Did Development Bring Peace? A Difference-in-Difference Analysis of Jokowi's Administration in Papua Region's Extractive Zones

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Abstract

The present study aims to evaluate the influence of President Joko Widodo's administration on conflict and crime in mining extraction regions on Papua region, using longitudinal Indonesia's Village Potential Data (PODES) from 2008 to 2024 and a Difference-in-Differences (DiD) approach. The outcomes of interest are conflict and crime, while the treatment is defined as the period of President Joko Widodo's administration (2014–2024). The treated group consists of regions with active mining extraction, while the comparison group includes regions without mining activity in Papua. The classification of treated and comparison groups is based on a combination of PODES data and spatial data obtained from Google Satellite. Integrating survey and spatial data enhances the reliability of treatment assignment and improves the robustness of the analysis. The findings can be explained in three ways. First, the Joko Widodo administration is reported to have played a role in reducing conflict in the treated regions. This might be due to the results of the development policies from the Joko Widodo administration. Second, there is no significant effect on the incidence of crime in Papua. This may be because crime in Papua is well

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organized related to freedom movement. Lastly, conflicts between society, villages, government, students, and ethnic groups are reported to have decreased after the Joko Widodo administration.

Keywords: Papua, Crime, Conflict, Mining Region, Jokowi Administration

JEL CODES: D74, J15

Introduction

President Joko Widodo, commonly known as Jokowi, has served as the President of Indonesia for two terms, 2014-2019 and 2019-2024. During his presidency, Joko Widodo has shown a significant commitment to improving on infrastructure development, prioritizing roads and bridges, and on improving inter-island connectivity through the maritime toll access (*Tol Laut*) program (Salim and Dharma Negara 2018; Warburton 2016). Additionally, he also granted the government authority to change domestic subsidized fuel prices without parliamentary approval, as result this policy provides flexibility to address urgent issues in Indonesia, particularly related to fuel prices (Ichsan et al. 2022). This policy is essentials in improving connectivity between the eastern part of Indonesia, especially to the–since 2022–six provinces in Papua region: Papua, Papua Barat, Papua Selatan, Papua Tengah, Papua Pegunungan, dan Papua Barat Daya, with the center and western part of Indonesia. Despite all positive and key improvement during his presidency to support the national economic growth, the impact of these infrastructure and fiscal policies has not effectively reduced inequality in Papua region (Sloan et al. 2019).

As a region, Papua has abundant economic potencies. From natural resources, such as mineral and agriculture, to nature that increasingly attracting international and domestic tourists for its beauty (Tiku et al. 2022). However, two economic activities, mineral mining and mega-agricultural farm, have side and negative impact for the environment and local community (Paulangan et al. 2025). This region faces significant environmental problems such as deforestation, environmental degradation, corruption, and political instability (Agustus et al. 2025; Hidayat et al. 2025; Paranata 2022). According to Human Rights Watch (2025), there is significant conflict between indigenous people, the government, and companies in Papua, especially in extractive industries such as palm oil, mining, and wildlife trading (Sherman et al. 2022; Asmara

and Randhir 2025; Camba 2021). These conflicts and violence have escalated since the 1960s, during the post-colonial period, and have continued into the present, involving economic and military tensions ((Viartasiwi 2016; Rights Watch 2024).

This research aims to assess the impact of President Joko Widodo's administrations (2014-2024) in lowering the number of conflicts and crimes in Papua. The uses of the concept of crime, instead of the term violence that is more common in conflict study, aims to encompass both the physically harmed and non-harmed of law breaking activities. The crime in this study defined by the number of common thieves, looting, robbery, maltreatment, suicide and others; this is also a term used in Indonesia Potential Village Survey (PODES) data as the bases of this reseach. We collected data from six waves of the longitudinal PODES data from 2008 to 2024 and used a causal inference Difference-in-Differences (DiD) approach. To define the treated and control groups, the study combines PODES data with Google Satellite imagery to achieve precise village-level analysis. The treated group consists of villages with extractive sectors, while the control group is comprised of villages without extractive sectors.

The findings can be explained in three ways. First, the Jokowi administration appears to have played a role in reducing conflict in the treated regions, possibly due to the administration's development policies. Second, there is no significant effect on the incidence of crime in Papua, which may be because violent crime in the region is well organized and, in some cases, supported by local governments and companies. Lastly, violent conflicts between society, villages, government, students, and ethnic groups are reported to have decreased after the Jokowi administration, although the impact is smaller compared to the reduction in social conflict. This may be because most conflicts in Papua originate as societal disputes, while other types of conflict are less common.

This study contributes to three strands of literature. First, it expands the literature on how the Jokowi administration has impacted conflict and crime in extractive regions, particularly Papua. Previous literature by Muhtadi and Warburton (2020) examined inequality during Jokowi's administration, using survey data from 2016–2018 and linear regression, and found differing perceptions between supporters and opponents about inequality trends. However, their study focused on perceptions, whereas our study uses actual conflict and crime data, which provides more accurate insights. Conflict and crime are used due to their urgent relevance in Papua today.

Second, this study employs a micro-level analysis at the village level. Previous studies on the Jokowi administration's impact on economic growth, inequality, and poverty have used macro-level data (Yusuf and Sumner 2015). Yusuf & Sumner (2015) claimed that Jokowi's policies increased inequality between rich and poor households during his first term, even with a large infrastructure budget intended to reduce disparity. By using village-level data, our study offers a more nuanced perspective and deeper analysis.

Third, this is the first causal inference study to examine the impact of a presidential administration on conflict and crime in Papua. A previous study on the link between Jokowi and conflict in Papua by Kadir (2024) used qualitative methods, interviewing NGOs, activists, and lawyers in Sorong. Kadir (2024) argued that President Jokowi increased conflict and environmental degradation in the region. Unlike Kadir, this empirical study uses quantitative methods—specifically Difference-in-Differences—to offer a more robust and unbiased assessment.

The remainder of this study is organized as follows. Section 2 explains the methodological approach and data used to answer the research question. Section 3 presents the results and discussion, which consist of two main parts: conflict and crime. The final section provides the conclusion and policy suggestions.

Literature Review

The increase of global demands of minerals is leading to the importance of extractive industries in all countries, including Indonesia. The extractive regions especially Papua region, Indonesia, generates higher mineral-based income due to the capital- and labor-intensive sector compared to non-extractive region (Kowszyk et al. 2023). However, this high-income sector does not translate into the equal development for all aspects in the society or in another hand, the spillover effect for these extractive activities cannot increase the welfare and well-being of the household living nearby. In the end, several of extractive region has promote income inequality between the poor and the rich, as well as make vulnerable people are more vulnerable. Furthermore, the extractive activities at some point can lower the environmental condition such as deforestation (Luckeneder et al. 2021) and increasing the climate disaster such as flood and landslides (Milanez et al. 2021; Kramarz 2022). Waste management that is not done properly and air, water and soil pollution; will also cause tension for people living in the affected regions (Sun et al. 2021; Peša and Ross 2021). Those mentioned reason, could increase the probability of conflict in the extractive regions. Previous studies already linked between the extractive region and conflict, such as a study by Kowszyk et al. (2023), who tries to understand the 4 biggest mining industries in the Latin Amerika. These studies show that the conflict increase because of there is unequal environmental justice.

In the Papua region, Indonesia, the existing conflict between extractive capitalism, indigenous people, local people, and also NGOs has a long history back in the Soekarno administration because of the land-grabbing practice (Malinda 2025; Viartasiwi 2016). According to the Elmslie and Webb-Gannon (2013), this conflict can be categorized as slow-motion genocide.

This land-grabbing practice has benefitted the extractive capitalism and made indigenous and local people have lower bargaining power and rights. For example, the world's largest gold and copper mine, Grasberg mine, which contributed around 12 percent of national GDP in 2024 (Hamdhi 2025; PT Freeport Indonesia 2025), has increased local conflict with the indigenous and local people around the mega project. It is proven by the fact that during 2022, armed criminal action committed by an armed group that called themselves TPN-PB (West Papua National Liberation Army–*Tentara Pembebasan Nasional Papua Barat*) in several regencies, including Yahukimo, Intan Jaya, Puncak, Puncak Jaya, Mimika, Paniai, Nabire, Nduga, Pegunungan Bintang, Yalimo, Lanny Jaya, Jayawijaya, Deiyai, and Dogiyai, had claimed 53 lives (Kompas 2022). While in 2025, the number increased to 94 lives (Antara News 2025). These violent criminals are an ongoing armed criminal group that has started since late 2018 (Wangge and Webb-Gannon 2020; Hernawan 2020). The reasons for the violent resistance are that local and indigenous people suffer from the socio-environmental effect, which reduces their quality of life (Mosusu et al. 2023; Chauvel 2018; Viartasiwi 2016). On the other hand, from the West Papuan point of view, several studies have established how hard it is to be West Papuan to resist the industrial development, such as Saunders et al. (2024), Homerang-Saunders et al. (2024), and Putra et al. (2024).

For more than sixty years, West Papua has endured a complex and often painful history of conflict, particularly in regions rich in gold and copper deposits where large mines such as Grasberg have transformed both the landscape and the lives of local people (Blades 2016a; Viartasiwi et al. 2018). From the territory's forced integration into Indonesia in the 1960s, international interests and state-led development projects have sidelined indigenous Papuans, whose stories of dispossession and resistance run through both academic studies and personal narratives (Viartasiwi 2016). What makes this conflict so persistent, as research by Ballard and

Banks (2003), Leith (2003) and Viartasiwi (2016), is not only the struggle to control land and resources, but also the way people's sense of home, tradition, and dignity have been threatened by government policy, military operations, and corporate expansion.

Development and democracy practices are intended to quell the conflict. According to the Blades (2016), Joko Widodo lifted the ban for international media to enter the West Papua. Additionally, the Joko Widodo Administration had negotiation and lobbying with indigenous people several times, which shows positive political will in reducing the conflict in this region, parallel with the high infrastructure program in West Papua (Tho Seeth and Suryomenggolo 2024). Furthermore, according to the Ministry of Foreign Affairs (2022), there has been a blooming development in West Papua after the Joko Widodo Administration. This significant development is related on infrastructure development, health program, one fuel price and electricity development.

Data and Methodology

Data

The present study aims to evaluate the influence of President Joko Widodo's administration on conflict and crime in Papua region that consists of six provinces, using longitudinal Indonesia's Village Potential Data (PODES) from 2008 to 2024 and a Difference-in-Differences (DiD) approach. The outcomes of interest are conflict and crime, while the treatment is defined as the period of President Joko Widodo's administrations (2014–2024). The treated group consists of regions with active mining extraction around 561 villages, while the comparison group includes regions without mining activity in Papua approximately 3955 villages. The classification of treated and comparison groups is based on a combination of PODES data and spatial data obtained from

Google Satellite. Integrating survey and spatial data enhances the reliability of treatment assignment and improves the robustness of the analysis. We do understand that generally the treated and control group should be defined exogenous, however this present research tries to divide it with extractive and non-extractive regions. The selection of extractive and non-extractive regions is justified by research evidence and policy interest. Mining zones are frequently sites of contestation over resources, property rights, and rents, making them relevant for the study of conflict dynamics, while non-extractive regions serve as natural benchmarks for comparison. This distinction is further supported by prior empirical studies showing conflict and crime patterns vary systematically between regions with and without extractive activities, due to factors such as economic incentives, community composition, and exposure to development interventions.

Table 1 Descriptive Statistics

	Treated Group					Control Group				
Variable	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
conflict	3366	.1236	.7833	0	18	23730	.1072	.6991	0	31
conflict society	3366	.0716	.4924	0	9	23730	.0583	.4174	0	9
conflict village	3366	.0303	.295	0	9	23730	.0216	.2275	0	9
conflict police	3366	.0024	.0597	0	2	23730	.0043	.0802	0	4
conflict gov	3366	.0027	.0667	0	2	23730	.006	.1085	0	5
conflict student	3366	.0027	.0571	0	2	23730	.0042	.1058	0	9
conflict etnicity	3366	.0107	.1519	0	4	23730	.0087	.1377	0	9
conflict others	3366	.0033	.0667	0	2	23730	.004	.1056	0	7
crime	3366	3.6545	7.3164	0	20	23730	3.7172	7.2746	0	20
post	3366	.6667	.4715	0	1	23730	.6667	.4714	0	1
bank	3366	.1699	1.2283	0	50	23730	.1063	.7607	0	21
education	3366	2.1848	3.9641	0	60	23730	2.0209	3.8373	0	139
topography	3366	2.1857	.8065	1	4	23028	2.1693	.8052	1	4
police	3366	.9786	.9633	0	5	23730	.9917	.9652	0	5

The authors conducted the parallel trend and event study to satisfy the parallel trend assumption. **Table 1** shows the descriptive variables, while the **Table 2** definition of variables.

Table 2 Definition of Variables

Variables	Definition	Measurement
Outcomes Variables		
Conflict	The total number of conflicts in Papua	Continues
Conflict between Society	The village reported any form of intra-village conflict among residents during the reference year.	Continues
Conflict between villages	The presence of reported conflict with neighboring villages.	Continues
Conflict with Police	The village experienced any reported conflicts involving law enforcement authorities.	Continues
Conflict with Government	The village experienced tensions or confrontations with government institutions or officials.	Continues
Conflict between Student	Conflicts occurred among student groups or between students and other social groups in the village.	Continues
Conflict between Ethnicity	Ethnic-based conflicts were reported within or between villages.	Continues
Conflict Others	Other forms of conflict not categorized above, including religious, territorial, or resource-based disputes.	Continues

Crime	The village reported any criminal incidents in the past year, such as theft, assault, or vandalism.	Continues
DID		
Treated	Denotes whether the village is located in an mining activities	Dummy
Post	Denotes the time period following the start of the Jokowi Administration (1 : 2014 – 2024)	Dummy
Did	Interaction term used to estimate the average treatment effect in a Difference-in-Differences framework.	Dummy
Control Variables		
Police	The village has an active police presence, such as a police station or assigned officers.	Continues
Topography	Categorical classification of village terrain based on physical features, including flatlands, hills, or mountainous areas.	Continues
Education	The presence of educational institutions in the village, such as primary or secondary schools.	Continues
Bank	The availability of formal financial services within the village, including access to banks or credit cooperatives.	Continues

Methodology (Difference-in-Difference)

The present research employs a Difference-in-Differences (DiD) approach to examine the impact of President Joko Widodo's administration on conflict and crime in Papua region. Similar studies that assess the effects of presidential administrations, such as Jakubowski et al. (2017), Lal

& Thompson (2024), Miller et al. (2022), and Hassell & Holbein (2025) have also utilized causal inference methods, particularly the DiD framework, to address their research questions.

The econometric modelling for the present research is as the follows:

$$conflict_{it} = \alpha_0 + \beta_1 treated_{it} + \beta_2 post_{it} + \beta_3 (treated_{it} * post_{it}) + \beta_4 X_{it} + \gamma_t + \delta_i + \varepsilon_{it} \quad (1)$$

$$crime_{it} = \alpha_0 + \beta_1 treated_{it} + \beta_2 post_{it} + \beta_3 (treated_{it} * post_{it}) + \beta_4 X_{it} + \gamma_t + \delta_i + \varepsilon_{it} \quad (2)$$

In this study, the outcome variables are conflict, which refers to the number of reported conflict cases and crime, which reflects the total number of reported criminal incidents in a village. The variable treated is a binary indicator that distinguishes between the treatment and comparison groups; a value of 1 indicates villages exposed to mining extraction (treated group), while 0 denotes villages without mining activity (comparison group). The variable post represents the period during President Joko Widodo's administration, spanning from 2014 to 2024.

The control variables, denoted as X , include the presence of police institutions, village topography, access to education facilities, and the availability of banking services. The constant term is represented by α, while β indicates the estimated coefficients of interest. The terms γ and δ denote time and regional fixed effects, respectively.

The main coefficient of interest, β, corresponds to the interaction term between *post* and *treated*. A negative and statistically significant estimate of β_3 would suggest that President Joko Widodo's administration is associated with a reduction in conflict and crime in mining regions. To ensure robust inference, standard errors are clustered at the village level.

The main research goal is to examine the impact of President Joko Widodo's administration on conflict and crime in Papua region, focusing on mining extraction regions as the treated group.

After conducting the main regression, the author(s) analyzed the heterogeneous effects across different types of conflict to assess the administration's impact on each specific category. This analysis also serves as a robustness check for the study.

Parallel Trend and Event Study

Causal inference requires satisfying the parallel trends assumption and conducting an event study to ensure that the estimated effects are not driven by spurious bias. The parallel trends assumption (the pre-trend assumption) assesses whether the treatment and comparison groups followed similar trends before the external shock, in this case, the beginning of President Joko Widodo's administration (Ryan et al. 2019). The expectation is that coefficients on the pre-treatment periods should be statistically insignificant, indicating no systematic difference in trends between the treated and comparison groups prior to the intervention.

To further reinforce the validity of the parallel trend's assumption, the present study also employs an event study design. This method not only visualizes dynamic treatment effects over time but also addresses the limitations of conventional pre-trend testing (Roth 2022). According to Roth (2022) and Rambachan & Roth (2023), conventional pre-tests may introduce bias and distort inference, potentially leading to misleading conclusions about treatment effects. The event study framework mitigates these risks by allowing for more flexible and transparent evaluation of treatment dynamics. Together, the parallel trends test and event study provide robust evidence supporting the credibility and unbiasedness of the results in this study.

Result and Discussion

Parallel Trend and Event Study

To support the causal inference assumptions, this study employs a parallel trends regression, presented in **Table 3**, and an event study, shown in Figure 1. The findings indicate that the pre-treatment year interaction term (*2011×treated*) has a negative and statistically insignificant effect on the outcome variables. This result confirms that the parallel trends assumption holds for the selected dataset.

Table 3 Parallel Trend

	(1)
VARIABLES	conflict
2011.year	0.0291*
	(0.0152)
2014.year	-0.0536***
	(0.0121)
2018.year	0.0612***
	(0.0188)
2021.year	-0.0233*
	(0.0140)
2024.year	-0.0182
	(0.0145)
1.treated	0.117***

	(0.0427)
2011.year#1.treated	-0.0665
	(0.0574)
2014.year#1.treated	-0.135***
	(0.0447)
2018.year#1.treated	-0.0879
	(0.0668)
2021.year#1.treated	-0.125***
	(0.0482)
2024.year#1.treated	-0.187***
	(0.0447)
Constant	0.108***
	(0.0100)
Observations	27,096
R-squared	0.004
Village FE	Yes
Time FE	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Next, the author(s) conducted the event study plot which is shown by Figure 1. The event study shows that the coefficient for conflict in 2011 is above the threshold which supported the

parallel trend result. However, starting from 2014, the coefficient drops into negative values until 2024. The findings reveal a strong and consistent result for both the parallel trend and event analysis. This result satisfies the pre-trend test which confirms there is no spurious result.

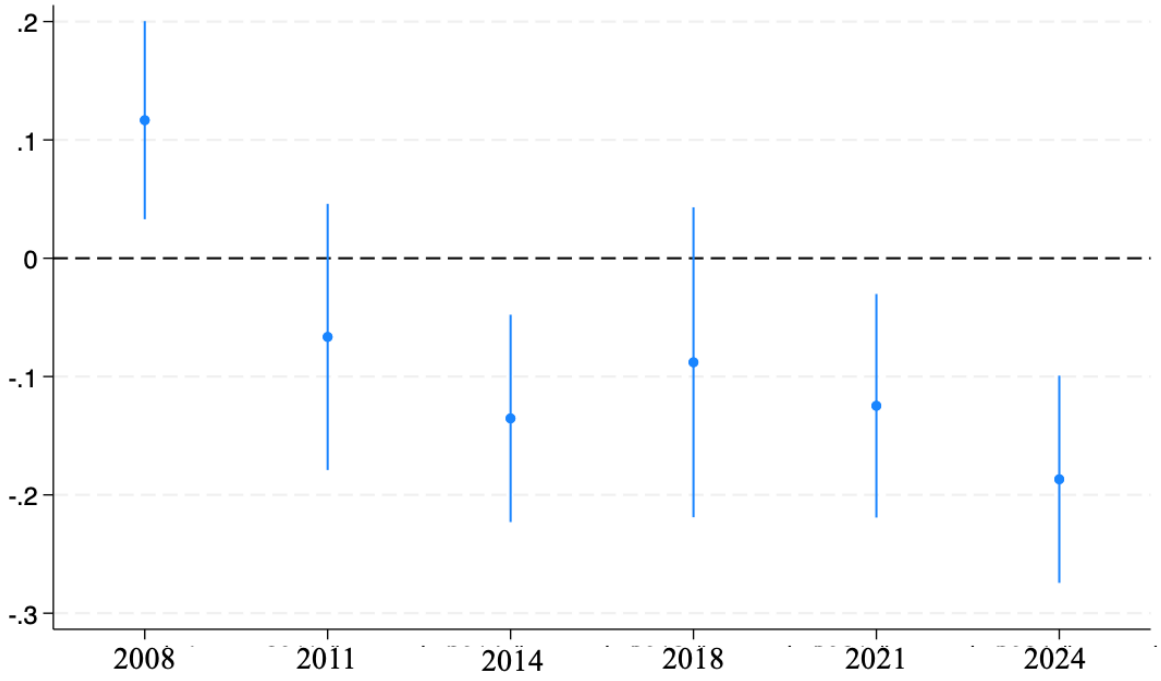


Figure 1 Event Study Plot

The Impact of President Joko Widodo Administration on Conflict and Crime

Table 4 shows the impact of President Joko Widodo Administration Policy on Conflict and Crime. Model 1 and 3 show the impact of ATET without the control variables while Model 2 and 4 include the control variables. The findings confirm that the impact of President Joko Widodo is negative and significant in reducing conflict in the mining extraction regions, while showing no

influence on crime at the same time. The coefficients for both conflict and crime are reported to be consistent and stable. Education and topography reveal positive and significant influence on conflict while negative and significant for crime.

The findings show a negative and significant effect on the reduction of conflict in mining extractive regions in Papua, around 0.1 conflicts on average in 4 years. This result supports previous studies such as Kojola (2019) in USA, Tetreault (2020) in Mexico, and Damonte (2016) in Peru where the President could decrease conflict by negotiating with insiders. The extractive regions offer future income generators, which attract more newcomers from other regions and could create disharmony between the local population and migrants as the regional development grows (Arsel et al. 2016). In some cases, there are many practices where the local and traditional communities living nearby the extractive activities are left behind but at the same time suffer the most due to environmental waste from it (Ferrante and Fearnside 2019). On the other hand, the existence of corruption can also increase the conflict in the extractive region in the extractive regimes (Rosser and Kartika 2020). President Jokowi uses populism as political communication which enables him to gain sympathy from the indigenous people in Papua (Sujoko and Sobari 2021). By including indigenous people in the extractive regions in the policy decision-making process, this can decrease the possibility of conflict between insiders and outsiders and give more inclusive development (Falleti and Riofrancos 2018). Usually, the conflict in the extractive regions is not directly derived from poor governance, but different political ontologies also play important roles in this case (Acuña 2015).

According to Rosyidin et al. (2022), the President Jokowi Administration has developed the Papua provinces significantly to improve local welfare and well-being, such as the Presidential Regulation No. 9/2017 concerning the “Acceleration of Welfare Development in Papua and Papua.”

Additionally, the Jokowi Administration allocated massive funds for building infrastructure in Papua to improve connectivity between cities such as roads and highways which in the end will create spillover effect on the local economies and domestic welfare. At this point, The Jokowi Administration successfully built around 3462 kilometers that connect several cities in Papua, bridges, airports, Depapre container port, education, health, electricity and clean water access, up to the construction and modernization of 15 State Border Posts (PLBN) between Papua and Papua New Guinea (Official Portal of Indonesian Information 2024). Also, Jokowi is concerned in building electricity and health access development in Papua as reported by ESDM (2016). This shows how serious the Jokowi Administration is to develop Papua region on social-economic sector.

Development of hard infrastructure in Papua region and the effort to include the indigenous and local community might shows President Jokowi Administration's political will to not only focus on the company welfare and national economic growth but also improving the local community. However, in contrast with this positive impact of the infrastructure, the infrastructure development program still triggered violent conflict between TNI and TPN-PB. For examples, a construction worker who are building Trans-Papua Highway are attacked because of ecological impunity (Ahmed and Cann 2021; Saunders et al. 2024b). The coefficient of this present research are really limited around 0.1 conflict. This result align with previous study who also found that this developing infrastructure program, has a very limited impact on the indigenous West Papuan Community (Pamungkas 2021). Interestingly, Pamungkas (2021) stated that this policy is not entirely successful in supporting peacebuilding or coping with separatism.

Table 4 Impact of President Joko Widodo Administration Policy on Conflict and Crime

	Conflict		Crime	
	(1)	(2)	(3)	(4)
VARIABLES	ATET	Controls	ATET	Controls
bank		0.0111		0.0969***
		(0.0101)		(0.0261)
education		0.0109***		0.0610***
		(0.00222)		(0.00378)
topography		0.0119**		-0.0300***
		(0.00584)		(0.00935)
police		0.00652		-0.126***
		(0.0274)		(0.0388)
r1vs0.did	-0.100***	-0.112***	-0.00644	0.0351
	(0.0363)	(0.0397)	(0.0329)	(0.0347)
Constant	0.122***	0.0780	0.303***	0.559***
	(0.00927)	(0.0550)	(0.0102)	(0.0799)
Observations	27,096	27,096	27,096	27,096
Village FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The findings reveal no influence of the Jokowi Administration on crime events in the selected data. The crime in the extractive regions is usually organized crime that operates in the longer term which makes it hard to reduce (García-Jiménez and Vargas-Rodriguez 2021; Naanen 2019). This organized crime operates very carefully and is sometimes backed up by extractive companies and local government in some cases (Ebus and Martinelli 2022; Herrera and Martinez-Alvarez 2022). The crimes is not related to the conflict between the Joko Widodo Administration, but more because of economic challenges in some regions and inter-generational tension (Lakhani and Willman 2014). Another study highlights why there is still on-going crime is because of the inequality share of the natural resource income in West Papua. Even when the contribution of the natural resource from West Papua was around 12 percent of the national economic growth, however, Papua region still become the low income provinces (Trajano 2010). The no-spilloever effect of the natural resource income, make West Papuan feel discriminated, marginalized and under poverty for long time (Trajano 2010). The other reason might be because of the limited definition of crime on this study. The crime in this study defined by the number of common thieves, looting, robbery, maltreatment, suicide and others.

The present research uses bank, education, topography and police as control variables. The findings reveal the impact of education, topography and police in increasing the number of conflicts in the extractive regions. Meanwhile bank and education have positive and significant influence on conflict, and topography and police have negative and significant influence on crime.

The Impact of President Jokowi Governmental Policy on each conflict

Table 5 shows the breakdown of each conflict as the outcome variables in Papua region. The findings show that conflict between society, villages, government, students and ethnicity reported a negative and significant result. However, the conflict with police and others shows negative but insignificant results in the selected data.

First, the impact of Jokowi Administration has reduced conflict between society on average around 3 conflicts in Papua for each 4 years. The conflict between society is reported to have the highest coefficient compared to the other types of conflict. This interesting result draws attention to the Papua Freedom Movement which has been the core and fundamental crisis in Papua. According to Viartasiwi (2016) and Sokoy (2025), liberation movement is enhanced by conflict between society and the mining companies in the second largest copper reserves in the world. The mining activities disturb the local daily life, harm the environment and reduce the health of local and indigenous communities. However, since the Jokowi Administration focuses on Papua region, there are several policies which make the mining companies need to issue business licenses and make it difficult for them to harm the environment (García and Nugroho 2015). This political movement in the end will reduce the conflict between society and mining companies.

Table 5. The Conflict reduction after Joko Widodo

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	ATET society	ATET village	ATET police	ATET gov.	ATET student	ATET ethnicity	ATET others
r1vs0.did	-0.0348*	-0.0243*	-0.00471	-0.00920***	-0.00693**	-0.0162**	-0.00420

	(0.0185)	(0.0135)	(0.00310)	(0.00350)	(0.00303)	(0.00783)	(0.00347)
Constant	0.0596***	0.0255***	0.00354***	0.00288***	0.00244**	0.0239***	0.00465***
	(0.00526)	(0.00319)	(0.000971)	(0.00111)	(0.00109)	(0.00256)	(0.00160)
Observations	27,096	27,096	27,096	27,096	27,096	27,096	27,096
Village FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Conflict between villages, government, students and ethnicity also reported to have significant reduction during the Jokowi Administration. However, the impact is very limited compared to the reduction of social conflict. This might be due to the majority of conflict in Papua originally being societal conflict, so other conflicts are very limited (García and Nugroho 2015).

Conclusion and Policy Suggestions

The present research goal is to evaluate the impact of President Joko Widodo's administration on conflict and crime in the extractive regions of Papua. This study uses Indonesia's Village Potential Data (PODES) from 2008 to 2024 and employs a Difference-in-Differences analysis to answer the research questions. The findings can be explained in three ways. First, the Joko Widodo administration is reported to have played a role in reducing conflict in the treated regions. This might be due to the results of the development policies from the Joko Widodo administration. Second, there is no significant effect on the incidence of crime in Papua region. This may be because crime in Papua is well-organized and related to issues that irrelevant with

development. Lastly, conflicts between society, villages, government, students, and ethnic groups are reported to have decreased after the Joko Widodo administration. However, the impact is very limited compared to the reduction in social conflict. This may be because the majority of conflicts in Papua originate as societal conflicts, while other types of conflict are less prevalent.

The authors acknowledge several limitations of this study. From a methodological aspect, the present research utilizes the Difference-in-Differences (DiD) approach to evaluate the impact of the Joko Widodo administration during 2014 to 2024. However, the present research does not focus specifically on any one of the policies. It provides only a general overview of the impact of the selected administration. Future studies could be more specific regarding the Joko Widodo administration. Additionally, by utilizing village-level data, this present research cannot capture the impact of the Joko Widodo administration on the household or individual levels, which might yield interesting results. The result of the current research is the President Joko Widodo Administration are reported to have insignificant impact on crime. This might be due to the definition of crime. The present research used Potential Data Survey on village level, and the definition of the crime is reported from village head.

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Conflict of interest

The authors declare that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy have been completely observed by the authors.

Declaration of Limited AI Use

The authors hereby declare that any Artificial Intelligence (AI) tools utilized in the creation of this document (or project/manuscript) have been strictly limited to the function of final-stage proofreading. The AI was employed solely to assist with the identification of grammatical errors, typos, and minor punctuation inconsistencies in the completed manuscript.

Availability of data and materials

The data that support the findings of this study are available from the corresponding author, upon reasonable request

Ethics approval

This study did not involve participation of human subjects; therefore, ethical approval was not required.

Informed consent

Not required

Author contribution

Conceptualization was contributed by YR, RM; data selection, management, and analysis were involved by YR, RM; Draft paper preparation was performed by YR,RM; review and editing was attributed by YR, RM, NV; all authors have read and approved this version of manuscript.

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