immediately channeled into a community justice fund, governed by a board of community members, police, and other stakeholders. This dedicated fund would guarantee somewhat predictable, multi-year funding for essential preventative services, such as employment programs and specialized property crime investigators, without relying on volatile property taxes or the potentially unfair collection of fines and fees. Furthermore, a portion of the funding could be structured as an incentive, rewarding municipalities that can demonstrate measurable crime reduction outcomes and a commitment to modern safety practices like CPTED. By dedicating wealth derived from local resources back into community safety, the system shifts its focus from revenue generation to genuine and sustainable crime prevention.

Limitations

This study encountered several challenges and limitations with the data. First, were constraints of the data. While many variables were reported on a monthly basis, others were not. For example, population data is only compiled on an annual basis through the United States Census Bureau. Thus, there were limited temporal variations with this variable, posing methodological concerns with its correlations to monthly property crimes.

Second, localized data, especially in rural counties, is limited. There were variables that this research sought to measure and explore, but such data were not available. For instance, the number of cattle would have been a suitable economic measure. Several empirical studies (e.g., Maystadt et al., 2014), were able to assess the impacts of the cattle industry and its relation to crime. Wyoming has a prevalent cattle industry and inclusion of this variable would have been beneficial for the analysis. However, longitudinal data at the county level were unavailable. Thus, a proxy measure, in this case drought, had to be utilized.

A third striking concern was how the property crime data were being reported. Many jurisdictions release data to the Department of Justice annually to be reported in the Uniform Crime Report (UCR). Casper, however, in select years, utilized the National Incident-Reporting Based System (NIBRS), which is more comprehensive than the UCR. Casper had higher rates of crime in 2023, but that increase could be the result of how crime-related data were collected. Because there were inconsistencies in how crime data was being compiled and reported, this likely had a direct impact on the OLS regression model.

Lastly, time-series research is susceptible to various threats of internal validity, specifically, history effects. The study period captured crime 2021-2023. In 2021, the COVID-19 pandemic was still lingering, and the Biden administration did not declare an end to the pandemic until May 2023. As noted in this study, as well as prior research (e.g., Trajtenberg et al., 2024), crime decreased during the pandemic. Mandatory lockdown procedures and stay-at-home orders had a direct impact on crime. This study acknowledges that the pandemic was an historical event impacting the validity of the model. Noting that, steps were taken to control for COVID-19 in the OLS regression model. However, this event likely had a measurable impact on the results.

Future research should include an exploration of violent crime and the variables analyzed in this study. While monthly violent crime rates were not available for the current study, the addition of violent crime in the analysis would provide a stronger explanation of the impact of variables on violent crime in rural areas such as Natrona County. As previously discussed, much research has found a correlation between property crime and shifting economics, but less research in rural areas has examined the impact of shifting economics on violent crime.

Additionally, given the higher than national average suicide rate in Natrona County, future research should examine this issue and how it may be related to other occurrences in the area. According to a 2024 *Oil City News* article, Natrona County has one of the highest suicide rates for a localized community in the world (Killingbeck, 2024). While suicide and crime are not typically correlated in research, this issue is worth examining to determine what makes Natrona unique in its suicide rates.

A third potential area of future research to coincide with the current study is a qualitative approach to determine how the housing market variable impacted property crime. While more houses on the market correlated with an increase in property crime, the reason for that increase is unknown. A qualitative component may assist in determining if actual house vacancies caused the increase or if there is another economic reason associated with houses on the market that caused the increase in property crime.

Lastly, future research should seek to get a better understanding of the gas production variable because although significant, it had no linear direction. O'Connor (2016) found that in North Dakota different locations were impacted differently by oil booms. While O'Connor's 2016 study demonstrated that crime overall increased because of oil extractions, the small sample size available in specific areas or towns had an impact on statistical analysis, which typically is more powerful as sample sizes increase. One of the obstacles of rural research is collecting a sample size large enough to yield statistically significant results. This could have been the reason for the lack of linear direction in the results of the current study. Future research should take a qualitative approach to examine the impact that oil and gas production has on crime in rural areas such as Natrona County.

Conclusion

This study examined the effects of shifting economic trends on property crime in rural Natrona County, Wyoming, using an OLS regression model with six independent variables. The model was statistically significant and explained 91% of the variance in monthly reported property crime from January 2021 to December 2023. Key findings revealed that COVID-19 had a negative relationship to crime, while population totals and homes for sale were positively associated. Gas production was significant but lacked a clear directional trend. Oil production and labor force size were not statistically significant. These results suggest that economic and demographic changes, particularly those related to housing and population dynamics, are critical factors influencing property crime in rural areas.

The implications of this research highlight the importance of local economic indicators in shaping crime patterns and emphasize the need for accessible, reliable rural data. While these findings offer valuable insight into crime dynamics in Natrona County, they may also hold relevance for other rural, energy-dependent counties in the United States and internationally. Many resource-extraction regions experience similar fluctuations in population, housing markets, and labor force conditions tied to boom-and-bust economic cycles (Abboud et al., 2023). As such, population growth, housing turnover, and shifting economic stability may likewise influence crime trends in counties reliant on oil, gas, mining, or other natural-resource industries. However, local variation in industry structure, policing practices, migration patterns, and social cohesion means that results should be generalized with caution. Comparative studies across multiple rural, energy-dependent regions are needed to determine whether these patterns represent broader trends or are unique to Natrona County.

Several limitations must be acknowledged. Data inconsistencies, particularly in crime reporting methods, annual population estimates, and unavailable variables such as cattle inventory compromised precision. Additionally, the lingering effects of COVID-19 as a major historical event likely influenced crime trends and internal validity. Future research should incorporate broader economic indicators, longitudinal datasets, and multi-county comparisons to strengthen understanding of rural crime patterns in volatile economic climates and to assess the extent to which these findings apply across diverse rural contexts.

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