

# The Influence of Urbanization, Population Density, and Poverty Rate on Crime in the City of Bandung

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## Abstract

*This study analyzes the influence of population density, poverty, and urbanization on the crime rate in the city of Bandung using a multiple linear regression method with time series data for the 2017-2022 period sourced from BPS and related agencies. The results of the study show that population density and poverty have a significant influence on crime, where population density creates social pressure and conflict, while poverty encourages crime as a form of economic survival. In contrast, urbanization has no significant effect on crime, which is thought to be due to the equitable distribution of urbanization or the effectiveness of its impact management policies. This research emphasizes the importance of poverty alleviation and spatial management in reducing crime rates in the city of Bandung.*

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## INTRODUCTION

The city of Bandung, as the capital of West Java Province, functions as an economic center that has a significant impact on increasing people's movement and mobility. However, Bandung also faces a common problem that is often experienced by other big cities, namely the issue of crime. Criminality is a variety of actions and behaviors that are economically and psychologically detrimental, as well as violating the applicable laws in Indonesia, including social and religious norms. Criminal activity disrupts crime-prone neighborhoods, especially those in urban centers. Therefore, significant efforts must be made to combat crime (Hew, W. et al., 2020).

Crime in the city of Bandung has become a serious concern, especially since the city occupies the third position with the highest crime rate in Indonesia after DKI Jakarta and Medan. Various forms of crime, from theft, fraud, to acts of violence, are on the rise as the city's population grows and social challenges arise. The following are the details of the forms of crime in the city of Bandung in 2017 – 2022.

**Table 1. Details of Criminal Acts in the City of Bandung**

<i>Kind of Criminality</i>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Theft of 2-wheeled motor vehicles	355	329	291	284	157	209
Theft of 4-wheeled motor vehicles	62	59	44	24	25	20
Serious Theft	369	365	331	261	257	223
Hard theft	178	181	110	105	62	84
Common/minor theft	165	176	146	189	154	154
Mild persecution	52	43	43	39	257	58
Serious Persecution	206	243	237	211	200	223
Fraud	815	769	750	962	590	634
Embezzlement	238	284	268	377	210	263
Extortion	50	58	38	34	25	12
Destruction	33	36	28	33	16	16
Murder	3	0	4	1	7	7
Rape	10	11	5	1	4	9
Adultery	9	11	12	5	4	5
Abduction	4	2	3	2	0	0
Currency Counterfeiting	3	1	1	5	4	1
Letter Forgery	43	32	43	26	21	14
Counterfeiting of Trademarks	37	4	2	6	1	0
Perjury	2	0	0	0	0	0
Gambling	7	4	6	5	1	1
Insults	25	13	22	19	6	10
Cultivation	3	2	2	1	1	2
Corruption	2	0	1	2	0	1
Firearms, Sharp Weapons	33	37	29	47	20	36
Other crimes	911	834	832	785	541	644
<b>Total</b>	<b>3.615</b>	<b>3.494</b>	<b>3.248</b>	<b>3.424</b>	<b>2.140</b>	<b>2.626</b>

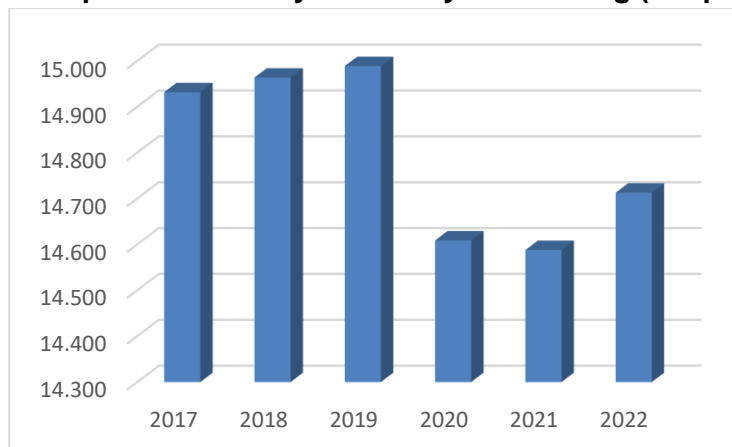
*Source: Central Bureau of Statistics of the City of Bandung 2024*

The crime data in the city of Bandung above shows changes in the last six years. In 2017, the number of cases reached 3,615 cases, then decreased to 3,494 cases in 2018, in 2019 to 3,248 cases and 3,424 cases in 2020. A sharp decline occurred in 2021 with 2,140 cases, but increased again to 2,626 cases in 2022 which could indicate that post-pandemic economic and social conditions also influenced the increase in crime rates in the city. This change illustrates the challenges of maintaining security stability amid urbanization pressures, population density, and growing poverty levels in the city of Bandung.

Urbanization is a social process in which cities develop and their societies become urban. However, rapid urbanization also brings negative impacts, one of which is the increase in crime (Soh, M.B., 2012). Rapid urbanization has brought great changes to the city of Bandung. The large number of immigrants from rural areas to the city leads to high population growth and has an impact on overcrowding in various areas. This increase in population is often not balanced by the readiness of adequate infrastructure and public services, thus creating conditions that are prone to causing social tension.

Urbanization is defined as the process of moving the population from rural to urban areas. This displacement has an impact on changing the pattern of population distribution in an area, where the village area will experience a decrease in population density, while the density in the city will increase (Feriyanto, N., 2014). Factors such as poverty, population density, and increasing anonymity in urban areas create conditions conducive to criminal behavior. Rapid urbanization and high population density are often associated with rising crime rates. This situation creates anonymity and puts pressure on resources, which can facilitate criminal acts (Munajat, A. et al., 2024).

**Figure 1. Population Density in the City of Bandung (People/Km<sup>2</sup>)**



Source: Central Bureau of Statistics of the City of Bandung 2024

With a density in the city of Bandung which reaches 14 thousand people/km<sup>2</sup>, this city is classified as having a very dense population. Data shows that in 2017, the population density in Bandung reached 14,932 people/km<sup>2</sup> and slightly increased to 14,964 people/km<sup>2</sup> in 2018 and 14,989 people/km<sup>2</sup> in 2019. However, in 2020 there was a decrease in density to 14,609 people/km<sup>2</sup>, and decreased again in 2021 to 14,388 people/km<sup>2</sup>. In 2022, This density increased again to 14,713 people/km<sup>2</sup>. High density can tighten competition for resources, such as jobs and housing. As a result, some individuals may be compelled to seek quick means, including through criminal action, to meet their living needs.

In addition, the poverty rate in the city of Bandung is another factor that contributes to worsening this condition. Based on Central Bureau of Statistics, the poverty rate in the city of Bandung is at 4.25% in 2022 with a poverty line of IDR 545,675/month. Although the city is thriving as an economic and tourism hub, not all of its residents are benefiting from the development. Many people are still trapped in a difficult economic situation, with limited access to decent work and adequate education. This condition of poverty often triggers certain individuals or groups to commit crimes as a way to survive or earn additional income.

In the results of a study conducted by Kuciswara, et al. in 2021 with a case study in East Java, it shows that urbanization has a positive and significant influence on the number of crime, which means that an increase in the percentage of population in urban areas will encourage criminal acts. In line with the country of Pakistan, Jalil & Iqbal (2017) found that there is a positive relationship between urbanization and crime.

Furthermore, high population density often causes problems in spatial management due to great pressure on land (Fajri, R. E., & Rizki, C. Z., 2019). Densely populated areas are vulnerable to dangerous situations that lead to financial problems, welfare, food demand, and criminal activity. Population density results in unfulfilled jobs for the existing workforce. This limited employment ultimately leads to an increase in the unemployment rate, which also has an impact on the decline of social quality. This decline in social quality is reflected in the increasing number of homeless people, beggars, and high crime rates, as well as various other social problems (Edwart, A. et al., 2019).

The results of a study by Sabiq, R. M. & Nurwati, N. in 2021, show that population density has a significant influence and can trigger criminal acts. Based on the population theory put forward by Thomas Robert Malthus, population density can cause some individuals to have difficulty accessing adequate sources of life, so that some of them are forced to commit criminal acts to meet their needs.

In addition to population density, another factor that can cause crime is poverty. According to Nugroho (1995), poverty is the inability of income to meet basic needs, which include food, clothing, and shelter. Poverty is the main explanatory variable in the two dominant schools of urban criminology thought. The economic theory of crime explains that the reason a person commits a crime is related to the potential profits obtained from criminal activities compared to the salary earned from legitimate employment (Becker, G. S., 1968). The results of the study by Dulkiah, M. (2018) show that there is a significant influence between poverty and crime.

Thus, the purpose of this study is to explore the impact of urbanization, population density, and poverty level on crime in the city of Bandung.

## **RESEARCH METHODOLOGY**

This research method uses multiple regression analysis and is a type of quantitative research. The research area covers the Bandung City area and the data used in this study is secondary data from the Central Statistics Agency (BPS) in the form of time series data.

The resulting estimation model will provide a deeper view of how these factors relate to crime rates, with the hope that the results can contribute to policy-making in these urban areas. Data analysis was carried out by multiple regression, which is regression involving more than one

independent variable (Widaryono, 2018). The following research estimation model is obtained:

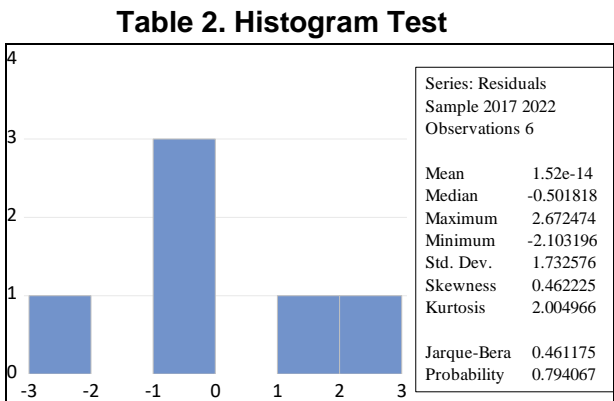
$$CR_{it} = \beta_0 + \beta_1URB_{1t} + \beta_2PD_{2t} + \beta_3PL_{3t} + e_t$$

Note:

- CR<sub>it</sub> = Crime rate at *time t* and area *i* (Bandung City)
- β<sub>0</sub> = Constant
- β<sub>1</sub>URB<sub>1t</sub> = The rate of urbanization
- β<sub>2</sub>PD<sub>2t</sub> = Population density
- β<sub>3</sub>PL<sub>3t</sub> = Poverty level
- e<sub>t</sub> = *Error Term*

### RESULTS AND DISCUSSION

The normality test on the histogram test in Table 2, shows a Jarque-Bera value of 0.461175, which indicates that the data significantly follows the normal distribution.



Source: Data processed (2024)

In Table 3, the results of the Breusch-Pagan-Godfrey heteroscedasticity test show that the probability values (p-value) for F-statistic (0.4089), Obs\*R-squared (0.2381), and Scaled Explained SS (0.9716) are all greater than 0.05. This means that the null hypothesis that states homocedasticity (constant residual variance) cannot be rejected. Thus, there is no indication of heteroscedasticity problems in the regression model, and the assumption of homoscedasticity is fulfilled.

Table 3. Heterokedasticity Test Results			
Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	1.588061	Prob. F(3,2)	0.4089
Obs*R-squared	4.225950	Prob. Chi-Square(3)	0.2381
Scaled explained SS			
SS	0.235941	Prob. Chi-Square(3)	0.9716

Source: Data processed (2024)

In Table 4, the results of the autocorrelation test show that there is no autocorrelation in the residual regression model. The probability values for F-statistic (0.5843) and Obs\*R-squared (0.1367) are both greater than 0.05, which means it fails to reject the null (H0) hypothesis that states there is no autocorrelation. Thus, the residual model can be considered free of autocorrelation at a significance level of 5%.

**Table 4. Autocorrelation Test Result**

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.585122	Prob. F(1,1)	0.5843
Obs*R-squared	2.214803	Prob. Chi-Square(1)	0.1367

Source: Data processed (2024)

Based on Table 5. The results of the Statistic-F-test show that the urbanization rate (X1) has a coefficient of 4.012949 with a p-value of 0.6273, which shows that the influence on the dependent variable is not significant at a significance level of 10%. Population density (X2) has a coefficient of 4.160701 with a p value of 0.0988, which means that the effect is significant at the level of 10%. Likewise, the poverty rate (X3) with a coefficient of 0.920135 and a p value of 0.0862 also showed a significant influence at the 10% level.

**Table 5. Regression Result**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-48.60608	168.3087	-0.288791	0.0498
X1	4.012949	7.064350	0.568056	0.6273
X2	4.160701	9.313355	0.446746	0.0988
X3	0.920135	4.833973	0.190348	0.0862

Source: Data processed (2024)

Thus, the variables of Population Density (X2) and Poverty Level (X3) have a significant effect on the dependent variables at a significance level of 10%. However, the urbanization rate (X1) did not have a significant impact. This means that changes in population density and poverty levels can affect the crime rate in the city of Bandung, while changes in the urbanization rate do not have a significant enough impact.

These findings align with previous studies, where population density and poverty are significant contributors to crime. Sabiq & Nurwati (2021) and Edwart & Azhar (2019) argue that high population density increases competition over limited urban resources such as housing, jobs, and public services, leading to heightened social tensions and greater opportunities for criminal acts. From the Malthusian theory perspective, when resource availability is insufficient for the population size, individuals may experience economic hardship that potentially drives criminal behavior.

The significance of the poverty variable supports the economic theory of crime (Becker, 1968), where individuals calculate the benefits of engaging in criminal activities against the legal alternatives. Dulkiah (2018) similarly found a positive relationship between poverty and crime in Bandung. In conditions of unmet basic needs, individuals are more likely to take unlawful actions as a survival strategy.

Interestingly, the urbanization variable does not show a significant impact, which differs from findings by Kuciswara et al. (2021) and Jalil & Iqbal (2010) who observed a positive relationship between urbanization and crime. This difference could be attributed to effective spatial planning

policies and programs in Bandung that absorb rural-urban migrants more successfully, preventing the accumulation of socio-economically vulnerable populations. Furthermore, as suggested by Mardiansjah & Rahayu (2019), more mature urbanization phases tend to stabilize urban risks, including crime rates.

Bandung's status as an educational and tourism hub may have influenced the type of migration it experiences—attracting more educated or economically capable migrants—thereby reducing the risks associated with rapid, uncontrolled urban growth.

Another critical point is the post-pandemic economic dynamics, with a crime rate spike in 2022 following a sharp drop in 2021, illustrating how economic shocks can immediately impact urban crime rates. Song et al. (2020) similarly noted that in China, economic stressors after major crises could lead to increased criminal activities, suggesting the need for responsive social protection mechanisms.

In light of these findings, policy implications are clear: government efforts should prioritize poverty reduction through economic empowerment programs, job creation, and education improvements, alongside effective spatial planning to manage population density. These measures would not only curb the root causes of criminal acts but also improve the general quality of life in the city.

## **CONCLUSION, LIMITATION AND SUGGESTIONS**

Based on the analysis conducted, the variables of population density and poverty have a significant influence on the crime rate in the city of Bandung. High population density can create social pressure, conflicts between individuals, and opportunities for criminal acts. Meanwhile, significant poverty levels are also a major factor that encourages individuals to commit criminal acts as a form of economic survival. Meanwhile, the existence of urbanization does not show a significant influence on the crime rate. This can be caused by various factors, such as the equitable distribution of urbanization in urban areas or the existence of successful policies in managing the impact of urbanization. This study shows the importance of focusing on poverty alleviation efforts and good spatial management to reduce population density in certain areas to reduce crime rates in the city of Bandung.

Therefore, it is necessary for policies that focus on two main things in suppressing crime in the city of Bandung. First, reducing poverty through economic empowerment programs, increasing employment, and providing access to better education. This aims to reduce the driving factors of crime due to economic pressure. Second, it is necessary to carry out more effective spatial management to overcome the impact of population density, such as the development of decent housing, the development of public facilities, and the arrangement of slums. Thus, the right policies can help reduce the crime rate while improving the quality of life of the people of Bandung City.

## **REFERENCES**

- Becker, G. S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, 76, 169–217.
- Dede, M., Sugandi, D., & Setiawan, I. (2019). Interaksi spasial kondisi sosial-ekonomi terhadap kerawanan kejahatan di Kota Bandung (studi kasus Sumur Bandung). *Jambura Geoscience Review*, 1(2), 40-49.
- Dulkiah, M. (2018). Pengaruh kemiskinan terhadap tingkat tindak kriminalitas di Kota

- Bandung. *JISPO Jurnal Ilmu Sosial dan Ilmu Politik*, 8(1), 36-57.
- Edwart, A. O., & Azhar, Z. (2019). Pengaruh Tingkat Pendidikan, Kepadatan Penduduk dan Ketimpangan Pendapatan Terhadap Kriminalitas di Indonesia. *Jurnal Kajian Ekonomi Dan Pembangunan*, 1(3), 759–768.
- Fachrurrozi, K., Fahmiwati, F., Hakim, L., Aswadi, A., & Lidiana, L. (2021). Pengaruh kemiskinan dan pengangguran terhadap kriminalitas di Indonesia di tahun 2019.
- Fajri, R. E., & Rizki, C. Z. (2019). Pengaruh pertumbuhan ekonomi, kepadatan penduduk dan pengangguran terhadap kriminalitas perkotaan Aceh. *Jurnal Ilmiah Mahasiswa Ekonomi Pembangunan*, 4(3), 255-263.
- Feriyanto, N. (2014). *Ekonomi Sumber Daya Manusia Dalam Perspektif Indonesia*. UPP STIM YKPN.
- Hasibuan, S. N., Juanda, B., & Mulatsih, S. (2019). Analisis sebaran dan faktor penyebab kemiskinan di Kabupaten Bandung Barat. *Jurnal Agribisnis Indonesia (Journal of Indonesian Agribusiness)*, 7(2), 79-91.
- Hew, W. W. L., Low, B. Y., Goh, G. G. G., & Lau, S. H. (2020). Crime, urban flight and societal wellbeing: A case of Malaysia. *Journal of Environmental Treatment Techniques*, 8(1), 35-40.
- Jalil, H. H., & Iqbal, M. M. (2010). Urbanisation and crime: A case study of Pakistan. *The Pakistan Development Review*, 741-755.
- Kuciswara, D., Muslihatinningsih, F., & Santoso, E. (2021). Pengaruh urbanisasi, tingkat kemiskinan, dan ketimpangan pendapatan terhadap kriminalitas di Provinsi Jawa Timur. *Jae (Jurnal Akuntansi Dan Ekonomi)*, 6(3), 1-9.
- Lymperopoulou, K., & Bannister, J. (2022). The spatial reordering of poverty and crime: A study of Glasgow and Birmingham (United Kingdom), 2001/2 to 2015/16. *Cities*, 130, 103874.
- Mardiansjah, F. H., & Rahayu, P. (2019). Urbanisasi dan pertumbuhan kota-kota di Indonesia: Suatu perbandingan antar-wilayah makro Indonesia. *Jurnal Pengembangan Kota*, 7(1), 91-110.
- Martinez, Ricardo. "Economic Disparity and Urban Crime," *Criminology and Urban Studies Journal* (2019).
- Munajat, A. A., & Yusuf, H. (2024). DINAMIKA KRIMINALITAS URBAN: STUDI TENTANG FAKTOR-FAKTOR YANG MEMPENGARUHI TINGKAT KEJAHATAN DI KOTA BESAR. *Jurnal Intelek Dan Cendekiawan Nusantara*, 1(2), 1330-1339.
- Nurcahya, E., & Alexandri, M. B. (2020). Analisis Swot Strategi Penanggulangan Kemiskinan Di Kota Bandung. *Moderat: Jurnal Ilmiah Ilmu Pemerintahan*, 6(2), 257-267.
- Sabiq, R. M., & Nurwati, N. (2021). Pengaruh kepadatan penduduk terhadap tindakan kriminal. *Jurnal Kolaborasi Resolusi Konflik*, 3(2), 161-167.
- Soh, M. B. C. (2012). Crime and urbanization: Revisited Malaysian case. *Procedia-Social and Behavioral Sciences*, 42, 291-299.
- Song, Z., Yan, T., & Jiang, T. (2020). Poverty aversion or inequality aversion? The influencing factors of crime in China. *Journal of Applied Economics*, 23(1), 679-708.
- Tambunan, E. K., Eni, S. P., Sudarwani, M. M., & Pasaribu, R. P. (2021). Dampak Ekologis Akibat Peningkatan Urbanisasi di Sepanjang Daerah Aliran Sungai Cikapundung Kota Bandung. *Temu Ilmiah Ikatan Peneliti Lingkungan Binaan Indonesia*, 7-14.
- Widaryono, A. (2018). *Analisis Regresi dengan SPSS*. Yogyakarta: UPP STIM YKPN.