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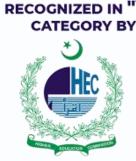
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[Socio-Economic Determinants Of Crime In Malaysia]

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ABSTRACT

This study investigates the socio-economic determinants of crime in Malaysia, focusing on factors such as unemployment, illiteracy, population growth, urbanization, and economic instability. Utilizing annual data from 1990 to 2020, the research employs multiple regression analysis to examine the relationship between crime rates and variables including household consumption, GDP, literacy rates, migration, wage rates, and electricity shortages. The findings reveal that higher household consumption and population growth are associated with increased crime rates, while higher GDP, literacy rates, and wage rates correlate with reduced crime. Migration and electricity shortages also show a marginal but significant positive impact on crime. The study underscores the importance of addressing socio-economic disparities through education, fair wages, and improved urban planning to mitigate crime. Policy recommendations include enhancing educational opportunities, promoting job creation, and regulating migration to reduce criminal activities. Future research should explore the long-term effects of these interventions and the role of mental health and community engagement in crime prevention.

Keywords: Crime, Socio-Economic Factors, Unemployment, Urbanization

Introduction

Crime is generally regarded as an individual's deviant behavior that violates the law. This behavior can stem from various causes, such as mental stress or habitual tendencies, and its definition varies across periods and regions. Crime imposes significant costs on individuals and society. Limited research exists on the socio-economic costs of crime, often estimated based on assumptions in both developing and developed countries. In many nations, a substantial portion of the population lives below the poverty line and faces unemployment. In Malaysia, a significant portion of the population earns below the national poverty threshold, while youth unemployment remains high. Crime can sometimes result from mental illness or a calculated decision based on perceived costs and benefits.

In Malaysia, crime has reached concerning levels, leading to growing insecurity among its over 33 million citizens. Recent events in major cities highlight the prevalence of criminal activities, instilling fear among the populace. Despite official claims of economic stability and declining unemployment, underemployment and job insecurity are rising, contributing to increased crime rates. This situation has raised concerns about public safety and the effectiveness of measures to address these challenges.

The primary drivers of rising crime in Malaysia are unemployment and illiteracy, but factors such as lawlessness, fundamentalism, societal backwardness, and double standards also play significant roles. Many citizens, particularly in less developed regions, face extreme poverty and unemployment, often pushing youth toward criminal activities. In addition to major causes, factors influencing crime include wage rates, electricity shortages, migration patterns, and individual purchasing power. Migration impacts crime rates, as migrants often lack systematic records and may exploit political connections for criminal activities. Low wages exacerbate the situation, pushing some toward crime. Electricity shortages harm businesses, leading to unemployment or reduced wages, prompting some to damage public property in protest.

Rapid population growth contributes to unemployment in Malaysia, as the state struggles to provide equal employment and educational opportunities. Educated unemployment fosters societal dissatisfaction and drives individuals to crime. Crime statistics show a sharp increase in criminal activities due to factors like unemployment, illiteracy, population growth, urbanization, and inflation.

Despite crime's prevalence, no systematic study has analyzed its determinants in Malaysia. Despite widespread coverage in news channels, magazines, and newspapers the issue has not been thoroughly explored. This paper aims to analyse the causes of crime in Malaysia, focusing on the primary factors driving individuals to commit crimes. Empirical studies have shown how variables like plant closures, low income, and mental illness relate to crime rates.

In Malaysia, crime is not limited to the poor and illiterate; wealthy, educated individuals also engage in criminal activities, often to accumulate wealth illegally. These individuals often exploit political connections or influence law enforcement agencies, undermining the legal system. Crime statistics indicate Malaysia is underperforming in economic, social, technological, and cultural domains.

Lately, the Malaysian government has taken steps to combat crime through judicial measures, including operations against criminals associated with political parties and other offenders. However, poor policy implementation and lack of justice, compounded by pressure from powerful individuals on the judiciary, have led to unsatisfactory outcomes and encouraged further criminal activities. Numerous studies have examined crime determinants using time series, panel data, and country-level analyses, often employing OLS and SLS techniques. Researchers such as (1), (2), (3), and (4) have shown a significant relationship between unemployment and crime. This study aims to identify crime determinants in Malaysia using annual data on various variables and general crime rates to test relevant hypotheses.

This study examines the factors that affect crime rates in Malaysia. The paper is organized as follows: Section 2 provides a review of existing empirical literature on the determinants of crime. Section 3 outlines the empirical model used in the analysis. Section 4 presents and discusses the estimation results. Lastly, the final section summarizes the findings, explores policy implications, and proposes avenues for future research.

Literature Review

The relationship between socio-economic factors and crime has been extensively studied across various regions and periods. (5) examined the determinants of crime rates in Latin America and globally using data from the UN World Crime Survey spanning 1970 to 1994. Their analysis incorporated variables such as the Gini index, urbanization rate, GDP, drug-related factors, and income levels. Employing econometric modeling techniques, the study found that low-income levels and deterrence measures positively influenced crime rates. Similarly, (6) explored the link between unemployment and various crime categories in New Zealand using regional data from 1984 to 1996. By applying random and fixed effects models to country-level and time-series data, they identified a significant relationship between unemployment and crime.

Building on these findings, (7) investigated the connection between unemployment and crime in the United States, accounting for time trends, state effects, and year effects.

Variables such as Income, oil prices, alcohol consumption, prison population, violent crime, and property crime were analyzed using OLS and Seemingly Unrelated Regression (SUR) techniques. The outcomes revealed a significant positive effect of unemployment on property crime, though the evidence for violent crime was less pronounced. Similarly, (1) studied the impact of unemployment on crime in Swedish counties from 1988 to 1999 using fixed effects models with time-series and county-level data. Variables such as population density, social allowances, education, and average income were considered. Applying linear and quadratic time trend techniques demonstrated that unemployment had a positive and significant effect on crime.

(8) further analyzed the determinants of crime in Argentina from 1990 to 1999 using a panel data approach. Variables included inequality measures, Gini coefficient, unemployment rate, GDP, probability of imprisonment, and crime rate. Correlation techniques revealed that unemployment and inequality were significantly associated with crime rates. In a similar vein, (9) examined the association between crime rates, inflation, and unemployment in Malaysia from 1970 to 2006 using annual data. The Bartlett Corrected Trace Test indicated a progressive and significant impact of unemployment and inflation on crime, though inflation was not significant in the short term.

(10) used panel data to study the association between violent crime and inequality in London from 1999 to 2003. Variables included iinequality, democracy, economic growth, female labor participation, and unemployment. The Generalized Method of Moments (GMM) technique was used, revealing no significant impact of inequality on violent crime, but a stronger impact on property crime. (11) further investigated socio-economic and demographic determinants of crime in Spain from 1993 to 1999 using panel data. Variables included crime rate, education, GDP, growth, and unemployment. GMM estimation techniques showed that socio-economic factors significantly affected property crime, while demographic factors were linked to violent crime. In another study, (11) explored socio-economic determinants of crime in Spain from 1990 to 1993 using panel data. Variables included population growth rate, GDP per capita, and GDP growth rate. Generalized Method of moment techniques revealed a progressive and significant influence of socio-economic factors on crime.

(2) analyzed the link between crime and unemployment across sixteen U.S. states using country-level data. The study considered variables such as population demographics, per capita income, age, and federal education funding. A significant relationship between crime and unemployment was identified through regression analysis. Meanwhile (12) studied demographic factors influencing crime in São Paulo from 1975 to 1985 using state-level data. Variables included urbanization, education, GDP, population, youth unemployment, fertility rates, and single or teenage parenthood. Correlation techniques showed significant effects of fertility rates and single or teenage parenthood on crime. (13) explored the relationship between education and crime in the U.S. from 1960 to 1990 using time-series data. Variables included age groups, average education levels, arrests, population density, and crime types such as burglary, robbery, assault, rape, and murder. OLS techniques revealed a significant negative effect of education on crime, with recommendations for reducing racial disparities in education.

While, (14) studied juvenile crime in Punjab, Pakistan, using data from 221 juvenile

convicts in Faisalabad and Bahawalpur districts. Variables included age, income, land ownership, education, and family size. Probit estimation techniques revealed strong effects of family size, income, land disputes, and honor killings on juvenile crime. (15) investigated demographic and socio-economic factors of crime in Iran from 1994 to 2003 using panel data. Variables included literacy rates, migration, unemployment, population density, family income, and convictions. Regression analysis showed positive effects of economic factors on crime, with recommendations for economic growth policies to reduce crime.

(16) examined crime determinants in India from 1999 to 2005 using state-level data. Variables included urbanization, poverty, education, police workload, economic growth, convictions, and case disposal rates. The Seemingly Unrelated Regression (SUR) model revealed significant effects of socio-economic and demographic factors on crime. (17) studied the association between Inflation, poverty, unemployment, and crime in Pakistan from 1976 to 2007 using time-series data. Granger causality tests showed significant effects of unemployment, poverty, and inflation on crime, with recommendations for addressing these determinants to reduce crime. (18) investigated the impact of the loss of jobs on crime using individual-level panel data from Norway, focusing on unmarried, employed men under 40. Variables included plant closures, age, number of children, income, and net wealth. Specification tests showed no significant impact of plant closures on fierce crime, but significant effects on property crime due to mental distress and frustration.

(3) The study investigated the effect of unemployment on crime rates across European countries utilizing country-level data. Key variables analyzed were unemployment, GDP, the size of the police force, and urbanization. The ordinary least square (OLS) and SUR techniques revealed that low-educated males significantly drove the relationship between unemployment and crime. (19) studied the effect of unemployment on crime rates using criminal and worker records, finding that the effect depended on apprehension rates. The results showed insignificant effects at low apprehension rates but significant effects at high rates. (9) study examines the link between inflation, unemployment, and crime in Malaysia from 1970 to 2006, employing the Bartlett Corrected Test for analysis. The findings confirmed a positive association between unemployment and crime, with inflation showing no short-term significance. (20) analyzed the effect of unemployment on crime in San Diego using panel data. Variables included unemployment rates, crime rates, apprehension rates, and unemployment insurance. The results showed negative effects at low apprehension rates but positive effects at high rates.

(21) investigated crime determinants in Virginia from 1970 to 2000 using yearly data. Variables included the black population, population density, age, reported crime, unemployment, and poverty rates. Regression analysis revealed significant effects of fiscal, social, demographic, and political factors on crime. (22) compared crime determinants using National Crime Victimization Survey (NCVS) and Uniform Crime Reports (UCR) data. Variables included unemployment, poverty, population demographics, and density. Correlation techniques showed no significant demographic effects in UCR but significant effects in NCVS. (4) examined the relation between crime and unemployment using the Swedish conviction data of labour market. Variables

included unemployment, delinquency, and age-crime profiles. Empirical analysis revealed significant effects, particularly for youth unemployment. (23) a study conducted in Sweden examined the connection between various categories of crime and unemployment over the period from 1997 to 2009. Variables included unemployment, and crime types such as burglary, vandalism, narcotics, and robbery. Baseline econometric models showed significant effects of unemployment on crime, narcotics, and burglary with long-term unemployment linked to violent crime. (24) studied the effects of poverty and income inequality on crime in the U.S. from 1999 to 2000. Variables included crime rates, poverty, and income inequality. The findings revealed that poverty and inequality had a significant positive impact on crime.

Moreover, (25) analyzed youth crime trends in Gujarat, Pakistan, from 2010 to 2011 using survey data. Variables included residential area, gender, caste, religion, and age. Regression analysis revealed that 59% of youth aged 15-29 were involved in crimes such as murder, theft, and robbery, with recommendations for counseling and improved reporting systems. (26) investigated the relationship between Investment, education, unemployment, health, inflation, and crime in Pakistan from 1980 to 2010. Co-integrating regression techniques showed positive effects of education and health on crime, insignificant effects of inflation and unemployment, and negative effects of investment. (27) examined crime determinants in Greece from 1971 to 2006 using annual data. Co-integration techniques revealed positive significant effects of unemployment, migration, convictions, and real compensation on crime.

(24) studied the relationship between crime, income inequality, and poverty in the U.S. from 1990 to 2000. Regression analysis showed positive significant effects of structural shifts, income inequality, and poverty on crime. (28) investigated the association between economic rationality and Baltic crime from 2000 to 2005 using panel data. Variables included low-income individuals, unemployed males, foreigners, and urban groups. Regression analysis revealed significant effects of economic rationality on crime. (29) analyzed socio-economic determinants of crime in Jamaica over 30 years using time-series data. Variables included social expenditures, GDP, clearance rates, and police force size. Granger causality tests showed significant effects of social expenditures on crime. (30) studied the effect of living wages on crime in the U.S. from 1991 to 2003. Variables included crime rates, living wages, robbery, burglary, and vehicle theft. Regression analysis revealed positive significant effects of living wages on crime.

(31) examined crime determinants in Nigeria from 2002 to 2005 using panel data. Variables included per capita income, crime rates, and population density. OLS techniques showed significant effects of income and population density on crime, with poor law enforcement performance identified as a major factor. (32) investigated the relationship between crime and urbanization in Pakistan from 1964 to 2008 using timeseries data. Variables included education, income inequality, unemployment, and urbanization... Johansen co-integration methods revealed a strong positive relationship between urbanization and crime, with recommendations for rural employment to reduce urban migration and crime.

A study by (33) analyzed the impact of migration on crime rates in Johor Bahru. The findings indicated that areas with high migrant populations experienced higher rates of certain types of crime, particularly those related to labor exploitation and human

trafficking. The study called for better regulation of migration and improved integration programs for migrants.

Education remains a pivotal factor in crime prevention. A recent study by (34) explored the relationship between educational attainment and crime rates among Malaysian youth. The findings indicated that higher levels of education were associated with lower involvement in criminal activities. The study recommended increasing access to quality education, particularly in rural areas, to address the root causes of crime.

Urbanization has also been a significant focus in 2023. Research by (35) examined the impact of rapid urbanization on crime rates in Kuala Lumpur and Penang. The study found that urban areas with high population density and inadequate social services experienced higher rates of violent crimes. The authors argued that urban planning and improved social services could play a crucial role in reducing crime in these areas.

Unemployment continues to be a critical factor driving crime rates in Malaysia. A study by (33) found a strong positive correlation between unemployment and property crimes such as theft and burglary. The research, conducted across several states in Malaysia, utilized panel data from 2010 to 2020, revealing that regions with higher unemployment rates consistently reported higher crime rates. The study emphasized the need for targeted employment programs to mitigate crime, particularly among the youth.

Data Methodology

This study utilizes multiple regression analysis to investigate the long-term association among the variables. This study utilizes secondary data, all of which is sourced from various issues of the Economic Survey of Malaysia. The study incorporates eight variables: crime rate, electricity shortage, wage rate, net migrants flow, literacy rate, population growth, gross domestic product, and household consumption. Time series data for Malaysia from the period 1990 to 2020 is used. Based on the selected variables, the economic growth function of Malaysia can be expressed as follows:

CR = f(ES, WR, MIG, LIT, POP, GDP, HHC).....(1)

Where CR represents the crime rate, f denotes the function of, and ES, WR, MIG, LIT, POP, GDP, and HHC stand for electricity shortage, wage rate, net migrants flow, literacy rate, population growth, gross domestic product, and household consumption respectively. The crime rate function can be expressed in a linear form with the inclusion of an error term, as follows:

 $CR_t = \alpha_0 + \alpha_1 ES_t + \alpha_2 WR_t + \alpha_3 MIG_t + \alpha_4 LIT_t + \alpha_5 POP_t + \alpha_6 GDP_t + \alpha_7 HHC_t$(2) The research is guided by the following hypotheses, which establish the framework for the analysis:

H1: Electricity Shortage has no significant effect on CR.

H2: Wage Rate has no significant effect on CR.

H3: Net Migrants Flow has no significant effect on CR.

H4: Literacy Rate has no significant effect on CR.

H5: Population Growth has no significant effect on CR.

H6: Gross Domestic Product has no significant effect on CR.

H7: Household Consumption has no significant effect on CR.

Result Analysis

This chapter will examine the collected observations to investigate the relationship between crime rates and various factors, including Wage rates, household consumption,

electricity shortages, migration (in and out), literacy rate, GDP, and population growth. Multiple regression analysis will be employed to assess the influence of these six independent variables on the dependent variable, crime rate. **Descriptive Statistics**

S.NO.	VARIABLE	Ν	MEAN	STD. DEVIATION	MIN	MAX
1	ES	31	65392	31641	18491	117631
2	WR	31	35	1	33	41
3	MIG	31	3	2	2	7
4	LIT	31	41	11	25	57
5	POP	31	126	28	80	175
6	GDP	31	65042	25980	27320	110655
7	HHC	31	51962	32755	19684	134515
8	CR	31	0.34	0.14	0.15	0.64

Summary statistics are used to summarize a set of observations. The dependent variable, crime rate, has a minimum value of 0.15 and a maximum value of 0.64, with a mean of 0.34 and a standard deviation of 0.14. Observations for crime rate were taken over 31 years. The independent variable, household consumption (HHC), has a minimum value of 19,684 and a maximum value of 134,515, with a mean of 51,962 and a standard deviation of 32,755. Observations for HHC were also taken over 31 years. GDP has a minimum value of 27,321 and a maximum value of 116,055, with a mean of 65,042 and a standard deviation of 25,980. Observations for GDP were collected over 31 years as well.

The population growth rate (POP) has a minimum value of 80% and a maximum value of 175%, with a mean of 126% and a standard deviation of 28%. Observations for POP were taken over 31 years. The literacy rate has a minimum value of 25% and a maximum value of 57%, with observations also taken over 31 years. Migration in and out of Pakistan (MIG) has a minimum rate of 2% and a maximum rate of 7%, with a mean of 3% and a standard deviation of 2%. Observations for MIG were collected over 31 years. The minimum wage rate is 35%, and the maximum wage rate is 41%, with a mean of 35% and a standard deviation of 1%. Observations for wage rates were taken over 31 years. Electricity shortage has a minimum value of 18,491 and a maximum value of 117,631, with observations also taken over 31 years.

The data shows no missing observations for any of the variables. All independent and dependent variables have been observed over a consistent period of 31 years. **Results of OLS**

Results of OLS			
VARIABLE	COEFFICIENT	T-STATS	PROB.
ES	2.03E-05	2.1508	0.0421
WR	-0.3258	-2.8564	0.0088
MIG	0.0293	2.6954	0.0128
LIT	-0.0550	-4.0035	0.0005
POP	0.0340	4.2284	0.0002
GDP	-0.8951	-3.5992	0.0014
HHC	0.1916	7.0285	0.0000
C	7.02	3.153	0.0043
ADJ. R ²		0.978025	
D.W STATS		1.848493	

F-STATS (PROB.) 191.7460 (0.0000) The table presents correlations between the dependent variable (crime) and independent variables (Migrants, Energy Crises, Wages, Literacy Rate, Population Growth Rate, GDP, and Household Consumption). Household Consumption (HHC) exhibits a positive correlation (0.1917) with crime, indicating that rising consumption correlates with increased crime rates. This relationship is statistically significant (p-value documented), aligning with findings by (36). Conversely, GDP shows a strong negative correlation (-0.8952) with crime, suggesting that higher GDP corresponds to reduced crime. The significant p-value (0.0014) confirms GDP's robust association with crime, consistent with prior research (3). Population Growth (POP) demonstrates a weak positive correlation (0.0341) with crime, implying that crime rises marginally with population growth. The highly significant p-value (0.0002) supports this linkage, as noted by (37).

The Literacy Rate (LIT) is negatively correlated (-0.0551) with crime, signifying that higher literacy rates correlate with lower crime. Its p-value (0.0004) underscores statistical significance, corroborating (14) conclusions. Similarly, the Wage Rate (WR) displays a moderate negative correlation (-0.3259), indicating that increased wages correspond to reduced crime. The significant p-value (0.0089) reinforces this relationship, as observed by (30). Energy Crises (EG) exhibit an extremely weak positive correlation (0.00002) with crime, though the p-value (0.0421) suggests statistical significance, implying a marginal but measurable impact. Migrants (MIG) show a slight positive correlation (0.0294) with crime, supported by a significant p-value (0.0128), consistent with (38) findings.

The model's R-Square value (0.978) indicates that 97.8% of crime variance is explained by the independent variables. Adjusted R-Square (97.8%) confirms the model's precision in attributing changes in crime to these predictors. The F-statistic (p = 0.000) validates the collective significance of all variables, rejecting the null hypothesis as all p-values fall below 0.05. Thus, the independent variables are robust predictors of crime variation.

Conclusion And Future Direction

This study aimed to identify the determinants of crime in Malaysia by analyzing various socio-economic factors and their impact on crime rates. The findings reveal that several key variables significantly influence crime rates, including household consumption, GDP, population growth, literacy rates, migration, wage rates, and electricity shortages. The results from the multiple regression analysis indicate that higher household consumption and population growth are associated with increased crime rates, while higher GDP, literacy rates, and wage rates are linked to reduced crime rates. Additionally, migration and electricity shortages show a marginal but statistically significant positive correlation with crime.

The study underscores the importance of addressing socio-economic disparities to mitigate crime. Higher literacy rates and wage levels are particularly effective in reducing crime, suggesting that investments in education and fair wages could play a crucial role in crime prevention. Furthermore, the positive correlation between household consumption and crime highlights the potential impact of economic inequality and consumerism on criminal behavior.

The findings also emphasize the need for targeted policies to address unemployment,

underemployment, and economic instability, which are significant drivers of crime in Malaysia. Urbanization and rapid population growth exacerbate these issues, particularly in densely populated areas with inadequate social services. Therefore, improving urban planning and social infrastructure could help reduce crime rates in these regions.

In conclusion, this study provides valuable insights into the socio-economic determinants of crime in Malaysia and offers several policy recommendations. Enhancing educational opportunities, ensuring fair wages, and addressing economic inequalities are critical steps toward reducing crime. Additionally, effective urban planning and social service provision can help mitigate the adverse effects of rapid urbanization and population growth. Future research should continue to explore these relationships in greater depth, particularly focusing on the long-term impacts of policy interventions on crime rates.

Policy Implications

Education and Literacy: Increase access to quality education, particularly in rural and underdeveloped areas, to reduce illiteracy and improve socio-economic conditions.

Employment and Wages: Implement policies that promote job creation and ensure fair wages to reduce economic disparities and discourage criminal activities.

Urban Planning: Improve urban infrastructure and social services to address the challenges of rapid urbanization and population growth.

Migration Policies: Develop better regulation and integration programs for migrants to reduce the potential for exploitation and criminal activities.

Economic Stability: Focus on sustainable economic growth and stability to reduce the socio-economic pressures that contribute to crime.

Future Research Directions

Future studies should explore the long-term effects of these policy interventions on crime rates. Additionally, further research could examine the role of mental health, social capital, and community engagement in crime prevention. Comparative studies across different regions and countries could also provide broader insights into the socio-economic determinants of crime and effective strategies for its reduction.

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